

CANL

Off Site



2002

Risk Reduction & Environmental Stewardship Division  
Water Quality & Hydrology Group (RRES-WQH)  
PO Box 1663, MS K497  
Los Alamos, New Mexico 87545  
(505) 667-7969/Fax: (505) 665-9344

Date: October 31, 2002  
Refer to: RRES-WQH: 02-403

Mr. John Young  
Hazardous Materials Bureau  
New Mexico Environment Department  
P.O. Box 26110  
Santa Fe, New Mexico 87502

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

**SUBJECT: NOTICE OF INTENT TO DISCHARGE, HYDROGEOLOGIC WORKPLAN WELL R-16**

Dear Mr. Young and Mr. Frischkorn:

On October 28, 2002, your agency concurred with Los Alamos National Laboratory's request to land apply approximately 75,000 gallons of ground water produced during the development of Hydrogeologic Workplan Well R-16 (personal communication, Mr. Bob Beers, Los Alamos National Laboratory, and Mr. Curt Frischkorn, New Mexico Environment Department). The Laboratory's proposal to discharge development water from Workplan Well R-16 was made in accordance with the requirements of the Hydrogeologic Workplan Notice of Intent (NOI) submitted to your agency on August 2, 2001, and subsequently revised on July 16, 2002. Under the Hydrogeologic Workplan NOI, when development water produced from a Hydrogeologic Workplan Well exceeds a New Mexico Water Quality Control Commission (NM WQCC) Regulation 3103 ground water standard or a RCRA regulatory limit the Laboratory will coordinate disposal with the NMED. Since the development water produced from Workplan Well R-16 exceed the NM WQCC Regulation 3103 ground water standards for manganese (Mn) and cobalt (Co), your agency's concurrence was requested.

The Laboratory has containerized approximately 75,000 gallons of ground water produced during the development of Workplan Well R-16. Workplan Well R-16 is located in White Rock in the vicinity of Los Alamos County's White Rock WWTP. Depth to ground water at the land application site is approximately 622 feet. In accordance with our proposal, all development water from Workplan Well R-16 will be land applied to the grounds of Los Alamos County's WWTP. Los Alamos County has granted the Laboratory permission for this activity. As required by the Workplan NOI, no ponding, pooling, or run-off of the discharged water will be permitted. Information regarding the quality of the development water is provided below.



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**Water Quality Data**

Attachment 1.0 contains analytical reports (metals, general chemistry, perchlorate, nitrate, tritium, and high explosives) from the sampling of containerized development water from Workplan Well R-16. All samples were filtered prior to analysis. Sample results were compliant with all NM WQCC Regulation 3103 ground water standards with the exception of the following contaminants:

Contaminant	Screening Result (mg/L)	NM WQCC ground water standard (mg/L)
Mn	0.95	0.2
Co	0.054	0.05

No perchlorate, tritium, nitrate/nitrite, or high explosives were detected in the Workplan Well R-16 development water at concentrations greater than the analytical laboratory's Method Detection Limits (MDLs).

Please call me at (505) 667-6969 or Roy Bohn of the Laboratory's Environmental Restoration Project (RRES-R) at (505) 665-5138 if additional information is required.

Sincerely,



Bob Beers  
Water Quality & Hydrology Group

BB/tml

Enclosures: a/s

- Cy: M. Leavitt, NMED/GWQB, Santa Fe, NM, w/enc.  
J. Davis, NMED/SWQB, Santa Fe, NM, w/enc.  
J. Bearzi, NMED/HWB, Santa Fe, NM, w/enc.  
J. Vozella, DOE/OLASO, w/enc., MS A316  
G. Turner, DOE/OLASO, w/enc., MS A316  
M. Johansen, DOE/OLASO, w/enc., MS A316  
J. Holt, ADO, w/enc., MS A104  
B. Ramsey, RRES-DO, w/o enc., MS J591  
K. Hargis, RRES-DO, w/o enc., MS J591  
D. Stavert, RRES-EP, w/enc., MS J978  
S. Rae, RRES-WQH, w/o enc., MS K497  
D. Rogers, RRES-WQH, w/o enc., MS K497  
M. Saladen, RRES-WQH, w/o enc., MS K497  
R. Bohn, RRES-R, w/o enc., MS M992  
D. McInroy, RRES-R, w/o enc., MS M992  
RRES-WQH File, w/enc., MS K497  
IM-5, w/enc., MS A150

**HYDROGEOLOGIC WORKPLAN**  
**WELL R-16**

**CONTAINERIZED DEVELOPMENT WATER**

**ANALYTICAL REPORTS**

- GENERAL CHEMISTRY
  - METALS
  - PERCHLORATE
- NITRATE/NITRITE
  - HE
  - TRITIUM

## ER WATER SAMPLES

SAMPLE ID	DESCRIPTION	DATE MM/DD/YY	ER Req#	Ag ppm	Al Std.D. ppm +/-	Alk(Lab) ppm CaCO3	As Std.D. ppm +/-	B Std.D. ppm +/-
GW16-02-49617	R-16	10/15/02	1325S	<0.001	0.017 0.001	143	0.0010 0.0001	0.020 0.001

