Run Date: 03/05/2010

Hazard Assessment Sampling System
EA and Sample Result Listing

Assessment	10489
Contract	INL
Performed by	KAREN KUBIAK
Survey Date	01/22/2007
Work Process	MAINTENANCE
Category	
Task	
Sub Task	
Location	INEEL RTC 670
Project Number	
Reviewed Plans	WO 77567

Process Comments

WO 77567 REQUESTED THAT IH OBTAIN BERYLLIUM SWIPES OF 40 TON CRANE BUSBARS. THIS IS TO DETERMINE IF THERE IS A POTENTIAL BERYLLIUM CONCERN WHEN THEY GO TO DISMANTLE THIS CRANE LATER THIS YEAR. THE PAINT WAS ALSO TESTED FOR LEAD USING A LEAD TEST KIT. BOTH THE YELLOW AND THE ORANGE PAINT ARE POSITIVE FOR LEAD. WHEN BERYLLIUM RESULTS ARE RETURNED, LABORERS WILL PERFORM PAINT SAMPLING FOR TCLP. THESE SAMPLE RESULTS WILL DETERMINE WORK CONTROLS FOR THIS TASK.

Hazardous Agents

Agent Name	Samp Req.
BERYLLIUM	Y
LEAD	Y

Administrative Controls

BARRICADES/PHYSICAL BARRIERS

PREJOB BRIEFING

OTHER

WORK ORDER

Follow Up Actions

NO UPDATE REQUIRED

Sample Direct Reading/Bulk/Wipe Results

Sample	1	Sample Type	Area
Start Date	01/22/2007	Competion Date	01/22/2007
Sequence	1		
Agent	LEAD		
Result Date	01/22/2007		
Measured Value			
Exposure Limit			
Standard			
Time			
Location			
Comments			
Data Quality Comments	RTC0670 40 TON CRANE ORANGE PAINT POSITIVE FOR LEAD		

Sample Direct Reading/Bulk/Wipe Results

Sample	2	Sample Type	Area
Start Date	01/22/2007	Competion Date	01/22/2007
Sequence	1		
Agent	LEAD		
Result Date	01/22/2007		
Measured Value			
Exposure Limit			
Standard			
Time			
Location			
Comments			
Data Quality Comments	RTC-670 40 TON CRANE YELLOW PAINT POSITIVE FOR LEAD		

Sample	5	Sample Type	Area
Start Date	01/22/2007	Competion Date	05/07/2007
Sequence	1		
Agent	BERYLLIUM		
Result Date	01/22/2007		
Measured Value	< 0.10 UG/100CM2		
Exposure Limit	0.2 UG/100CM2		
Standard	OTHER		
Time			
Location			
Comments	I-BEAM ON 40 TON CRANE		
Data Quality Comments	LOD 0.10 UG		

Rec'd 02/05/07

EA 10489

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AIHA/ELLAP 100527, NVLAP 101150-0, NYELAP/NELAC 11413, CAELAP 2078, NC 593, SC 93003

LABORATORY ANALYSIS REPORT

Beryllium Analysis by EPA 7091 Method

ACCOUNT #: 1429-07-413
CLIENT: BEA
ADDRESS: 1765 North Yellowstone Hwy.
Idaho Falls, ID 83415
PROJECT NAME: ATR 40 Tor Crane
JOB LOCATION:
PROJECT NO.:
PO NO.: 35808

DATE COLLECTED: 1/22/2007
DATE RECEIVED: 1/24/2007
DATE ANALYZED: 1/25/2007
DATE REPORTED: 1/25/2007

Sample Type: WIPE

SLI Sample No.	Client Sample No.	Sample Description	Sample Area (cm^2)	Total Beryllium (µg)*	Beryllium Conc ($\mu g/cm^2$)
29196934	03	Orange Paint	100.00	< 0.10	< 0.00
29196935	04	Busbar 40 Tan	100.00	0.10	0.00
29196936	05	I-Beam 40 Tan	100.00	< 0.10	< 0.00
29196937	06	Busbar N. Wall	100.00	< 0.10	< 0.00

Analysis Run ID 39323

Analyst: DEREK L. JACKSON

Total Number of Pages in Report: 1

Results relate only to samples as received by the laboratory.

