TA16

Department of Energy
National Nuclear Security Administration
Los Alamos Site Office
Los Alamos, New Mexico 87544

MAR 2 2 2004

Mr. Curt Frischkorn
Ground Water Quality Bureau
New Mexico Environment Department
PO Box 26110
Santa Fe, NM 87502

Mr. John Young
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East
Building 1
Santa Fe, NM 87505

Dear Mr. Frischkorn and Mr. Young:

I am transmitting the analytical screening data from the sampling of Workplan Well CdV-16-2(i) drilling and development water. Workplan Well CdV-16-2(i) is located on the mesa top at TA-16, east of R-25. Approximately 22,000 gallons of drilling and development water was recently produced during the construction of CdV-16-2(i). The details are as follows.

Pit Water

Approximately 22,000 gallons of drilling and development water are being stored in a lined pit at the CdV-16-2(i) drill site. Screening analysis of the pit water produced the following results:

1. No PCBs were detected at concentrations greater than Method Detection Limits.
2. No VOAs were detected with the exception of 2-Methlynaphthalene at 1300 ppb. using the 8260 analysis method. However, the analytical laboratory (Hall Environmental Analysis Laboratory) believes this detection was a result of cross contamination from a prior test. This was confirmed by testing for 2-Methlynapthalene using the more appropriate 8270 SVOC method. 2-Methlynapthalene was not detected using the 8270 method.
3. No SVOAs were detected in the sample with the exception of Bis(2-ethylhexyl)phthalate at 140 ppb. HEAL stated that this contaminate typically originates from using latex gloves during sample collection. Kleinfelder did use latex gloves during sample collection since this is their standard operating procedure.

6479

4. Gross alpha activity is 7.07 pCi/L (+/-1.56 pCi/L), below the EPA drinking water MCL of 15 pCi/L.
5. Tritium results were non detect (DL=423 pCi/L).
6. No perchlorate was detected in the sample at concentrations greater than 2 ppb (MDL=2.0 ppb).
7. Screening results show that no contaminants exceeded NM WQCC Regulation 3103 groundwater standards with the exception of the following constituents that, similar to past results at prior wells, have been detected at levels greater than standards in samples from the pit water:

    - Al=6.3 ppm (ground water std=5.0 ppm)
    - Fe=1.02 ppm (ground water std=1.0 ppm)
    - Mn=0.68 ppm (ground water std=0.2 ppm)

DOE proposes to land apply the CdV-16-2(i) drilling and development water along the sides of the paved roads in the vicinity of the burning grounds and the roads located to the west of the Nakamu Road. This water would be spray applied to the unpaved ground located adjacent to the roads. The application will be conducted in accordance with the terms and conditions of the Hydrogeologic Workplan NOI.

If you have any questions regarding this notification, please contact Bob Enz at (505) 667-7640 or Bob Beers at (505) 667-7969 (office) or (505) 699-2342 (cell).

Mat Johansen
Groundwater Program Manager

OFO:1MJ-002

Enclosure

cc:
B. Enz, OPM, LASO
T. Whitacre, OPM, LASO
C. Nylander, RRES, LANL, MS-J591
R. Beers, RRES-WQH, LANL, MS-K497
S. Rae, RRES-WQH, LANL, MS-K497

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

February 27, 2004

Bernie Bockisch
Kleinfelder
8300 Jefferson, NE Suite B
Albuquerque, NM 87113
TEL: (505) 401-1955
FAX (505) 344-1711

RE: LANL WELLS CdV-16-2i

Order No.: 0401185

Dear Bernie Bockisch:

Hall Environmental Analysis Laboratory received 3 samples on 1/27/2004 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

4901 Hawkins NE ■ Suite D ■ Albuquerque, NM 87109
505.345.3975 ■ Fax 505.345.4107
www.hallenvironmental.com

Hall Environmental Analysis Laboratory

Date: *27-Feb-04*

CLIENT: Kleinfelder
Lab Order: 0401185
Project: LANL WELLS CdV-16-2i
Lab ID: 0401185-01

Client Sample ID: CdV-16-2 Pit
Collection Date: 1/26/2004 12:04:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: BL
Fluoride	ND	1.0		mg/L	10	1/27/2004 4:14:17 PM
Chloride	9.1	1.0		mg/L	10	1/27/2004 4:14:17 PM
Nitrogen, Nitrite (As N)	ND	1.0		mg/L	10	1/27/2004 4:14:17 PM
Nitrogen, Nitrate (As N)	ND	1.0		mg/L	10	1/27/2004 4:14:17 PM
Phosphorus, Orthophosphate (As P)	ND	5.0		mg/L	10	1/27/2004 4:14:17 PM
Sulfate	40	5.0		mg/L	10	1/27/2004 4:14:17 PM
EPA METHOD 8082: PCB'S						Analyst: JMP
Aroclor 1016	ND	10		µg/L	1	2/7/2004 10:25:45 AM
Aroclor 1221	ND	50		µg/L	1	2/7/2004 10:25:45 AM
Aroclor 1232	ND	10		µg/L	1	2/7/2004 10:25:45 AM
Aroclor 1242	ND	10		µg/L	1	2/7/2004 10:25:45 AM
Aroclor 1248	ND	10		µg/L	1	2/7/2004 10:25:45 AM
Aroclor 1254	ND	10		µg/L	1	2/7/2004 10:25:45 AM
Aroclor 1260	ND	10		µg/L	1	2/7/2004 10:25:45 AM
Surr: Decachlorobiphenyl	38.0	76-111	S	%REC	1	2/7/2004 10:25:45 AM
Surr: Tetrachloro-m-xylene	36.8	47-94	S	%REC	1	2/7/2004 10:25:45 AM
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	ND	250		µg/L	250	1/28/2004
Toluene	ND	250		µg/L	250	1/28/2004
Ethylbenzene	ND	250		µg/L	250	1/28/2004
Methyl tert-butyl ether (MTBE)	ND	250		µg/L	250	1/28/2004
1,2,4-Trimethylbenzene	ND	250		µg/L	250	1/28/2004
1,3,5-Trimethylbenzene	ND	250		µg/L	250	1/28/2004
1,2-Dichloroethane (EDC)	ND	250		µg/L	250	1/28/2004
1,2-Dibromoethane (EDB)	ND	250		µg/L	250	1/28/2004
Naphthalene	ND	500		µg/L	250	1/28/2004
1-Methylnaphthalene	ND	1000		µg/L	250	1/28/2004
2-Methylnaphthalene	1300	1000		µg/L	250	1/28/2004
Acetone	ND	2500		µg/L	250	1/28/2004
Bromobenzene	ND	250		µg/L	250	1/28/2004
Bromochloromethane	ND	250		µg/L	250	1/28/2004
Bromodichloromethane	ND	250		µg/L	250	1/28/2004
Bromoform	ND	250		µg/L	250	1/28/2004
Bromomethane	ND	500		µg/L	250	1/28/2004
2-Butanone	ND	2500		µg/L	250	1/28/2004
Carbon disulfide	ND	2500		µg/L	250	1/28/2004
Carbon Tetrachloride	ND	250		µg/L	250	1/28/2004
Chlorobenzene	ND	250		µg/L	250	1/28/2004
Chloroethane	ND	500		µg/L	250	1/28/2004
Chloroform	ND	250		µg/L	250	1/28/2004

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *27-Feb-04*

CLIENT: Kleinfelder
Lab Order: 0401185
Project: LANL WELLS CdV-16-2i
Lab ID: 0401185-01

Client Sample ID: CdV-16-2 Pit
Collection Date: 1/26/2004 12:04:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Chloromethane	ND	250		µg/L	250	1/28/2004
2-Chlorotoluene	ND	250		µg/L	250	1/28/2004
4-Chlorotoluene	ND	250		µg/L	250	1/28/2004
cis-1,2-DCE	ND	250		µg/L	250	1/28/2004
cis-1,3-Dichloropropene	ND	250		µg/L	250	1/28/2004
1,2-Dibromo-3-chloropropane	ND	500		µg/L	250	1/28/2004
Dibromochloromethane	ND	250		µg/L	250	1/28/2004
Dibromomethane	ND	500		µg/L	250	1/28/2004
1,2-Dichlorobenzene	ND	250		µg/L	250	1/28/2004
1,3-Dichlorobenzene	ND	250		µg/L	250	1/28/2004
1,4-Dichlorobenzene	ND	250		µg/L	250	1/28/2004
Dichlorodifluoromethane	ND	250		µg/L	250	1/28/2004
1,1-Dichloroethane	ND	250		µg/L	250	1/28/2004
1,1-Dichloroethene	ND	250		µg/L	250	1/28/2004
1,2-Dichloropropane	ND	250		µg/L	250	1/28/2004
1,3-Dichloropropane	ND	250		µg/L	250	1/28/2004
2,2-Dichloropropane	ND	250		µg/L	250	1/28/2004
1,1-Dichloropropene	ND	250		µg/L	250	1/28/2004
Hexachlorobutadiene	ND	250		µg/L	250	1/28/2004
2-Hexanone	ND	2500		µg/L	250	1/28/2004
Isopropylbenzene	ND	250		µg/L	250	1/28/2004
4-Isopropyltoluene	ND	250		µg/L	250	1/28/2004
4-Methyl-2-pentanone	ND	2500		µg/L	250	1/28/2004
Methylene Chloride	ND	750		µg/L	250	1/28/2004
n-Butylbenzene	ND	250		µg/L	250	1/28/2004
n-Propylbenzene	ND	250		µg/L	250	1/28/2004
sec-Butylbenzene	ND	250		µg/L	250	1/28/2004
Styrene	ND	250		µg/L	250	1/28/2004
tert-Butylbenzene	ND	250		µg/L	250	1/28/2004
1,1,1,2-Tetrachloroethane	ND	250		µg/L	250	1/28/2004
1,1,2,2-Tetrachloroethane	ND	250		µg/L	250	1/28/2004
Tetrachloroethene (PCE)	ND	250		µg/L	250	1/28/2004
trans-1,2-DCE	ND	250		µg/L	250	1/28/2004
trans-1,3-Dichloropropene	ND	250		µg/L	250	1/28/2004
1,2,3-Trichlorobenzene	ND	250		µg/L	250	1/28/2004
1,2,4-Trichlorobenzene	ND	250		µg/L	250	1/28/2004
1,1,1-Trichloroethane	ND	250		µg/L	250	1/28/2004
1,1,2-Trichloroethane	ND	250		µg/L	250	1/28/2004
Trichloroethene (TCE)	ND	250		µg/L	250	1/28/2004
Trichlorofluoromethane	ND	250		µg/L	250	1/28/2004
1,2,3-Trichloropropane	ND	500		µg/L	250	1/28/2004
Vinyl chloride	ND	500		µg/L	250	1/28/2004

