

RECR - 11

**LIMITED PHASE II
ENVIRONMENTAL
SITE ASSESSMENT
REPORT**

**DATE:
02/28/12**



February 28, 2012
File No.: 124547.1-ALB12RP001

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

**Subject: Limited Phase II Environmental Site Assessment
Hutcherson No.1 Pit Site
Southwest of Milnesand, New Mexico**

Dear Mr. Griswold:

Kleinfelder West, Inc. (Kleinfelder) is pleased to submit this letter report to the New Mexico Oil Conservation Division (NMOCD). This letter report describes the scope of work, results, and conclusions of the limited Phase II Site Assessment (limited Phase II) performed at the above referenced property (Subject Site).

The Subject Site is located in Unit Letter E of Section 21, Township 8 south, Range 34 east, just southwest of Milnesand, New Mexico (See Figure 1, Site Location Map). The Subject Site consists of an abandoned crude oil pit. The depth to ground water at the Subject Site has been reported to be approximately 120 feet (ft) below ground surface (bgs).

Excavation activities were performed in June 2007 at this pit in an initial effort to remove drilling cuttings. The potential contaminants of concern (COCs) associated with this pit were: benzene, toluene, ethylbenzene, and xylene (BTEX); total petroleum hydrocarbons (TPH); and chlorides. Work that was previously performed at the site consists of:

- A naturally occurring radioactive material (NORM) survey. The results indicated that NORM was not present.
- Approximately 4,700 cubic yards of petroleum- and chloride- impacted materials were excavated from the Hutcherson No. 1 pit. Following excavation, the pit dimensions were approximately 114 ft by 80 ft by 19 ft deep.

Upon completion of pit excavation, soil samples were collected and analyzed for TPH and chlorides. The results were analyzed and found to contain:

	N Pit Sidewall	E Pit Sidewall	S Pit Sidewall	W Pit Sidewall	Pit Bottom
Depth					
Benzene	<0.050	<0.050	<0.050	<0.050	<0.050
BTEX	<0.25	<0.25	<0.25	<0.25	<0.25
TPH	140	<65	<65	<65	<65
Chloride	1300	3700	160	17	5900

Concentrations in milligrams/kilogram (mg/kg)

In addition, a test pit was excavated in the bottom of the excavation after removal of materials. The test pit was excavated to assess the vertical profile of chloride concentrations. Soil samples were collected from the bucket as the excavation was advanced to the full reach of the trackhoe. The samples were analyzed for chlorides and reported to contain the following concentrations:

	5 ft Below Pit Floor	10 ft Below Pit Floor	19 ft Below Pit Floor
Total Depth (ft)	19	24	33
Chloride (mg/kg)	8600	4600	3000

The data indicates that the majority of TPH impacted soils have been excavated. However, chloride concentrations above the NMOCD guideline concentration (1000 mg/kg) in the soil remain in the north sidewall, east sidewall, and pit bottom. The pit bottom samples indicate that the chlorides concentrations are decreasing with depth.

LIMITED PHASE II SUBSURFACE ASSESSMENT

It is the intent of the NMOCD to complete remedial activities at the Subject Site and close out this pit. The purpose of this limited Phase II ESA was to:

- Assess the horizontal and vertical extent of remaining COCs associated with the pit; and
- Provide recommendations to complete the closure of the pit.

Four soil borings were advanced at the Subject Site to assess the horizontal and vertical profile of chloride and TPH concentrations. Soil borings were drilled at the northern, southern, eastern, and western edges of the pit (see Figure 2, Boring Location Map).

Project Preparation

Prior to site mobilization, Kleinfelder prepared a project-specific Health and Safety Plan (HASP). New Mexico One-Call was notified approximately 4 days prior to drilling services to facilitate the location of underground utilities and pipelines. NMOCD staff were notified several days in advance of field activities to arrange for site access.

Field Program

A Kleinfelder field engineer observed the advancement of the soil borings at the site. Drilling services were provided by EnviroDrill, Inc. of Albuquerque, New Mexico. Soil borings were drilled using a CME-75 hollow stem auger (HSA) drill rig and 8-inch outside diameter hollow stem augers. Each soil boring was advanced to a depth of 50 ft below ground surface (bgs). Samples will be collected at 10 ft bgs and every 10 ft thereafter using a split spoon sampler. Cuttings and samples were logged according to the Unified Soil Classification System.

Soil samples were submitted under chain of custody to Hall Environmental Analytical Laboratory in Albuquerque, New Mexico. Five samples per boring were analyzed for chlorides by EPA Method 300. Two samples per boring (total of 8 samples) were submitted and analyzed for TPH gasoline range organics (GRO) and diesel range organics (DRO, that includes motor oil range organics) by EPA method 8015B modified. Samples selected for TPH analysis consisted of the two deepest (40-ft and 50-ft depth) samples from each boring.

Kleinfelder also collected a soil sample from a small (less than 10 cubic yards) soil pile located near the southeastern corner of the pit. The soil sample collected from the soil pile was analyzed for chlorides by EPA Method 300 and TPH-GRO, DRO by EPA Method 8015 B modified.

Investigation Derived Waste (IDW) Management

Cuttings from borings were placed in labeled DOT-approved fifty-five gallon drums. Drums were left on site for future disposal.

RESULTS

Soils at the site consisted predominately of fine- to medium-grained, dense to very dense, moist to dry, tan to reddish-brown, silty sand from the ground surface to the total depth of most of the borings. A clayey sand unit was observed overlying the silty sand in soil boring B-4. This unit was fine- to medium-grained, moist, reddish-brown, and extended from ground surface to a depth of 7 ft bgs. See Attachment 1 for the soil boring logs.