Reviewed By **Derek L. Jackson, Analyst**

Visit www.slabinc.com for current certifications.

*Minimum Reporting Limit: 0.10 µg. Quality control data is available from the laboratory upon request. *Data precision justifies 2 significant figures. Unusual sample conditions, if any, are described. All testing is performed in strict accordance with Schneider Laboratories, Inc. protocol.*

Run Date: 03/05/2010

Hazard Assessment Sampling System
EA and Sample Result Listing

Assessment	9805
Contract	INL
Performed by	DEBORAH PUCCINELLI
Survey Date	07/15/2004
Work Process	SUPPORT ACTIVITIES
Category	INDUSTRIAL HYGIENE
Task	SAMPLING-CHEMICAL
Sub Task	
Location	INEEL RTC 601
Project Number	
Reviewed Plans	BERYLLIUM GUIDELINES/COMPANY PROCEDURE

Process Comments

IN AN EFFORT TO DETERMINE AMOUNT OF BERYLLIUM EXISTING IN FACILITIES AT RTC, TRA-601 AND TRA-670 WERE SAMPLED BY IH AT VARIOUS LOCATIONS.

Hazardous Agents

Agent Name	Samp Req.
BERYLLIUM	N

Follow Up Actions

NO UPDATE REQUIRED

Sample Direct Reading/Bulk/Wipe Results

Sample	1	Sample Type	Area
Start Date	07/15/2004	Competion Date	10/25/2005
Sequence	1		
Agent	BERYLLIUM		
Result Date	07/15/2004		
Measured Value	< 0.10 UG/100CM2		
Exposure Limit	0.2 UG/100CM2		
Standard	OTHER		
Time	OTHER		
Location	TOP OF GRAY METAL CABINET		
Comments	LESS THAN THE MINIMUM REPORTING LIMIT OF		
Data Quality Comments	0.10 UG		

Sample	1	Sample Type	Area
Start Date	07/15/2004	Competion Date	10/25/2005
Sequence	2		
Agent	BERYLLIUM		
Result Date	07/15/2004		
Measured Value	< 0.10 UG/100CM2		
Exposure Limit	0.2 UG/100CM2		
Standard	OTHER		
Time	OTHER		
Location	TOP OF NORTH OVERHEAD LIGHT		
Comments	LESS THAN THE MINIMUM REPORTING LIMIT OF		
Data Quality Comments	0.10 UG		

Sample Direct Reading/Bulk/Wipe Results

Sample	1	Sample Type	Area
Start Date	07/15/2004	Competion Date	10/25/2005
Sequence	3		
Agent	BERYLLIUM		
Result Date	07/15/2004		
Measured Value	0.10 UG/100CM2		
Exposure Limit	0.2 UG/100CM2		
Standard	OTHER		
Time	OTHER		
Location	FLOOR AT THE NORTHWEST CORNER		
Comments	EQUAL TO THE MINIMUM REPORTING LIMIT OF		
Data Quality Comments	0.10 UG		

Sample	1	Sample Type	Area
Start Date	07/15/2004	Competion Date	10/25/2005
Sequence	4		
Agent	BERYLLIUM		
Result Date	07/15/2004		
Measured Value	0.10 UG/100CM2		
Exposure Limit	0.2 UG/100CM2		
Standard	OTHER		
Time	OTHER		
Location	WESTSIDE LEDGE BELOW LOUVERS		
Comments	EQUAL TO THE MINIMUM REPORTING LIMIT OF		
Data Quality Comments	0.10 UG		

Sample	1	Sample Type	Area
Start Date	07/15/2004	Competion Date	10/25/2005
Sequence	5		
Agent	BERYLLIUM		
Result Date	07/15/2004		
Measured Value	< 0.10 UG/100CM2		
Exposure Limit	0.2 UG/100CM2		
Standard	OTHER		
Time	OTHER		
Location	FLOOR NORTHEAST CORNER		
Comments	LESS THAN THE MINIMUM REPORTING LIMIT OF		
Data Quality Comments	0.10 UG		

Sample	1	Sample Type	Area
Start Date	07/15/2004	Competion Date	10/25/2005
Sequence	6		
Agent	BERYLLIUM		
Result Date	07/15/2004		
Measured Value	< 0.10 UG/100CM2		
Exposure Limit	0.2 UG/100CM2		
Standard	OTHER		
Time	OTHER		
Location	TOP OF EAST OVERHEAD LIGHT		
Comments	LESS THAN THE MINIMUM REPORTING LIMIT OF		
Data Quality Comments	0.10 UG		