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Hall Environmental Analysis Laboratory

Date: *27-Feb-04*

CLIENT: Kleinfelder
Lab Order: 0401185
Project: LANL WELLS CdV-16-2i
Lab ID: 0401185-01

Client Sample ID: CdV-16-2 Pit
Collection Date: 1/26/2004 12:04:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Xylenes, Total	ND	250		µg/L	250	1/28/2004
Surr: 1,2-Dichloroethane-d4	96.6	70.6-124		%REC	250	1/28/2004
Surr: 4-Bromofluorobenzene	136	76.4-130	S	%REC	250	1/28/2004
Surr: Dibromofluoromethane	105	67.2-131		%REC	250	1/28/2004
Surr: Toluene-d8	104	82.1-123		%REC	250	1/28/2004
EPA METHOD 8270D: SEMIVOLATILES						Analyst: CS
Acenaphthene	ND	100		µg/L	1	2/11/2004
Acenaphthylene	ND	100		µg/L	1	2/11/2004
Aniline	ND	100		µg/L	1	2/11/2004
Anthracene	ND	100		µg/L	1	2/11/2004
Azobenzene	ND	100		µg/L	1	2/11/2004
Benz(a)anthracene	ND	100		µg/L	1	2/11/2004
Benzidine	ND	200		µg/L	1	2/11/2004
Benzo(a)pyrene	ND	100		µg/L	1	2/11/2004
Benzo(b)fluoranthene	ND	100		µg/L	1	2/11/2004
Benzo(g,h,i)perylene	ND	100		µg/L	1	2/11/2004
Benzo(k)fluoranthene	ND	100		µg/L	1	2/11/2004
Benzoic acid	ND	500		µg/L	1	2/11/2004
Benzyl alcohol	ND	200		µg/L	1	2/11/2004
Bis(2-chloroethoxy)methane	ND	100		µg/L	1	2/11/2004
Bis(2-chloroethyl)ether	ND	100		µg/L	1	2/11/2004
Bis(2-chloroisopropyl)ether	ND	100		µg/L	1	2/11/2004
Bis(2-ethylhexyl)phthalate	140	100		µg/L	1	2/11/2004
4-Bromophenyl phenyl ether	ND	100		µg/L	1	2/11/2004
Butyl benzyl phthalate	ND	100		µg/L	1	2/11/2004
Carbazole	ND	100		µg/L	1	2/11/2004
4-Chloro-3-methylphenol	ND	200		µg/L	1	2/11/2004
4-Chloroaniline	ND	200		µg/L	1	2/11/2004
2-Chloronaphthalene	ND	100		µg/L	1	2/11/2004
2-Chlorophenol	ND	100		µg/L	1	2/11/2004
4-Chlorophenyl phenyl ether	ND	100		µg/L	1	2/11/2004
Chrysene	ND	100		µg/L	1	2/11/2004
Di-n-butyl phthalate	ND	100		µg/L	1	2/11/2004
Di-n-octyl phthalate	ND	100		µg/L	1	2/11/2004
Dibenz(a,h)anthracene	ND	100		µg/L	1	2/11/2004
Dibenzofuran	ND	100		µg/L	1	2/11/2004
1,2-Dichlorobenzene	ND	100		µg/L	1	2/11/2004
1,3-Dichlorobenzene	ND	100		µg/L	1	2/11/2004
1,4-Dichlorobenzene	ND	100		µg/L	1	2/11/2004
3,3'-Dichlorobenzidine	ND	100		µg/L	1	2/11/2004
Diethyl phthalate	ND	100		µg/L	1	2/11/2004
Dimethyl phthalate	ND	100		µg/L	1	2/11/2004

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Hall Environmental Analysis Laboratory

Date: *27-Feb-04*

CLIENT: Kleinfelder
Lab Order: 0401185
Project: LANL WELLS CdV-16-2i
Lab ID: 0401185-01

Client Sample ID: CdV-16-2 Pit
Collection Date: 1/26/2004 12:04:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
2,4-Dichlorophenol	ND	100		µg/L	1	2/11/2004
2,4-Dimethylphenol	ND	100		µg/L	1	2/11/2004
4,6-Dinitro-2-methylphenol	ND	500		µg/L	1	2/11/2004
2,4-Dinitrophenol	ND	500		µg/L	1	2/11/2004
2,4-Dinitrotoluene	ND	100		µg/L	1	2/11/2004
2,6-Dinitrotoluene	ND	100		µg/L	1	2/11/2004
Fluoranthene	ND	100		µg/L	1	2/11/2004
Fluorene	ND	100		µg/L	1	2/11/2004
Hexachlorobenzene	ND	100		µg/L	1	2/11/2004
Hexachlorobutadiene	ND	100		µg/L	1	2/11/2004
Hexachlorocyclopentadiene	ND	100		µg/L	1	2/11/2004
Hexachloroethane	ND	100		µg/L	1	2/11/2004
Indeno(1,2,3-cd)pyrene	ND	100		µg/L	1	2/11/2004
Isophorone	ND	100		µg/L	1	2/11/2004
2-Methylnaphthalene	ND	100		µg/L	1	2/11/2004
2-Methylphenol	ND	100		µg/L	1	2/11/2004
3+4-Methylphenol	ND	100		µg/L	1	2/11/2004
N-Nitrosodi-n-propylamine	ND	100		µg/L	1	2/11/2004
N-Nitrosodiphenylamine	ND	100		µg/L	1	2/11/2004
Naphthalene	ND	100		µg/L	1	2/11/2004
2-Nitroaniline	ND	500		µg/L	1	2/11/2004
3-Nitroaniline	ND	500		µg/L	1	2/11/2004
4-Nitroaniline	ND	200		µg/L	1	2/11/2004
Nitrobenzene	ND	100		µg/L	1	2/11/2004
2-Nitrophenol	ND	100		µg/L	1	2/11/2004
4-Nitrophenol	ND	500		µg/L	1	2/11/2004
Pentachlorophenol	ND	500		µg/L	1	2/11/2004
Phenanthrene	ND	100		µg/L	1	2/11/2004
Phenol	ND	100		µg/L	1	2/11/2004
Pyrene	ND	100		µg/L	1	2/11/2004
Pyridine	ND	100		µg/L	1	2/11/2004
1,2,4-Trichlorobenzene	ND	100		µg/L	1	2/11/2004
2,4,5-Trichlorophenol	ND	100		µg/L	1	2/11/2004
2,4,6-Trichlorophenol	ND	100		µg/L	1	2/11/2004
Surr: 2,4,6-Tribromophenol	90.2	16.6-115		%REC	1	2/11/2004
Surr: 2-Fluorobiphenyl	71.6	37-95.7		%REC	1	2/11/2004
Surr: 2-Fluorophenol	63.6	9.54-89.8		%REC	1	2/11/2004
Surr: 4-Terphenyl-d14	41.2	47.9-115	S	%REC	1	2/11/2004
Surr: Nitrobenzene-d5	69.8	38-106		%REC	1	2/11/2004
Surr: Phenol-d6	45.5	10.7-63.4		%REC	1	2/11/2004

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GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Hall Environmental Analysis Labs
Address : 4901 Hawkins Ne
Suite D
Albuquerque, New Mexico 87109
Contact: Nancy McDuffie
Project: **Hall Environmental**

Report Date: February 11, 2004

Client Sample ID: CdV-16-2 Pit (Metals)
Sample ID: 106002002
Matrix: Water
Collect Date: 26-JAN-04 12:04
Receive Date: 28-JAN-04
Collector: Client

Project: HALL00103
Client ID: HALL001

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Mercury Analysis-CVAA										
7470 Cold Vapor Hg Liquid										
Mercury	U	ND	0.472	2.00	ug/L	1	NOR1 02/06/04	1446	306384	1
Metals Analysis-ICP										
6010/3005 ICP SCAN Metals										
Aluminum		6300	14.7	100	ug/L	1	RMJ 02/04/04	1407	306415	2
Antimony	U	ND	5.08	10.0	ug/L	1				
Arsenic	U	ND	2.24	5.00	ug/L	1				
Barium		189	0.222	5.00	ug/L	1				
Beryllium	J	1.44	0.158	5.00	ug/L	1				
Cadmium	U	ND	0.313	5.00	ug/L	1				
Calcium		62700	5.54	100	ug/L	1				
Chromium	J	4.54	0.503	5.00	ug/L	1				
Cobalt		9.21	0.541	5.00	ug/L	1				
Copper		18.8	1.39	5.00	ug/L	1				
Iron		1020	12.6	100	ug/L	1				
Lead	J	3.72	1.72	5.00	ug/L	1				
Magnesium		14900	5.18	100	ug/L	1				
Manganese		680	0.296	10.0	ug/L	1				
Nickel		5.20	0.690	5.00	ug/L	1				
Selenium	U	ND	2.81	5.00	ug/L	1				
Silver	U	ND	0.835	5.00	ug/L	1				
Thallium	U	ND	10.0	20.0	ug/L	1				
Vanadium	J	3.71	0.606	5.00	ug/L	1				
Zinc		49.4	0.883	5.00	ug/L	1				
Potassium		25100	16.5	100	ug/L	1	HSC 02/06/04	1434	306415	3
Sodium		105000	72.0	500	ug/L	5	RMJ 02/04/04	1434	306415	4