The following table presents the results of the soil analytical data:

Sample Location	Depth (Ft BGS)	Chloride (Mg/Kg)	TPH (Mg/Kg)
B-1	10	<1.5	Not Sampled
	20	110	Not Sampled
	30	2.0	Not Sampled
	40	<7.5	<65.8
	50	1.5	<63.5
B-2	10	650	Not Sampled
	20	720	Not Sampled
	30	1500	Not Sampled

Sample Location	Depth (Ft BGS)	Chloride (Mg/Kg)	TPH (Mg/Kg)
	40	1100	<65.9
	50	650	<63.4
B-3	10	340	Not Sampled
	20	910	Not Sampled
	30	45	Not Sampled
	40	130	<63.3
	50	93	<63.8
B-4	10	3200	Not Sampled
	20	940	Not Sampled
	30	27	Not Sampled
	40	23	<63.7
	50	33	<62.5
Pit Sample (bottom of pit)	N/A	<7.5	<66.8
SE Soil Pile	N/A	33	224

The results of the soil boring laboratory data indicates that chloride concentrations drop to below the NMOCD guideline concentration at a maximum depth of 50 ft bgs (or shallower) in each of the soil borings. Concentrations of TPH were not present above the laboratory reporting limit in the soil boring laboratory data. See Attachment 2 for the laboratory analytical report.

The results of the soil pile laboratory data indicates that chloride concentrations are below the NMOCD guideline concentration. However, the TPH concentration exceeds the regulatory limit of 100 mg/kg.

CONCLUSIONS AND RECOMMENDATIONS

The current and historical laboratory data obtained from soil samples collected from the site do not indicate the presence of TPH associated with the pit. Chloride concentrations are present above the NMOCD guideline concentration. However, the reported concentrations appear to decrease with depth to below the NMOCD guideline concentration at depths no greater than 50 ft bgs.

The data suggests that it is unlikely for the observed chloride concentrations to impact the ground water table. This is based on the arid climate of the area and reported depth to ground water (120 ft bgs). Due to this, Kleinfelder recommends the pit be backfilled with clean soil to ground surface. The area should be reseeded with a native seed mixture.

Kleinfelder recommends that an engineered liner be added within the pit area prior to the completion of backfilling. The liner will provide an additional level of protection to the groundwater.

Kleinfelder recommends that the soil pile located near the southeast corner of the pit be removed and properly disposed of at a landfill or landfarm.

Kleinfelder will prepare a work plan for the above referenced scope of work. The work plan will be submitted as an addendum to this report.

LIMITATIONS

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 subsurface conditions present due to the limitations of data from field studies. Although risk can never be eliminated, more detailed and extensive studies yield more information, which may help understand and manage the level 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 subsurface studies or field tests, should be performed to reduce uncertainties. Acceptance of this report will indicate that NMOCD has reviewed the document and determined that it does not need or want a greater level of service than provided.

During the course of the performance of Kleinfelder's services, hazardous materials may have been discovered. Kleinfelder assumes no responsibility or liability whatsoever for any claim, loss of property value, damage, or injury that results from pre-existing hazardous materials being encountered or present on the project site, or from the discovery of such hazardous materials. Nothing contained in this report should be construed or interpreted as requiring Kleinfelder to assume the status of an owner, operator, or generator, or person who arranges for disposal, transport, storage, or treatment of hazardous materials within the meaning of any governmental statute, regulation, or order. The NMOCD is solely responsible for directing notification of all governmental agencies, and the public at large, of the existence, release, treatment, or disposal of any hazardous materials observed at the project site, either before or during performance of Kleinfelder's services. The NMOCD is responsible for directing all arrangements to lawfully store, treat, recycle, dispose, or otherwise handle hazardous materials, including cuttings and samples resulting from Kleinfelder's services.

We appreciate the opportunity to provide these services to NMOCD. Should any questions arise concerning this work plan, we will be pleased to discuss them with you.

Respectfully submitted,

KLEINFELDER WEST, INC.

Reviewed by:

