

40-8778

Molycorp, Inc.
Molybdenum Group
300 Caldwell Avenue
Washington, PA 15301
Telephone (724) 222-5605
Facsimile (724) 222-7336



December 2, 1999

Mr. Larry Camper, Chief
Decommissioning Branch
United States Nuclear Regulatory
Commission
One White Flint North
11555 Rockville Pike
Rockville, Maryland 28052

**Subject: Results of Groundwater Sampling at the
Molycorp York, PA, site.**

Dear Mr. Camper:

Molycorp recently completed a round of sampling and analysis for four monitoring wells at its York, PA, site. Although not required by NRC, this sampling was performed as a part of Molycorp's continuing program to ensure that the licensed material on the York site is stable and not migrating to the groundwater. The results of the sample analyses are enclosed for your information.

The results show that there is essentially no migration of radionuclides to the groundwater. Sixteen of the 20 analyses were below detection limits. One sample (# 07-598) contained very low concentrations of Th-232, Th-230, Th-228, and U-238 (about 1 pCi/g each). One sample (# 07-597) contained very low concentrations of U-238 (4 pCi/g). Some or all of the concentrations identified in the four positive samples is attributable to natural background. However, even without background subtraction, all of the results are well below the Environmental Protection Agency National Primary Drinking Water Standards.

If you have any questions, please feel free to contact George Dawes at 724/222-5605, extension 517.

Sincerely,

J.J. Dean

Enclosure
Cc: G.W.Dawes

NL10

PAL APOC 04008778



Antech Ltd.

One Triangle Lane • Export, Pennsylvania 15632 • Phone: (724) 733-1161 • Fax: (724) 327-7793

August 6, 1999

Mr. Andrew Hendricks
Earth Sciences Consultants, Inc
Suite 250
490 Norristown Road
Blue Bell, PA 19422

**Water Characterization
3902-02
Antech Ltd. Project No. 99-3748**

Dear Mr. Hendricks:

Enclosed are analytical results for samples submitted by Earth Sciences Consultants, Inc. Samples were received on July 1, 1999 and logged in for analysis on July 8, 1999.

Appropriate U.S. Environmental Protection Agency methods were used and are indicated accordingly on the data table. Appropriate quality assurance/quality control analyses were performed in accordance with Antech Ltd.'s Statement of Qualifications. If you have any questions, please call me.

Sincerely,

Penelope J. Morris
Project Coordinator

PJM:vt

Enclosures

cc: Mr. Jack Daniels

ANTECH LTD.
CASE NARRATIVE

I. PROJECT LOGIN INFORMATION:

A: PROJECT NUMBERS:

ANTECH LTD.: 99-3748

CLIENT: 3902-02

B: SAMPLE IDENTIFICATIONS:

Antech ID Client ID

9907-0596 V-2

9907-0598 OB-9R

Antech ID Client ID

9907-0597 V-3

9907-0599 K-5

C: SHIPPING/RECEIVING COMMENTS:

Original subcontractor results are included for your review.

II. PREPARATION/ANALYSIS COMMENTS:

III. GENERAL COMMENTS:

Trailing zeroes and decimal places appearing on the data should not be interpreted as precision of the analytical procedure, but rather as a result of reporting format.



BARRINGER LABORATORIES, INC.

15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

29-Jul-99

Emery Grohregin
ANTECH LIMITED
P.O. Box 158
Madison, PA 15663

Attn:
Project:

Received: 6-Jul-99 09:30

PO #: ASR-1753

Job: 992477E

Status: Final

ANALYTICAL REPORT PACKAGE

CASE NARRATIVE.....i

ANALYTICAL RESULTS.....R-1

QUALITY CONTROL REPORT.....Q-1



Emery Grohregin
ANTECH LIMITED
P.O. Box 158
Madison, PA 15663

29-Jul-99
Page: i

Attn:
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CASE NARRATIVE

A total of 4 Water samples were received on 6-Jul-99. As stated in the chain of custody, the samples were run for the following analyses: Th-228, Th-230, Th-232, U-235 and U-238. A table, to cross reference your sample ID to ours, is attached. Our procedures are summarized on the Quality Control Data Sheet.

Quality control standards for organic and inorganic analyses followed the appropriate SW-846 or EPA methodology. Quality control standards for radiochemistry followed our standard operating procedures or contractual requirements.

