13302.00

EG&G Idaho

INTEROFFICE CORRESPONDENCE

date March 24, 1982

to L. J. Toomer

from T. M. Spear TMS

subject AIR MONITORING DURING AN ARC-SAW CUTTING OPERATION ON BERYLLIUM - TMS-04-82

File No.: TRA-08-82

SUMMARY

On January 26, 1982, Industrial Hygiene personnel collected air samples over the ATR canal during an underwater arc-saw cutting operation on beryllium. The results of the air sampling indicate that employee exposure to beryllium would be well within the acceptable limit established by the American Conference of Governmental Industrial Hygienists (ACGIH) (see attached UBTL Analytical Results).

In addition, a noise survey was conducted at the control panel of the arc-saw during the cutting operation. The results of the noise survey indicate that noise levels generated by the arc-saw power unit are in excess of 85 dBA, which is the acceptable eight (8) hour exposure limit as established by ACGIH (see attached Noise Survey Results).

RECOMMENDATIONS

1. Engineering controls, such as enclosures, shields or absorptive material, should be installed to reduce noise levels around the arc-saw power unit.

2. If noise levels are not reduced, employees working in the vicinity of the arc-saw power unit for periods longer than two (2) hours should be equipped with hearing protection.

METHODOLOGY

The air samples were collected with MSA portable pumps. The serial numbers and calibrated flow rates are listed below. The collecting media consisted of millipore filters with a pore size of 0.8 μ.

MSA Portable Pump Serial #	Flow Rate Calibrated 1-26-82
02715	2.02 l/m
R-79-4036	1.79 l/m

Noise measurements were taken with a General Radio Sound Level Meter, Serial No. 3747, calibrated with a Type 1562-A Sound Level Calibrator No. 12881

fg

Attachments:
As Stated

cc: J. R. Fielding
J. W. McCaslin
G. R. Norman
J. H. Southwick

February 17, 1982

UBTL
520 WAKARA WA
SALT LAKE CITY,
UTAH 84108
801 581-8267

ANALYTICAL REPORT

SUBMITTED TO: Mr. T. Cotterell, EG&G Idaho, Inc.

SUBMITTED BY: D.E. Rushing

REFERENCE DATA:

Analysis of: Beryllium

Identifcation No.: 82-305

Sample(s): 2 Analyses: 2

UBTL Laboratory No.: CC 00606 through CC 00607

The samples corresponding to the above laboratory numbers were analyzed for beryllium by NIOSH Method No. P&CAM 121. A 2-mL portion of perchloric acid was added, in addition to the nitric acid, to give a better-ashed residue. The sample was diluted to a final volume of 10 mL.

The limit of detection was 0.2 micrograms beryllium.

The results are tabulated on the following page(s).

D.E. Rushing
D.E. Rushing

R. Terry Winward
R. Terry Winward

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THE UNIVERSITY OF UT
RESEARCH INSTITUTE

MEDICINE
BIOENGINEERING
CHEMISTRY

RESEARCH
DEVELOPMENT
ANALYSIS

UBTL
ANALYTICAL REPORT FORM

Date February 18, 1982

UBTL Identification Number 82-305

Corporate/Agency Name EG&G Idaho, Inc.

Address P.O. Box 1625
Idaho Falls, Idaho 83415

Attention T. Cotterell Telephone

Sampling Collection and Shipment

Sampling Site Date of Collection

Date Samples Received at UBTL February 5, 1982

Analysis

Method of Analysis AA

Date(s) of Analysis 2/9-11/82

Analytical Results

Field Sample Number	UBTL Lab Number	Sample Type	Results µg BERYLLIUM
#1	CC00606	Filter	<0.02
#2	CC00607	Filter	<0.02
LIMIT OF DETECTION			0.02

Comments

D.E. Rushing
Analyst

Craig Lamson
Reviewer

R.T. Wimmond
Laboratory Supervisor

520 W Kara Way / Salt Lake City, Utah 84108 / 1-800-453-5653 ext. 8267

TABLE I

Sample #	ACGIH TWA ($mg.m^3$)	Actual TWA (mg/m^3)
1	0.002	* < LOD
2	0.002	< LOD

* < LOD - Less than limits of detection

FORM EG&G-970
(Rev. 06-79)

INDUSTRIAL HYGIENE NOISE MEASUREMENTS

Date: 1-26-82

Location: TRA

Instrument: General Radio Sound Level Meter

Serial No. & Model No.: 113293

Name: Spear/Kirschner

Location	dBA	dBC	Frequency (Hertz) 31.5	63	125	250	500	1000	2000	4000	8000
ATR Canal - By Cutter	86	90	83	79	84	82	86	80	79	77	64
Combined Reading 91 dBA											