February 22, 2011
Project 116065

City of Colleyville
100 Main Street
Colleyville, TX 76034

Attn: Ron Ruthven

Subject: Baseline Air Quality Evaluation
Trinity Pad Site – Baseline Sampling Event
Colleyville, Tarrant County, Texas

Dear Mr. Ruthven:

Please find the attached Baseline Air Quality Evaluation prepared on behalf of the City of Colleyville. We appreciate the opportunity to provide these services to you. Should you have any questions or comments regarding this report, please feel free to contact the undersigned.

Respectfully submitted,

KLEINFELDER CENTRAL, INC.
Texas Registered Engineering Firm F-5592

Kenneth S. Tramm, PhD, PG, CHMM
Senior Program Manager
972.868.5946

Attachment

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BASELINE AIR QUALITY EVALUATION

CITY OF COLLEYVILLE

Trinity Pad Site – Baseline Sampling Event
Colleyville, Tarrant County, Texas

Project 116065
February 22, 2011

A Report Prepared for:

City of Colleyville
100 Main Street
Colleyville, TX 76034

Baseline Air Quality Evaluation
City of Colleyville
Trinity Pad Site – Baseline Sampling Event
Colleyville, Tarrant County, Texas

Kleinfelder Project No. 116065
February 22, 2011

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BASELINE AIR QUALITY EVALUATION
CITY OF COLLEYVILLE
TRINITY PAD SITE – BASELINE SAMPLING EVENT
COLLEYVILLE, TARRANT COUNTY, TEXAS

1 EXECUTIVE SUMMARY

This report is a summary of work performed by Kleinfelder Central, Inc. (Kleinfelder) for the City of Colleyville (Colleyville) in accordance with our authorized proposal and limited scope of work.

To aid Colleyville in the evaluation of ambient air quality at the proposed Trinity Pad Site (site), two ambient air samples were collected. The sample period began on January 26, 2011 and ended on January 27, 2011. Volatile Organic Compounds (VOCs) samples were collected over an approximate 24-hour period. The collected samples were then analyzed for the presence of VOCs using EPA Method TO-15. Additionally, separate sampling equipment was set up at the site to sample for carbonyls (one hour samples) using EPA Method TO-11A, and reduced sulfur compounds (RSCs) using ASTM Method D5504.

The results of the laboratory analysis were then compared to available regulatory values offered by the Texas Commission on Environmental Quality (TCEQ). The applicable regulatory criteria for the type of sampling performed in this study are the short-term air monitoring comparison values ($AMCV_{ST}$) published by the TCEQ in November 2010. In addition to the AMCVs, Kleinfelder has also provided the short-term Effects Screening Levels ($ESLs_{ST}$) for comparison purposes only. The ESLs represent conservative screening values used for air permitting purposes and not ambient air monitoring. It is important for the reader to understand that many types of VOCs, carbonyls, and RSCs are found in typical urban and rural ambient air from a wide range of emission sources (e.g., industry, transportation, lawn care equipment, residences, natural processes).

Based on the results of the assessment, a limited number of VOCs, RSCs, and carbonyls were detected above method detection limits in the ambient air at the proposed pad site. None of the VOCs, RSCs, or carbonyls identified exceed the available $AMCV_{ST}$ criteria.

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In general, the observed concentrations appear to be consistent with background ambient air concentrations observed in similar urban environments and will serve as a good baseline to allow future evaluation of air quality in the general area the samples were collected.

We recommend continued monitoring be performed by the operator as part of their compliance requirements concerning air quality and that this information be periodically reported to the city. The city should also continue periodic evaluation of air quality as outlined in the current corresponding ordinance(s) or as directed by authorized city staff.

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2 INTRODUCTION

This report is a summary of work performed by Kleinfelder Central, Inc. (Kleinfelder) for the City of Colleyville (Colleyville) in accordance with our authorized proposal and limited scope of work.

2.1 PROJECT DESCRIPTION

The project included the evaluation of ambient air collected from the Trinity Pad Site. Two samples were collected at the site. The VOC samples were collected over an approximate 24 hour period. The sample period began on January 26, 2011 and ended on January 27, 2011.

In addition, air samples were collected for carbonyl analysis over a one-hour sampling period, and RSC analysis (grab sample) on January 27, 2011. Section 3.0 provides details on locations and methods utilized in this study.

2.2 PURPOSE AND BACKGROUND

The purpose of this Baseline Air Quality Evaluation (Evaluation) was to identify, to the extent feasible pursuant to our approved scope of work and limitations discussed in this report, current ambient air conditions on the site at the time of sampling.

Tarrant County is one of over 20 counties in Texas experiencing increased gas exploration activities within the Barnett Shale. The Barnett Shale is a hydrocarbon-producing geological formation consisting of sedimentary rocks located generally west of Dallas. Within the last two years, a variety of Barnett Shale gas exploration, production and transmission activities have been associated with documented emissions of VOCs and other chemicals of concern (COCs) to ambient air. These emissions can be associated with the gas well head, separator units, condensate/oil tanks, produced water tanks, compressor stations, dehydration equipment or other intermediate processes where significant operational pressure changes or storage of volatile compounds occurs.

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With the identification of potential regional VOC concerns in ambient air, in particular benzene, from gas activities in nearby municipalities, Colleyville commissioned this study to develop a baseline for air quality at the pad site prior to natural gas drilling at the site.

2.3 DETAILED SCOPE-OF-WORK

The scope of work, as outlined in Kleinfelder's proposal (DFW11P013), included collecting samples from two locations on the site. City personnel coordinated site access. Kleinfelder placed sample containers set to collect ambient air within an approximate 24 hour period. The samples were then analyzed and the results of this analysis are discussed in this report.

2.4 LIMITATIONS AND EXCEPTIONS

Kleinfelder's services were performed in accordance with generally accepted standards of care that exist in the site geographic area at the time the services were performed. The scope of services performed was in accordance with the scope of work agreed with our client, as set forth in our proposal. Kleinfelder makes no warranties, express or implied, as to the services performed hereunder beyond those provided for in the authorizing agreement. Additionally, Kleinfelder does not warrant the work of third parties supplying information used in the report (e.g. laboratories, regulatory agencies or other third parties).

Kleinfelder offers various levels of investigative and engineering services to suit the varying needs of different clients. It should be recognized that definition and evaluation of geologic and environmental conditions are a difficult and inexact science. Judgments leading to conclusions and recommendations are generally made with incomplete knowledge of the conditions present. Although risk can never be eliminated, more-detailed and extensive studies yield more information, which may help understand and manage the level(s) of risk. Since detailed study and analysis involves greater expense, our clients participate in determining levels of service that provide adequate information for their purposes at acceptable levels of risk. More extensive studies, including periodic studies or field tests, should be performed, if reduced uncertainties are desired.

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Regulations and professional standards applicable to Kleinfelder's services are continually evolving. Techniques are, by necessity, often new and relatively untried. Different professionals may reasonably adopt different approaches to similar problems. As such, our services are intended to provide our client with a source of professional advice, opinions and recommendations based on a limited number of field observations and tests, collected and performed in accordance with the generally accepted practice that exists at the time, and may depend on, and be qualified by, information gathered previously by others and provided to Kleinfelder by our client.

All information gathered by Kleinfelder is considered confidential and will be released only upon written directive from our client or as required by law. Findings set forth in this Evaluation resulting from these services are based upon information derived from the on-site activities and other services performed under the agreed upon scope of work, and it should be noted that actual site condition may be subject to change over time. Certain indicators of the presence of hazardous materials or other constituents may have been latent, inaccessible, unobservable, or not present during Kleinfelder's performance of its services, and Kleinfelder cannot represent that a site contains no hazardous materials or other latent conditions beyond those identified in connection with this Evaluation. Environmental conditions at areas or portions of the project area where sampling was not conducted may vary from those encountered at actual sample locations. Kleinfelder's findings are based solely upon data generated by Kleinfelder or available to Kleinfelder at the time of our services.

The samples collected as part of these services represent ambient air conditions at the time of sampling only. Samples collected at other times may reveal different results that are due to operational changes in the oil and/or gas exploration, production, and transmission activities; unrelated industrial and commercial activities in the area; and meteorological changes.

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3 GENERAL FIELD CONDITIONS

3.1 REPRESENTATIVE METEOROLOGICAL DATA POINTS

Weather data were obtained from the Flower Mound TCEQ monitoring station (CAMS 1007) and from a local Weather Underground monitor (KDFW) for January 26th and 27th, 2011. Additional information, such as odors (if noted) and local wind direction, was recorded for each sampling point at the time of sample placement and recovery. This information is included in the Air Sample Data Sheets.

3.2 TEMPERATURE

According to the meteorological data utilized for this study, the temperature ranged from approximately 32° F to 65° F during the 24-hour sampling period.

3.3 MOISTURE CONDITIONS

According to the meteorological data utilized for this study, no precipitation was recorded in the study area during the sampling period.

3.4 WIND CONDITIONS

According to the meteorological data utilized for this study, the wind direction was from the southwest at the beginning of the sampling period, turning to the northwest overnight, and returning to the southwest at the end of the sampling period. During the 24-hour sampling period wind gusts up to 24 mph with average wind speeds of eight mph throughout the sample period.

3.5 BAROMETRIC PRESSURE AND RELATIVE HUMIDITY

According to the meteorological data utilized for this study, the barometric pressure ranged from 30.1” to 30.2” during the sample period. Relative humidity ranged from 19% to 85% during the sampling period.

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4 FIELD INVESTIGATION

Prior to setting the static sampling points, Kleinfelder accompanied Colleyville personnel to confirm access to general sample locations, sample placement points, and duration of air sampling. Additionally, a site-specific Health and Safety Plan (HASP) was prepared and utilized by Kleinfelder during this Evaluation.

The field investigation activities were performed starting on January 26th and ending January 27th 2010.

4.1 SAMPLING LOCATION

Two sample locations were selected on the site: one at the location of the planned wells (AA-1) and one in the location of the planned tank battery (AA-2). These locations were selected because they were anticipated to be the most-likely source areas for future emissions. Please refer to Figures 1 and 2 for an overview of the sampling locations.

4.2 FIELD SCREENING

Prior, during, and upon completion Kleinfelder utilized handheld equipment to screen the areas being sampled. This included a handheld photo-ionization detector (PID)/ flame-ionization detector (FID) calibrated to isobutylene and methane to allow evaluation of VOCs present in ambient air. Additionally, four gas meter calibrated to a gas mixture including methane was utilized to evaluate for the presence of elevated methane, hydrogen sulfide, and carbon monoxide.

4.3 SAMPLING METHODOLOGY

Sampling methodology included applicable elements of ASTM D1357-95 (Standard Practice for Planning the Sampling of the Ambient Atmosphere); ASTM D5197 – 09, Standard Test Method for Determination of Formaldehyde and Other Carbonyl Compounds in Air (Active Sampler Methodology); ASTM D5504-01, Standard Test Method for Determination of Sulfur Compounds in Natural Gas and Gaseous Fuels by

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Gas Chromatography and Chemiluminescence; and the protocol outlined in our proposal.

Certified sampling equipment for VOC sampling was obtained from Accutest, Inc. (NELAP #T104704364-09TX). Laboratory prepared sampling canisters were equipped with pre-calibrated 24-hour flow meters. The samplers were then connected to inert tubing and placed inside a protective shroud with tubing extended to approximately 5.5 feet above grade.

The canisters were then activated and secured in the shroud with safety tabs to minimize the potential for tampering during the testing period and provide evidence if tampering had occurred. Contact information for any questions was located on each sampling container. No calls were received during the sampling period and no evidence of tampering was noted upon collection.