Bernard Bockisch, PMP
Senior Project Manager

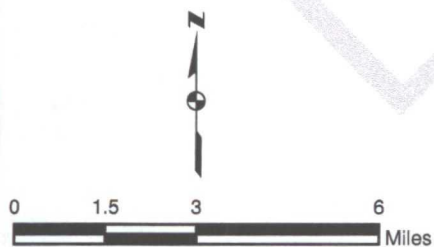
Eileen Shannon, PG
Project Professional

FIGURES

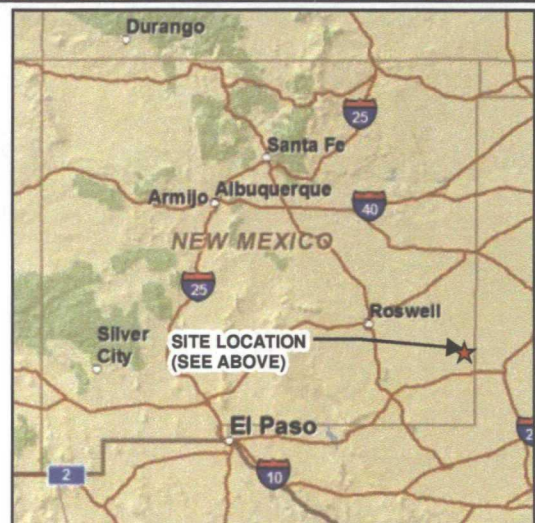
DRAFT




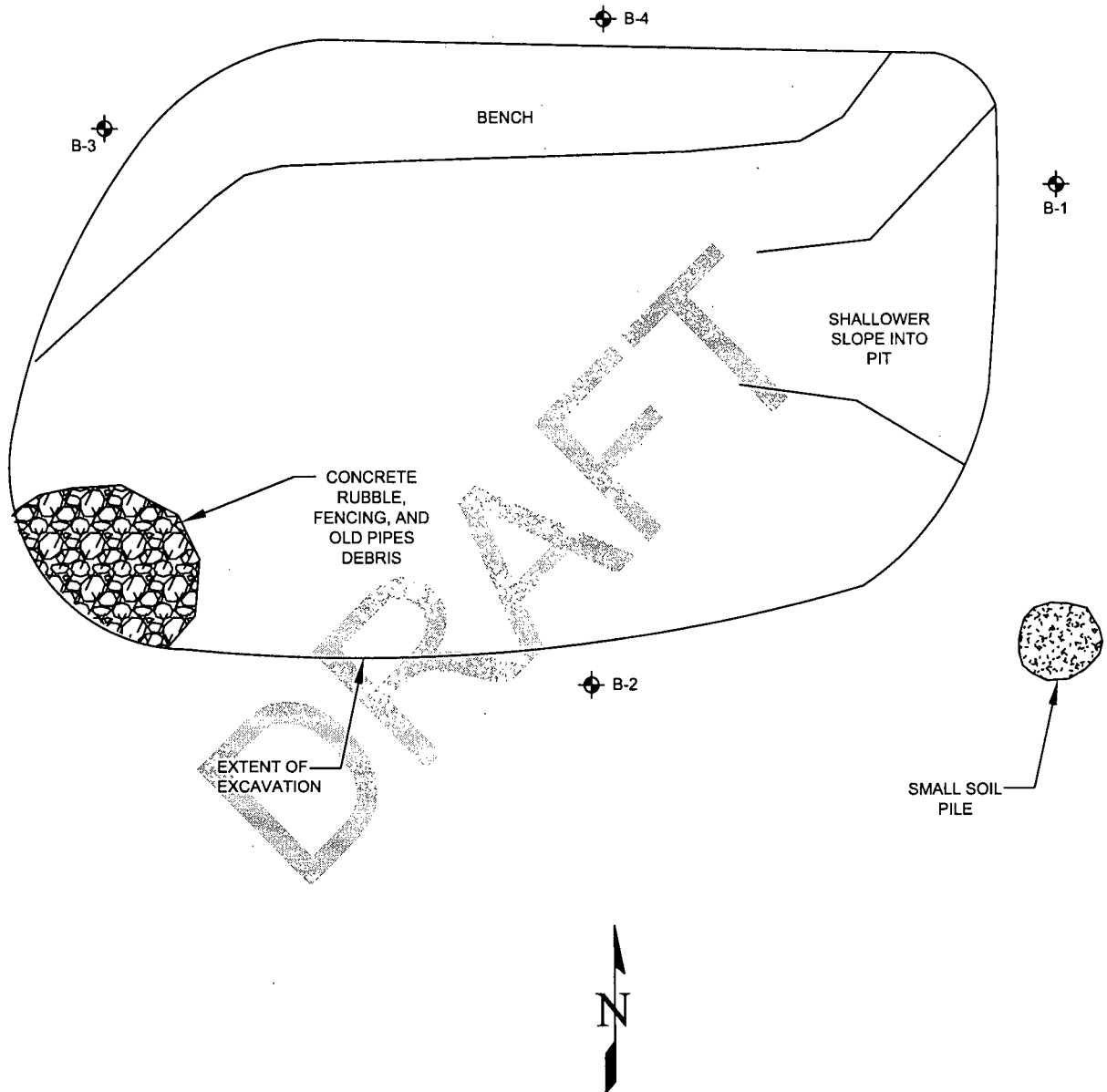
SOURCES: http://services.arcgisonline.com/ArcGIS/rest/services/NGS_Topo_US_2D/MapServer



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 <p>www.kleinfelder.com</p>	PROJECT NO. 124547	SITE LOCATION MAP	FIGURE 1
	DRAWN: 02/06/2012		
	DRAWN BY: PD	NMCD HUTCHERSON PIT ROOSEVELT COUNTY NEAR MILNESAND, NEW MEXICO	
	CHECKED BY: BB		
	FILE NAME: 124547_SL.mxd		



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20 0 10 20 ft
APPROXIMATE SCALE: 1 inch = 20 feet

ATTACHED IMAGES:
ATTACHED XREFS:
ALBUQUERQUE, NM



PROJECT NO.	124547
DRAWN:	02/06/2012
DRAWN BY:	PD
CHECKED BY:	BB
FILE NAME:	124547_02_01.dwg

BORING LOCATION MAP

NMOC
HUTCHERSON PIT
ROOSEVELT COUNTY
NEAR MILNESAND, NEW MEXICO

FIGURE

2

ATTACHMENT 1

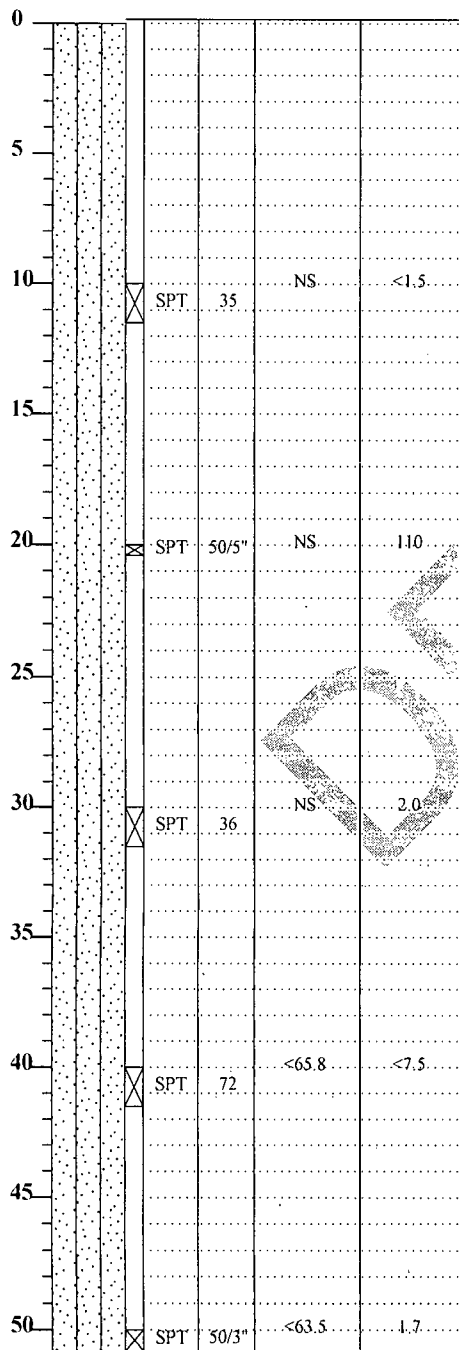
DRAFT



Soil Boring Log

Sheet 1 of 1

Date	Started: 1/19/2012	Rig Type: EDI/ Dave Tanner	Project Hutcherson Pit		Borehole No. B-1					
	Completed: 1/19/2012	Driller: EDI/ Dave Tanner								
	Backfilled: 1/19/2012	Drilling Co: EDI/ Dave Tanner	Drill Method: CME 75	Project Number: 124547						
Latitude: 33.60862		Longitude: -103.47567	Ground Elevation: NA	Logged By: C. Vallejo						
Groundwater Depth (ft.) Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Pen. Resistance (Blows per foot)	TPH (mg/kg)	Chloride (mg/kg)	Sample Type G - Grab Sample CS - 3.5" I.D. Continuous Sampler SPT - 2" O.D. 1.38" I.D. Tube Sample CUT - Cuttings NR - No Recovery DP - Macropore sampler 1.5" I.D. 4' long	Groundwater		
								Depth (ft)	Hour	Date
Visual Classification										



SILTY SAND (SM)- fine, dense to very dense, subrounded to subangular, light brown, dry to moist
Soil description from 0 to 10 ft bgs based on drill cuttings

With lean clay nodules from 0 to 5 ft bgs

Light tan, fine to medium, calcareous from 10 to 25 ft bgs

With calcareous gravel from 15 to 25 ft bgs
Increased drilling resistance at 16 ft bgs

Brown, fine from 25 ft bgs

Total Depth 50.8'

Boring backfilled with cement/bentonite grout. Boring coordinates obtained with hand-held GPS device.



Soil Boring Log

Sheet 1 of 1

Date	Started: 1/20/2012		Rig Type: EDI/ Dave Tanner		Project Hutcherson Pit		Borehole No. B-2			
	Completed: 1/20/2012		Driller: EDI/ Dave Tanner							
	Backfilled: 1/20/2012		Drilling Co: EDI/ Dave Tanner		Drill Method: CME 75		Project Number: 124547			
Latitude: 33.60878			Longitude: -103.47535			Ground Elevation: NA		Logged By: C. Vallejo		
Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Pen. Resistance (Blows per foot)	TPH (mg/kg)	Chloride (mg/kg)	Sample Type G - Grab Sample CS - 3.5" I.D. Continuous Sampler SPT - 2" O.D. 1.38" I.D. Tube Sample CUT - Cuttings NR - No Recovery DP - Macropore sampler 1.5" I.D. 4' long	Groundwater		
								Depth (ft)	Hour	Date
Depth (ft.)										
Visual Classification										
<p>0</p> <p>SILTY SAND (SM)- fine to medium, very dense, subrounded to subangular, reddish brown, dry to moist Soil description from 0 to 10 ft bgs based on drill cuttings</p> <p>5</p> <p>With lean clay nodules from 0 to 8 ft bgs</p> <p>10</p> <p>Light tan, calcareous, with calcareous gravel from 8 to 28 ft bgs</p> <p>15</p> <p>Increased drilling resistance from 13 to 17 ft bgs</p> <p>20</p> <p>Reddish brown to tan, fine, with calcareous material from 28 to 37 ft bgs</p> <p>25</p> <p>Reddish brown to brown, some calcareous material from 37 ft bgs</p> <p>30</p> <p>35</p> <p>40</p> <p>45</p> <p>50</p> <p>Total Depth 51.5'</p> <p>Boring backfilled with cement/bentonite grout. Boring coordinates obtained with hand-held GPS device.</p>										

124547 BH LOG \ LIBRARY KLEINFELDER ALB PLOG.GLB \ 124547 HUTCHERSON GPJ



Soil Boring Log

Sheet 1 of 1

Date	Started: 1/20/2012	Rig Type: EDI/ Dave Tanner	Project Hutcherson Pit		Borehole No. B-4
	Completed: 1/20/2012	Driller: EDI/ Dave Tanner			
	Backfilled: 1/20/2012	Drilling Co: EDI/ Dave Tanner	Drill Method: CME 75	Project Number: 124547	
Latitude: 33.60844		Longitude: -103.47543	Ground Elevation: NA	Logged By: C. Vallejo	

Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Pen. Resistance (Blows per foot)	TPH (mg/kg)	Chloride (mg/kg)	Sample Type G - Grab Sample CS - 3.5" I.D. Continuous Sampler SPT - 2" O.D. 1.38" I.D. Tube Sample CUT - Cuttings NR - No Recovery DP - Macropore sampler 1.5" I.D. 4' long	Groundwater		
								Depth (ft)	Hour	Date

Visual Classification										
0	CLAYEY SAND (SC)- fine to medium, subrounded, reddish brown, moist Soil description from 0 to 10 ft bgs based on drill cuttings									
5										
7.0'	SILTY SAND (SM)- fine to medium, subrounded to subangular, with calcareous gravel, light tan, dry to moist, calcareous Increased drilling resistance from 7 to 9 ft bgs. Calcareous gravel/cobbles present Very hard drilling from 12 to 17 ft bgs, possibly due to presence of cobbles									
10	X	SPT	89/11"	NS	3200					
15										
20	X	SPT	50/4"	NS	940					
25										
30	X	SPT	70	NS	27					
35	Brown to tan, fine, some calcareous material from 28 ft bgs									
40	X	SPT	48	<63.7	23					
45	Increased drilling resistance at 39 ft bgs									
50	X	SPT	77	<63.7	33					
51.5'	Total Depth 51.5'									

Boring backfilled with cement/bentonite grout. Boring coordinates obtained with hand-held GPS device.