Sample	2	Sample Type	Area
Start Date	07/19/2004	Competion Date	10/25/2005
Sequence	1		
Agent	BERYLLIUM		
Result Date	07/19/2004		
Measured Value	< 0.10 UG/100CM2		
Exposure Limit	0.2 UG/100CM2		
Standard	OTHER		
Time	OTHER		

Sample Direct Reading/Bulk/Wipe Results

Location	CANAL SOUTH WALL BY STAIRWELL
Comments	LESS THAN THE MINIMUM REPORTING LIMIT OF
Data Quality Comments	0.10 UG

Sample	2	Sample Type	Area
Start Date	07/19/2004	Competion Date	10/25/2005
Sequence	2		
Agent	BERYLLIUM		
Result Date	07/19/2004		
Measured Value	< 0.10 UG/100CM2		
Exposure Limit	0.2 UG/100CM2		
Standard	OTHER		
Time	OTHER		
Location	FLOOR-NORTHEAST PILLAR BASE-CANAL		
Comments	LESS THAN THE MINIMUM REPORTING LIMIT OF		
Data Quality Comments	0.10 UG		

Sample	2	Sample Type	Area
Start Date	07/19/2004	Competion Date	10/25/2005
Sequence	3		
Agent	BERYLLIUM		
Result Date	07/19/2004		
Measured Value	< 0.10 UG/100CM2		
Exposure Limit	0.2 UG/100CM2		
Standard	OTHER		
Time	OTHER		
Location	STORAGE CABINET TOP-CANAL		
Comments	LESS THAN THE MINIMUM REPORTING LIMIT OF		
Data Quality Comments	0.10 UG		

Sample	2	Sample Type	Area
Start Date	07/19/2004	Competion Date	10/25/2005
Sequence	4		
Agent	BERYLLIUM		
Result Date	07/19/2004		
Measured Value	< 0.10 UG/100CM2		
Exposure Limit	0.2 UG/100CM2		
Standard	OTHER		
Time	OTHER		
Location	CAM TOP-NORTHEAST CORNER-REACTOR		
Comments	LESS THAN THE MINIMUM REPORTING LIMIT OF		
Data Quality Comments	0.10 UG		

Sample	2	Sample Type	Area
Start Date	07/19/2004	Competion Date	10/25/2005
Sequence	5		
Agent	BERYLLIUM		
Result Date	07/19/2004		
Measured Value	< 0.10 UG/100CM2		
Exposure Limit	0.2 UG/100CM2		
Standard	OTHER		
Time	OTHER		
Location	FLOOR-SOUTHWEST WALL BY EXTINGUISHER		
Comments	LESS THAN THE MINIMUM REPORTING LIMIT OF		
Data Quality Comments	0.10 UG		

Sample	2	Sample Type	Area
Start Date	07/19/2004	Competion Date	10/25/2005

Sample Direct Reading/Bulk/Wipe Results

Sequence	6
Agent	BERYLLIUM
Result Date	07/19/2004
Measured Value	< 0.10 UG/100CM2
Exposure Limit	0.2 UG/100CM2
Standard	OTHER
Time	OTHER
Location	FLOOR-NORTHWEST BY PLAYPEN-REACTOR
Comments	LESS THAN THE MINIMUM REPORTING LIMIT OF
Data Quality Comments	0.10 UG

Sample	2	Sample Type	Area
Start Date	07/19/2004	Competion Date	10/25/2005
Sequence	7		
Agent	BERYLLIUM		
Result Date	07/19/2004		
Measured Value	< 0.10 UG/100CM2		
Exposure Limit	0.2 UG/100CM2		
Standard	OTHER		
Time	OTHER		
Location	BLANK SAMPLE		
Comments	LESS THAN THE MINIMUM REPORTING LIMIT OF		
Data Quality Comments	0.10 UG		

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AIHA 8936, ELLAP 8936, NVLAP 1150, NYELAP 11413, CAELAP 2078, NC 593