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3005A	ICP-TRACE SW846 3005A	CQH1	02/03/04	1757	306414
SW846 7470A Prep	EPA 7470A Mercury Prep Liquid	ETL	02/05/04	1300	306383

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 7470A	
2	SW846 3005/6010B	
3	SW846 3005/6010B	

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Hall Environmental Analysis Labs
Address : 4901 Hawkins Ne
Suite D
Albuquerque, New Mexico 87109
Contact: Nancy McDuffie
Project: **Hall Environmental**

Report Date: February 11, 2004

Client Sample ID: CdV-16-2 Pit (Metals)
Sample ID: 106002002

Project: HALL00103
Client ID: HALL001

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
4	SW846 3005/6010B									

Notes:
The Qualifiers in this report are defined as follows :

< Result is less than amount reported.
> Result is greater than amount reported.
B Target analyte was detected in the sample as well as the associated blank.
BD Flag for results below the MDC or a flag for low tracer recovery.
E Concentration of the target analyte exceeds the instrument calibration range.
H Analytical holding time exceeded.
J Indicates an estimated value. The result was greater than the detection limit, but less than the reporting limit.
P The response between the confirmation column and the primary column is >40%D.
U Indicates the target analyte was analyzed for but not detected above the detection limit.
UI Uncertain identification for gamma spectroscopy.
X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
Y QC Samples were not spiked with this compound.
h Sample preparation or preservation holding time exceeded.

The above sample is reported on an "as received" basis.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories, LLC standard operating procedures. Please direct any questions to your Project Manager, Amy Jamison.

Reviewed by

GENERAL ENGINEERING LABORATORIES, LLC

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Certificate of Analysis

Company : Hall Environmental Analysis Labs
Address : 4901 Hawkins Ne
Suite D
Albuquerque, New Mexico 87109
Contact: Nancy McDuffie
Project: **Hall Environmental**

Report Date: February 11, 2004

Client Sample ID: CdV-16-2 Pit (RAD)
Sample ID: 106002005
Matrix: Water
Collect Date: 26-JAN-04 12:04
Receive Date: 28-JAN-04
Collector: Client

Project: HALL00103
Client ID: HALL001

Parameter	Qualifier	Result		DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gamma Spec Analysis												
Gammaspec, Gamma, Liquid (Standard List)												
Actinium-228	U	ND	+/-6.91	13.8	20.0	pCi/L		SRB	01/31/04	1050	306657	1
Americium-241	U	ND	+/-18.4	31.6	25.0	pCi/L						
Antimony-124	U	ND	+/-1.72	3.05	5.00	pCi/L						
Antimony-125	U	ND	+/-4.85	9.15	10.0	pCi/L						
Barium-133	U	ND	+/-2.29	3.89	5.00	pCi/L						
Barium-140	U	ND	+/-7.40	12.2	30.0	pCi/L						
Beryllium-7	U	ND	+/-15.1	26.3	50.0	pCi/L						
Bismuth-212	U	ND	+/-13.9	24.4	50.0	pCi/L						
Bismuth-214	U	ND	+/-6.16	8.33	10.0	pCi/L						
Cerium-139	U	ND	+/-1.69	3.08	5.00	pCi/L						
Cerium-141	U	ND	+/-3.08	5.16	10.0	pCi/L						
Cerium-144	U	ND	+/-11.9	20.9	50.0	pCi/L						
Cesium-134	U	ND	+/-1.81	3.24	5.00	pCi/L						
Cesium-136	U	ND	+/-3.26	5.84	15.0	pCi/L						
Cesium-137	U	ND	+/-3.46	3.09	5.00	pCi/L						
Chromium-51	U	ND	+/-17.2	29.6	50.0	pCi/L						
Cobalt-56	U	ND	+/-1.85	3.15	5.00	pCi/L						
Cobalt-57	U	ND	+/-1.55	2.63	5.00	pCi/L						
Cobalt-58	U	ND	+/-1.71	3.06	10.0	pCi/L						
Cobalt-60	U	ND	+/-1.56	3.36	5.00	pCi/L						
Europium-152	U	ND	+/-6.37	9.60	20.0	pCi/L						
Europium-154	U	ND	+/-5.03	10.4	20.0	pCi/L						
Europium-155	U	ND	+/-6.81	12.3	20.0	pCi/L						
Iridium-192	U	ND	+/-1.83	3.10	10.0	pCi/L						
Iron-59	U	ND	+/-3.48	7.19	10.0	pCi/L						
Lead-210	U	ND	+/-819	1290	750	pCi/L						
Lead-212	UUI	ND	+/-5.55	7.00	15.0	pCi/L						
Lead-214	U	ND	+/-7.94	7.85	10.0	pCi/L						
Manganese-54	U	ND	+/-3.90	2.95	5.00	pCi/L						
Mercury-203	U	ND	+/-2.11	3.59	5.00	pCi/L						
Neodymium-147	U	ND	+/-14.1	25.7	100	pCi/L						
Neptunium-239	U	ND	+/-12.4	21.5	25.0	pCi/L						
Niobium-94	U	ND	+/-1.82	3.47	5.00	pCi/L						
Niobium-95	U	ND	+/-1.87	3.48	5.00	pCi/L						
Potassium-40	U	ND	+/-37.4	36.4	100	pCi/L						
Promethium-144	U	ND	+/-1.65	2.93	5.00	pCi/L						
Promethium-146	U	ND	+/-2.22	3.85	5.00	pCi/L						
Radium-228	U	ND	+/-6.91	13.8	20.0	pCi/L						
Ruthenium-106	U	ND	+/-16.1	29.6	50.0	pCi/L						

GENERAL ENGINEERING LABORATORIES, LLC

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Certificate of Analysis

Company : Hall Environmental Analysis Labs
Address : 4901 Hawkins Ne
Suite D
Albuquerque, New Mexico 87109
Contact: Nancy McDuffie
Project: **Hall Environmental**

Report Date: February 11, 2004

Client Sample ID: CdV-16-2 Pit (RAD)
Sample ID: 106002005

Project: HALL00103
Client ID: HALL001

Parameter	Qualifier	Result		DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Rad Gamma Spec Analysis											
Gammaspec, Gamma, Liquid (Standard List)											
Silver-110m	U	ND	+/-1.73	2.97	5.00	pCi/L					
Sodium-22	U	ND	+/-1.79	3.71	5.00	pCi/L					
Thallium-208	U	ND	+/-1.89	3.62	10.0	pCi/L					
Thorium-230	U	ND	+/-6.16	6.33	20.0	pCi/L					
Thorium-234	U	ND	+/-139	230	250	pCi/L					
Tin-113	U	ND	+/-2.52	4.41	10.0	pCi/L					
Uranium-235	U	ND	+/-13.2	22.6	50.0	pCi/L					
Uranium-238	U	ND	+/-139	230	250	pCi/L					
Yttrium-88	U	ND	+/-2.01	3.86	10.0	pCi/L					
Zinc-65	U	ND	+/-4.19	7.21	10.0	pCi/L					
Zirconium-95	U	ND	+/-3.11	5.92	10.0	pCi/L					
Rad Gas Flow Proportional Counting											
GFPC, Gross A/B, liquid											
Alpha		7.07	+/-1.56	1.67	5.00	pCi/L		ATH1 02/06/04	1958	307937	2
Beta		23.5	+/-1.57	1.32	5.00	pCi/L					
Rad Liquid Scintillation Analysis											
LSC, Tritium Dist, Liquid											
Tritium	U	ND	+/-243	423	700	pCi/L		CTO1 02/03/04	1524	306817	3

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 901.1	
2	EPA 900.0	
3	EPA 906.0 Modified	

Notes:
The Qualifiers in this report are defined as follows :

< Result is less than amount reported.
> Result is greater than amount reported.
B Target analyte was detected in the sample as well as the associated blank.
BD Flag for results below the MDC or a flag for low tracer recovery.
E Concentration of the target analyte exceeds the instrument calibration range.
H Analytical holding time exceeded.
J Indicates an estimated value. The result was greater than the detection limit, but less than the reporting limit.
P The response between the confirmation column and the primary column is >40%D.
U Indicates the target analyte was analyzed for but not detected above the detection limit.
UI Uncertain identification for gamma spectroscopy.
X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
Y QC Samples were not spiked with this compound.

GENERAL ENGINEERING LABORATORIES, LLC

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Certificate of Analysis

Company : Hall Environmental Analysis Labs
Address : 4901 Hawkins Ne
Suite D
Albuquerque, New Mexico 87109
Contact: Nancy McDuffie
Project: **Hall Environmental**

Report Date: February 11, 2004

Client Sample ID: CdV-16-2 Pit (RAD)
Sample ID: 106002005

Project: HALL00103
Client ID: HALL001

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method

h Sample preparation or preservation holding time exceeded.

The above sample is reported on an "as received" basis.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories, LLC standard operating procedures. Please direct any questions to your Project Manager, Amy Jamison.