SAMPLE ID	Ba Std.D. ppm +/-	Be ppm	Br ppm	C TIC ppm	C TOC ppm	Ca Std.D. ppm +/-	Cd ppm	Cl ppm	Cl03 ppm	Cl04 ppm	Co ppm
GW16-02-49617	0.14 0.01	<0.001	0.07	31.4	7.96	89.8 1.7	<0.001	33.2	<0.02	<0.004	0.054

SAMPLE ID	Std.D.	CO3	Cr	Std.D.	Cs	Cu	Std.D.	F	Fe	Std.D.	Hardness	HCO3	Hg	Std.D.
	+/-	ppm	ppm	+/-	ppm	ppm	+/-	ppm	ppm	+/-	CaCO3 ppm	ppm	ppm	+/-
GW16-02-49617	0.002	0	0.0031	0.0002	<0.001	0.0014	0.0001	0.73	0.60	0.01	235	175	0.0017	0.0002

SAMPLE ID	K Std.D.		Li Std.D.		Mg Std.D.		Mn Std.D.		Mo Std.D.		Na Std.D.		Ni Std.D.		NO2
	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm
GW16-02-49617	4.80	0.05	0.031	0.001	2.73	0.04	0.95	0.01	0.0017	0.0001	31.2	0.4	0.012	0.001	<0.02

SAMPLE ID	NO3 ppm	N total ppm	Oxalate ppm	Pb ppm	pH Lab	PO4 ppm	Rb ppm	Std.D. +/-	Sb ppm	Se ppm	Si ppm	Std.D. +/-	SiO2 ppm calc
GW16-02-49617	<0.02	<0.01	1.67	<0.001	7.27	0.69	0.006	0.001	<0.001	<0.001	23.4	0.3	50.1

Hydrogeologic Workplan Well R-16  
 Development Water Screening Results

SAMPLE ID	SO4	Sn	Sr Std.D.		Th	Ti	Tl	U Std.D.		V std.D.		Zn Std.D.		HMX
	ppm	ppm	ppm	+/-	ppm	ppm	ppm	ppm	+/-	ppm	+/-	ppm	+/-	ppm
GW16-02-49617	6.51	<0.001	0.71	0.01	<0.001	<0.001	<0.001	0.0045	0.0001	0.007	0.001	0.012		<0.01

SAMPLE ID	RDX ppm	1,3,5-TNB ppm	1,3-DNB ppm	TNT ppm	NB 2a-4,6-DNT ppm	2,4-DNT ppm	Acetate ppm	Formate ppm
GW16-02-49617	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	++	++

R-16  
DEVELOPMENT H<sub>2</sub>O

## Certificate of Analysis

Company : Los Alamos National Lab  
 Address : PO Box 1663  
 TA-3, Bldg. 271, Drop Pt. 01U  
 Los Alamos, New Mexico 87545  
 Contact: Keith Greene  
 Project: Groundwater Project

Report Date: October 23, 2002

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Client Sample ID:	GW16-02-49617 01/03	Project:	LANL00401
Sample ID:	68998001	Client ID:	LANL004
Matrix:	Ground Water		
Collect Date:	15-OCT-02		
Receive Date:	17-OCT-02		
Collector:	Client		

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	AnalystDate	Time	Batch Mtd.
<b>Rad Gamma Spec</b>										
<i>GROSSG</i>										
Gross Gamma		362	821	226	750	pCi/L	CRB	10/18/02	1338	209330 1
<b>Rad Gas Flow</b>										
<i>GROSSAB</i>										
Alpha		4.74	2.51	1.03	5.00	pCi/L	HOB1	10/19/02	1410	209218 2
Beta		7.53	3.49	1.09	5.00	pCi/L				
<b>Rad Liquid Scint</b>										
<i>LSC, Tritium Dist, Liquid</i>										
Tritium		25.9	145	44.8	250	pCi/L	JS1	10/18/02	1630	209215 3

**The following Analytical Methods were performed**

Method	Description
1	EPA 901.1
2	EPA 900.0
3	EPA 906.0

**Notes:**

TPU is calculated at the 67% confidence level (1-sigma).  
 The Qualifiers in this report are defined as follows :

- < Actual result is less than amount reported
- > Actual result is greater than amount reported
- B Analyte found 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 exceeds instrument calibration range
- H 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 compound was analyzed for but not detected above the detection limit
- UI Uncertain identification for gamma spectroscopy.
- X Lab-specific qualifier - must be fully described in case narrative and data summary package
- Y QC Samples were not spiked with this compound.

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

This data report has been prepared and reviewed in accordance with General Engineering Laboratories, Inc.

## Certificate of Analysis

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Contact: Keith Greene  
Project: Groundwater Project

Report Date: October 23, 2002

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Client Sample ID: GW16-02-49617 01/03  
Sample ID: 68998001

Project: LANL00401  
Client ID: LANL004

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
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standard operating procedures. Please direct any questions to your Project Manager, Stacy Griffin.

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Reviewed by