Signed: *[Signature]* 7/29/99
.....
Radiochemistry
Manager

Signed: *[Signature]*
.....
Project Review 7/29/99



BARRINGER LABORATORIES, INC.

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Emery Grohregin
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29-Jul-99
Page: ii

Attn:
Project:

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Status: Final

Lab-ID	Matrix	Client Sample ID	Sampled
992477-1	Water	07-0596	29-Jun-99
992477-2	Water	07-0597	29-Jun-99
992477-3	Water	07-0598	29-Jun-99
992477-4	Water	07-0599	29-Jun-99



29-Jul-99

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Job: 992477E

Status: Final

ANTECH LIMITED

Analyte: Th-228
Fraction: Total
Method: USAEC
Units: pCi/l

Project:
Date Analyzed: 07/16-07/21
LLD: sample specific

Lab Id	Date Sampled	Matrix	Sample Id	Concentration+ 2σ	LLD
992477-1	29-Jun-99	Water	07-0596	0±0.2	0.3
992477-2	29-Jun-99	Water	07-0597	0±0.2	0.3
992477-3	29-Jun-99	Water	07-0598	1.0±0.40	0.30
992477-4	29-Jun-99	Water	07-0599	0.06±0.3	0.4

Analyte: Th-230
Fraction: Total
Method: USAEC
Units: pCi/l

Project:
Date Analyzed: 07/16-07/21
LLD: sample specific

Lab Id	Date Sampled	Matrix	Sample Id	Concentration+ 2σ	LLD
992477-1	29-Jun-99	Water	07-0596	0±0.2	0.3
992477-2	29-Jun-99	Water	07-0597	0.03±0.2	0.3
992477-3	29-Jun-99	Water	07-0598	1.0±0.40	0.30
992477-4	29-Jun-99	Water	07-0599	0.2±0.3	0.4

Analyte: Th-232
Fraction: Total
Method: USAEC
Units: pCi/l

Project:
Date Analyzed: 07/16-07/21
LLD: sample specific

Lab Id	Date Sampled	Matrix	Sample Id	Concentration+ 2σ	LLD
992477-1	29-Jun-99	Water	07-0596	0±0.2	0.3
992477-2	29-Jun-99	Water	07-0597	0±0.2	0.3
992477-3	29-Jun-99	Water	07-0598	1.2±0.41	0.26
992477-4	29-Jun-99	Water	07-0599	0.1±0.3	0.4

Analyte: U-235
Fraction: Total
Method: 908.0M
Units: pCi/l

Project:
Date Analyzed: 07/19-07/20
LLD: sample specific

Lab Id	Date Sampled	Matrix	Sample Id	Concentration+ 2σ	LLD
992477-1	29-Jun-99	Water	07-0596	0±0.4	0.7
992477-2	29-Jun-99	Water	07-0597	0±0.4	0.5
992477-3	29-Jun-99	Water	07-0598	0±0.4	0.6
992477-4	29-Jun-99	Water	07-0599	0±0.4	0.6



BARRINGER LABORATORIES, INC.

15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1657 FAX (303) 277-1689

29-Jul-99

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Job: 992477E

Status: Final

ANTECH LIMITED

Analyte: U-238
Fraction: Total
Method: 908.0M
Units: pCi/l

Project:
Date Analyzed: 07/19-07/20
LLD: sample specific

Lab Id	Date Sampled	Matrix	Sample Id	Concentration+ 2σ	LLD
992477-1	29-Jun-99	Water	07-0596	0.05±0.6	0.8
992477-2	29-Jun-99	Water	07-0597	4.1±0.97	0.55
992477-3	29-Jun-99	Water	07-0598	1.2±0.63	0.57
992477-4	29-Jun-99	Water	07-0599	0.2±0.5	0.6


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29-Jul-99

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Job: 992477E

Status: Final

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QUALITY CONTROL REPORT

Sample Id	Th-228		Th-230	
	Total pCi/l	+ 2 σ	Total pCi/l	+ 2 σ
Duplicate	0	± 0.2	0.03	± 0.2
Duplicate	0	± 0.2	0.02	± 0.2
RER	0.00		0.02	
Std (found value)	NA		96.2	± 5.64
Std (true value)	NA		100.0	
Std % rec.	NA		96	
Blank	0	± 0.1	0.0	± 0.1
spike % rec.	NA		100	