Reviewed by

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Report Date: February 11, 2004

Client : Hall Environmental Analysis Labs
4901 Hawkins Ne
Suite D
Albuquerque, New Mexico

Contact: Nancy McDuffie

Workorder: 106002

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP											
Batch 306015											
QC1200561487 106002001 DUP											
Aluminum			835		878	ug/L	5		(0%-20%)	RMJ	02/04/04 13:56
Antimony		U	ND	U	ND	ug/L	N/A		(+/-10.0)		
Arsenic		U	ND	U	ND	ug/L	N/A		(+/-5.00)		
Barium			42.4		44.2	ug/L	4		(0%-20%)		
Beryllium		U	ND	U	ND	ug/L	N/A		(+/-5.00)		
Cadmium		U	ND	U	ND	ug/L	N/A		(+/-5.00)		
Calcium			32300		32200	ug/L	0		(0%-20%)		
Chromium			140		142	ug/L	1		(0%-20%)		
Cobalt		J	0.951	J	0.907	ug/L	N/A ^		(+/-5.00)		
Copper			9.84		10.0	ug/L	2 ^		(+/-5.00)		
Iron			367		376	ug/L	2 ^		(+/-100)		
Lead		U	ND	U	ND	ug/L	N/A		(+/-5.00)		
Magnesium			7380		7400	ug/L	0		(0%-20%)		
Manganese			121		121	ug/L	0		(0%-20%)		
Nickel		J	3.94	J	4.03	ug/L	N/A ^		(+/-5.00)		
Potassium			3420		3460	ug/L	1		(0%-20%)	HSC	02/06/04 14:22
Selenium		U	ND	U	ND	ug/L	N/A		(+/-5.00)	RMJ	02/04/04 13:56
Silver		U	ND	U	ND	ug/L	N/A		(+/-5.00)		
Sodium			26600		26200	ug/L	1		(0%-20%)		
Thallium		U	ND	U	ND	ug/L	N/A		(+/-20.0)		
Vanadium		J	3.67	J	3.76	ug/L	N/A ^		(+/-5.00)		
Zinc			44.8		45.3	ug/L	1		(0%-20%)		
QC1200561486 LCS											
Aluminum	5000				5200	ug/L		104	(80%-120%)		02/04/04 13:40
Antimony	500				495	ug/L		99	(80%-120%)		
Arsenic	500				502	ug/L		100	(80%-120%)		
Barium	500				514	ug/L		103	(80%-120%)		
Beryllium	500				506	ug/L		101	(80%-120%)		
Cadmium	500				500	ug/L		100	(80%-120%)		
Calcium	5000				5290	ug/L		106	(80%-120%)		
Chromium	500				504	ug/L		101	(80%-120%)		
Cobalt	500				507	ug/L		101	(80%-120%)		
Copper	500				507	ug/L		101	(80%-120%)		
Iron	5000				5240	ug/L		105	(80%-120%)		
Lead	500				505	ug/L		101	(80%-120%)		
Magnesium	5000				5240	ug/L		105	(80%-120%)		
Manganese	500				501	ug/L		100	(80%-120%)		
Nickel	500				505	ug/L		101	(80%-120%)		
Potassium	5000				5340	ug/L		107	(80%-120%)	HSC	02/06/04 14:03
Selenium	500				481	ug/L		96	(80%-120%)	RMJ	02/04/04 13:40
Silver	500				507	ug/L		101	(80%-120%)		
Sodium	5000				5270	ug/L		105	(80%-120%)		

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QC Summary

Workorder: 106002

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP											
Batch 306415											
Thallium	500				503	ug/L		101	(80%-120%)		
Vanadium	500				504	ug/L		101	(80%-120%)		
Zinc	500				496	ug/L		99	(80%-120%)		
QC1200561485 MB											
Aluminum				U	ND	ug/L					02/04/04 13:33
Antimony				U	ND	ug/L					
Arsenic				U	ND	ug/L					
Barium				U	ND	ug/L					
Beryllium				U	ND	ug/L					
Cadmium				U	ND	ug/L					
Calcium				J	6.61	ug/L					
Chromium				J	0.559	ug/L					
Cobalt				U	ND	ug/L					
Copper				U	ND	ug/L					
Iron				U	ND	ug/L					
Lead				U	ND	ug/L					
Magnesium				U	ND	ug/L					
Manganese				U	ND	ug/L					
Nickel				U	ND	ug/L					
Potassium				J	44.6	ug/L				HSC	02/06/04 13:57
Selenium				U	ND	ug/L				RMJ	02/04/04 13:33
Silver				U	ND	ug/L					
Sodium					121	ug/L					
Thallium				U	ND	ug/L					
Vanadium				U	ND	ug/L					
Zinc				J	1.87	ug/L					
QC1200561488 106002001 MS											
Aluminum	5000		835		6240	ug/L		108	(75%-125%)		02/04/04 14:02
Antimony	500	U	ND		490	ug/L		98	(75%-125%)		
Arsenic	500	U	ND		510	ug/L		102	(75%-125%)		
Barium	500		42.4		555	ug/L		102	(75%-125%)		
Beryllium	500	U	ND		512	ug/L		102	(75%-125%)		
Cadmium	500	U	ND		499	ug/L		100	(75%-125%)		
Calcium	5000		32300		37900	ug/L		N/A	(75%-125%)		
Chromium	500		140		644	ug/L		101	(75%-125%)		
Cobalt	500	J	0.951		507	ug/L		101	(75%-125%)		
Copper	500		9.84		525	ug/L		103	(75%-125%)		
Iron	5000		367		5560	ug/L		104	(75%-125%)		
Lead	500	U	ND		503	ug/L		100	(75%-125%)		
Magnesium	5000		7380		12800	ug/L		108	(75%-125%)		
Manganese	500		121		618	ug/L		99	(75%-125%)		
Nickel	500	J	3.94		507	ug/L		101	(75%-125%)		
Potassium	5000		3420		8850	ug/L		108	(75%-125%)	HSC	02/06/04 14:28
Selenium	500	U	ND		478	ug/L		96	(75%-125%)	RMJ	02/04/04 14:02
Silver	500	U	ND		510	ug/L		102	(75%-125%)		
Sodium	5000		26600		31800	ug/L		N/A	(75%-125%)		
Thallium	500	U	ND		499	ug/L		99	(75%-125%)		
Vanadium	500	J	3.67		509	ug/L		101	(75%-125%)		

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QC Summary

Workorder: 106002

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP											
Batch 306415											
Zinc	500		44.8		546	ug/L		100	(75%-125%)		
QC1200561489 106002001 SDILT											
Aluminum			835		175	ug/L	4.73				02/04/04 13:51
Antimony		U	ND	U	ND	ug/L	N/A				
Arsenic		U	ND	U	ND	ug/L	N/A				
Barium			42.4		8.21	ug/L	3.16				
Beryllium		U	ND	U	ND	ug/L	N/A				
Cadmium		U	ND	U	ND	ug/L	N/A				
Calcium			32300		6200	ug/L	3.95				
Chromium			140		26.8	ug/L	4.18				
Cobalt		J	0.951	U	ND	ug/L	N/A				
Copper			9.84	U	ND	ug/L	N/A				
Iron			367	J	73.2	ug/L	.225				
Lead		U	ND	U	ND	ug/L	N/A				
Magnesium			7380		1420	ug/L	3.89				
Manganese			121		23.4	ug/L	3.35				
Nickel		J	3.94	J	0.830	ug/L	5.34				
Potassium			3420		741	ug/L	8.28			HSC	02/06/04 14:16
Selenium		U	ND	U	ND	ug/L	N/A			RMJ	02/04/04 13:51
Silver		U	ND	U	ND	ug/L	N/A				
Sodium			26600		5070	ug/L	4.72				
Thallium		U	ND	U	ND	ug/L	N/A				
Vanadium		J	3.67	U	ND	ug/L	N/A				
Zinc			44.8		10.9	ug/L	21.1				
Metals Analysis-Mercury											
Batch 306384											
QC1200561412 106002001 DUP											
Mercury		U	ND	U	ND	ug/L	N/A		(+/-2.00)	NOR1	02/06/04 14:42
QC1200561411 LCS											
Mercury	20.0				20.6	ug/L		103	(80%-120%)		02/06/04 14:38
QC1200561410 MB											
Mercury				U	ND	ug/L					02/06/04 14:36
QC1200561413 106002001 MS											
Mercury	20.0	U	ND		21.9	ug/L		109	(75%-125%)		02/06/04 14:44
Rad Gamma Spec											
Batch 306657											
QC1200562001 106002004 DUP											
Actinium-228		U	2.72 +/-7.76	UU1	0.00 +/-4.57	pCi/L	115			SRB	01/31/04 18:08
Americium-241		U	0.0544 +/-4.20	U	-1.49 +/-11.3	pCi/L	N/A				
Antimony-124		U	0.962 +/-2.37	U	-0.964 +/-1.15	pCi/L	N/A				
Antimony-125		U	0.208 +/-5.43	U	-0.0512 +/-2.93	pCi/L	N/A				
Barium-133		U	-0.0309 +/-2.63	U	-1.45 +/-1.50	pCi/L	N/A		(0%-20%)		
Barium-140		U	5.74	U	-5.08	pCi/L	N/A				