Sample media for formaldehyde sampling was obtained from Columbia Analytical Services (CAS) of Simi Valley, California (NELAP #T104704413-09TX), consisting of glass tubes containing silica gel coated with 2,4-dinitrophenylhydrazine (DNPH) reagent. The tubes were connected to a battery-powered pump by inert tubing. The sample media was then mounted on a mast and raised to an approximate height of 5.5 feet above ground. The pumps were set for a flow rate of up to 3,000 milliliters per minute, for 60 minutes. A sample consisting of 100 liters of air is considered the minimum for a relatively accurate result. Sampling an additional volume of air generally results in a lower detection limit and more accurate sample result. The samples were collected in the general location of the VOC sample. Kleinfelder personnel monitored the sample throughout the sample period.

Sample media for sulfides was obtained from SKC, Inc, consisting of a 4-ply FlexFoil® bag using a polypropylene septum. The bags were placed in a passive sampling chamber and a sampling pump was used to create a vacuum within the chamber, drawing air into the sampling bag through a length of inert tubing connected to the bag. Kleinfelder personnel held the tubing at a breathing height level, but not in the individual's breathing zone. The grab sample was collected over a period of approximately one minute (due to the need to ship the sample to the CAS lab in California, the sample bags could not be completely filled). At the end of the sample

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period, the vacuum was released and the septum closed. Once the samples were completed, the sample media was placed in a closed cardboard box for shipping to protect the sample from exposure to light.

Information concerning odors, PID/FID readings, weather conditions, sampling times, and GPS location of the sample canisters were recorded on the attached Air Sampling Data Sheets provided in Appendix A.

4.4 LABORATORY PROGRAM

The collected samples were shipped under chain-of-custody documentation to Accutest (VOCs) and CAS (carbonyls and sulfides). The sample analysis included analysis of volatile organic compounds VOCs by EPA Method TO-15; carbonyls by TO-11A using high performance liquid chromatography (HPLC); and sulfides by ASTM Method D5504, using gas chromatography and chemiluminescence. The tabulated analytical results and selected regulatory thresholds are presented in the attached tables.

4.5 QUALITY ASSURANCE/CONTROL

Field conditions were evaluated with a handheld combination PID/FID during sample placement. The combination PID/FID was used to identify obvious elevated concentrations of VOCs and flammable hyrdocarbons (including the potential presence of methane). No PID readings were noted. FID readings were noted during the field screening prior to the sampling period at concentrations of 0.21 to 0.6 ppm.

The sample locations were evaluated at the end of the sample period using a PID. No PID readings were noted during sample collection. No odors were noted during the field activities. All sample canisters and flow regulators were pre-cleaned and calibrated at the selected laboratory. No tampering with the field equipment was noted upon collection of each sampling point.

The laboratory analysis included evaluation of a method blank and blank spiked duplicate. Recovery ranged from 82% – 93% and is considered within applicable control criteria for this study.

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5 EVALUATION RESULTS

This section provides a summary of our analytical results and, where available, selected regulatory threshold values for comparison.

5.1 COMPARISON CRITERIA

In December 2010, the TCEQ updated the Air Monitoring Comparison Values (AMCVs), originally published in March 2010, to provide additional clarity to the regulated public concerning appropriate screening criteria for air monitoring data.

Kleinfelder utilized the Short-term AMCVs ($AMCVs_{ST}$) for comparison with data from this study. Additionally, Kleinfelder also included the December 2010 TCEQ short-term (acute) ESLs as published by the TCEQ for the identified chemicals of concern (COCs) for reference purposes. The TCEQ Toxicology Division developed these regulatory thresholds in accordance with *Guidelines to Develop Effects Screening Levels, Reference Values, and Unit Risk Factors* (RG-442; November 2006).

The tabulated laboratory results and selected regulatory criteria are provided in Appendix B.

5.2 VOLATILE ORGANIC COMPOUNDS (VOCS)

VOC concentrations observed included the following:

- *acetone (up to 12.7 ppbv),*
- *benzene (up to 0.21 ppbv),*
- *chloromethane (up to 0.56 ppbv),*
- *cyclohexane (up to 0.19J ppbv),*
- *ethanol (up to 3.5 ppbv),*
- *ethyl acetate (up to 2.3 ppbv),*
- *heptane (up to 0.23 ppbv),*
- *hexane (up to 0.46 ppbv),*
- *isopropyl alcohol (up to 0.42 ppbv),*
- *methyl ethyl ketone (up to 0.57 ppbv),*
- *tetrachloroethene (up to 0.41 ppbv),*
- *toluene (up to 25.9 ppbv),*
- *trichlorofluoromethane (up to 0.27 ppbv), and*
- *m,p-xylene (up to 0.15J ppbv).*

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5.2.1 EVALUATION OF VOC DATA

As noted in Table 1 (following report text), none of the identified VOCs exceed the $AMCVs_{ST}$. Additionally, none of the identified VOCs exceed the $ESLs_{ST}$. Further, many were within ranges for ambient background noted for VOCs as noted below.

5.2.2 CONSIDERATION OF BACKGROUND AMBIENT AIR QUALITY

As with many VOCs, several can be found in the urban environment due to both natural and anthropogenic contributions. As discussed above, the observed concentrations appear to be generally consistent with published median to maximum background ambient air concentrations observed in other urban environments (ASTM 2008).

Selected VOC Air Results in U.S. Studies				
Compound	*New* Residential Air*		*Ambient Outdoor Air*	
	Median	*Maximum*	*Median*	*Maximum*
Benzene	*0.47*	*6.1*	*0.34*	*2.7*
Toluene	*8.5*	*68*	*0.69*	*21*
Ethylbenzene	*0.32*	*2.1*	*0.15*	*2.9*
m/p Xylene	*2.1*	*11*	*0.32*	*7.8*
o Xylene	*0.64*	*4.4*	*0.16*	*3.2*
1,3,5 Trimethylbenzene	*<0.5*	*-*	*0.07*	*2.1*
1,2,4 Trimethylbenzene	*<1.5*	*-*	*0.13*	*3.7*
Tetrachloroethene (PCE)	*0.06*	*0.29*	*0.06*	*436*
Trichloroethene (TCE)	*0.06*	*0.43*	*0.05*	*20*
Chloroform	*0.06*	*0.47*	*0.05*	*0.56*
Vinyl Chloride	*-*	*-*	*0.06*	*0.06*

ASTM E2600-08
All concentrations presented as ppbv
**Identified in new construction*

The above table is provided to outline published ambient indoor and outdoor VOC concentrations found in urban settings. It is important to understand possible contributions to air quality from sources often found in urban and suburban surroundings. These can include emissions from operational gas stations, dry cleaners, automobile exhaust, diesel engine exhaust, incomplete combustion byproducts from boilers, heaters, furnaces, and other activities where volatile compounds may be associated with site activities.

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5.3 SULFIDES

Sulfides are a group of sulfur containing compounds most commonly associated with anaerobic biological digestion and more commonly referred to as Reduced Sulfur Compounds (RSCs). For this study, the sulfides analyses include 20 sulfur compounds. The most commonly occurring of the RSCs is hydrogen sulfide which has also associated with natural gas and oil production activities in other parts of Texas. RSC samples were collected using an instantaneous event (<1 minute). Three sample locations were assessed for the potential presence of RSCs (AA-1CS, AA-5CS and AA-13CS). RSC detections included:

- *carbonyl sulfide (up to 67 pbbv),*
- *carbon disulfide (up to 12 ppbv)*

5.3.1 EVALUATION OF SULFIDE DATA

There are no current $AMCVs_{ST}$ listed by the TCEQ for RSCs so the ESL_{ST} have been referenced. Carbonyl sulfide and carbon disulfide were noted above the ESL_{ST} of 55 ppbv and 10 ppbv, respectively. However, it should be noted that both these ESLs are currently under review by the TCEQ as the calculated values were considered far below regulatory criteria used by the EPA and other regulatory agencies. According to the TCEQ, “health concerns expressed outside of the agency regarding these reported carbon disulfide levels appear unwarranted and may distract focus and resources from other chemicals which likely represent more of a potential health concern based on reported data and available scientific literature (e.g., benzene).” (TCEQ Memo, February 8, 2010)

A second consideration to include in the evaluation of the resulting RSC data is that Kleinfelder included evaluation of carbon disulfide within the EPA TO-15 analysis conducted at a separate laboratory as a quality control measure and none of the resulting analyses identified carbon disulfide above method detection limits.

A third consideration is the possibility of sample interference. While the selected sampling containers were chosen to limit potential off gas of RSCs, discussions with our laboratory partners suggest alternate equipment is available to aid in the minimization of

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this interference in a future sampling event. To this point, the TCEQ experienced similar interference during the early phases of the Barnett Shale Formation Area Monitoring Projects as reporting in the January 2010 monitoring report. In this instance, similar RSCs were noted during early sampling events but failed to be reproduced when an Agilent 6890N Real-time Gas Chromatograph equipped with a Sulfur Chemiluminescence Detector was taken into the field to verify the presence of RSCs. No RSCs were identified within emissions measured at multiple operational natural gas facilities. (See TCEQ Document No. BS0912-FR)

Based on the above considerations, the identified RSCs are not considered a health concern and may be present only as an artifact of sampling and analyses with low detection limits. Additionally, based on previous sampling by Kleinfelder for baseline efforts in other undeveloped areas of the DFW metroplex, similar elevated concentrations of carbon disulfide and carbonyl sulfide have been noted.

5.4 CARBONYLS

Carbonyl is a term used to describe a group of organic compounds with a double bond between one carbon atom and one oxygen atom. The carbonyls analyzed for in the air samples collected are those that can be identified using the EPA TO-11A methodology. These compounds include certain compounds, particularly formaldehyde, that are associated with atmospheric interaction with methane.

The sample locations were assessed for the potential presence of carbonyls. Carbonyl samples were collected over a period of one hour. Carbonyl detections included:

- *formaldehyde (up to 1.7 pbbv),and*
- *acetaldehyde (up to 2.0 ppbv)*

5.4.1 EVALUATION OF CARBONYL DATA

As noted in Table 3 (following report text), none of the identified carbonyls exceed the $AMCVs_{ST}$. Additionally, none of the identified carbonyls exceed the $ESLs_{ST}$. Kleinfelder notes that both of the carbonyl compounds detected are produced by plant or other biomass decomposition and are often encountered in the natural environment. As means of reference, the US Consumer Product Safety Commission (CPSC) listed

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typical background levels for both indoor and outdoor environments to be generally less than 30 ppbv in *An Update on Formaldehyde* as published in 1990.

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6 FINDINGS AND RECOMMENDATIONS

Kleinfelder has developed the following based on this evaluation:

- Based on the results of the assessment, a limited number of VOCs, RSCs, and carbonyls were detected above method detection limits in the ambient air at the proposed pad site. None of the VOCs, RSCs, or carbonyls identified exceed the available $AMCV_{ST}$ criteria.
- In general, the observed concentrations appear to be consistent with background ambient air concentrations observed in similar urban environments and will serve as a good baseline to allow future evaluation of air quality in the general area the samples were collected.
- We recommend continued monitoring be performed by the operator as part of their compliance requirements concerning air quality and that this information be periodically reported to the city. The city should also continue periodic evaluation of air quality as outlined in the current corresponding ordinance(s) or as directed by authorized city staff.

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7 ACRONYMNS

A listing of common acronyms associated with investigation activities has been provided to aid the presentation of our findings. Additional acronyms may be defined within the text of this report.