LABORATORY ANALYSIS REPORT

Beryllium Analysis by EPA 3050B/7091 Method

ACCOUNT #: 1822-04-426
CLIENT: Bechtel BWXT Idaho, LLC (BBWI)
ADDRESS: 2525 Fremont Ave., PO Box 1625 (ATTN: DA
Idaho Falls ID 83415-4121
PO NO.: 101498
PROJECT NAME: BerylliumBckgrndSamp
PROJECT NO.:
JOB LOCATION: TRA

DATE COLLECTED: 7/15/2004
DATE RECEIVED: 7/21/2004
DATE ANALYZED: 7/26/2004
DATE REPORTED: 7/27/2004

SAMPLE TYPE: Wipe

SLI Sample No.	Client Sample No.	Sample Description	Sample Area (cm^2)	Dil Factor	Total Beryllium (µg)*	Beryllium Conc. (µg/100cm^2)*
28093607	601-01	Top Of Metal Cabinet	100.00	1	< 0.10	< 0.1
28093608	601-02	Top Of N Overhd Lght	100.00	1	< 0.10	< 0.1
28093609	601-03	Floor-NW Corner	100.00	1	0.10	< 0.1
28093610	601-04	WSd Ledge Blw Louver	100.00	1	0.10	< 0.1
28093611	601-05	FLoor-NE Corner	100.00	1	< 0.10	< 0.1
28093612	601-06	Top Of E Ovrhd Light	100.00	1	< 0.10	< 0.1
28093613	670-01	CanalSWallByStrwell	100.00	1	< 0.10	< 0.1
28093614	670-02	Fl-NEPillerbs-Canal	100.00	1	< 0.10	< 0.1
28093615	670-03	StrgCabinetTop-Canal	100.00	1	< 0.10	< 0.1
28093616	670-04	CamTop-NECrnrReactor	100.00	1	< 0.10	< 0.1
28093617	670-05	FSWWallByExtingister	100.00	1	< 0.10	< 0.1
28093618	670-06	Fl-NWByPlyPenReactor	100.00	1	< 0.10	< 0.1
28093619	670-07	Blank	100.00	1	< 0.10	< 0.1

ANALYST: DEREK L. JACKSON, ANALYST

REVIEWED BY: MATTHEW D. ASBURY, LAB DIRECTOR

Minimum Reporting Limit: 0.10 µg Total Beryllium. ELLAP certification applies only to samples taken on ASTM E 1792 wipe me
Industrial projects may have limits established per project. Standard and spike values are reported as percent recovery for QC purposes. All testing is performed in strict accordance with Schneider Laboratories, Inc. protocol.

Run Date: 03/05/2010

Hazard Assessment Sampling System
EA and Sample Result Listing

Assessment	9245
Contract	INL
Performed by	GRAYSON DOWNS
Survey Date	10/12/2004
Work Process	OPERATIONS
Category	REACTOR OPERATIONS
Task	
Sub Task	
Location	INEEL RTC 670
Project Number	
Reviewed Plans	

Process Comments

PREPARATION AND INSTALLATION OF NEW BERYLLIUM REFLECTOR BLOCKS IN THE ATR REACTOR. PREPARATION COVERS REMOVAL OF THE BLOCKS FROM THEIR PACKAGING AND INSTALLATION OF PLUGS AND FLOW RESTRICTORS, THEY ARE THEN LIFTED AND PLACED INTO THE REACTOR. EACH BLOCK IS ABOUT 4' TALL AND 1' SQUARE. THE BLOCKS ARE RECEIVED HERE CLEAN AND WRAPPED IN PLASTIC. SEE ATTACHED IMAGE OF BERYLLIUM SAFETY SHEET FROM BRUSHWELLMAN THAT WAS USED AND REVIEWED BY WORKERS.