QC Summary

Workorder: 106002

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch 306657											
		+/-8.80		+/-5.28							
Beryllium-7	U	-1.41	U	5.69	pCi/L	N/A					
		+/-15.7		+/-8.85							
Bismuth-212	U	7.50	U	6.64	pCi/L	12					
		+/-15.9		+/-8.78							
Bismuth-214		8.79	U	0.953	pCi/L	161					
		+/-6.65		+/-4.26							
Cerium-139	U	-0.0521	U	-0.539	pCi/L	N/A					
		+/-1.70		+/-1.04							
Cerium-141	U	-0.449	U	1.62	pCi/L	N/A					
		+/-3.18		+/-3.05							
Cerium-144	U	1.81	U	4.34	pCi/L	82					
		+/-11.9		+/-7.23							
Cesium-134	U	-2.08	U	1.22	pCi/L	N/A		(0%-20%)			
		+/-2.30		+/-1.25							
Cesium-136	U	0.125	U	0.0479	pCi/L	89					
		+/-3.59		+/-1.84							
Cesium-137	U	-1.81	UUI	0.00	pCi/L	N/A		(0%-20%)			
		+/-2.12		+/-1.38							
Chromium-51	U	-9.13	U	1.52	pCi/L	N/A					
		+/-16.9		+/-10.3							
Cobalt-56	U	0.834	U	0.679	pCi/L	21					
		+/-2.16		+/-1.10							
Cobalt-57	U	0.643	U	-0.50	pCi/L	N/A					
		+/-1.51		+/-0.943							
Cobalt-58	U	-0.286	U	-0.43	pCi/L	N/A					
		+/-1.98		+/-0.994							
Cobalt-60	U	1.67	U	0.0421	pCi/L	190*		(0%-20%)			
		+/-2.16		+/-1.14							
Europium-152	U	3.29	U	1.55	pCi/L	72					
		+/-6.20		+/-3.19							
Europium-154	U	0.535	U	1.08	pCi/L	68					
		+/-6.25		+/-2.56							
Europium-155	U	1.04	U	-0.275	pCi/L	N/A					
		+/-5.95		+/-4.15							
Iridium-192	U	-0.555	U	-0.00493	pCi/L	N/A					
		+/-1.97		+/-1.09							
Iron-59	U	0.188	U	-0.891	pCi/L	N/A					
		+/-4.68		+/-2.11							
Lead-210		68.5	U	132	pCi/L	63					
		+/-84.9		+/-473							
Lead-212	U	4.25	UUI	0.00	pCi/L	3					
		+/-5.10		+/-3.86							
Lead-214	UUI	0.00	U	1.81	pCi/L	154					
		+/-7.55		+/-5.02							
Manganese-54	U	-0.463	U	0.272	pCi/L	N/A					
		+/-2.09		+/-1.06							

QC Summary

Workorder: 106002

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 306657										
Mercury-203	U	0.765 +/-2.03	U	0.902 +/-1.20	pCi/L	17				
Neodymium-147	U	-3.23 +/-16.7	U	-5.91 +/-9.55	pCi/L	N/A				
Neptunium-239	U	-1.08 +/-11.3	U	-2.87 +/-7.16	pCi/L	N/A				
Niobium-94	U	-0.396 +/-1.94	U	-0.956 +/-0.994	pCi/L	N/A				
Niobium-95	U	0.384 +/-2.16	U	0.595 +/-1.06	pCi/L	43				
Potassium-40	U	56.1 +/-31.8	U	13.4 +/-24.6	pCi/L	123				
Promethium-144	U	-0.37 +/-1.98	U	0.695 +/-1.01	pCi/L	N/A				
Promethium-146	U	-0.0173 +/-2.57	U	-0.363 +/-1.37	pCi/L	N/A				
Radium-228	U	2.72 +/-7.76	UUI	0.00 +/-4.57	pCi/L	115*		(0%-20%)		
Ruthenium-106	U	5.84 +/-19.3	U	-3.88 +/-9.89	pCi/L	N/A				
Silver-110m	U	0.669 +/-1.83	U	-2.37 +/-1.14	pCi/L	N/A				
Sodium-22	U	0.191 +/-2.23	U	0.381 +/-0.913	pCi/L	67				
Thallium-208	U	0.463 +/-4.04	U	0.358 +/-2.57	pCi/L	26				
Thorium-230		8.79 +/-6.65	U	0.953 +/-4.26	pCi/L	161*		(0%-20%)		
Thorium-234	U	36.4 +/-72.2	U	88.5 +/-93.4	pCi/L	83				
Tin-113	U	0.169 +/-2.50	U	0.275 +/-1.42	pCi/L	48				
Uranium-235	U	13.3 +/-13.5	U	6.55 +/-12.4	pCi/L	68				
Uranium-238	U	36.4 +/-72.2	U	88.5 +/-93.4	pCi/L	83				
Yttrium-88	U	-1.05 +/-2.50	U	-0.287 +/-1.25	pCi/L	N/A				
Zinc-65	U	-4.85 +/-4.82	U	-0.61 +/-2.12	pCi/L	N/A				
Zirconium-95	U	0.162 +/-3.77	U	0.448 +/-1.76	pCi/L	94				
QC1200562003 LCS										
Actinium-228			U	11.6 +/-38.5	pCi/L					02/01/04 10:25
Americium-241				1100 +/-198	pCi/L					
Antimony-124			U	-3.81	pCi/L					

QC Summary

Workorder: 106002

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch 306657											
				+/-8.27							
Antimony-125			U	-18.4 +/-29.4	pCi/L						
Barium-133			U	-7.54 +/-11.5	pCi/L						
Barium-140			U	-10.5 +/-32.6	pCi/L						
Beryllium-7			U	-11.5 +/-73.1	pCi/L						
Bismuth-212			U	-46.7 +/-69.6	pCi/L						
Bismuth-214				30.8 +/-21.2	pCi/L						
Cerium-139				122 +/-18.5	pCi/L						
Cerium-141			U	-7.69 +/-13.2	pCi/L						
Cerium-144			U	-31.7 +/-63.0	pCi/L						
Cesium-134			U	-14 +/-9.75	pCi/L						
Cesium-136			U	-4.93 +/-16.1	pCi/L						
Cesium-137	461			478 +/-45.6	pCi/L		104	(75%-125%)			
Chromium-51			U	11.5 +/-67.3	pCi/L						
Cobalt-56			U	-1.42 +/-9.92	pCi/L						
Cobalt-57				184 +/-20.4	pCi/L						
Cobalt-58			U	2.49 +/-9.56	pCi/L						
Cobalt-60				701 +/-64.8	pCi/L			(75%-125%)			
Europium-152			U	6.50 +/-25.7	pCi/L						
Europium-154			U	27.9 +/-38.0	pCi/L						
Europium-155			U	-20.4 +/-34.0	pCi/L						
Iridium-192			U	-2.26 +/-8.20	pCi/L						
Iron-59			U	0.242 +/-21.0	pCi/L						
Lead-210			U	-293 +/-1990	pCi/L						

QC Summary

Workorder: 106002

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch 306657											
Lead-212			U	-1.1 +/-16.6	pCi/L						
Lead-214			U	6.71 +/-19.6	pCi/L						
Manganese-54			U	-2.73 +/-9.00	pCi/L						
Mercury-203			U	3.29 +/-8.73	pCi/L						
Neodymium-147			U	5.64 +/-58.8	pCi/L						
Neptunium-239			U	-1.4 +/-60.2	pCi/L						
Niobium-94			U	-2.84 +/-8.24	pCi/L						
Niobium-95			U	0.946 +/-8.97	pCi/L						
Potassium-40			U	46.1 +/-77.6	pCi/L						
Promethium-144			U	4.38 +/-8.28	pCi/L						
Promethium-146			U	1.71 +/-12.4	pCi/L						
Radium-228			U	11.6 +/-38.5	pCi/L			(75%-125%)			
Ruthenium-106			U	36.6 +/-85.6	pCi/L						
Silver-110m			U	5.08 +/-9.76	pCi/L						
Sodium-22			U	9.91 +/-13.5	pCi/L						
Thallium-208			U	-2.44 +/-10.1	pCi/L						
Thorium-230				30.8 +/-21.2	pCi/L						
Thorium-234			U	-222 +/-491	pCi/L						
Tin-113				152 +/-26.0	pCi/L						
Uranium-235			U	-26.3 +/-57.8	pCi/L						
Uranium-238			U	-222 +/-491	pCi/L						
Yttrium-88				210 +/-31.3	pCi/L						
Zinc-65			U	-10.6 +/-24.7	pCi/L						
Zirconium-95			U	4.31 +/-14.4	pCi/L						

QC Summary

Workorder: 106002

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 306657										
QC1200562000 MB										
Actinium-228			U	4.00 +/-13.8	pCi/L					01/31/04 10:51
Americium-241			U	5.33 +/-10.0	pCi/L					
Antimony-124			U	1.48 +/-2.77	pCi/L					
Antimony-125			U	0.756 +/-6.73	pCi/L					
Barium-133			U	-0.0875 +/-3.64	pCi/L					
Barium-140			U	-4.82 +/-9.54	pCi/L					
Beryllium-7			U	-3.11 +/-22.1	pCi/L					
Bismuth-212			U	7.05 +/-20.3	pCi/L					
Bismuth-214			U	7.91 +/-9.53	pCi/L					
Cerium-139			U	0.306 +/-2.14	pCi/L					
Cerium-141			U	0.926 +/-3.57	pCi/L					
Cerium-144			U	-2.43 +/-14.8	pCi/L					
Cesium-134			U	-0.796 +/-2.95	pCi/L					
Cesium-136			U	-2.13 +/-3.29	pCi/L					
Cesium-137			UUI	0.00 +/-4.74	pCi/L					
Chromium-51			U	-25.3 +/-22.9	pCi/L					
Cobalt-56			U	-1.85 +/-3.11	pCi/L					
Cobalt-57			U	1.97 +/-1.75	pCi/L					
Cobalt-58			U	-0.343 +/-2.50	pCi/L					
Cobalt-60			U	0.683 +/-2.44	pCi/L					
Europium-152			U	-1.73 +/-7.44	pCi/L					
Europium-154			U	-1.06 +/-5.91	pCi/L					
Europium-155			U	-1.53 +/-8.07	pCi/L					
Iridium-192			U	0.870	pCi/L					