AMCV	Air Monitoring Comparison Value
AMSL	Above mean sea level
AST	Aboveground storage tank
ASTM	ASTM International
AUL	Activity Use Limitation
BGS	Below Grade Surface
COC	Chemicals of Concern
DTW	Depth to water (typically from top of casing)
ESL	Effects Screening Level
EPA	United States Environmental Protection Agency
FID	Flame Ionization Detector
FRP	Fiberglass Reinforced Plastic
HASP	Health and Safety Plan
Kleinfelder	Kleinfelder Central, Inc.
MSD	Municipal Setting Designation
MSDS	Material Safety Data Sheet
PCL	Protective Concentration Level
PID	Photo Ionization Detector
PPBV	Parts per billion by volume
PST	TCEQ Petroleum Storage Tank Program
RAL	Residential Assessment Level
RCRA	Resource Conservation and Recovery Act
ROD	Records of Decision
RRC	Texas Railroad Commission
RSC	Reduced Sulfur Compound
SB	Soil Boring
SVOCs	Semi-volatile Organic Compounds
TCEQ	Texas Commission on Environmental Quality
TICs	Tentatively Identified Compounds
TOX	Total Organic Halides
TPH	Total Petroleum Hydrocarbons
TRRP	Texas Risk Reduction Program
TWDB	Texas Water Development Board
ug/m^3	micrograms per cubic meter
USACE	U.S. Army Corps of Engineers
USGS	United States Geological Survey
VOCs	Volatile Organic Compounds

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TABLES

Table 1 - Ambient Air Results - VOCs

				Sample Name:	AA-1			AA-2		
				Sample Initiation Date:	1.26.2011			1.26.2011		
				Sample Interval:	1020-1020			1045-1045		
Chemical of Concern	CAS #	*ST ESL*		*AMCVs*	MRL	Result		MRL	Result	
		ppbv		*ppbv*	ppbv	ppbv		ppbv	ppbv	
Acetone	67-64-1	*2500*	*h*	*2500*	0.061	11.9		0.061	12.7	
Allyl chloride (3-chloropropene)	107-05-1	*10*	*h*	*NE*	0.035	ND		0.035	ND	
Benzene	71-43-2	*54*	*h*	*180*	0.049	0.21		0.049	0.18	J
Benzyl Chloride	100-44-7	*10*	*h*	*NE*	0.034	ND		0.034	ND	
Bromodichloromethane	75-27-4	*100*	*h*	*NE*	0.025	ND		0.025	ND	
Bromoform	75-25-2	*5*	*h*	*NE*	0.025	ND		0.025	ND	
Bromomethane (Methyl Bromide)	74-83-9	*30*	*h*	*30*	0.026	ND		0.026	ND	
1,3-Butadiene	106-99-0	*230*	*o*	*1700*	0.028	ND		0.028	ND	
tert-Butyl alcohol	75-65-0	*200*	*h*	*NE*	0.039	ND		0.039	ND	
Carbon disulfide	75-15-0	*10*	*h*	*NE*	0.029	ND		0.029	ND	
Carbon tetrachloride	56-23-5	*20*	*h*	*20*	0.023	ND		0.023	ND	
Chlorobenzene	108-90-7	*100*	*h*	*100*	0.031	ND		0.031	ND	
Chloroethane	75-00-3	*190*	*h*	*190*	0.05	ND		0.05	ND	
Chloroform	67-66-3	*20*	*h*	*20*	0.026	ND		0.026	ND	
Chloromethane (Methyl Chloride)	74-87-3	*500*	*h*	*500*	0.053	0.56		0.053	0.47	
2-Chlorotoluene	95-49-8	*45*	*o*	*NE*	0.032	ND		0.032	ND	
Cyclohexane	110-82-7	*1000*	*h*	*1000*	0.042	0.19	J	0.042	ND	
Dibromochloromethane	124-48-1	*2.35*	*h*	*NE*	0.082	ND		0.082	ND	
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	*0.5*	*h*	*0.5*	0.03	ND		0.03	ND	
1,2-Dichlorobenzene (m-dichlorobenzene)	95-50-1	*120*	*h*	*NE*	0.032	ND		0.032	ND	
1,3-Dichlorobenzene (o-dichlorobenzene)	541-73-1	*120*	*h*	*NE*	0.025	ND		0.025	ND	
p-Dichlorobenzene (1,4-dichlorobenzene)	106-46-7	*120*	*h*	*NE*	0.027	ND		0.027	ND	
1,2-Dichloroethane	107-06-2	*4*	*h*	*40*	0.024	ND		0.024	ND	
1,1-Dichloroethane	74-34-3	*1000*	*h*	*1000*	0.025	ND		0.025	ND	
1,1-Dichloroethene	75-35-4	*54*	*h*	*180*	0.024	ND		0.024	ND	
cis-1,2-Dichloroethene	156-59-2	*2000*	*h*	*NE*	0.031	ND		0.031	ND	
trans-1,2-Dichloroethene	156-60-5	*1998*	*h*	*NE*	0.035	ND		0.035	ND	
1,2-Dichloropropane	78-87-5	*100*	*h*	*100*	0.054	ND		0.054	ND	
cis-1,3-Dichloropropene	10061-01-5	*10*	*h*	*10*	0.022	ND		0.022	ND	
trans-1,3-Dichloropropene	10061-02-6	*10*	*h*	*NE*	0.079	ND		0.079	ND	
1,4-Dioxane	123-91-1	*250*	*h*	*NE*	0.04	ND		0.04	ND	
Ethanol (Ethyl Alcohol)	64-17-5	*10000*	*h*	*NE*	0.17	3.5		0.17	2.7	
Ethylbenzene	100-41-4	*170*	*o*	*1000*	0.027	ND		0.027	ND	
Ethyl Acetate	141-78-6	*4000*	*h*	*4000*	0.077	2.3		0.077	0.63	
4-Ethyltoluene (p-ethyltoluene)	622-96-8	*250*	*h*	*250*	0.024	ND		0.024	ND	
Trichlorofluoromethane	75-69-4	*5000*	*o*	*10000*	0.032	0.27		0.032	0.26	
Dichlorodifluoromethane (Freon 12)	75-71-8	*10000*	*h*	*10000*	0.073	ND		0.073	ND	
1,1,2-Trichlorotrifluoroethane (Freon 113, Freon TF)	76-13-1	*5000*	*h*	*NE*	0.026	ND		0.026	ND	
1,2-Dichlorotetrafluoroethane (Freon 114)	76-14-2	*10000*	*h*	*NE*	0.029	ND		0.029	ND	
Heptane	142-82-5	*850*	*h*	*850*	0.024	0.23		0.024	0.22	
Hexachloro-1,3-butadiene	87-68-3	*0.2*	*h*	*NE*	0.06	ND		0.06	ND	
n-Hexane	110-54-3	*1500*	*h*	*1800*	0.022	0.45		0.022	0.46	
Methylene Chloride	75-09-2	*75*	*h*	*75*	0.027	ND		0.027	ND	
Methyl Butyl Ketone (2-Hexanone)	591-78-6	*10*	*h*	*10*	0.043	ND		0.043	ND	
2-Butanone (MEK)	78-93-3	*440*	*o*	*2000*	0.03	0.57		0.03	0.37	
4-Methyl-2-pentanone (MIBK)	108-10-1	*200*	*h*	*500*	0.037	ND		0.037	ND	
MTBE	1634-04-4	*130*	*o*	*500*	0.043	ND		0.043	ND	
2-Propanol (isopropyl alcohol)	67-63-0	*2000*	*o*	*NE*	0.055	0.42		0.055	ND	
Propene * (propylene)	115-07-1	*NE*	*h*	*13,000*	0.096	ND		0.096	ND	
Styrene	100-42-5	*25*	*o*	*5100*	0.027	ND		0.027	ND	
1,1,2,2-Tetrachloroethane	79-34-5	*10*	*h*	*10*	0.025	ND		0.025	ND	
Tetrachloroethylene	127-18-4	*300*	*h*	*1000*	0.04	ND		0.04	ND	
Tetrahydrofuran	109-99-9	*500*	*h*	*NE*	0.057	ND		0.057	ND	
Toluene	108-88-3	*170*	*o*	*4000*	0.025	0.53		0.025	0.49	
1,2,4-Trichlorobenzene	120-82-1	*50*	*h*	*NE*	0.12	ND		0.12	ND	
1,1,1-Trichloroethane	71-55-6	*2000*	*h*	*2000*	0.024	ND		0.024	ND	
1,1,2-Trichloroethane	79-00-5	*100*	*h*	*100*	0.024	ND		0.024	ND	
Trichloroethylene	79-01-6	*100*	*h*	*100*	0.024	ND		0.024	ND	
1,2,4-Trimethylbenzene (pseudocumene)	95-63-6	*250*	*h*	*250*	0.027	ND		0.027	ND	
1,3,5-Trimethylbenzene	108-67-8	*250*	*h*	*250*	0.027	ND		0.027	ND	
2,2,4-Trimethylpentane (isooctane)	540-84-1	*750*	*h*	*750*	0.021	ND		0.021	ND	
Vinyl chloride	75-01-4	*7800*	*h*	*26000*	0.029	ND		0.029	ND	
Vinyl Bromide (bromoethene)	593-60-2	*50*	*h*	*NE*	0.032	ND		0.032	ND	
Vinyl acetate	108-05-4	*40*	*h*	*NE*	0.13	ND		0.13	ND	
m&p-Xylene	1330-20-7	*41*	*o*	*1700*	0.059	ND		0.059	0.15	J
o-Xylene	95-47-6	*380*	*o*	*1700*	0.026	ND		0.026	ND	

ND = Not detected at or above the listed PQL (Practical Quantitation Limit).
* Utilizes Odor-based value as surrogate since no health criteria
ST ESL = Short Term Effects Screening Level (2010)
NE = Not Established h = health based o = odor based
NA = Not Analyzed
EV = Estimated Value as a TIC from TO-14 Analysis
AMCV = Short Term Air Monitoring Comparison Value - May 2010

Table 2 - Ambient Air Results - Sulfides (RSCs)

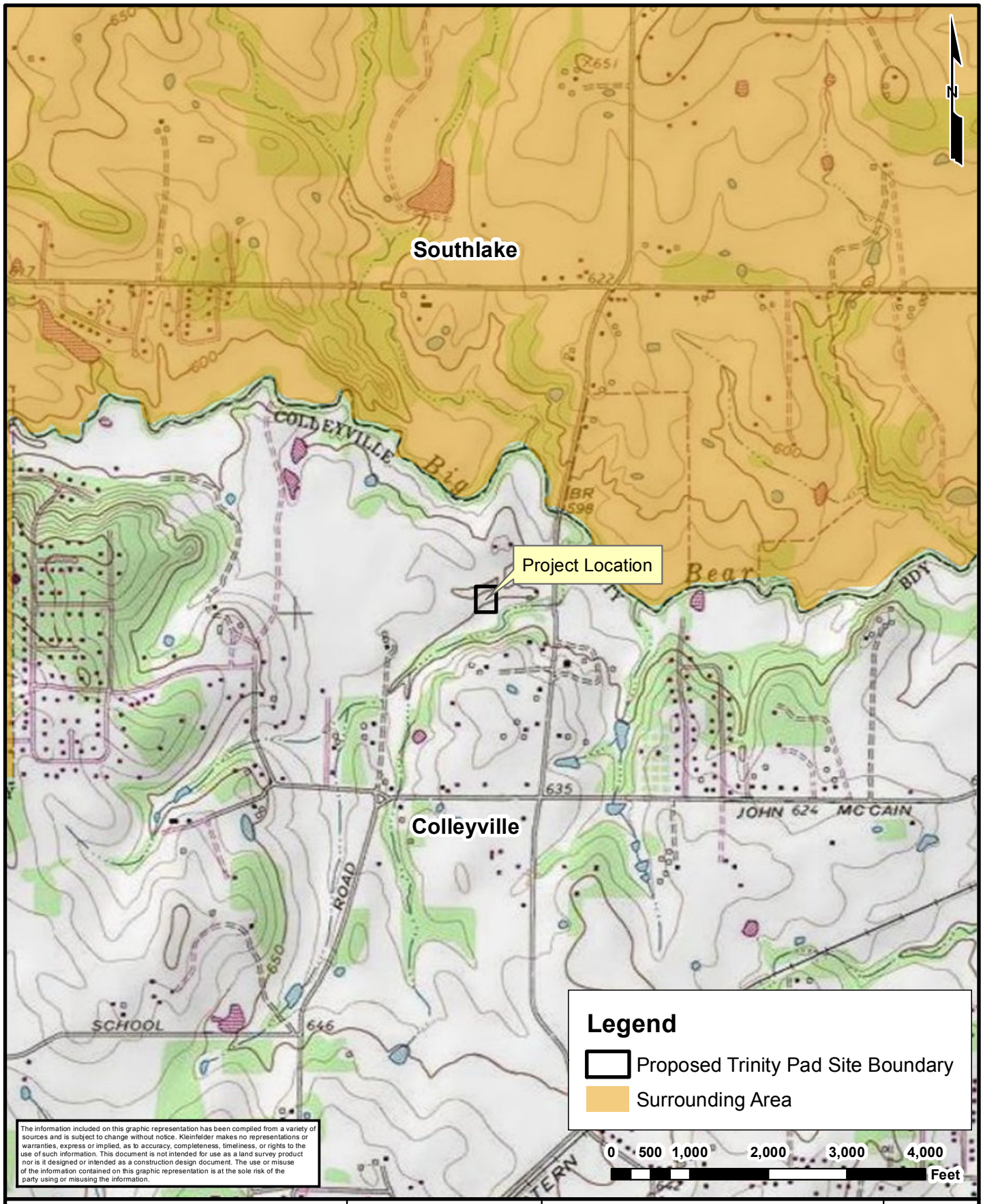
				Sample Name:	AA-1			AA-2		
				Sample Initiation Date:	1.27.2011			1.27.2011		
				Sample Interval:	1358			1405		
Chemical of Concern	CAS #	*ST ESL*		*AMCVs*	MRL	Result		PQL	Result	
		ppbv		*ppbv*	ppbv	ppbv		ppbv	ppbv	
Hydrogen Sulfide	7783-06-4	*NE*		*NE*	5.0	ND		5.0	ND	
Carbonyl Sulfide	463-58-1	*55*	*h*	*NE*	5.0	67.0		5.0	63.0	
Methyl Mercaptan	74-93-1	*1*	*o*	*NE*	5.0	ND		5.0	ND	
Ethyl Mercaptan	75-08-1	*2*	*o*	*NE*	5.0	ND		5.0	ND	
Dimethyl Sulfide	75-18-3	*7.6*	*o*	*NE*	5.0	ND		5.0	ND	
Carbon Disulfide	75-15-0	*10*	*h*	*NE*	2.5	6.9		2.5	12.0	
Isopropyl Mercaptan	75-33-2	*2.4*	*h*	*NE*	5.0	ND		5.0	ND	
tert-Butyl Mercaptan	75-66-1	*1.1*	*o*	*NE*	5.0	ND		5.0	ND	
n-Propyl Mercaptan	107-03-9	*0.7*	*o*	*NE*	5.0	ND		5.0	ND	
Ethyl Methyl Sulfide	624-89-5	*154*	*h*	*NE*	5.0	ND		5.0	ND	
Thiophene	110-02-1	*0.5*	*o*	*NE*	5.0	ND		5.0	ND	
Isobutyl Mercaptan	513-44-0	*NE*		*NE*	5.0	ND		5.0	ND	
Diethyl Sulfide	352-93-2	*58.9*	*o*	*NE*	5.0	ND		5.0	ND	
n-Butyl Mercaptan	109-79-5	*0.5*	*o*	*NE*	5.0	ND		5.0	ND	
Dimethyl Disulfide	624-92-0	*77*	*h*	*NE*	2.5	ND		2.5	ND	
3-Methylthiophene	616-44-4	*372*	*h*	*NE*	5.0	ND		5.0	ND	
Tetrahydrothiophene	110-01-0	*9.7*	*o*	*NE*	5.0	ND		5.0	ND	
2,5-Dimethylthiophene	638-02-8	*427*	*h*	*NE*	5.0	ND		5.0	ND	
2-Ethylthiophene	872-55-9	*421*	*h*	*NE*	5.0	ND		5.0	ND	
Diethyl Disulfide	110-81-6	*86.9*	*o*	*NE*	2.5	ND		2.5	ND	

Table 3 - Ambient Air Results - Carbonyls

				Sample Name:	AA-1			AA-2		
				Sample Initiation Date:	1.27.2011			1.27.2011		
				Sample Interval:	1025-1125			1130-1230		
Chemical of Concern	CAS #	*ST ESL*		*AMCVs*	MRL	Result		PQL	Result	
		ppbv		*ppbv*	ppbv	ppbv		ppbv	ppbv	
Formaldehyde	50-00-0	*12*	*h*	*41*	0.45	1.7		0.45	2.0	
Acetaldehyde	75-07-0	*50*	*o*	*250*	0.31	0.62		0.31	0.62	
Propionaldehyde	123-38-6	*9*	*o*	*200*	0.23	ND		0.23	ND	
Crotonaldehyde, Total	4170-30-3	*3*	*h*	*3*	0.19	ND		0.19	ND	
Butyraldehyde	123-72-8	*5*	*o*	*2700*	0.19	ND		0.19	ND	
Benzaldehyde	100-52-7	*5*	*o*	*21*	0.13	ND		0.13	ND	
Isovaleraldehyde	590-86-3	*500*	*h*	*500*	0.16	ND		0.16	ND	
Valeraldehyde	110-62-3	*30*	*o*	*500*	0.16	ND		0.16	ND	
o-Tolualdehyde	529-20-4	*442*	*h*	*21*	0.11	ND		0.11	ND	
m,p-Tolualdehyde (620-23-5)	104-87-0	*706*	*h*	*21*	0.23	ND		0.23	ND	
n-Hexaldehyde/Hexanal	66-25-1	*20*	*o*	*2000*	0.14	ND		0.14	ND	
2,5-Dimethylbenzaldehyde	5779-94-2	*20*	*h*	*21*	0.10	ND		0.10	ND	

ND = Not detected at or above the listed MRL (Method Reporting Limit).
* Utilizes Odor-based value as surrogate since no health criteria
ST ESL = Short Term Effects Screening Level (December 2010)
NE = Not Established h = health based o = odor based
NA = Not Analyzed
EV = Estimated Value as a TIC from TO-14 Analysis
AMCV = Short Term Air Monitoring Comparison Value - May 2010

FIGURES



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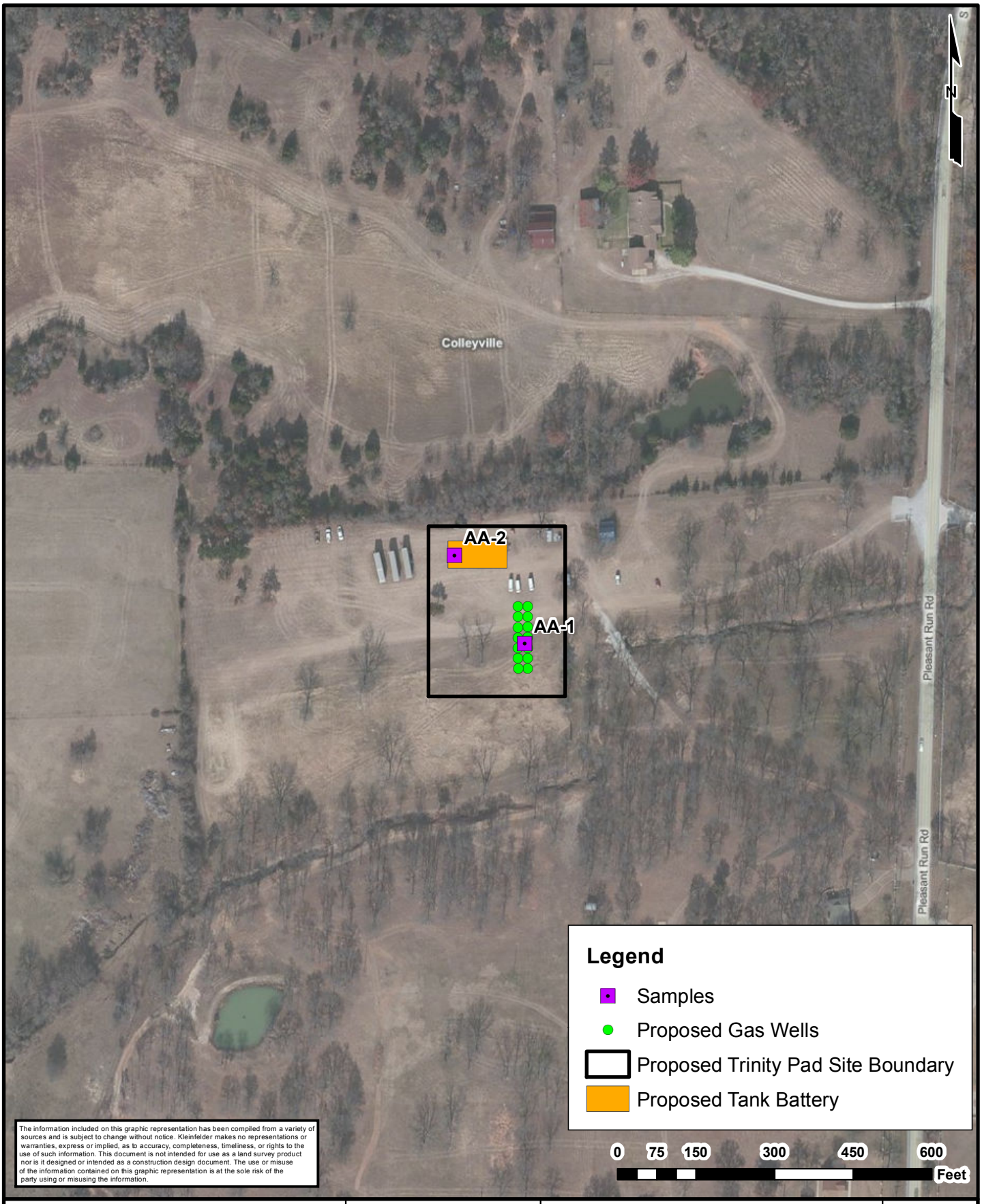
PROJECT NO.	116065
DRAWN:	01/25/11
DRAWN BY:	CS
CHECKED BY:	KT
FILE NAME:	TCCPad_Topo.mxd

TOPOGRAPHIC MAP

Proposed Trinity Pad Site
7504 Pleasant Run
Colleyville, Texas

FIGURE

1



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PROJECT NO.	116065
DRAWN:	01/25/11
DRAWN BY:	CS
CHECKED BY:	KT
FILE NAME: TCCPad_SitePlan.mxd	

SITE PLAN

Proposed Trinity Pad Site
7504 Pleasant Run
Colleyville, Texas

FIGURE
2

APPENDIX A

Air Sample Data Sheets

Air Sampling Data Sheet

Project Name: Colleyville- Baseline
Date: January 26, 2011
Project No. 116065

Location: Trinity Pad Site
Proposed Well Location

Sample ID: AA-1
Sampled by: KK/PFH

Sample Type		Installation Details		Sample Details	
	Soil Gas	Drilling Method:	N/A	Container Type:	6L Summa
X	Ambient Air	Auger Diameter:	N/A	Container/Regulator ID No.:	A089/FC189
	Indoor Air	Angle:	N/A	Tubing Type	¼" Teflon®
		Lithology:	N/A	Start Pressure: (psi) Regulator Type	27" Hg / 24 Hour
		Implant Description		Start Date:	1/26/11
	Sub Slab	Implant Depth:	N/A	Start Time:	1020
	Duplicate			End Date:	1/27/11
	Other	Sand Type:	N/A	End Date/Time:	1020
GPS:	Lat: 32.916971		Long: -97.160061	End Pressure (psi):	NA

Notes:

Height of Sampling Point: ~5.5 feet above grade

Description of Sampling Point:

Canister placed within secured shroud to prevent tampering.

Ambient PID Reading at Initiation: <0.1 ppm

Ambient FID Reading at Initiation: up to 0.21 ppm

Ambient PID Reading at Completion: 0.0 ppm

Notes:
Conditions at initiation: wind from the southwest

Conditions at completion: clear, cool, breezy (W)

Air Sampling Data Sheet

Project Name: Colleyville- Baseline
Date: January 26, 2011
Project No. 116065

Location: Trinity Pad Site
Proposed Tank Location

Sample ID: AA-2
Sampled by: KK/PFH

Sample Type		Installation Details		Sample Details	
	Soil Gas	Drilling Method:	N/A	Container Type:	6L Summa
X	Ambient Air	Auger Diameter:	N/A	Container/Regulator ID No.:	A287/FC407
	Indoor Air	Angle:	N/A	Tubing Type	¼" Teflon®
		Lithology:	N/A	Start Pressure: (psi) Regulator Type	27" Hg / 24 Hour
		Implant Description		Start Date:	January 26, 2011
	Sub Slab	Implant Depth:	N/A	Start Time:	1045
	Duplicate			End Date:	January 27, 2011
	Other	Sand Type:	N/A	End Date/Time:	1045
GPS:	Lat: 32.917367		Long: -97.160455	End Pressure (psi):	NA

Notes:

Height of Sampling Point: ~5.5 feet above grade

Description of Sampling Point:

Canister placed within secured shroud to prevent tampering.

Ambient PID Reading at Initiation: <0.1 ppm

Ambient FID Reading at Initiation: up to 0.6 ppm

Ambient PID Reading at Completion: 0.0-0.1 ppm

Notes:
Conditions at initiation: wind from the southwest

Conditions at completion: clear, cool, breezy (W)

APPENDIX B

Laboratory Data Sheets and Chain of Custody Documentation

LABORATORY REPORT

February 11, 2011

Paul Hamilton
Kleinfelder
7805 Mesquite Bend, Suite 100
Irving, TX 75063

RE: Colleyville / 116065

Dear Paul:

Enclosed are the results of the samples submitted to our laboratory on January 28, 2011. For your reference, these analyses have been assigned our service request number P1100338.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.caslab.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

Columbia Analytical Services, Inc. is certified by the California Department of Health Services, NELAP Laboratory Certificate No. 02115CA; Arizona Department of Health Services, Certificate No. AZ0694; Florida Department of Health, NELAP Certification E871020; New Jersey Department of Environmental Protection, NELAP Laboratory Certification ID #CA009; New York State Department of Health, NELAP NY Lab ID No: 11221; Oregon Environmental Laboratory Accreditation Program, NELAP ID: CA20007; The American Industrial Hygiene Association, Laboratory #101661; United States Department of Defense Environmental Laboratory Accreditation Program (DoD-ELAP), Certificate No. L10-3; Pennsylvania Registration No. 68-03307; TX Commission of Environmental Quality, NELAP ID T104704413-09-TX; Minnesota Department of Health, Certificate No. 11495AA; Washington State Department of Ecology, ELAP Lab ID: C946. Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact me for information corresponding to a particular certification.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

Columbia Analytical Services, Inc.

For Sue Anderson
Project Manager

Client: Kleinfelder CAS Project No: P1100338
Project: Colleyville / 116065

CASE NARRATIVE

The samples were received intact under chain of custody on January 28, 2011 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Sulfur Analysis

The samples were analyzed for twenty sulfur compounds per ASTM D 5504-08 using a gas chromatograph equipped with a sulfur chemiluminescence detector (SCD). All compounds with the exception of hydrogen sulfide and carbonyl sulfide are quantitated against the initial calibration curve for methyl mercaptan.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for utilization of less than the complete report.

DETAIL SUMMARY REPORT

Client: Kleinfelder
Project ID: Colleyville / 116065

Service Request: P1100338

Date Received: 1/28/2011
Time Received: 07:55

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	ASTM D5504-08 - Sulfur Bag
AA-1	P1100338-001	Air	1/27/2011	13:58	X
AA-2	P1100338-002	Air	1/27/2011	14:05	X

KLEINFELDER
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P1100 3385

PROJECT NO.	PROJECT NAME	NO. OF CONTAINERS	TYPE OF CONTAINERS	ANALYSIS	RECEIVING LAB:
116065	Coalgate Ville				Columbia Analytical Services
L.P. NO. (PO. NO.)	SAMPLERS: (Signature/Number)				INSTRUCTIONS/REMARKS
	Paul Hamilton				Standard TAT

	DATE MM/DD/YY	SAMPLE I.D. TIME HH-MM-SS	SAMPLE I.D.	MATRIX	NO. OF CONTAINERS	TYPE OF CONTAINERS	ANALYSIS: Hydrocarbons ASTM D5504-08	
1	01/27/11	~~AA~~	AA-1	Air	1	SKC	X	
2		1358						
3	01/27/11	1405	AA-2	Air	1	SKC	X	
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Paul Hamilton	1/27	FedEx
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Fuley	1/28/11 0785	[illegible]
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)

Instructions/Remarks:

Send Results To:
phamilton@kleinfelder.com
Kleinfelder DFW
Attn: Paul Hamilton

ENV-02 REV 05/08)

White – Sampler Canary – Return Copy To Shipper Pink – Lab Copy

CHAIN OF CUSTODY

COC № 00413

Columbia Analytical Services
2655 Park Center Drive, Suite A, Simi Valley, CA 93065 | 805.526.7161 | www.caslab.com

Sample Acceptance Check Form

Client: Kleinfelder Work order: P1100338
Project: Colleyville / 116065
Sample(s) received on: 1/28/11 Date opened: 1/28/11 by: MZAMORA

Note: This form is used forall samples received by CAS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Container(s) **supplied by CAS**?	☐	☒	☐
3	Did **sample containers** arrive in good condition?	☒	☐	☐
4	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
5	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
6	Was **sample volume** received adequate for analysis?	☒	☐	☐
7	Are samples within specified holding times?	☒	☐	☐
8	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
	Cooler Temperature _____ °C Blank Temperature _____ °C			
9	Was a **trip blank** received?	☐	☐	☒
10	Were **custody seals** on outside of cooler/Box?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
	Were custody seals on outside of sample container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
11	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
12	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
	Do they contain moisture?	☐	☐	☒
13	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1100338-001.01	1 each Mylar Bag					
P1100338-002.01	1 each Mylar Bag					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

Columbia Analytical Services
2655 Park Center Drive, Suite A, Simi Valley, CA 93065 | 805.526.7161 | www.caslab.com

RESULTS OF ANALYSIS

Client: **Kleinfelder**
Client Sample ID: **AA-1**
Client Project ID: **Colleyville / 116065**

CAS Project ID: P1100338
CAS Sample ID: P1100338-001

Test Code: ASTM D 5504-08
Instrument ID: Agilent 7890A/GC22/SCD
Analyst: Zheng Wang
Sampling Media: Mylar Bag
Test Notes:

Date Collected: 1/27/11
Time Collected: 13:58
Date Received: 1/28/11
Date Analyzed: 1/28/11
Time Analyzed: 09:41
Volume(s) Analyzed: 1.0 ml(s)

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	7.0	ND	5.0	
463-58-1	Carbonyl Sulfide	**160**	12	**67**	5.0	
74-93-1	Methyl Mercaptan	ND	9.8	ND	5.0	
75-08-1	Ethyl Mercaptan	ND	13	ND	5.0	
75-18-3	Dimethyl Sulfide	ND	13	ND	5.0	
75-15-0	Carbon Disulfide	**21**	7.8	**6.9**	2.5	
75-33-2	Isopropyl Mercaptan	ND	16	ND	5.0	
75-66-1	tert-Butyl Mercaptan	ND	18	ND	5.0	
107-03-9	n-Propyl Mercaptan	ND	16	ND	5.0	
624-89-5	Ethyl Methyl Sulfide	ND	16	ND	5.0	
110-02-1	Thiophene	ND	17	ND	5.0	
513-44-0	Isobutyl Mercaptan	ND	18	ND	5.0	
352-93-2	Diethyl Sulfide	ND	18	ND	5.0	
109-79-5	n-Butyl Mercaptan	ND	18	ND	5.0	
624-92-0	Dimethyl Disulfide	ND	9.6	ND	2.5	
616-44-4	3-Methylthiophene	ND	20	ND	5.0	
110-01-0	Tetrahydrothiophene	ND	18	ND	5.0	
638-02-8	2,5-Dimethylthiophene	ND	23	ND	5.0	
872-55-9	2-Ethylthiophene	ND	23	ND	5.0	
110-81-6	Diethyl Disulfide	ND	12	ND	2.5	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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RESULTS OF ANALYSIS

Client: **Kleinfelder**
Client Sample ID: **AA-2**
Client Project ID: **Colleyville / 116065**

CAS Project ID: P1100338
CAS Sample ID: P1100338-002

Test Code: ASTM D 5504-08
Instrument ID: Agilent 7890A/GC22/SCD
Analyst: Zheng Wang
Sampling Media: Mylar Bag
Test Notes:

Date Collected: 1/27/11
Time Collected: 14:05
Date Received: 1/28/11
Date Analyzed: 1/28/11
Time Analyzed: 10:01
Volume(s) Analyzed: 1.0 ml(s)

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	7.0	ND	5.0	
463-58-1	Carbonyl Sulfide	**150**	12	**63**	5.0	
74-93-1	Methyl Mercaptan	ND	9.8	ND	5.0	
75-08-1	Ethyl Mercaptan	ND	13	ND	5.0	
75-18-3	Dimethyl Sulfide	ND	13	ND	5.0	
75-15-0	Carbon Disulfide	**38**	7.8	**12**	2.5	
75-33-2	Isopropyl Mercaptan	ND	16	ND	5.0	
75-66-1	tert-Butyl Mercaptan	ND	18	ND	5.0	
107-03-9	n-Propyl Mercaptan	ND	16	ND	5.0	
624-89-5	Ethyl Methyl Sulfide	ND	16	ND	5.0	
110-02-1	Thiophene	ND	17	ND	5.0	
513-44-0	Isobutyl Mercaptan	ND	18	ND	5.0	
352-93-2	Diethyl Sulfide	ND	18	ND	5.0	
109-79-5	n-Butyl Mercaptan	ND	18	ND	5.0	
624-92-0	Dimethyl Disulfide	ND	9.6	ND	2.5	
616-44-4	3-Methylthiophene	ND	20	ND	5.0	
110-01-0	Tetrahydrothiophene	ND	18	ND	5.0	
638-02-8	2,5-Dimethylthiophene	ND	23	ND	5.0	
872-55-9	2-Ethylthiophene	ND	23	ND	5.0	
110-81-6	Diethyl Disulfide	ND	12	ND	2.5	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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RESULTS OF ANALYSIS

Client: **Kleinfelder**
Client Sample ID: **Method Blank**
Client Project ID: **Colleyville / 116065**

CAS Project ID: P1100338
CAS Sample ID: P110128-MB

Test Code: ASTM D 5504-08
Instrument ID: Agilent 7890A/GC22/SCD
Analyst: Zheng Wang
Sampling Media: Mylar Bag
Test Notes:

Date Collected: NA
Time Collected: NA
Date Received: NA
Date Analyzed: 1/28/11
Time Analyzed: 08:59
Volume(s) Analyzed: 1.0 ml(s)

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	7.0	ND	5.0	
463-58-1	Carbonyl Sulfide	ND	12	ND	5.0	
74-93-1	Methyl Mercaptan	ND	9.8	ND	5.0	
75-08-1	Ethyl Mercaptan	ND	13	ND	5.0	
75-18-3	Dimethyl Sulfide	ND	13	ND	5.0	
75-15-0	Carbon Disulfide	ND	7.8	ND	2.5	
75-33-2	Isopropyl Mercaptan	ND	16	ND	5.0	
75-66-1	tert-Butyl Mercaptan	ND	18	ND	5.0	
107-03-9	n-Propyl Mercaptan	ND	16	ND	5.0	
624-89-5	Ethyl Methyl Sulfide	ND	16	ND	5.0	
110-02-1	Thiophene	ND	17	ND	5.0	
513-44-0	Isobutyl Mercaptan	ND	18	ND	5.0	
352-93-2	Diethyl Sulfide	ND	18	ND	5.0	
109-79-5	n-Butyl Mercaptan	ND	18	ND	5.0	
624-92-0	Dimethyl Disulfide	ND	9.6	ND	2.5	
616-44-4	3-Methylthiophene	ND	20	ND	5.0	
110-01-0	Tetrahydrothiophene	ND	18	ND	5.0	
638-02-8	2,5-Dimethylthiophene	ND	23	ND	5.0	
872-55-9	2-Ethylthiophene	ND	23	ND	5.0	
110-81-6	Diethyl Disulfide	ND	12	ND	2.5	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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LABORATORY CONTROL SAMPLE SUMMARY

Client: **Kleinfelder**
Client Sample ID: **Lab Control Sample**
Client Project ID: **Colleyville / 116065**

CAS Project ID: P1100338
CAS Sample ID: P110128-LCS

Test Code: ASTM D 5504-08
Instrument ID: Agilent 7890A/GC22/SCD
Analyst: Zheng Wang
Sampling Media: Mylar Bag
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 1/28/11
Volume(s) Analyzed: NA ml(s)

CAS #	Compound	Spike Amount ppbV	Result ppbV	% Recovery	CAS Acceptance Limits	Data Qualifier
7783-06-4	Hydrogen Sulfide	2,380	**1,980**	**83**	71-129	
463-58-1	Carbonyl Sulfide	2,470	**2,030**	**82**	66-120	
74-93-1	Methyl Mercaptan	2,360	**2,160**	**92**	59-136	

LABORATORY REPORT

February 11, 2011

Paul Hamilton
Kleinfelder
7805 Mesquite Bend, Suite 100
Irving, TX 75063

RE: Colleyville / 116065

Dear Paul:

Enclosed are the results of the samples submitted to our laboratory on January 28, 2011. For your reference, these analyses have been assigned our service request number P1100350.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.caslab.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

Columbia Analytical Services, Inc. is certified by the California Department of Health Services, NELAP Laboratory Certificate No. 02115CA; Arizona Department of Health Services, Certificate No. AZ0694; Florida Department of Health, NELAP Certification E871020; New Jersey Department of Environmental Protection, NELAP Laboratory Certification ID #CA009; New York State Department of Health, NELAP NY Lab ID No: 11221; Oregon Environmental Laboratory Accreditation Program, NELAP ID: CA20007; The American Industrial Hygiene Association, Laboratory #101661; United States Department of Defense Environmental Laboratory Accreditation Program (DoD-ELAP), Certificate No. L10-3; Pennsylvania Registration No. 68-03307; TX Commission of Environmental Quality, NELAP ID T104704413-09-TX; Minnesota Department of Health, Certificate No. 11495AA; Washington State Department of Ecology, ELAP Lab ID: C946. Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact me for information corresponding to a particular certification.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

Columbia Analytical Services, Inc.

For Sue Anderson
Project Manager

Client: Kleinfelder CAS Project No: P1100350
Project: Colleyville / 116065

CASE NARRATIVE

The samples were received intact under chain of custody on January 28, 2011 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Aldehyde Analysis

The samples were analyzed for aldehydes according to EPA Method TO-11A using high performance liquid chromatography (HPLC).

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for utilization of less than the complete report.

DETAIL SUMMARY REPORT

Client: Kleinfelder
Project ID: Colleyville / 116065

Service Request: P1100350

Date Received: 1/28/2011
Time Received: 09:35

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	TO-11A - Carbonyls
AA1	P1100350-001	Air	1/27/2011	10:25	X
AA2	P1100350-002	Air	1/27/2011	11:30	X
Field Blank	P1100350-003	Air	1/27/2011	00:00	X

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Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

Air - Chain of Custody Record & Analytical Service Request

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

CAS Project No. P1100350

CAS Contact:

Company Name & Address (Reporting Information): Kleinfelder 7805 Mesquite Bend Stelop Irving TX 75063

Project Name: Colleyville

Project Number: 116065

Project Manager: Kenneth Tramm

P.O. # / Billing Information

Phone: 972 8685900

Fax:

Email Address for Result Reporting: phamilton + ktramm@kleinfelder.com

Sampler (Print & Sign): Paul Hamilton

Analysis Method: Carbonyls TO 11A

Comments e.g. Actual Preservative or specific instructions

	Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controlier ID (Bar code #- FC #)	Canister Start Pressure "Hg.	Canister End Pressure "Hg/psig	Sample Volume	Carbonyls TO 11A		Comments
1	AA 1	0746	1/27	1025					1800	X		
2	AA 2	0747	1/27	1130					1800	X		
3	Field blank	1088	1/27							X		

Report Tier Levels - please select
Tier I - (Results/Default if not specified) _____
Tier II (Results + QC) _____
Tier III (Data Validation Package) 10% Surcharge _____
Tier V (client specified) _____

EDD required Yes / No
Type: _____

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)	Date: 1/27/11	Time:	Received by: (Signature)	Date: 1/28/11	Time: 0935
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)		Time:

Cooler / Blank Temperature 4 °C

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Sample Acceptance Check Form

Client: Kleinfelder Work order: P1100350
Project: Colleyville / 116065
Sample(s) received on: 1/28/11 Date opened: 1/28/11 by: MZAMORA

Note: This form is used forall samples received by CAS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Container(s) **supplied by CAS**?	☒	☐	☐
3	Did **sample containers** arrive in good condition?	☒	☐	☐
4	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
5	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
6	Was **sample volume** received adequate for analysis?	☒	☐	☐
7	Are samples within specified holding times?	☒	☐	☐
8	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☒	☐	☐
	Cooler Temperature 4 °C Blank Temperature ____ °C			
9	Was a **blank** tube received?	☒	☐	☐
10	Were **custody seals** on outside of cooler/Box?	☐	☒	☐
	Location of seal(s)? ____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
	Were custody seals on outside of sample container?	☐	☐	☒
	Location of seal(s)? ____ Sealing Lid?	☐	☒	☐
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
11	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
12	**Tubes:** Are the tubes capped and intact?	☒	☐	☐
	Do they contain moisture?	☐	☒	☐
13	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1100350-001.01	Silica Gel DNPH Tube					
P1100350-002.01	Silica Gel DNPH Tube					
P1100350-003.01	Silica Gel DNPH Tube					

Explain any discrepancies: (include lab sample ID numbers): ____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

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RESULTS OF ANALYSIS

Client: **Kleinfelder**
Client Sample ID: **AA1**
Client Project ID: **Colleyville / 116065**

CAS Project ID: P1100350
CAS Sample ID: P1100350-001

Test Code: EPA Method TO-11A
Instrument ID: Waters LC Module I Plus/UV_Vis 360/LC1
Analyst: Sheena Martenies
Sampling Media: Silica Gel DNPH Tube
Test Notes: **BC**

Date Collected: 1/27/11
Date Received: 1/28/11
Date Analyzed: 1/31/11
Desorption Volume: 1.0 ml
Volume Sampled: 180 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	370	**2.0**	0.56	**1.7**	0.45	
75-07-0	Acetaldehyde	200	**1.1**	0.56	**0.62**	0.31	
123-38-6	Propionaldehyde	< 100	ND	0.56	ND	0.23	
4170-30-3	Crotonaldehyde, Total	< 100	ND	0.56	ND	0.19	
123-72-8	Butyraldehyde	< 100	ND	0.56	ND	0.19	
100-52-7	Benzaldehyde	< 100	ND	0.56	ND	0.13	
590-86-3	Isovaleraldehyde	< 100	ND	0.56	ND	0.16	
110-62-3	Valeraldehyde	< 100	ND	0.56	ND	0.16	
529-20-4	o-Tolualdehyde	< 100	ND	0.56	ND	0.11	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	1.1	ND	0.23	
66-25-1	n-Hexaldehyde	< 100	ND	0.56	ND	0.14	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	0.56	ND	0.10	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.

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RESULTS OF ANALYSIS

Client: **Kleinfelder**
Client Sample ID: **AA2**
Client Project ID: **Colleyville / 116065**

CAS Project ID: P1100350
CAS Sample ID: P1100350-002

Test Code: EPA Method TO-11A
Instrument ID: Waters LC Module I Plus/UV_Vis 360/LC1
Analyst: Sheena Martenies
Sampling Media: Silica Gel DNPH Tube
Test Notes: **BC**

Date Collected: 1/27/11
Date Received: 1/28/11
Date Analyzed: 1/31/11
Desorption Volume: 1.0 ml
Volume Sampled: 180 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	430	**2.4**	0.56	**2.0**	0.45	
75-07-0	Acetaldehyde	200	**1.1**	0.56	**0.62**	0.31	
123-38-6	Propionaldehyde	< 100	ND	0.56	ND	0.23	
4170-30-3	Crotonaldehyde, Total	< 100	ND	0.56	ND	0.19	
123-72-8	Butyraldehyde	< 100	ND	0.56	ND	0.19	
100-52-7	Benzaldehyde	< 100	ND	0.56	ND	0.13	
590-86-3	Isovaleraldehyde	< 100	ND	0.56	ND	0.16	
110-62-3	Valeraldehyde	< 100	ND	0.56	ND	0.16	
529-20-4	o-Tolualdehyde	< 100	ND	0.56	ND	0.11	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	1.1	ND	0.23	
66-25-1	n-Hexaldehyde	< 100	ND	0.56	ND	0.14	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	0.56	ND	0.10	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.

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RESULTS OF ANALYSIS

Client: **Kleinfelder**
Client Sample ID: **Field Blank**
Client Project ID: **Colleyville / 116065**

CAS Project ID: P1100350
CAS Sample ID: P1100350-003

Test Code: EPA Method TO-11A
Instrument ID: Waters LC Module I Plus/UV_Vis 360/LC1
Analyst: Sheena Martenies
Sampling Media: Silica Gel DNPH Tube
Test Notes: **BC**

Date Collected: 1/27/11
Date Received: 1/28/11
Date Analyzed: 1/31/11
Desorption Volume: 1.0 ml
Volume Sampled: NA Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	< 100	NA	NA	NA	NA	
75-07-0	Acetaldehyde	< 100	NA	NA	NA	NA	
123-38-6	Propionaldehyde	< 100	NA	NA	NA	NA	
4170-30-3	Crotonaldehyde, Total	< 100	NA	NA	NA	NA	
123-72-8	Butyraldehyde	< 100	NA	NA	NA	NA	
100-52-7	Benzaldehyde	< 100	NA	NA	NA	NA	
590-86-3	Isovaleraldehyde	< 100	NA	NA	NA	NA	
110-62-3	Valeraldehyde	< 100	NA	NA	NA	NA	
529-20-4	o-Tolualdehyde	< 100	NA	NA	NA	NA	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	NA	NA	NA	NA	
66-25-1	n-Hexaldehyde	< 100	NA	NA	NA	NA	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	NA	NA	NA	NA	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

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RESULTS OF ANALYSIS

Client: **Kleinfelder**
Client Sample ID: **Method Blank**
Client Project ID: **Colleyville / 116065**

CAS Project ID: P1100350
CAS Sample ID: P110131-MB

Test Code: EPA Method TO-11A
Instrument ID: Waters LC Module I Plus/UV_Vis 360/LC1
Analyst: Sheena Martenies
Sampling Media: Silica Gel DNPH Tube
Test Notes: **BC**

Date Collected: NA
Date Received: NA
Date Analyzed: 01/31/11
Desorption Volume: 1.0 ml
Volume Sampled: NA Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	< 100	NA	NA	NA	NA	
75-07-0	Acetaldehyde	< 100	NA	NA	NA	NA	
123-38-6	Propionaldehyde	< 100	NA	NA	NA	NA	
4170-30-3	Crotonaldehyde, Total	< 100	NA	NA	NA	NA	
123-72-8	Butyraldehyde	< 100	NA	NA	NA	NA	
100-52-7	Benzaldehyde	< 100	NA	NA	NA	NA	
590-86-3	Isovaleraldehyde	< 100	NA	NA	NA	NA	
110-62-3	Valeraldehyde	< 100	NA	NA	NA	NA	
529-20-4	o-Tolualdehyde	< 100	NA	NA	NA	NA	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	NA	NA	NA	NA	
66-25-1	n-Hexaldehyde	< 100	NA	NA	NA	NA	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	NA	NA	NA	NA	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

New Jersey
ACCUTEST LABORATORIES

02/10/11

Technical Report for

Kleinfelder

Colleyville, TX

116065

Accutest Job Number: JA67032

Sampling Date: 01/27/11

Report to:

Kleinfelder
7805 Mesquite Bend #100
Irving, TX 75063
PHamilton@Kleinfelder.com; ktramm@kleinfelder.com

ATTN: Paul Hamilton

Total number of pages in report: **12**

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

David N. Speis
VP, Laboratory Director

Client Service contact: Tony Esposito 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, DE, FL, IL, IN, KS, KY, LA, MA, MD, MI, MT, NC, PA, RI, SC, TN, VA, WV

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Test results relate only to samples analyzed.

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Sample Summary

Kleinfelder

Job No: JA67032

Colleyville, TX
Project No: 116065

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JA67032-1	01/27/11	10:20	PH	01/28/11	AIR	Air	AA-1
JA67032-2	01/27/11	10:45	PH	01/28/11	AIR	Air	AA-2

New Jersey

ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	AA-1		
Lab Sample ID:	JA67032-1	**Date Sampled:**	01/27/11
Matrix:	AIR - Air Summa ID: A089	**Date Received:**	01/28/11
Method:	TO-15	**Percent Solids:**	n/a
Project:	Colleyville, TX		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W30004.D	1.48	02/04/11	YMH	n/a	n/a	VW1231
Run #2							

	Initial Volume
Run #1	592 ml
Run #2	

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
67-64-1	58.08	Acetone	11.9	0.20	0.061	ppbv		28.3	0.48	ug/m3
106-99-0	54.09	1,3-Butadiene	ND	0.20	0.028	ppbv		ND	0.44	ug/m3
71-43-2	78.11	Benzene	0.21	0.20	0.049	ppbv		0.67	0.64	ug/m3
75-27-4	163.8	Bromodichloromethane	ND	0.20	0.025	ppbv		ND	1.3	ug/m3
75-25-2	252.8	Bromoform	ND	0.20	0.025	ppbv		ND	2.1	ug/m3
74-83-9	94.94	Bromomethane	ND	0.20	0.026	ppbv		ND	0.78	ug/m3
593-60-2	106.9	Bromoethene	ND	0.20	0.032	ppbv		ND	0.87	ug/m3
100-44-7	126	Benzyl Chloride	ND	0.20	0.034	ppbv		ND	1.0	ug/m3
75-15-0	76.14	Carbon disulfide	ND	0.20	0.029	ppbv		ND	0.62	ug/m3
108-90-7	112.6	Chlorobenzene	ND	0.20	0.031	ppbv		ND	0.92	ug/m3
75-00-3	64.52	Chloroethane	ND	0.20	0.050	ppbv		ND	0.53	ug/m3
67-66-3	119.4	Chloroform	ND	0.20	0.026	ppbv		ND	0.98	ug/m3
74-87-3	50.49	Chloromethane	0.56	0.20	0.053	ppbv		1.2	0.41	ug/m3
107-05-1	76.53	3-Chloropropene	ND	0.20	0.035	ppbv		ND	0.63	ug/m3
95-49-8	126.6	2-Chlorotoluene	ND	0.20	0.032	ppbv		ND	1.0	ug/m3
56-23-5	153.8	Carbon tetrachloride	ND	0.20	0.023	ppbv		ND	1.3	ug/m3
110-82-7	84.16	Cyclohexane	0.18	0.20	0.042	ppbv	J	0.62	0.69	ug/m3
75-34-3	98.96	1,1-Dichloroethane	ND	0.20	0.025	ppbv		ND	0.81	ug/m3
75-35-4	96.94	1,1-Dichloroethylene	ND	0.20	0.024	ppbv		ND	0.79	ug/m3
106-93-4	187.9	1,2-Dibromoethane	ND	0.20	0.030	ppbv		ND	1.5	ug/m3
107-06-2	98.96	1,2-Dichloroethane	ND	0.20	0.024	ppbv		ND	0.81	ug/m3
78-87-5	113	1,2-Dichloropropane	ND	0.20	0.054	ppbv		ND	0.92	ug/m3
123-91-1	88.12	1,4-Dioxane	ND	0.20	0.040	ppbv		ND	0.72	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	0.50	0.20	0.073	ppbv		2.5	0.99	ug/m3
124-48-1	208.3	Dibromochloromethane	ND	0.20	0.082	ppbv		ND	1.7	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethylene	ND	0.20	0.035	ppbv		ND	0.79	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethylene	ND	0.20	0.031	ppbv		ND	0.79	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	ND	0.20	0.022	ppbv		ND	0.91	ug/m3
541-73-1	147	m-Dichlorobenzene	ND	0.20	0.025	ppbv		ND	1.2	ug/m3
95-50-1	147	o-Dichlorobenzene	ND	0.20	0.032	ppbv		ND	1.2	ug/m3
106-46-7	147	p-Dichlorobenzene	ND	0.20	0.027	ppbv		ND	1.2	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	ND	0.20	0.079	ppbv		ND	0.91	ug/m3

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID: AA-1
Lab Sample ID: JA67032-1 **Date Sampled:** 01/27/11
Matrix: AIR - Air Summa ID: A089 **Date Received:** 01/28/11
Method: TO-15 **Percent Solids:** n/a
Project: Colleyville, TX

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
64-17-5	46.07	Ethanol	3.5	0.50	0.17	ppbv		6.6	0.94	ug/m3
100-41-4	106.2	Ethylbenzene	ND	0.20	0.027	ppbv		ND	0.87	ug/m3
141-78-6	88	Ethyl Acetate	2.3	0.20	0.077	ppbv		8.3	0.72	ug/m3
622-96-8	120.2	4-Ethyltoluene	ND	0.20	0.024	ppbv		ND	0.98	ug/m3
76-13-1	187.4	Freon 113	ND	0.20	0.026	ppbv		ND	1.5	ug/m3
76-14-2	170.9	Freon 114	ND	0.20	0.029	ppbv		ND	1.4	ug/m3
142-82-5	100.2	Heptane	0.23	0.20	0.024	ppbv		0.94	0.82	ug/m3
87-68-3	260.8	Hexachlorobutadiene	ND	0.20	0.060	ppbv		ND	2.1	ug/m3
110-54-3	86.17	Hexane	0.45	0.20	0.022	ppbv		1.6	0.70	ug/m3
591-78-6	100	2-Hexanone	ND	0.20	0.043	ppbv		ND	0.82	ug/m3
67-63-0	60.1	Isopropyl Alcohol	0.42	0.20	0.055	ppbv		1.0	0.49	ug/m3
75-09-2	84.94	Methylene chloride	ND	0.20	0.027	ppbv		ND	0.69	ug/m3
78-93-3	72.11	Methyl ethyl ketone	0.57	0.20	0.030	ppbv		1.7	0.59	ug/m3
108-10-1	100.2	Methyl Isobutyl Ketone	ND	0.20	0.037	ppbv		ND	0.82	ug/m3
1634-04-4	88.15	Methyl Tert Butyl Ether	ND	0.20	0.043	ppbv		ND	0.72	ug/m3
115-07-1	42	Propylene	ND	0.50	0.096	ppbv		ND	0.86	ug/m3
100-42-5	104.1	Styrene	ND	0.20	0.027	ppbv		ND	0.85	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	ND	0.20	0.024	ppbv		ND	1.1	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	ND	0.20	0.025	ppbv		ND	1.4	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	ND	0.20	0.024	ppbv		ND	1.1	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	ND	0.20	0.12	ppbv		ND	1.5	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	ND	0.20	0.027	ppbv		ND	0.98	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	ND	0.20	0.027	ppbv		ND	0.98	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	ND	0.20	0.021	ppbv		ND	0.93	ug/m3
75-65-0	74.12	Tertiary Butyl Alcohol	ND	0.20	0.039	ppbv		ND	0.61	ug/m3
127-18-4	165.8	Tetrachloroethylene	ND	0.040	0.040	ppbv		ND	0.27	ug/m3
109-99-9	72.11	Tetrahydrofuran	ND	0.20	0.057	ppbv		ND	0.59	ug/m3
108-88-3	92.14	Toluene	0.53	0.20	0.025	ppbv		2.0	0.75	ug/m3
79-01-6	131.4	Trichloroethylene	ND	0.040	0.024	ppbv		ND	0.21	ug/m3
75-69-4	137.4	Trichlorofluoromethane	0.27	0.20	0.032	ppbv		1.5	1.1	ug/m3
75-01-4	62.5	Vinyl chloride	ND	0.20	0.029	ppbv		ND	0.51	ug/m3
108-05-4	86	Vinyl Acetate	ND	0.20	0.13	ppbv		ND	0.70	ug/m3
	106.2	m,p-Xylene	ND	0.20	0.059	ppbv		ND	0.87	ug/m3
95-47-6	106.2	o-Xylene	ND	0.20	0.026	ppbv		ND	0.87	ug/m3
1330-20-7	106.2	Xylenes (total)	ND	0.20	0.026	ppbv		ND	0.87	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	93%		65-128%

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID: AA-2
Lab Sample ID: JA67032-2 **Date Sampled:** 01/27/11
Matrix: AIR - Air Summa ID: A287 **Date Received:** 01/28/11
Method: TO-15 **Percent Solids:** n/a
Project: Colleyville, TX

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W30005.D	1	02/04/11	YMH	n/a	n/a	VW1231
Run #2							

	Initial Volume
Run #1	400 ml
Run #2	

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
67-64-1	58.08	Acetone	12.7	0.20	0.061	ppbv		30.2	0.48	ug/m3
106-99-0	54.09	1,3-Butadiene	ND	0.20	0.028	ppbv		ND	0.44	ug/m3
71-43-2	78.11	Benzene	0.18	0.20	0.049	ppbv	J	0.58	0.64	ug/m3
75-27-4	163.8	Bromodichloromethane	ND	0.20	0.025	ppbv		ND	1.3	ug/m3
75-25-2	252.8	Bromoform	ND	0.20	0.025	ppbv		ND	2.1	ug/m3
74-83-9	94.94	Bromomethane	ND	0.20	0.026	ppbv		ND	0.78	ug/m3
593-60-2	106.9	Bromoethene	ND	0.20	0.032	ppbv		ND	0.87	ug/m3
100-44-7	126	Benzyl Chloride	ND	0.20	0.034	ppbv		ND	1.0	ug/m3
75-15-0	76.14	Carbon disulfide	ND	0.20	0.029	ppbv		ND	0.62	ug/m3
108-90-7	112.6	Chlorobenzene	ND	0.20	0.031	ppbv		ND	0.92	ug/m3
75-00-3	64.52	Chloroethane	ND	0.20	0.050	ppbv		ND	0.53	ug/m3
67-66-3	119.4	Chloroform	ND	0.20	0.026	ppbv		ND	0.98	ug/m3
74-87-3	50.49	Chloromethane	0.47	0.20	0.053	ppbv		0.97	0.41	ug/m3
107-05-1	76.53	3-Chloropropene	ND	0.20	0.035	ppbv		ND	0.63	ug/m3
95-49-8	126.6	2-Chlorotoluene	ND	0.20	0.032	ppbv		ND	1.0	ug/m3
56-23-5	153.8	Carbon tetrachloride	ND	0.20	0.023	ppbv		ND	1.3	ug/m3
110-82-7	84.16	Cyclohexane	ND	0.20	0.042	ppbv		ND	0.69	ug/m3
75-34-3	98.96	1,1-Dichloroethane	ND	0.20	0.025	ppbv		ND	0.81	ug/m3
75-35-4	96.94	1,1-Dichloroethylene	ND	0.20	0.024	ppbv		ND	0.79	ug/m3
106-93-4	187.9	1,2-Dibromoethane	ND	0.20	0.030	ppbv		ND	1.5	ug/m3
107-06-2	98.96	1,2-Dichloroethane	ND	0.20	0.024	ppbv		ND	0.81	ug/m3
78-87-5	113	1,2-Dichloropropane	ND	0.20	0.054	ppbv		ND	0.92	ug/m3
123-91-1	88.12	1,4-Dioxane	ND	0.20	0.040	ppbv		ND	0.72	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	0.45	0.20	0.073	ppbv		2.2	0.99	ug/m3
124-48-1	208.3	Dibromochloromethane	ND	0.20	0.082	ppbv		ND	1.7	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethylene	ND	0.20	0.035	ppbv		ND	0.79	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethylene	ND	0.20	0.031	ppbv		ND	0.79	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	ND	0.20	0.022	ppbv		ND	0.91	ug/m3
541-73-1	147	m-Dichlorobenzene	ND	0.20	0.025	ppbv		ND	1.2	ug/m3
95-50-1	147	o-Dichlorobenzene	ND	0.20	0.032	ppbv		ND	1.2	ug/m3
106-46-7	147	p-Dichlorobenzene	ND	0.20	0.027	ppbv		ND	1.2	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	ND	0.20	0.079	ppbv		ND	0.91	ug/m3

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID: AA-2
Lab Sample ID: JA67032-2 **Date Sampled:** 01/27/11
Matrix: AIR - Air Summa ID: A287 **Date Received:** 01/28/11
Method: TO-15 **Percent Solids:** n/a
Project: Colleyville, TX

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
64-17-5	46.07	Ethanol	2.7	0.50	0.17	ppbv		5.1	0.94	ug/m3
100-41-4	106.2	Ethylbenzene	ND	0.20	0.027	ppbv		ND	0.87	ug/m3
141-78-6	88	Ethyl Acetate	0.63	0.20	0.077	ppbv		2.3	0.72	ug/m3
622-96-8	120.2	4-Ethyltoluene	ND	0.20	0.024	ppbv		ND	0.98	ug/m3
76-13-1	187.4	Freon 113	ND	0.20	0.026	ppbv		ND	1.5	ug/m3
76-14-2	170.9	Freon 114	ND	0.20	0.029	ppbv		ND	1.4	ug/m3
142-82-5	100.2	Heptane	0.22	0.20	0.024	ppbv		0.90	0.82	ug/m3
87-68-3	260.8	Hexachlorobutadiene	ND	0.20	0.060	ppbv		ND	2.1	ug/m3
110-54-3	86.17	Hexane	0.46	0.20	0.022	ppbv		1.6	0.70	ug/m3
591-78-6	100	2-Hexanone	ND	0.20	0.043	ppbv		ND	0.82	ug/m3
67-63-0	60.1	Isopropyl Alcohol	ND	0.20	0.055	ppbv		ND	0.49	ug/m3
75-09-2	84.94	Methylene chloride	ND	0.20	0.027	ppbv		ND	0.69	ug/m3
78-93-3	72.11	Methyl ethyl ketone	0.37	0.20	0.030	ppbv		1.1	0.59	ug/m3
108-10-1	100.2	Methyl Isobutyl Ketone	ND	0.20	0.037	ppbv		ND	0.82	ug/m3
1634-04-4	88.15	Methyl Tert Butyl Ether	ND	0.20	0.043	ppbv		ND	0.72	ug/m3
115-07-1	42	Propylene	ND	0.50	0.096	ppbv		ND	0.86	ug/m3
100-42-5	104.1	Styrene	ND	0.20	0.027	ppbv		ND	0.85	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	ND	0.20	0.024	ppbv		ND	1.1	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	ND	0.20	0.025	ppbv		ND	1.4	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	ND	0.20	0.024	ppbv		ND	1.1	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	ND	0.20	0.12	ppbv		ND	1.5	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	ND	0.20	0.027	ppbv		ND	0.98	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	ND	0.20	0.027	ppbv		ND	0.98	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	ND	0.20	0.021	ppbv		ND	0.93	ug/m3
75-65-0	74.12	Tertiary Butyl Alcohol	ND	0.20	0.039	ppbv		ND	0.61	ug/m3
127-18-4	165.8	Tetrachloroethylene	ND	0.040	0.040	ppbv		ND	0.27	ug/m3
109-99-9	72.11	Tetrahydrofuran	ND	0.20	0.057	ppbv		ND	0.59	ug/m3
108-88-3	92.14	Toluene	0.49	0.20	0.025	ppbv		1.8	0.75	ug/m3
79-01-6	131.4	Trichloroethylene	ND	0.040	0.024	ppbv		ND	0.21	ug/m3
75-69-4	137.4	Trichlorofluoromethane	0.26	0.20	0.032	ppbv		1.5	1.1	ug/m3
75-01-4	62.5	Vinyl chloride	ND	0.20	0.029	ppbv		ND	0.51	ug/m3
108-05-4	86	Vinyl Acetate	ND	0.20	0.13	ppbv		ND	0.70	ug/m3
	106.2	m,p-Xylene	0.15	0.20	0.059	ppbv	J	0.65	0.87	ug/m3
95-47-6	106.2	o-Xylene	ND	0.20	0.026	ppbv		ND	0.87	ug/m3
1330-20-7	106.2	Xylenes (total)	0.15	0.20	0.026	ppbv	J	0.65	0.87	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	91%		65-128%

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

New Jersey

3

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Summa Canister and Flow Controller Log

ACCUTEST Laboratories
www.accutest.com

N

CHAIN OF CUSTODY
Air Sampling Field Data Sheet

2235 US Highway 130, Dayton, NJ 08810
Tel: 732.329.0200 Fax: 732.329.3499

FED-EX Tracking #
Bottle Order Control # TE-1117/2011-10
Lab Quote #
Lab Job # JA67032

PAGE 1 OF 1

Client / Reporting Information

Company Name: Kleinfelder -DFW
Address: 7805 Mesquite Bend Ste 100
City: Irving State: TX Zip: 75063
Project Contact: Paul Hamilton E-mail: phamilton@kleinfelder.com
Phone #: 972 8685900 Fax #:
Sampler(s) Name(s)

Project Name: Colleyville
Street
City State
Project #: 116065
Client Purchase Order #

Weather Parameters

Temperature (Fahrenheit)
Start: Maximum:
Stop: Minimum:
Atmoshpheric Pressure (inches of Hg)
Start: Maximum:
Stop: Minimum:
Other weather comment:

Requested Analysis

TO15 VOCs

Lab Sample #	Field ID / Point of Collection	Air Type: Indoor (I) Soil Vap (SV) Ambient(A)	Sampling Equipment Info: Canister Serial #	Canister Size 6L or 1L	Flow Controller Serial #	Start Sampling Information: Date	Time (24 hr clock)	Canister Pressure ("Hg)	Interior Temp (F)	Sampler Init.	Stop Sampling Information: Date	Time (24 hr clock)	Canister Pressure ("Hg)	Interior Temp (F)	Sampler Init.	TO15 VOCs
A089	-1 AA-1	A	A089	6	189	1/26	1020				1/27	1020				X
A287	-2 AA-2	A	287	6	407	1/26	1045				1/27	1045				X

Turnaround Time (Business Days)

Standard - 15 Days: X
10 Day
5 Day
3 Day
2 Day
1 Day
Other

Approved By:
Date:

Data Deliverable Information

All NJDEP TO-15 is mandatory Full T1
Comm A
Comm B
Reduced T2
Full T1
Other:

Comments / Remarks

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Laboratory:	Date Time:	Received by:	Relinquished by:	Date Time:	Received by:
1 [signature]	1/19/11	1 Fed Ex	2 Fed Ex	1/28/11 1600	2 [signature]
Relinquished by: 3 [signature]	Date Time: 1/27/11	Received by: 3 Fedex	Relinquished by: 4	Date Time:	Received by: 4
Relinquished by: 5	Date Time:	Received by: 5	Custody Seal #		

JA67032: Chain of Custody
Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: JA67032 **Client:** **Immediate Client Services Action Required:** No

Date / Time Received: 1/28/2011 **Delivery Method:** **Client Service Action Required at Login:** No

Project: **No. Coolers:** 0 **Airbill #'s:**

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	Infared gun		
3. Cooler media:	Ice (bag)		

Quality Control Preservatio	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

Accutest Laboratories
V:732.329.0200

2235 US Highway 130
F: 732.329.3499

Dayton, New Jersey
www/accutest.com

JA67032: Chain of Custody
Page 2 of 2

Summa Canister and Flow Controller Log

Job Number: JA67032
Account: GSCTXI Kleinfelder
Project: Colleyville, TX
Received: 01/28/11

SUMMA CANISTERS

Shipping							Receiving						
Summa ID	L	Vac " Hg	Date Out	By	SCC Batch	SCC FileID	Sample Number	Date In	By	Vac " Hg	Pres psig	Final psig	Dil Fact
A089	6	29.4	01/19/11	TVW	CP4505	3W20346.D	JA67032-1	01/31/11	TVW	8		1.2	1.48
A287	6	29.4	01/19/11	TVW	CP4505	3W20346.D	JA67032-2	01/31/11	TVW	5			1

FLOW CONTROLLERS

Shipping					Receiving		
Flow Crtl ID	Date Out	By	cc/ min	Time hrs.	Date In	By	cc/ min
FC189	01/19/11	TVW	3.4	24	01/31/11	TVW	3.3
FC407	01/19/11	TVW	3.4	24	01/31/11	TVW	3.7

Accutest Bottle Order(s):
TE-1/17/2011-10

Prep Date	Room Temp(F)	Bar Pres "Hg
01/19/11	64.4	29.53