124547 BH LOG \ LIBRARY KLEINFELDER ALB PLOG.GLB \ 124547 HUTCHERSON.GPJ

ATTACHMENT 2

DRAFT



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

January 31, 2012

Bernie Bockisch
Kleinfelder
9019 Washington NE Building A
Albuquerque, NM 87113
TEL: (505) 344-7373
FAX (505) 344-1711

RE: Hutcheson Pit

OrderNo.: 1201639

Dear Bernie Bockisch:

Hall Environmental Analysis Laboratory received 22 sample(s) on 1/23/2012 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative. Analytical results designated with a "J" qualifier are estimated and represent a detection above the Method Detection Limit (MDL) and less than the Reporting Limit (PQL). These analytes are not reviewed nor narrated as to whether they are laboratory artifacts.

Quality control data is within laboratory defined or method specified acceptance limits except if noted.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1201639
Date Reported: 1/31/2012

CLIENT: Kleinfelder

Client Sample ID: B-3, 10' bgs

Project: Hutcheson Pit

Collection Date: 1/20/2012 9:45:00 AM

Lab ID: 1201639-001

Matrix: SOIL

Received Date: 1/23/2012 11:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: BRM
Chloride	340	30		mg/Kg	20	1/25/2012 2:14:29 PM

DRAFT

Qualifiers: * /X Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1201639

Date Reported: 1/31/2012

CLIENT: Kleinfelder

Client Sample ID: B-3, 20' bgs

Project: Hutcheson Pit

Collection Date: 1/20/2012 9:54:00 AM

Lab ID: 1201639-002

Matrix: SOIL

Received Date: 1/23/2012 11:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: BRM
Chloride	910	30		mg/Kg	20	1/25/2012 2:49:17 PM

DRAFT

Qualifiers:

- *X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1201639

Date Reported: 1/31/2012

CLIENT: Kleinfelder

Project: Hutcheson Pit

Lab ID: 1201639-003

Matrix: SOIL

Client Sample ID: B-3, 30' bgs

Collection Date: 1/20/2012 10:00:00 AM

Received Date: 1/23/2012 11:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: BRM
Chloride	45	1.5		mg/Kg	1	1/25/2012 3:06:41 PM

DRAFT

Qualifiers: *X Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.**Analytical Report**

Lab Order 1201639

Date Reported: 1/31/2012

CLIENT: Kleinfelder**Client Sample ID:** B-3, 40' bgs**Project:** Hutcheson Pit**Collection Date:** 1/20/2012 10:18:00 AM**Lab ID:** 1201639-004**Matrix:** SOIL**Received Date:** 1/23/2012 11:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	1/25/2012 11:57:22 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/25/2012 11:57:22 AM
Surr: DNOP	116	77.4-131		%REC	1	1/25/2012 11:57:22 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	1/24/2012 6:24:43 PM
Surr: BFB	94.3	69.7-121		%REC	1	1/24/2012 6:24:43 PM
EPA METHOD 300.0: ANIONS						Analyst: BRM
Chloride	130	30		mg/Kg	20	1/25/2012 5:08:33 PM

Qualifiers: */X Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1201639
Date Reported: 1/31/2012

CLIENT: Kleinfelder**Client Sample ID:** B-3, 50' bgs**Project:** Hutcheson Pit**Collection Date:** 1/20/2012 10:28:00 AM**Lab ID:** 1201639-005**Matrix:** SOIL**Received Date:** 1/23/2012 11:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	1/25/2012 1:40:18 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/25/2012 1:40:18 PM
Surr: DNOP	127	77.4-131		%REC	1	1/25/2012 1:40:18 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/24/2012 6:53:28 PM
Surr: BFB	94.7	69.7-121		%REC	1	1/24/2012 6:53:28 PM
EPA METHOD 300.0: ANIONS						Analyst: BRM
Chloride	93	30		mg/Kg	20	1/25/2012 5:43:21 PM

Qualifiers: */X Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1201639
Date Reported: 1/31/2012

CLIENT: Kleinfelder
Project: Hutcheson Pit
Lab ID: 1201639-006

Matrix: SOIL

Client Sample ID: B-4, 10' bgs
Collection Date: 1/20/2012 11:29:00 AM
Received Date: 1/23/2012 11:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: BRM
Chloride	3,200	300		mg/Kg	200	1/26/2012 12:34:17 PM

DRAFT

Qualifiers: *X Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1201639
Date Reported: 1/31/2012

CLIENT: Kleinfelder
Project: Hutcheson Pit
Lab ID: 1201639-007

Matrix: SOIL

Client Sample ID: B-4, 20' bgs
Collection Date: 1/20/2012 12:04:00 PM
Received Date: 1/23/2012 11:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: BRM
Chloride	940	30		mg/Kg	20	1/25/2012 6:52:59 PM

DRAFT

Qualifiers: *X Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1201639
Date Reported: 1/31/2012