QC Summary

Workorder: 106002

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch 306657											
				+/-2.23							
Iron-59			U	-0.993 +/-4.07	pCi/L						
Lead-210			U	272 +/-181	pCi/L						
Lead-212			U	0.594 +/-6.91	pCi/L						
Lead-214			UUJ	0.00 +/-13.4	pCi/L						
Manganese-54			U	-0.339 +/-2.19	pCi/L						
Mercury-203			U	-0.0798 +/-2.40	pCi/L						
Neodymium-147			U	4.10 +/-18.0	pCi/L						
Neptunium-239			U	4.80 +/-13.8	pCi/L						
Niobium-94			U	-0.369 +/-2.36	pCi/L						
Niobium-95			U	2.16 +/-2.46	pCi/L						
Potassium-40			U	44.0 +/-30.6	pCi/L						
Promethium-144			U	0.442 +/-2.51	pCi/L						
Promethium-146			U	-1.25 +/-3.41	pCi/L						
Radium-228			U	4.00 +/-13.8	pCi/L						
Ruthenium-106			U	-0.132 +/-22.0	pCi/L						
Silver-110m			U	-11.9 +/-3.84	pCi/L						
Sodium-22			U	-0.368 +/-2.10	pCi/L						
Thallium-208			U	0.937 +/-5.68	pCi/L						
Thorium-230			U	7.91 +/-9.53	pCi/L						
Thorium-234			U	94.8 +/-92.3	pCi/L						
Tin-113			U	-0.30 +/-3.26	pCi/L						
Uranium-235			U	12.7 +/-16.0	pCi/L						
Uranium-238			U	94.8 +/-92.3	pCi/L						

QC Summary

Workorder: 106002

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec												
Batch 306657												
Yttrium-88				U	-0.0968 +/-2.58	pCi/L						
Zinc-65				U	-0.71 +/-5.24	pCi/L						
Zirconium-95				U	-0.953 +/-3.46	pCi/L						
QC1200562002 106002004 MS												
Actinium-228		U	2.72 +/-7.76	U	98.0 +/-273	pCi/L					01/31/04	18:10
Americium-241		U	0.0544 +/-4.20		9020 +/-656	pCi/L						
Antimony-124		U	0.962 +/-2.37	U	-7.82 +/-37.0	pCi/L						
Antimony-125		U	0.208 +/-5.43	U	-25.4 +/-96.3	pCi/L						
Barium-133		U	-0.0309 +/-2.63	U	18.9 +/-41.9	pCi/L						
Barium-140		U	5.74 +/-8.80	U	-35.7 +/-176	pCi/L						
Beryllium-7		U	-1.41 +/-15.7	U	48.5 +/-317	pCi/L						
Bismuth-212		U	7.50 +/-15.9	U	54.8 +/-313	pCi/L						
Bismuth-214			8.79 +/-6.65	U	8.82 +/-132	pCi/L						
Cerium-139		U	-0.0521 +/-1.70		899 +/-77.7	pCi/L						
Cerium-141		U	-0.449 +/-3.18	U	50.2 +/-60.8	pCi/L						
Cerium-144		U	1.81 +/-11.9	U	37.9 +/-168	pCi/L						
Cesium-134		U	-2.08 +/-2.30	U	-8.44 +/-45.8	pCi/L						
Cesium-136		U	0.125 +/-3.59	U	-68.7 +/-87.5	pCi/L						
Cesium-137	3690	U	-1.81 +/-2.12		3750 +/-371	pCi/L		102	(75%-125%)			
Chromium-51		U	-9.13 +/-16.9	U	-22.8 +/-260	pCi/L						
Cobalt-56		U	0.834 +/-2.16	U	7.25 +/-43.9	pCi/L						
Cobalt-57		U	0.643 +/-1.51		1390 +/-129	pCi/L						
Cobalt-58		U	-0.286 +/-1.98	U	-13.7 +/-44.5	pCi/L						
Cobalt-60		U	1.67 +/-2.16		5370 +/-342	pCi/L						
Europium-152		U	3.29	U	7.66	pCi/L						

QC Summary

Workorder: 106002

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch 306657											
		+/-6.20		+/-86.9							
Europium-154	U	0.535	U	-50.6	pCi/L						
		+/-6.25		+/-106							
Europium-155	U	1.04	U	-55.8	pCi/L						
		+/-5.95		+/-79.3							
Iridium-192	U	-0.555	U	7.16	pCi/L						
		+/-1.97		+/-28.2							
Iron-59	U	0.188	U	-40	pCi/L						
		+/-4.68		+/-121							
Lead-210		68.5		2390	pCi/L						
		+/-84.9		+/-651							
Lead-212	U	4.25		125	pCi/L						
		+/-5.10		+/-50.1							
Lead-214	UUI	0.00	U	79.4	pCi/L						
		+/-7.55		+/-113							
Manganese-54	U	-0.463	U	14.1	pCi/L						
		+/-2.09		+/-43.5							
Mercury-203	U	0.765		158	pCi/L						
		+/-2.03		+/-46.6							
Neodymium-147	U	-3.23	U	-21.6	pCi/L						
		+/-16.7		+/-343							
Neptunium-239	U	-1.08	U	-50.8	pCi/L						
		+/-11.3		+/-152							
Niobium-94	U	-0.396	U	-8.21	pCi/L						
		+/-1.94		+/-35.8							
Niobium-95	U	0.384	U	36.5	pCi/L						
		+/-2.16		+/-45.4							
Potassium-40	U	56.1	U	254	pCi/L						
		+/-31.8		+/-376							
Promethium-144	U	-0.37	U	19.4	pCi/L						
		+/-1.98		+/-38.3							
Promethium-146	U	-0.0173	U	6.54	pCi/L						
		+/-2.57		+/-47.8							
Radium-228	U	2.72	U	98.0	pCi/L			(75%-125%)			
		+/-7.76		+/-273							
Ruthenium-106	U	5.84	U	38.5	pCi/L						
		+/-19.3		+/-338							
Silver-110m	U	0.669	U	12.9	pCi/L						
		+/-1.83		+/-44.4							
Sodium-22	U	0.191	U	-17.9	pCi/L						
		+/-2.23		+/-37.8							
Thallium-208	U	0.463	U	45.6	pCi/L						
		+/-4.04		+/-42.4							
Thorium-230		8.79	U	8.82	pCi/L						
		+/-6.65		+/-132							
Thorium-234	U	36.4		4690	pCi/L						
		+/-72.2		+/-981							

QC Summary

Workorder: 106002

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec											
Batch 306657											
Tin-113		U	0.169 +/-2.50		1220 +/-120	pCi/L					
Uranium-235		U	13.3 +/-13.5	U	204 +/-248	pCi/L					
Uranium-238		U	36.4 +/-72.2		4690 +/-981	pCi/L					
Yttrium-88		U	-1.05 +/-2.50		1830 +/-161	pCi/L					
Zinc-65		U	-4.85 +/-4.82	U	-64.5 +/-106	pCi/L					
Zirconium-95		U	0.162 +/-3.77	U	45.7 +/-73.4	pCi/L					
Rad Gas Flow											
Batch 307937											
QC1200565031 106071001 DUP											
Alpha		U	23.3 +/-42.4		85.5 +/-35.5	pCi/L	3		(0%-20%)	ATH1	02/06/04 19:59
Beta		U	-5.46 +/-21.8	U	14.5 +/-19.0	pCi/L	N/A		(0%-20%)		
QC1200565034 LCS											
Alpha	69.8				78.2 +/-8.28	pCi/L		112	(75%-125%)		02/06/04 12:38
Beta	222				235 +/-9.94	pCi/L		106	(75%-125%)		
QC1200565030 MB											
Alpha				U	-0.21 +/-0.379	pCi/L					02/06/04 19:59
Beta				U	-1.82 +/-0.550	pCi/L					
QC1200565032 106071001 MS											
Alpha	2620	U	23.3 +/-42.4		1650 +/-326	pCi/L		62*	(75%-125%)		02/06/04 12:38
Beta	8340	U	-5.46 +/-21.8		9850 +/-442	pCi/L		118	(75%-125%)		
QC1200565033 106071001 MSD											
Alpha	2620	U	23.3 +/-42.4		1630 +/-326	pCi/L		61*	(75%-125%)		
Beta	8340	U	-5.46 +/-21.8		10000 +/-444	pCi/L		121	(75%-125%)		
Rad Liquid Scintillation											
Batch 306817											
QC1200562354 106002004 DUP											
Tritium		U	-30.7 +/-217	U	91.4 +/-226	pCi/L	N/A		(0%-20%)	CTO1	02/03/04 17:28
QC1200562356 LCS											
Tritium	3300				3150 +/-414	pCi/L		95	(75%-125%)		02/03/04 18:30
QC1200562353 MB											

GENERAL ENGINEERING LABORATORIES, LLC
2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Workorder: 106002

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Liquid Scintillation											
Batch 306817											
Tritium				U	-60.7 +/-212	pCi/L					
QC1200562355 106002004 MS											
Tritium	3300	U	-30.7 +/-217		3000 +/-404	pCi/L		91	(75%-125%)		02/03/04 17:59

Notes:
The Qualifiers in this report are defined as follows:

- < Result is less than amount reported.
- > Result is greater than amount reported.
- B Target analyte was detected in the sample as well as the associated blank.
- BD Flag for results below the MDC or a flag for low tracer recovery.
- E Concentration of the target analyte exceeds the instrument calibration range.
- H Analytical holding time exceeded.
- J Indicates an estimated value. The result was greater than the detection limit, but less than the reporting limit.
- P The response between the confirmation column and the primary column is >40%D.
- U Indicates the target analyte was analyzed for but not detected above the detection limit.
- UI Uncertain identification for gamma spectroscopy.
- X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
- Y QC Samples were not spiked with this compound.
- h Sample preparation or preservation holding time exceeded.