Hazardous Agents

Agent Name	Samp Req.
BERYLLIUM	N

Administrative Controls

BARRICADES/PHYSICAL BARRIERS

PROCEDURES

SAFE WORK PERMIT

TRAINING

Personal Protective Equipment

Equip Type	Protective Equipment
GLOVE	COTTON
GLOVE	LEATHER
GLOVE	NATURAL RUBBER LATEX

Follow Up Actions

NO UPDATE REQUIRED

Run Date: 03/05/2010

Hazard Assessment Sampling System
EA and Sample Result Listing

Assessment	8985
Contract	INL
Performed by	GRAYSON DOWNS
Survey Date	04/12/2004
Work Process	OPERATIONS
Category	
Task	
Sub Task	
Location	INEEL RTC 670
Project Number	
Reviewed Plans	

Process Comments

CANAL OPERATIONS HAD TO MOVE 2 IRRADIATED BERYLLIUM BLOCKS IN THE ATR CANAL, AND PRIOR TO MOVING THEM THE LIFTING TOOL HAD TO BE MODIFIED. AIR MONITORING WAS PERFORMED DURING THIS ACTIVITY AND DURING PREPARATIONS TO MOVE THE BLOCKS WHILE THE TOOL WAS OUT OF THE CANAL.

Hazardous Agents

Agent Name	Samp Req.
BERYLLIUM	N

Administrative Controls

PREJOB BRIEFING

PROCEDURES

SAFE WORK PERMIT

SIGNS

TRAINING

Personal Protective Equipment

Equip Type	Protective Equipment
CLOTHING	ANTI-C'S COVERALLS
FOOT	RUBBER BOOTS
GLOVE	NATURAL RUBBER LATEX

Follow Up Actions

NO UPDATE REQUIRED

Sample Agent Results

Sample	1	Sample Type	Area
Sample Date	04/12/2004	Completion Date	05/19/2004
Agent	BERYLLIUM		
Concentration			
Calculated TWA			
Exposure Limit			
Standard			
Time			
Recmnd/Conc			
Data Quality Comments			

Sample	2	Sample Type	Personal
Sample Date	04/12/2004	Completion Date	05/19/2004
Agent	BERYLLIUM		
Concentration	<.11 UG/M3		
Calculated TWA	<.11 UG/M3		
Exposure Limit	2 UG/M3		
Standard	ACGIH TLV		
Time	8 HR - TWA		
Recmnd/Conc			
Data Quality Comments			

Run Date: 03/05/2010

Hazard Assessment Sampling System
EA and Sample Result Listing

Assessment	6986
Contract	INL
Performed by	GRAYSON DOWNS
Survey Date	02/10/2004
Work Process	OPERATIONS
Category	
Task	
Sub Task	
Location	INEEL RTC 670
Project Number	
Reviewed Plans	DOP-7.10.71 "RELOCATION OF SPENT BERYLLIUM BLOCKS AND OUTER SHIM CONTROL CYLINDERS WITHIN THE ATR CANAL"

Process Comments

RELOCATION OF 12 BERYLLIUM BLOCKS IN THE ATR REACTOR CANAL FROM THE WEST END TO THE EAST END. THE BLOCKS ARE TRANSFERRED BY A SPECIAL LIFTING TOOL CONNECTED TO THE OVERHEAD CRANE. THE BLOCKS NEVER APPROACH OR BREAK THE SURFACE OF THE WATER. THE LIFTING TOOL WILL BE PRESSURE WASHED UNDERWATER PRIOR TO BEING REMOVED AND BAGGED WHEN TASK IS COMPLETED.

Hazardous Agents

Agent Name	Samp Req.
BERYLLIUM	N

Administrative Controls

PREJOB BRIEFING

PROCEDURES

SAFE WORK PERMIT

TRAINING

Personal Protective Equipment

Equip Type	Protective Equipment
CLOTHING	ANTI-C'S COVERALLS
FOOT	SHOE COVERS
GLOVE	NATURAL RUBBER LATEX

Follow Up Actions

NO UPDATE REQUIRED

Run Date: 03/05/2010

Hazard Assessment Sampling System
EA and Sample Result Listing

Assessment	1898
Contract	INL
Performed by	JAMES WILKINSON
Survey Date	02/22/2000
Work Process	SUPPORT ACTIVITIES
Category	ENVIRONMENTAL
Task	CHARACTERIZATION
Sub Task	
Location	INEEL RTC 670
Project Number	
Reviewed Plans	

Process Comments

PROJECT REQUIRED SAMPLES OF BERYLLIUM REFLECTOR BLOCK (IN ATR CANAL) BE SAMPLED. THE BERYLLIUM BLOCK IS UNDER 20 FEET OF WATER AND THE SAMPLES THAT ARE TAKEN FROM THE BLOCK ARE KEPT UNDER WATER AT ALL TIMES. THE SAMPLES ARE OBTAINED USING A HYDRAULIC CHISSEL.NO GENERATION OF BUBBLES WERE NOTICED WHILE BREAKING OFF THE SAMPLES OF BERYLLIUM FROM THE REFLECTOR BLOCKS. BUBBLE GENERATION WAS CONSIDERED A POTENTIAL PROBLEM DURING THE PROJECT DEVELOPMENT. CHARGE NUMBER IS 125120001.