CLIENT: Kleinfelder
Project: Hutcheson Pit
Lab ID: 1201639-008

Matrix: SOIL

Client Sample ID: B-4, 30' bgs
Collection Date: 1/20/2012 12:17:00 PM
Received Date: 1/23/2012 11:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: BRM
Chloride	27	1.5		mg/Kg	1	1/25/2012 7:10:24 PM

DRAFT

Qualifiers: * / X Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.**Analytical Report**

Lab Order 1201639

Date Reported: 1/31/2012

CLIENT: Kleinfelder**Client Sample ID:** B-4, 40' bgs**Project:** Hutcheson Pit**Collection Date:** 1/20/2012 12:30:00 PM**Lab ID:** 1201639-009**Matrix:** SOIL**Received Date:** 1/23/2012 11:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	1/25/2012 2:14:42 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/25/2012 2:14:42 PM
Surr: DNOP	128	77.4-131		%REC	1	1/25/2012 2:14:42 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/24/2012 7:22:19 PM
Surr: BFB	94.1	69.7-121		%REC	1	1/24/2012 7:22:19 PM
EPA METHOD 300.0: ANIONS						Analyst: BRM
Chloride	23	1.5		mg/Kg	1	1/25/2012 8:20:02 PM

Qualifiers: * / X Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1201639
Date Reported: 1/31/2012

CLIENT: Kleinfelder
Project: Hutcheson Pit
Lab ID: 1201639-010

Matrix: SOIL

Client Sample ID: B-4, 50' bgs
Collection Date: 1/20/2012 12:41:00 PM
Received Date: 1/23/2012 11:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JPM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	1/25/2012 2:48:49 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/25/2012 2:48:49 PM
Surr: DNOP	110	77.4-131		%REC	1	1/25/2012 2:48:49 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/24/2012 7:51:10 PM
Surr: BFB	95.4	69.7-121		%REC	1	1/24/2012 7:51:10 PM
EPA METHOD 300.0: ANIONS						Analyst: BRM
Chloride	33	1.5		mg/Kg	1	1/25/2012 8:54:51 PM

Qualifiers: *X Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.**Analytical Report**

Lab Order 1201639

Date Reported: 1/31/2012

CLIENT: Kleinfelder**Client Sample ID:** SE Soil-Pile**Project:** Hutcheson Pit**Collection Date:** 1/19/2012 3:30:00 PM**Lab ID:** 1201639-011**Matrix:** SOIL**Received Date:** 1/23/2012 11:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	64	9.6		mg/Kg	1	1/26/2012 7:40:21 AM
Motor Oil Range Organics (MRO)	160	48		mg/Kg	1	1/26/2012 7:40:21 AM
Surr: DNOP	93.6	77.4-131		%REC	1	1/26/2012 7:40:21 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/24/2012 8:20:00 PM
Surr: BFB	95.2	69.7-121		%REC	1	1/24/2012 8:20:00 PM
EPA METHOD 300.0: ANIONS						Analyst: BRM
Chloride	33	7.5		mg/Kg	5	1/25/2012 9:29:40 PM

Qualifiers: * / X Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1201639
Date Reported: 1/31/2012

CLIENT: Kleinfelder
Project: Hutcheson Pit
Lab ID: 1201639-012

Matrix: SOIL

Client Sample ID: Pit Sample
Collection Date: 1/19/2012 3:35:00 PM
Received Date: 1/23/2012 11:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/26/2012 7:18:31 AM
Motor Oil Range Organics (MRO)	ND	52		mg/Kg	1	1/26/2012 7:18:31 AM
Surr: DNOP	87.8	77.4-131		%REC	1	1/26/2012 7:18:31 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/24/2012 8:48:51 PM
Surr: BFB	94.9	69.7-121		%REC	1	1/24/2012 8:48:51 PM
EPA METHOD 300.0: ANIONS						Analyst: BRM
Chloride	ND	7.5		mg/Kg	5	1/25/2012 10:04:29 PM

Qualifiers: *X Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Detection Limit

Analytical Report

Lab Order 1201639

Date Reported: 1/31/2012

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Kleinfelder**Client Sample ID:** B-1, 10' bgs**Project:** Hutcheson Pit**Collection Date:** 1/19/2012 2:25:00 PM**Lab ID:** 1201639-013**Matrix:** SOIL**Received Date:** 1/23/2012 11:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: BRM
Chloride	ND	1.5		mg/Kg	1	1/25/2012 10:39:18 PM

DRAFT

Qualifiers: *X Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1201639

Date Reported: 1/31/2012

CLIENT: Kleinfelder

Client Sample ID: B-1, 20' bgs

Project: Hutcheson Pit

Collection Date: 1/19/2012 2:37:00 PM

Lab ID: 1201639-014

Matrix: SOIL

Received Date: 1/23/2012 11:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: BRM
Chloride	110	30		mg/Kg	20	1/26/2012 12:06:20 AM

DRAFT

Qualifiers:

- *X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

Analytical Report

Lab Order 1201639

Date Reported: 1/31/2012

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Kleinfelder**Client Sample ID:** B-1, 30' bgs**Project:** Hutcheson Pit**Collection Date:** 1/19/2012 2:49:00 PM**Lab ID:** 1201639-015**Matrix:** SOIL**Received Date:** 1/23/2012 11:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: BRM
Chloride	2.0	1.5		mg/Kg	1	1/26/2012 12:23:44 AM

DRAFT

Qualifiers: * / X Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1201639

Date Reported: 1/31/2012

CLIENT: Kleinfelder

Client Sample ID: B-1, 40' bgs

Project: Hutcheson Pit

Collection Date: 1/19/2012 3:00:00 PM

Lab ID: 1201639-016

Matrix: SOIL

Received Date: 1/23/2012 11:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/25/2012 11:23:06 AM
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	1/25/2012 11:23:06 AM
Surr: DNOP	129	77.4-131		%REC	1	1/25/2012 11:23:06 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/24/2012 9:17:39 PM
Surr: BFB	94.8	69.7-121		%REC	1	1/24/2012 9:17:39 PM
EPA METHOD 300.0: ANIONS						Analyst: BRM
Chloride	ND	7.5		mg/Kg	5	1/26/2012 12:58:33 AM

Qualifiers:

- *X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

Analytical Report

Lab Order 1201639

Date Reported: 1/31/2012

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Kleinfelder**Client Sample ID:** B-1, 50' bgs**Project:** Hutcheson Pit**Collection Date:** 1/19/2012 3:14:00 PM**Lab ID:** 1201639-017**Matrix:** SOIL**Received Date:** 1/23/2012 11:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	1/25/2012 5:11:52 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/25/2012 5:11:52 PM
Surr: DNOP	91.8	77.4-131		%REC	1	1/25/2012 5:11:52 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	1/24/2012 9:48:27 PM
Surr: BFB	94.7	69.7-121		%REC	1	1/24/2012 9:48:27 PM
EPA METHOD 300.0: ANIONS						Analyst: BRM
Chloride	1.7	1.5		mg/Kg	1	1/26/2012 1:33:23 AM

Qualifiers: *X Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1201639

Date Reported: 1/31/2012

CLIENT: Kleinfelder

Client Sample ID: B-2, 10' bgs

Project: Hutcheson Pit

Collection Date: 1/20/2012 7:38:00 AM

Lab ID: 1201639-018

Matrix: SOIL

Received Date: 1/23/2012 11:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: BRM
Chloride	650	30		mg/Kg	20	1/26/2012 3:35:16 AM

DRAFT

Qualifiers: */X Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1201639

Date Reported: 1/31/2012

CLIENT: Kleinfelder

Client Sample ID: B-2, 20' bgs

Project: Hutcheson Pit

Collection Date: 1/20/2012 7:57:00 AM

Lab ID: 1201639-019

Matrix: SOIL

Received Date: 1/23/2012 11:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: BRM
Chloride	720	30		mg/Kg	20	1/26/2012 1:09:07 PM

DRAFT

Qualifiers: *X Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Detection Limit

Analytical Report

Lab Order 1201639

Date Reported: 1/31/2012

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Kleinfelder**Client Sample ID:** B-2, 30' bgs**Project:** Hutcheson Pit**Collection Date:** 1/20/2012 8:13:00 AM**Lab ID:** 1201639-020**Matrix:** SOIL**Received Date:** 1/23/2012 11:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: BRM
Chloride	1,500	75		mg/Kg	50	1/27/2012 5:52:34 PM

DRAFT

Qualifiers: *X Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Kleinfelder
Project: Hutcheson Pit
Lab ID: 1201639-021

Matrix: SOIL

Client Sample ID: B-2, 40" bgs
Collection Date: 1/20/2012 8:23:00 AM
Received Date: 1/23/2012 11:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/25/2012 5:33:20 PM
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	1/25/2012 5:33:20 PM
Surr: DNOP	87.6	77.4-131		%REC	1	1/25/2012 5:33:20 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/25/2012 12:10:30 AM
Surr: BFB	95.2	69.7-121		%REC	1	1/25/2012 12:10:30 AM
EPA METHOD 300.0: ANIONS						Analyst: BRM
Chloride	1,100	75		mg/Kg	50	1/27/2012 6:44:48 PM

DRAFT

Qualifiers:	* /X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.**Analytical Report**

Lab Order 1201639

Date Reported: 1/31/2012

CLIENT: Kleinfelder**Client Sample ID:** B-2, 50' bgs**Project:** Hutcheson Pit**Collection Date:** 1/20/2012 8:34:00 AM**Lab ID:** 1201639-022**Matrix:** SOIL**Received Date:** 1/23/2012 11:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	1/25/2012 5:55:00 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/25/2012 5:55:00 PM
Surr: DNOP	96.7	77.4-131		%REC	1	1/25/2012 5:55:00 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	1/25/2012 12:39:16 AM
Surr: BFB	94.7	69.7-121		%REC	1	1/25/2012 12:39:16 AM
EPA METHOD 300.0: ANIONS						Analyst: BRM
Chloride	650	30		mg/Kg	20	1/26/2012 3:45:49 PM

Qualifiers: *X Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1201639

31-Jan-12

Client: Kleinfelder

Project: Hutcheson Pit

Sample ID	MB-429	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	429	RunNo:	589					
Prep Date:	1/25/2012	Analysis Date:	1/25/2012	SeqNo:	16774	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-429	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	429	RunNo:	589					
Prep Date:	1/25/2012	Analysis Date:	1/25/2012	SeqNo:	16775	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.8	90	110			

Sample ID	MB-451	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	451	RunNo:	608					
Prep Date:	1/26/2012	Analysis Date:	1/26/2012	SeqNo:	17273	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-451	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	451	RunNo:	608					
Prep Date:	1/26/2012	Analysis Date:	1/26/2012	SeqNo:	17274	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.7	90	110			

Qualifiers:

*X Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1201639

31-Jan-12

Client: Kleinfelder
Project: Hutcheson Pit

Sample ID	MB-409	SampType	MBLK	TestCode	EPA Method 8015B: Diesel Range Organics					
Client ID	PBS	Batch ID	409	RunNo	517					
Prep Date	1/24/2012	Analysis Date	1/25/2012	SeqNo	16212	Units	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		114	77.4	131			

Sample ID	LCS-409	SampType	LCS	TestCode	EPA Method 8015B: Diesel Range Organics					
Client ID	LCSS	Batch ID	409	RunNo	517					
Prep Date	1/24/2012	Analysis Date	1/25/2012	SeqNo	16213	Units	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	86.4	62.7	139			
Surr: DNOP	8.7		5.000		174	77.4	131			S

Qualifiers:

*X Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1201639

31-Jan-12

Client: Kleinfelder
Project: Hutcheson Pit

Sample ID	MB-401	SampType	MBLK	TestCode	EPA Method 8015B: Gasoline Range					
Client ID	PBS	Batch ID	401	RunNo	559					
Prep Date	1/23/2012	Analysis Date	1/24/2012	SeqNo	15864	Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	940		1,000		94.1	69.7	121			

Sample ID	LCS-401	SampType	LCS	TestCode	EPA Method 8015B: Gasoline Range					
Client ID	LCSS	Batch ID	401	RunNo	559					
Prep Date	1/23/2012	Analysis Date	1/24/2012	SeqNo	15868	Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	5.0	25.00	0	118	86.4	132			
Surr: BFB	990		1,000		98.9	69.7	121			

Qualifiers:

*X Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Detection Limit



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87105
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Klein Work Order Number: 1201639
Logged by: Lindsay Mangin 1/23/2012 11:10:00 AM
Completed By: Lindsay Mangin 1/23/2012 11:27:19 AM
Reviewed By: *[Signature]* 1/23/12

Chain of Custody

1. Were seals intact? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Client

Log In

4. Coolers are present? (see 19. for cooler specific information) Yes ☒ No ☐ NA ☐
5. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
6. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
7. Sample(s) in proper container(s)? Yes ☒ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
10. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
11. Is the headspace in the VOA vials less than 1/4 inch or 6 mm? Yes ☐ No ☐ No VOA Vials ☒
12. Were any sample containers received broken? Yes ☐ No ☒
13. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
14. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
15. Is it clear what analyses were requested? Yes ☒ No ☐
16. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH: _____
(<2 or >12 unless noted)
Adjusted? _____
Checked by: _____

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:	_____	Date:	_____
By Whom:	_____	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	_____		
Client Instructions:	_____		

18. Additional remarks:

19. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.8	Good	Not Present			

Chain-of-Custody Record

Client: Kleinfelder

Mailing Address: 9019 Washington St NE Bldg A

Albuquerque, NM 87113

Phone #: (505) 344-7373

email or Fax#: BBoeckisch@Kleinfelder.com

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation:

☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:

☒ Standard ☐ Rush

Project Name: Hutcheson Pit

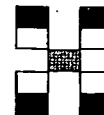
Project #: 124547-2

Project Manager: Bernie Boeckisch

Sampler: Courtney Vallejo

Office: ☒ Yes ☐ No

Sample Temperature: 33



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
1/20/12	0945	soil	B-3, 10' bgs	4oz glass	ice	-1								/								
1/20/12	0954	soil	B-3, 20' bgs	4oz glass	ice	-2								/								
1/20/12	1000	soil	B-3, 30' bgs	4oz glass	ice	-3								/								
1/20/12	1018	soil	B-3, 40' bgs	4oz glass	ice	-4			/					/								
1/20/12	1028	soil	B-3, 50' bgs	4oz glass	ice	-5			/					/								
1/20/12	1129	soil	B-4, 10' bgs	4oz glass	ice	-6								/								
1/20/12	1204	soil	B-4, 20' bgs	4oz glass	ice	-7								/								
1/20/12	1217	soil	B-4, 30' bgs	4oz glass	ice	-8								/								
1/20/12	1230	soil	B-4, 40' bgs	4oz glass	ice	-9			/					/								
1/20/12	1241	soil	B-4, 50' bgs	4oz glass	ice	-10			/					/								
1/19/12	1530	soil	SE Soil Pile	48oz glass	ice	-11			/					/								
1/19/12	1535	soil	Pit sample	48oz glass	ice	-12			/					/								
Date:	Time:	Relinquished by:		Received by:		Date	Time	Remarks: <u>Chlorides by EPA method 300.6</u>														
1/23/12	1110	C. Vallejo		[Signature]		1/23/12	1110															
Date:	Time:	Relinquished by:		Received by:		Date	Time															

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: Kleinfelder

Mailing Address: 9019 Washington St NE Bldg A
Albuquerque, NM 87113

Phone #: (505) 344-7373

email or Fax#: BBockisch@kleinfelder.com

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other _____
☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name: Hutcherson Pit

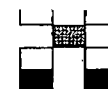
Project #: 124547-2

Project Manager: Bernie Bockisch

Sampler: Courtney Vallejo

On Ice: ☒ Yes ☐ No

Sample Temperature: 22.6



HALL ENVIRONMENTAL ANALYSIS LABORATORY

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Analysis Request

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Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
01/19/12	1425	soil	B-1, 10' bgs	4oz glass	ice	-13
1/19/12	1437	soil	B-1, 20' bgs	4oz glass	ice	-14
1/19/12	1449	soil	B-1, 30' bgs	4oz glass	ice	-15
1/19/12	1500	soil	B-1, 40' bgs	4oz glass	ice	-16
1/19/12	1514	soil	B-1, 50' bgs	4oz glass	ice	-17
1/20/12	0738	soil	B-2, 10' bgs	4oz glass	ice	-18
1/20/12	0757	soil	B-2, 20' bgs	4oz glass	ice	-19
1/20/12	0813	soil	B-2, 30' bgs	4oz glass	ice	-20
1/20/12	0823	soil	B-2, 40' bgs	4oz glass	ice	-21
1/20/12	0834	soil	B-2, 50' bgs	4oz glass	ice	-22

Remarks: Chlorides by EPA method 300.0

Date: 1/23/12 Time: 1110 Relinquished by: C. Vallejo

Date: 1/23/12 Time: 1110 Received by: [Signature]

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