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptence criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Hall Environmental Analysis Laboratory

Date: *27-Feb-04*

CLIENT: Kleinfelder
Lab Order: 0401185
Project: LANL WELLS CdV-16-2i
Lab ID: 0401185-03

Client Sample ID: Trip Blank
Collection Date:
Matrix: TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	ND	1.0		µg/L	1	1/28/2004
Toluene	ND	1.0		µg/L	1	1/28/2004
Ethylbenzene	ND	1.0		µg/L	1	1/28/2004
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/28/2004
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/28/2004
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/28/2004
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/28/2004
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/28/2004
Naphthalene	ND	2.0		µg/L	1	1/28/2004
1-Methylnaphthalene	ND	4.0		µg/L	1	1/28/2004
2-Methylnaphthalene	ND	4.0		µg/L	1	1/28/2004
Acetone	ND	10		µg/L	1	1/28/2004
Bromobenzene	ND	1.0		µg/L	1	1/28/2004
Bromochloromethane	ND	1.0		µg/L	1	1/28/2004
Bromodichloromethane	ND	1.0		µg/L	1	1/28/2004
Bromoform	ND	1.0		µg/L	1	1/28/2004
Bromomethane	ND	2.0		µg/L	1	1/28/2004
2-Butanone	ND	10		µg/L	1	1/28/2004
Carbon disulfide	ND	10		µg/L	1	1/28/2004
Carbon Tetrachloride	ND	1.0		µg/L	1	1/28/2004
Chlorobenzene	ND	1.0		µg/L	1	1/28/2004
Chloroethane	ND	2.0		µg/L	1	1/28/2004
Chloroform	ND	1.0		µg/L	1	1/28/2004
Chloromethane	ND	1.0		µg/L	1	1/28/2004
2-Chlorotoluene	ND	1.0		µg/L	1	1/28/2004
4-Chlorotoluene	ND	1.0		µg/L	1	1/28/2004
cis-1,2-DCE	ND	1.0		µg/L	1	1/28/2004
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/28/2004
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/28/2004
Dibromochloromethane	ND	1.0		µg/L	1	1/28/2004
Dibromomethane	ND	2.0		µg/L	1	1/28/2004
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/28/2004
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/28/2004
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/28/2004
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/28/2004
1,1-Dichloroethane	ND	1.0		µg/L	1	1/28/2004
1,1-Dichloroethene	ND	1.0		µg/L	1	1/28/2004
1,2-Dichloropropane	ND	1.0		µg/L	1	1/28/2004
1,3-Dichloropropane	ND	1.0		µg/L	1	1/28/2004
2,2-Dichloropropane	ND	1.0		µg/L	1	1/28/2004
1,1-Dichloropropene	ND	1.0		µg/L	1	1/28/2004

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *27-Feb-04*

CLIENT: Kleinfelder
Lab Order: 0401185
Project: LANL WELLS CdV-16-2i
Lab ID: 0401185-03

Client Sample ID: Trip Blank
Collection Date:
Matrix: TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Hexachlorobutadiene	ND	1.0		µg/L	1	1/28/2004
2-Hexanone	ND	10		µg/L	1	1/28/2004
Isopropylbenzene	ND	1.0		µg/L	1	1/28/2004
4-Isopropyltoluene	ND	1.0		µg/L	1	1/28/2004
4-Methyl-2-pentanone	ND	10		µg/L	1	1/28/2004
Methylene Chloride	ND	3.0		µg/L	1	1/28/2004
n-Butylbenzene	ND	1.0		µg/L	1	1/28/2004
n-Propylbenzene	ND	1.0		µg/L	1	1/28/2004
sec-Butylbenzene	ND	1.0		µg/L	1	1/28/2004
Styrene	ND	1.0		µg/L	1	1/28/2004
tert-Butylbenzene	ND	1.0		µg/L	1	1/28/2004
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/28/2004
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	1/28/2004
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	1/28/2004
trans-1,2-DCE	ND	1.0		µg/L	1	1/28/2004
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/28/2004
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/28/2004
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/28/2004
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/28/2004
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/28/2004
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/28/2004
Trichlorofluoromethane	ND	1.0		µg/L	1	1/28/2004
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/28/2004
Vinyl chloride	ND	2.0		µg/L	1	1/28/2004
Xylenes, Total	ND	1.0		µg/L	1	1/28/2004
Surr: 1,2-Dichloroethane-d4	100	70.6-124		%REC	1	1/28/2004
Surr: 4-Bromofluorobenzene	104	76.4-130		%REC	1	1/28/2004
Surr: Dibromofluoromethane	115	67.2-131		%REC	1	1/28/2004
Surr: Toluene-d8	95.0	82.1-123		%REC	1	1/28/2004

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

CLIENT: Kleinfelder
Work Order: 0401185
Project: LANL WELLS CdV-16-2i

QC SUMMARY REPORT

Method Blank

Sample ID MB-5097 | Batch ID: 5097 | Test Code: SW8270A | Units: µg/L | Analysis Date 2/11/2004 | Prep Date 1/28/2004

Client ID: | Run ID: ELMO_040210A | SeqNo: 250706

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	ND	10									
Acenaphthylene	ND	10									
Aniline	ND	10									
Anthracene	ND	10									
Azobenzene	ND	10									
Benz(a)anthracene	ND	10									
Benzidine	ND	20									
Benzo(a)pyrene	ND	10									
Benzo(b)fluoranthene	ND	10									
Benzo(g,h,i)perylene	ND	10									
Benzo(k)fluoranthene	ND	10									
Benzoic acid	ND	50									
Benzyl alcohol	ND	20									
Bis(2-chloroethoxy)methane	ND	10									
Bis(2-chloroethyl)ether	ND	10									
Bis(2-chloroisopropyl)ether	ND	10									
Bis(2-ethylhexyl)phthalate	ND	10									
4-Bromophenyl phenyl ether	ND	10									
Butyl benzyl phthalate	ND	10									
Carbazole	ND	10									
4-Chloro-3-methylphenol	ND	20									
4-Chloroaniline	ND	20									
2-Chloronaphthalene	ND	10									
2-Chlorophenol	ND	10									
4-Chlorophenyl phenyl ether	ND	10									
Chrysene	ND	10									
Di-n-butyl phthalate	ND	10									
Di-n-octyl phthalate	ND	10									

Qualifiers: ND - Not Detected at the Reporting Limit | S - Spike Recovery outside accepted recovery limits | B - Analyte detected in the associated Method Blank

J - Analyte detected below quantitation limits | R - RPD outside accepted recovery limits

QC SUMMARY REPORT

Method Blank

Dibenz(a,h)anthracene	ND	10
Dibenzofuran	ND	10
1,2-Dichlorobenzene	ND	10
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10
3,3'-Dichlorobenzidine	ND	10
Diethyl phthalate	ND	10
Dimethyl phthalate	ND	10
2,4-Dichlorophenol	ND	10
2,4-Dimethylphenol	ND	10
4,6-Dinitro-2-methylphenol	ND	50
2,4-Dinitrophenol	ND	50
2,4-Dinitrotoluene	ND	10
2,6-Dinitrotoluene	ND	10
Fluoranthene	ND	10
Fluorene	ND	10
Hexachlorobenzene	ND	10
Hexachlorobutadiene	ND	10
Hexachlorocyclopentadiene	ND	10
Hexachloroethane	ND	10
Indeno(1,2,3-cd)pyrene	ND	10
Isophorone	ND	10
2-Methylnaphthalene	ND	10
2-Methylphenol	ND	10
3+4-Methylphenol	ND	10
N-Nitrosodi-n-propylamine	ND	10
N-Nitrosodiphenylamine	ND	10
Naphthalene	ND	10
2-Nitroaniline	ND	50
3-Nitroaniline	ND	50
4-Nitroaniline	ND	20
Nitrobenzene	ND	10
2-Nitrophenol	ND	10

QC SUMMARY REPORT

Method Blank

4-Nitrophenol	ND	50						
Pentachlorophenol	ND	50						
Phenanthrene	ND	10						
Phenol	ND	10						
Pyrene	ND	10						
Pyridine	ND	10						
1,2,4-Trichlorobenzene	ND	10						
2,4,5-Trichlorophenol	ND	10						
2,4,6-Trichlorophenol	ND	10						
Surr: 2,4,6-Tribromophenol	163.7	0	200	0	81.9	16.6	115	0
Surr: 2-Fluorobiphenyl	70.18	0	100	0	70.2	37	95.7	0
Surr: 2-Fluorophenol	144.6	0	200	0	72.3	9.54	89.8	0
Surr: 4-Terphenyl-d14	80.35	0	100	0	80.4	70	130	0
Surr: Nitrobenzene-d5	77.35	0	100	0	77.3	38	106	0
Surr: Phenol-d6	102.2	0	200	0	51.1	10.7	63.4	0

Sample ID **MB-5168** Batch ID: **5168** Test Code: **SW7470** Units: **mg/L** Analysis Date **2/6/2004** Prep Date **2/6/2004**
Client ID: Run ID: **MI-LA254_040206B** SeqNo: **249001**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.020									

Sample ID **MB-5161** Batch ID: **5161** Test Code: **SW1311/6010** Units: **mg/L** Analysis Date **2/6/2004 1:25:44 PM** Prep Date **2/6/2004**
Client ID: Run ID: **ICP_040206A** SeqNo: **249022**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	5.0									
Barium	ND	100									
Cadmium	ND	1.0									
Chromium	0.001216	5.0									J
Lead	ND	0.050									
Selenium	0.01149	1.0									J
Silver	ND	5.0									