Sample Id	Th-232		U-235	
	Total pCi/l	+ 2 σ	Total pCi/l	+ 2 σ
Duplicate	0	± 0.2	0	± 2
Duplicate	0	± 0.2	0	± 2.5
RER	0.00		0.00	
Std (found value)	NA		NA	
Std (true value)	NA		NA	
Std % rec.	NA		NA	
Blank	0	± 0.1	0	± 0.3
spike % rec.	NA		NA	

Sample Id	U-238	
	Total pCi/l	+ 2 σ
Duplicate	9.8	± 3.5
Duplicate	3.1	± 3.5
RER	0.91	
Std (found value)	51.2	± 3.14
Std (true value)	49.0	
Std % rec.	104	
Blank	0.2	± 0.3
spike % rec.	95	



Emery Grohregin
ANTECH LIMITED
P.O. Box 158
Madison, PA 15663

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Attn:
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Job: 992477E

Status: Final

Abbreviations:

Parameters:

Th-228	: Thorium-228
Th-230	: Thorium-230
Th-232	: Thorium-232
U-235	: Uranium-235
U-238	: Uranium-238

Units:

pCi/l : picoCuries per liter

Quality codes:

NA : Not Analyzed



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Emery Grohregin
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P.O. Box 158
Madison, PA 15663

29-Jul-99
Page: Q-3

Attn: Received: 6-Jul-99 09:30
Project: PO #: ASR-1753

Job: 992477E Status: Final

QUALITY CONTROL DATA SHEET

Received by: kz Via: Fed Ex

Sample Container Type: 4L pl
Additional Lab Preparation: None

Parameter	Method	Preservative	Init	Analysis Dates
Th-228	USAEC	HNO3	JKD	07/16-07/21
Th-230	USAEC	HNO3	JKD	07/16-07/21
Th-232	USAEC	HNO3	JKD	07/16-07/21
U-235	908.0M	HNO3	JKD	07/19-07/20
U-238	908.0M	HNO3	JKD	07/19-07/20

Barringer Laboratories, Inc. will return or dispose of your samples 30 days from the date your final report is mailed, unless otherwise specified by contract. Barringer Laboratories, Inc. reserves the right to return samples prior to the 30 days if radioactive levels exceed our license.

Chain Of Custody Record

9 93748

BARRINGER LABORATORIES, INC.

15000 W. 6th Ave., Suite #300, Golden, CO 80401

Phone (303) 277-1687, Fax (303) 277-1689

Toll Free (800) 654-0506

FOR BLI USE ONLY

BLI #

Client Antech, Ltd

Contact Penny Morris

Address 2 Triangle Drive

Phone (724) 733-3000

Export, PA 15632

Fax (724) 325-3352

P.O. Number

Project ID# 3902/02

BLI Proposal #

IMPORTANT

The CLIENT listed above will receive RESULTS and BILLING for analyses performed by Barringer Laboratories, Inc. unless otherwise specified on the Chain-of-Custody or on a proposal / contract with Barringer Laboratories, Inc.

PLEASE SPECIFY

Turnaround Time

STANDARD TAT

RUSH TAT*

(*If RUSH, please specify the TAT or date results are required below)

NOTE: RUSH TAT is subject to Mgmt approval and a surcharge

ANALYSES REQUIRED

Indicate Parameters, Methods, Volumes, Preservatives

BLI ID #	Date Collected	Time Collected	Client Sample Identification	Matrix	# of Bottles	Filtered	Unfiltered	Thorium d30	Thorium d32	Thorium d33	Uranium d35	Uranium d38								
	6/29/99	1200	V-2	Aq	4	X		X	X	X	X	X								
	6/29/99	1300	V-3	Aq	4	X		X	X	X	X	X								
	6/29/99	1400	OB-9R	Aq	4	X		X	X	X	X	X								
	6/29/99	1530	K-5	Aq	3	X		X	X	X	X	X								

Comments / Special Instructions

Relinquished by [Signature] Date/Time 6/30/99 12:00p Received by [Signature] Date/Time 7-1-99 1000
 Relinquished by _____ Date/Time _____ Received by _____ Date/Time _____
 Relinquished by _____ Date/Time _____ Received by _____ Date/Time _____

JULY95.PM5:LabData25:95Chain