Hazardous Agents

Agent Name	Samp Req.
BERYLLIUM	Y

Engineering Controls

HEPA FILTERED EXHAUST

WETTING

Administrative Controls

PREJOB BRIEFING

PROCEDURES

SIGNS

TRAINING

Personal Protective Equipment

Equip Type	Protective Equipment
FOOT	SHOE COVERS
GLOVE	NEOPRENE
CLOTHING	TYVEK COVERALLS WITH HOOD

Follow Up Actions

(OLD CODE)PERFORM UPDATE AS NEEDED IF TASK IS PERFORMED IN THE FUTURE

Similar Exposure Group

S Nmbr	Employee	Job Code	Job Description
66410	MICHAEL DAVID	UNKNOWN	E48
27780	JAY KAUER		U90

Sample Agent Results

Sample	1	Sample Type	Personal
Sample Date	02/22/2000	Completion Date	12/11/2001
Agent	BERYLLIUM		
Concentration	<0.0001 MG/M3		
Calculated TWA	<0.00002 MG/M3		
Exposure Limit	0.002 MG/M3		
Standard	ACGIH TLV		
Time	8 HR - TWA		
Recmnd/Conc			
Data Quality Comments			

Sample	2	Sample Type	Personal
Sample Date	02/22/2000	Completion Date	12/11/2001
Agent	BERYLLIUM		
Concentration	<0.00006 MG/M3		
Calculated TWA	<0.00002 MG/M3		
Exposure Limit	0.002 MG/M3		
Standard	ACGIH TLV		
Time	8 HR - TWA		
Recmnd/Conc			
Data Quality Comments			

Sample	3	Sample Type	Personal
Sample Date	02/28/2000	Completion Date	12/11/2001
Agent	BERYLLIUM		
Concentration	<0.00005 MG/M3		
Calculated TWA	<0.00002 MG/M3		
Exposure Limit	0.002 MG/M3		
Standard	ACGIH TLV		
Time	8 HR - TWA		
Recmnd/Conc			
Data Quality Comments			

Sample	4	Sample Type	Personal
Sample Date	02/28/2000	Completion Date	12/11/2001
Agent	BERYLLIUM		
Concentration	0		
Calculated TWA	0		
Exposure Limit	0		
Standard			
Time			
Recmnd/Conc			
Data Quality Comments			

EG&G Idaho

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INTEROFFICE CORRESPONDENCE

Date: April 15, 1986

To: S. R. Smith

From: S. N. Stanisich SNS

Subject: BERYLLIUM (Be) RESIDUE IN SHIPPING BOXES - SNS-17-86

Ref: T. J. Macdonald ltr to S. N. Stanisich, TMac-08-86, April 14, 1986

Shipping boxes that contained Beryllium parts for the Advanced Test Reactor (ATR) were sampled for Be residue. A Gillian personal air sampler was used to collect residue on a 0.8 micron, mixed cellulose ester filter. Two random samples were collected by "vacuuming" areas of the box bottom. Samples were sent to the Industrial Hygiene Lab for analysis (see attached). Sampling results are listed below:

Area Sampled	Be in grams	Be g/box
3 ft.^{2}	5.0×10^{-5}	5.3×10^{-4}
2 ft.^{2}	1.0×10^{-6}	1.6×10^{-5}

Conversations with environmental safety personnel confirmed that Be residue at these levels are acceptable for disposal at the landfill site (per telecon with J. M. Riddell 4-3-86). Therefore, once the containers are sealed they can be removed to the landfill.

lr

cc: R. L. Billau
R. D. Boyer
T. K. Campbell
J. A. Hong
J. M. Riddell
D. E. Sheldon
Central File
S. N. Stanisich File

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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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

Reviewer

R.T. Wimmond
Laboratory Supervisor

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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											