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

CLIENT: Kleinfelder
Work Order: 0401185
Project: LANL WELLS CdV-16-2i

QC SUMMARY REPORT

Method Blank

Sample ID 5ml rb | Batch ID: R10782 | Test Code: SW8260B | Units: µg/L | Analysis Date 1/28/2004 | Prep Date

Client ID: | Run ID: THOR_040128A | SeqNo: 246479

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	1.0									
Toluene	ND	1.0									
Ethylbenzene	0.74	1.0									J
Methyl tert-butyl ether (MTBE)	ND	1.0									
1,2,4-Trimethylbenzene	ND	1.0									
1,3,5-Trimethylbenzene	ND	1.0									
1,2-Dichloroethane (EDC)	ND	1.0									
1,2-Dibromoethane (EDB)	ND	1.0									
Naphthalene	ND	2.0									
1-Methylnaphthalene	ND	4.0									
2-Methylnaphthalene	ND	4.0									
Acetone	ND	10									
Bromobenzene	ND	1.0									
Bromochloromethane	ND	1.0									
Bromodichloromethane	ND	1.0									
Bromoform	ND	1.0									
Bromomethane	ND	2.0									
2-Butanone	ND	10									
Carbon disulfide	ND	10									
Carbon Tetrachloride	ND	1.0									
Chlorobenzene	ND	1.0									
Chloroethane	ND	2.0									
Chloroform	ND	1.0									
Chloromethane	ND	1.0									
2-Chlorotoluene	ND	1.0									
4-Chlorotoluene	ND	1.0									
cis-1,2-DCE	ND	1.0									
cis-1,3-Dichloropropene	ND	1.0									

Qualifiers: ND - Not Detected at the Reporting Limit | S - Spike Recovery outside accepted recovery limits | B - Analyte detected in the associated Method Blank

J - Analyte detected below quantitation limits | R - RPD outside accepted recovery limits

CLIENT: Kleinfelder
Work Order: 0401185
Project: LANL WELLS CdV-16-2i

QC SUMMARY REPORT

Method Blank

1,2-Dibromo-3-chloropropane	ND	2.0
Dibromochloromethane	ND	1.0
Dibromomethane	ND	2.0
1,2-Dichlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
Dichlorodifluoromethane	ND	1.0
1,1-Dichloroethane	ND	1.0
1,1-Dichloroethene	ND	1.0
1,2-Dichloropropane	ND	1.0
1,3-Dichloropropane	ND	1.0
2,2-Dichloropropane	ND	1.0
1,1-Dichloropropene	ND	1.0
Hexachlorobutadiene	ND	1.0
2-Hexanone	ND	10
Isopropylbenzene	ND	1.0
4-Isopropyltoluene	ND	1.0
4-Methyl-2-pentanone	ND	10
Methylene Chloride	ND	3.0
n-Butylbenzene	ND	1.0
n-Propylbenzene	ND	1.0
sec-Butylbenzene	ND	1.0
Styrene	ND	1.0
tert-Butylbenzene	ND	1.0
1,1,1,2-Tetrachloroethane	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
Tetrachloroethene (PCE)	ND	1.0
trans-1,2-DCE	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
1,2,3-Trichlorobenzene	ND	1.0
1,2,4-Trichlorobenzene	ND	1.0
1,1,1-Trichloroethane	ND	1.0
1,1,2-Trichloroethane	ND	1.0

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

CLIENT: Kleinfelder
Work Order: 0401185
Project: LANL WELLS CdV-16-2i

QC SUMMARY REPORT

Method Blank

Trichloroethene (TCE)	ND	1.0						
Trichlorofluoromethane	ND	1.0						
1,2,3-Trichloropropane	ND	2.0						
Vinyl chloride	ND	2.0						
Xylenes, Total	ND	1.0						
Surr: 1,2-Dichloroethane-d4	9.234	0	10	0	92.3	68.4	127	0
Surr: 4-Bromofluorobenzene	11.46	0	10	0	115	70.4	126	0
Surr: Dibromofluoromethane	10.49	0	10	0	105	70.2	126	0
Surr: Toluene-d8	10.06	0	10	0	101	73.5	129	0

Qualifiers: ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: *27-Feb-04*

CLIENT: Kleinfelder
Work Order: 0401185
Project: LANL WELLS CdV-16-2i

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCSB | Batch ID: R10779 | Test Code: E300 | Units: mg/L | Analysis Date: 1/27/2004 1:46:38 PM | Prep Date:
Client ID: | Run ID: LC_040127A | SeqNo: 246363

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.4726	0.10	0.5	0	94.5	90	110	0			
Chloride	4.849	0.10	5	0	97.0	90	110	0			
Nitrogen, Nitrite (As N)	0.9361	0.10	1	0	93.6	90	110	0			
Nitrogen, Nitrate (As N)	2.532	0.10	2.5	0	101	90	110	0			
Phosphorus, Orthophosphate (As P)	4.993	0.50	5	0	99.9	90	110	0			
Sulfate	9.766	0.50	10	0	97.7	90	110	0			

Sample ID: LCS-5096 | Batch ID: 5096 | Test Code: SW8080A | Units: µg/L | Analysis Date: 2/7/2004 7:20:07 AM | Prep Date: 1/28/2004
Client ID: | Run ID: ECD(17A)_040206A | SeqNo: 250885

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	4.168	1.0	5	0	83.4	27.4	132	0			
Aroclor 1260	4.658	1.0	5	0	93.2	52.1	148	0			

Sample ID: LCSD-5096 | Batch ID: 5096 | Test Code: SW8080A | Units: µg/L | Analysis Date: 2/7/2004 8:06:34 AM | Prep Date: 1/28/2004
Client ID: | Run ID: ECD(17A)_040206A | SeqNo: 250886

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	4.094	1.0	5	0	81.9	27.4	132	4.168	1.79	45.7	
Aroclor 1260	4.764	1.0	5	0	95.3	52.1	148	4.658	2.25	30	

Qualifiers: ND - Not Detected at the Reporting Limit | S - Spike Recovery outside accepted recovery limits | B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits | R - RPD outside accepted recovery limits

CLIENT: Kleinfelder
Work Order: 0401185
Project: LANL WELLS CdV-16-2i

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: 100ng lcs | Batch ID: R10782 | Test Code: SW8260B | Units: µg/L | Analysis Date: 1/28/2004 | Prep Date:
Client ID: | Run ID: THOR_040128A | SeqNo: 246480

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.07	1.0	20	0	100	75.3	128	0			
Toluene	20.17	1.0	20	0	101	87.7	122	0			
Chlorobenzene	22.94	1.0	20	0	115	85.6	136	0			
1,1-Dichloroethene	17.43	1.0	20	0	87.1	70.7	122	0			
Trichloroethene (TCE)	17.69	1.0	20	0	88.5	76.9	130	0			

Sample ID: LCS-5097 | Batch ID: 5097 | Test Code: SW8270A | Units: µg/L | Analysis Date: 2/11/2004 | Prep Date: 1/28/2004
Client ID: | Run ID: ELMO_040210A | SeqNo: 250707

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	78.4	10	100	0	78.4	43.1	89.9	0			
4-Chloro-3-methylphenol	158.4	20	200	0	79.2	44.1	93.2	0			
2-Chlorophenol	167	10	200	0	83.5	20.7	98	0			
1,4-Dichlorobenzene	68.44	10	100	0	68.4	24.1	90.7	0			
2,4-Dinitrotoluene	80.9	10	100	0	80.9	43.2	101	0			
N-Nitrosodi-n-propylamine	82.12	10	100	0	82.1	44.6	99.9	0			
4-Nitrophenol	68.76	50	200	0	34.4	11	57.5	0			
Pentachlorophenol	169.3	50	200	0	84.6	8.65	105	0			
Phenol	87.32	10	200	0	43.7	21.1	55.3	0			
Pyrene	74.82	10	100	0	74.8	35.7	111	0			
1,2,4-Trichlorobenzene	67.04	10	100	0	67.0	30.2	89.6	0			

Qualifiers: ND - Not Detected at the Reporting Limit | S - Spike Recovery outside accepted recovery limits | B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits | R - RPD outside accepted recovery limits

CLIENT: Kleinfelder
Work Order: 0401185
Project: LANL WELLS CdV-16-2i

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID: **LCSD-5097** Batch ID: **5097** Test Code: **SW8270A** Units: **µg/L** Analysis Date: **2/11/2004** Prep Date: **1/28/2004**

Client ID: Run ID: **ELMO_040210A** SeqNo: **250708**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	77.6	10	100	0	77.6	43.1	89.9	78.4	1.03	30.5	
4-Chloro-3-methylphenol	163.9	20	200	0	81.9	44.1	93.2	158.4	3.39	28.6	
2-Chlorophenol	171.2	10	200	0	85.6	20.7	98	167	2.48	107	
1,4-Dichlorobenzene	80.56	10	100	0	80.6	24.1	90.7	68.44	16.3	62.1	
2,4-Dinitrotoluene	80.26	10	100	0	80.3	43.2	101	80.9	0.794	14.7	
N-Nitrosodi-n-propylamine	80.8	10	100	0	80.8	44.6	99.9	82.12	1.62	30.3	
4-Nitrophenol	93.68	50	200	0	46.8	11	57.5	68.76	30.7	36.3	
Pentachlorophenol	171.9	50	200	0	85.9	8.65	105	169.3	1.52	49	
Phenol	95.56	10	200	0	47.8	21.1	55.3	87.32	9.01	52.4	
Pyrene	76.3	10	100	0	76.3	35.7	111	74.82	1.96	16.3	
1,2,4-Trichlorobenzene	76.32	10	100	0	76.3	30.2	89.6	67.04	12.9	36.4	

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits