

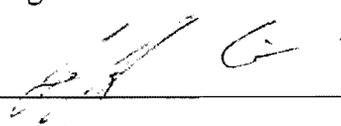


TA21-MDAB-PLAN-00029, Rev.1

MDA-B Beryllium Sample Plan

Effective Date: 5-12-2011

Next Review Date: 5-12-2012

Procedure Owner: Jeff Erickson	Signature: 	Date: 5-12-2011
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HISTORY OF REVISIONS

Document Number	Issue Date	Action	Description
TA21-MDAB-PLAN-00029, Rev 0	04-14-2011	New Plan	Beryllium Sample Plan for MDA-B
TA21-MDAB-PLAN-00029, Rev 1	5/12/2011	Revision	Change Section 4, Decontamination, Waste, and Equipment Release Plan and Section 5, Inaccessible Beryllium Area Only.

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Beryllium Hazards and Existing Data for MDA-B Enclosure 9

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MDA-B IWD Index

1. PURPOSE

The purpose of this plan is to document the Qualified Industrial Hygienist's (QIH) hazard assessment of beryllium on the TA 21, Material Disposal Area B (MDA-B) project and to describe the beryllium sampling plan as required by the Los Alamos National Laboratory (LANL) Chronic Beryllium Disease Prevention Program (P101-21).

2. SCOPE

The scope of this document includes the TA 21 MDA-B project, enclosure 9 operations and associated beryllium areas, including the waste staging areas. This document applies to IH personnel involved in beryllium hazard assessments, beryllium air monitoring, and surface and bulk sampling.

Plan

3. REGULATED AND ACCESSIBLE CONTAMINATED SAMPLE PLAN

NOTE: Use these buttons to print or save the form. DO NOT use the browser tool bar.



Beryllium Hazard Assessment Form

Beryllium Hazard Assessment Completed By

Name: Bob Edgar	Z No.: 242184	Org: IHS	Phone:500-6172	Date: 04-08-11
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Beryllium Operation Description

FOD: 9	TA: 21	Bldg: MDA-B	Room(s): Enclosure 9
Other: Regulated and Accessible Contaminated Sample plan		Inventory Rec ID (if known): 413	
Area/Operation/Activity Description (no part numbers; no classified information allowed; check box if <input type="checkbox"/> UCNi) (only brief description needed if detailed document attached; attach additional pages as needed): Hazardous waste site clean up on MDA-B. Beryllium metal shavings were discovered in jars in dig area. This plan covers the IH sampling during digging, removal, and packaging of waste from the Regulated Beryllium controlled areas.			
DC Review (as needed): <input type="checkbox"/> UCNi <input type="checkbox"/> Unclassified Z No./Signature/Date: NA			

Identification of Beryllium Hazards (check those that apply; see instructions)

Beryllium Type:	<input checked="" type="checkbox"/> Metal	<input checked="" type="checkbox"/> Oxide	<input type="checkbox"/> Alloy	<input type="checkbox"/> Salt	<input checked="" type="checkbox"/> Other: Dirt Contaminated with Be
Beryllium form:	<input checked="" type="checkbox"/> Solid	<input type="checkbox"/> Powder/Dust	<input type="checkbox"/> Suspension	<input type="checkbox"/> Ceramic	<input type="checkbox"/> Solution <input checked="" type="checkbox"/> Other: Be contaminated Dirt
Exposure Route:	<input checked="" type="checkbox"/> Inhalation	<input checked="" type="checkbox"/> Dermal	<input checked="" type="checkbox"/> Contamination Spread	<input type="checkbox"/> Other: _____	
Frequency:	<input checked="" type="checkbox"/> Daily	<input type="checkbox"/> Weekly	<input type="checkbox"/> Monthly	<input type="checkbox"/> Quarterly	<input type="checkbox"/> Annually <input type="checkbox"/> As Needed
Duration:	<input checked="" type="checkbox"/> Number of Hours: 10	<input type="checkbox"/> Half Day	<input checked="" type="checkbox"/> Full Day	<input checked="" type="checkbox"/> Number of Days: Mon - Fri	
Comment on Beryllium Hazards: See Attachment A					
Associated Hazards (describe briefly): All associated hazards are identified and assessed in the MDA-B Site Specific Health and Safety Plan (SSHASP) TA21-MDAB-PLAN-00015					

Review of Existing Sampling Data (reference data in Hazard Assessment Documentation section)

Type of sampling data available:	<input checked="" type="checkbox"/> Surface Wipes	<input checked="" type="checkbox"/> Breathing Zone	<input checked="" type="checkbox"/> Area Air	<input checked="" type="checkbox"/> Bulk	<input type="checkbox"/> None
Any air sample results ≥ action level?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Any surface wipe result ≥ trigger levels?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Comment on Existing Data: See Attachment A					

Sampling Requirements (complete section for each required sampling type; justify in comments section if sampling is not required)

Personal BZ Samples:	<input type="checkbox"/> Not Required	<input checked="" type="checkbox"/> Required			
	<input checked="" type="checkbox"/> Each Time	<input type="checkbox"/> Annual	<input type="checkbox"/> Semi-Annual	<input type="checkbox"/> Quarterly	<input type="checkbox"/> Monthly <input checked="" type="checkbox"/> Other: Each task - operator, support, etc.
	<input type="checkbox"/> Each Worker Must be Sampled		<input checked="" type="checkbox"/> Representative Samples Acceptable; Minimum Number: Min of 1 / shift / task		
Area Air Samples:	<input type="checkbox"/> Not Required	<input checked="" type="checkbox"/> Required	<input type="checkbox"/> Standard (2 to 4 lpm)	<input checked="" type="checkbox"/> High-Vol (≥ 10 lpm)	
	<input checked="" type="checkbox"/> Each Time	<input type="checkbox"/> Annual	<input type="checkbox"/> Semi-Annual	<input type="checkbox"/> Quarterly	<input type="checkbox"/> Monthly <input checked="" type="checkbox"/> Other: Dust levels per SSHASP
Sampling Locations (include sampling in adjacent areas): Adjacent to dig face. Full day sampling (can switch out filter).					
Surface Wipe Samples:	<input type="checkbox"/> Not Required	<input checked="" type="checkbox"/> Required	Minimum # per sampling event: _____		
	<input checked="" type="checkbox"/> Each Time	<input type="checkbox"/> Annual	<input type="checkbox"/> Semi-Annual	<input type="checkbox"/> Quarterly	<input type="checkbox"/> Monthly <input type="checkbox"/> Other: _____
Sampling Locations (include sampling in adjacent areas): Work surfaces, excavator, waste bins, equipment					
Other Samples:	<input type="checkbox"/> Not Required	<input checked="" type="checkbox"/> Required, Describe (e.g. bulk, waste water, etc.): Dirt - bulk			

Plan

3. REGULATED AND ACCESSIBLE CONTAMINATED SAMPLE PLAN (continued)

Type of Sampling Plan Required

<input checked="" type="checkbox"/> Simple (i.e. sampling section on this form is adequate)	<input type="checkbox"/> Formal plan for release of area
<input type="checkbox"/> Formal (i.e. IWD or procedure)	Document Number(s): _____

Controls (only brief description needed if detailed document attached)

<p>Engineering: Dilution ventilation of 4.5 air changes per hour. HEPA filtered ventilation systems.</p> <p>Hood/LEV #s:</p>
<p>Administrative: 1 Hour wait time for air exchanges after intrusive work ends. Ensure overall dust levels are less than 0.36 mg/ m3 and all other IH instruments meet the requirements of the MDA-B SSHASP before door is opened and PPE can be downgraded per SSHASP.</p>
<p>PPE: Airline respirators or SCBAs during all soil intrusive work. Downgrade to full face air purifying respirator (APR) with P100 cartridges as allowed by SSHASP. Level D when allowed per SSHASP and per administrative requirements listed above to allow for opening roll up door for waste removal. Other PPE as required SSHASP.</p>
<p>Controls demonstrated or expected to be effective: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (if no, recommended improvements and follow-up required)</p>

Training Requirements

<input type="checkbox"/> Beryllium Awareness (course 28340)	<input checked="" type="checkbox"/> Beryllium Hazards (course 725 and 21784)	<input checked="" type="checkbox"/> Site Specific/OJT
<input checked="" type="checkbox"/> Beryllium Awareness (course 28340) for Adjacent Workers		Other: Per MDA-B training matrix and SSHASP

Designated Beryllium Area Type and Posting Requirements

<input type="checkbox"/> Not a Beryllium Area	<input type="checkbox"/> Beryllium Storage Area	<input type="checkbox"/> Beryllium Contamination Area (also check below):
<input type="checkbox"/> Airborne Beryllium Area	<input checked="" type="checkbox"/> Regulated Beryllium Area	<input type="checkbox"/> Accessible <input type="checkbox"/> Inaccessible

Hazard Assessment Documentation (reference or attach)

<input checked="" type="checkbox"/> CTS Survey ID#s or other sampling data: See attached for sample dates.
<input type="checkbox"/> CTS QEA & Au #s:
<input checked="" type="checkbox"/> IWDs: See attachment B
<input checked="" type="checkbox"/> Other work control documents: MDA-B SSHASP (TA21-MDAB-PLAN-00015).
<input type="checkbox"/> Other documents (SOPs, statistical analysis, report, memos, email, etc.):

Notes and Comments (attach additional pages as needed, reference or attach other documents)

<p>This plan outlines the sampling requirements for excavation of the Regulated Beryllium Areas of Enclosure 9, work in the Accessible Beryllium Contamination areas of enclosure 9, and downgrading from a regulated area.</p> <p>Continued on Page 3 of Regulated and Contamination Area Sample Plan, for detailed description of sampling plan.</p>
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Beryllium Program Only

Reviewed by:	Z Number: NA	Org.:	Date:
Operation within scope of CBDPP? <input type="checkbox"/> Yes <input type="checkbox"/> No	Follow-up required? <input type="checkbox"/> Yes <input type="checkbox"/> No	Action Date:	

3. REGULATED AND CONTAMINATION AREA SAMPLE PLAN (continued)

Once excavation resumes in the Accessible Beryllium Area, the enclosure will be upgraded to a Regulated Beryllium Area until all the beryllium waste has been removed. A Regulated Beryllium Area Entry Log will be utilized to track personnel entering the area. The area will remain a Beryllium Regulated Area until air sampling results allow for downgrading the area to the appropriate level (airborne or accessible contamination area).

Personnel and area air sampling results will be reported per the requirements of the LANL P101-21 procedure (CBDPP).

Wipe sampling will be conducted once the area has been downgraded from a Regulated Area to determine the appropriate beryllium contamination area posting (i.e. – Accessible or Inaccessible). Decontamination will occur as needed, based on the sampling results (air samples, wipe samples, and bulk dirt samples). The enclosure may be divided into separately posted areas of either Accessible or Inaccessible Beryllium Contamination areas, based on the sampling results.

The area will only be downgraded to an inaccessible beryllium area based on adequate samples to meet a 95% confidence that the area has been cleaned to less than 0.2 ug / 100 cm².

Maintenance related work that must occur within a Regulated Beryllium Area or an accessible Beryllium Contamination Area, will require full PPE, including full face respirator with P100 cartridge, protective clothing and impermeable gloves, or the area must be decontaminated and down posted based on sample results before work is allowed to occur.

The waste containers utilized during activities in the Beryllium (Be) areas will be decontaminated within the enclosure (wiped down with wet rags and / or fantastic or similar cleaner), before being moved to a Beryllium Contamination staging area where they will be wipe sampled to determine effectiveness of decontamination.

In the Regulated Beryllium Areas, respirator face pieces will be used for just 1 entry. The face piece will then be decontaminated, wipe sampled, and then bagged and stored as potential beryllium contaminated until results allow for free release. After free release, the facepiece will be sent to the sanitary wash.

Plan

4. DECONTAMINATION, WASTE, AND EQUIPMENT RELEASE PLAN

NOTE: Use these buttons to print or save the form. DO NOT use the browser tool bar.



Beryllium Hazard Assessment Form

Beryllium Hazard Assessment Completed By

Name: Robert Edgar, CIH	Z No.: 242184	Org: ESH&Q	Phone:500-2901	Date: 5-11-11
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Beryllium Operation Description

FOD: 9	TA: 21	Bldg: MDA-B	Room(s):
Other: Decontamination, Waste, and Equipment Release Plan			Inventory Rec ID (if known): 412
Area/Operation/Activity Description (no part numbers; no classified information allowed; check box if <input type="checkbox"/> UCNi) (only brief description needed if detailed document attached; attach additional pages as needed): Waste container and equipment release wipe sample plan for the Inaccessible Beryllium Area. This plan will cover the sampling required to release waste containers, respirators, and other equipment from MDA-B.			
DC Review (as needed): <input type="checkbox"/> UCNi <input type="checkbox"/> Unclassified Z No./Signature/Date: NA			

Identification of Beryllium Hazards (check those that apply; see instructions)

Beryllium Type:	<input checked="" type="checkbox"/> Metal	<input checked="" type="checkbox"/> Oxide	<input type="checkbox"/> Alloy	<input type="checkbox"/> Salt	<input checked="" type="checkbox"/> Other: Inaccessible Be in ducts, over 8 feet.
Beryllium form:	<input type="checkbox"/> Solid	<input type="checkbox"/> Powder/Dust	<input type="checkbox"/> Suspension	<input type="checkbox"/> Ceramic	<input type="checkbox"/> Solution <input type="checkbox"/> Other: _____
Exposure Route:	<input type="checkbox"/> Inhalation	<input type="checkbox"/> Dermal	<input type="checkbox"/> Contamination Spread	<input type="checkbox"/> Other: _____	
Frequency:	<input type="checkbox"/> Daily	<input type="checkbox"/> Weekly	<input type="checkbox"/> Monthly	<input type="checkbox"/> Quarterly	<input type="checkbox"/> Annually <input checked="" type="checkbox"/> As Needed
Duration:	<input checked="" type="checkbox"/> Number of Hours: 10	<input type="checkbox"/> Half Day	<input checked="" type="checkbox"/> Full Day	<input checked="" type="checkbox"/> Number of Days: Mon - Fri	
Comment on Beryllium Hazards: See Attachment A.					
Associated Hazards (describe briefly): All associated hazards are identified and assessed in the MDA-B Site Specific Health and Safety Plan (SSHASP) TA21-MDAB-PLAN-00015					

Review of Existing Sampling Data (reference data in Hazard Assessment Documentation section)

Type of sampling data available:	<input checked="" type="checkbox"/> Surface Wipes	<input checked="" type="checkbox"/> Breathing Zone	<input checked="" type="checkbox"/> Area Air	<input checked="" type="checkbox"/> Bulk	<input type="checkbox"/> None
Any air sample results ≥ action level?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Any surface wipe result ≥ trigger levels?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Comment on Existing Data: See attachment A.					

Sampling Requirements (complete section for each required sampling type; justify in comments section if sampling is not required)

Personal BZ Samples:	<input checked="" type="checkbox"/> Not Required	<input type="checkbox"/> Required			
	<input type="checkbox"/> Each Time	<input type="checkbox"/> Annual	<input type="checkbox"/> Semi-Annual	<input type="checkbox"/> Quarterly	<input type="checkbox"/> Monthly <input type="checkbox"/> Other: _____
	<input type="checkbox"/> Each Worker Must be Sampled		<input type="checkbox"/> Representative Samples Acceptable; Minimum Number: _____		
Area Air Samples:	<input checked="" type="checkbox"/> Not Required	<input type="checkbox"/> Required	<input type="checkbox"/> Standard (2 to 4 lpm)	<input type="checkbox"/> High-Vol (≥ 10 lpm)	
	<input type="checkbox"/> Each Time	<input type="checkbox"/> Annual	<input type="checkbox"/> Semi-Annual	<input type="checkbox"/> Quarterly	<input type="checkbox"/> Monthly <input type="checkbox"/> Other: _____
	Sampling Locations (include sampling in adjacent areas): _____				
Surface Wipe Samples:	<input type="checkbox"/> Not Required	<input checked="" type="checkbox"/> Required	Minimum # per sampling event: Attached		
	<input checked="" type="checkbox"/> Each Time	<input type="checkbox"/> Annual	<input type="checkbox"/> Semi-Annual	<input type="checkbox"/> Quarterly	<input type="checkbox"/> Monthly <input type="checkbox"/> Other: _____
	Sampling Locations (include sampling in adjacent areas): Representative samples of exterior of waste containers, and equipment.				
Other Samples:	<input checked="" type="checkbox"/> Not Required	<input type="checkbox"/> Required, Describe (e.g. bulk, waste water, etc.):			

Plan

4. DECONTAMINATION, WASTE, AND EQUIPMENT RELEASE PLAN (continued)

Type of Sampling Plan Required

<input checked="" type="checkbox"/> Simple (i.e. sampling section on this form is adequate)	<input type="checkbox"/> Formal plan for release of area
<input type="checkbox"/> Formal (i.e. IWD or procedure)	Document Number(s): _____

Controls (only brief description needed if detailed document attached)

Engineering: Sealed waste containers.
Hood/LEV #s:
Administrative: Waste containers are in a controlled area (MDA-B). The containers will be labeled with the appropriate label (Label A from P101-21) when the contents are at or above 3.3 micrograms/100 cm ² . Decontamination of waste containers has proven effective and they can be placed anywhere within MDAB prior to shipment off-site.
PPE: Per SSHASP and RWP.
Controls demonstrated or expected to be effective: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (if no, recommended improvements and follow-up required)

Training Requirements

<input checked="" type="checkbox"/> Beryllium Awareness (course 28340)	<input type="checkbox"/> Beryllium Hazards (course 725 and 21784)	<input checked="" type="checkbox"/> Site Specific/OJT
<input type="checkbox"/> Beryllium Awareness (course 28340) for Adjacent Workers	Other: _____	

Designated Beryllium Area Type and Posting Requirements

<input type="checkbox"/> Not a Beryllium Area	<input type="checkbox"/> Beryllium Storage Area	<input checked="" type="checkbox"/> Beryllium Contamination Area (also check below):
<input type="checkbox"/> Airborne Beryllium Area	<input type="checkbox"/> Regulated Beryllium Area	<input type="checkbox"/> Accessible <input checked="" type="checkbox"/> Inaccessible

Hazard Assessment Documentation (reference or attach)

<input checked="" type="checkbox"/> CTS Survey ID#s or other sampling data: IH data will be entered into the CTS system.
<input type="checkbox"/> CTS QEA & Au #s:
<input checked="" type="checkbox"/> IWDs: See attachment B
<input checked="" type="checkbox"/> Other work control documents: MDA-B SSHASP (TA21-MDAB-PLAN-00015).
<input checked="" type="checkbox"/> Other documents (SOPs, statistical analysis, report, memos, email, etc.): IH sample analytical results and summaries are in the TA21, MDAB IH offices.

Notes and Comments (attach additional pages as needed, reference or attach other documents)

<p>Representative samples of Enclosure 9 equipment and containers will continue to be taken to monitor for changes. The existing data has shown the work practices and decontamination procedures (for waste containers, respirators, maintenance equipment) has kept the surface contamination of these items below the levels of concern. Heavy equipment used inside the enclosure during Be excavation will need further evaluation before moving to a non-beryllium area, and will require decontamination and confirmation of 95% confidence that 95% of the wipes are below 0.2micrograms/100 cm² prior to release off of TA21. Respirator decontamination has been shown to be effective: employees in Enclosure 9 will decontaminate their respirators after every use, bag them after decontamination and continue to use them throughout the shift. At the end of the shift the respirators will be processed through the normal sanitary decontamination procedures for MDAB.</p>
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Beryllium Program Only

Reviewed by:	Z Number: NA	Org.:	Date:
Operation within scope of CBDPP? <input type="checkbox"/> Yes <input type="checkbox"/> No	Follow-up required? <input type="checkbox"/> Yes <input type="checkbox"/> No	Action Date:	

4. DECONTAMINATION, WASTE, AND EQUIPMENT RELEASE (continued)**Attachment A**

The waste containers utilized during activities in the Beryllium (Be) areas will be decontaminated within the enclosure (wiped down with wet rags and/or fantastic or similar cleaner), before being removed from the enclosure. Existing data shows the decontamination procedure is effective, but representative container wipes will be collected to insure their decontamination remains effective.

Beryllium Hazards:

The beryllium hazards are in inaccessible areas; areas over 8 feet in height, inside ventilation ducts, on HEPA filters, and related locations. Reviewing the sampling data below, equipment that is used on an intermittent (short duration) basis such as water trucks to wet down surfaces or apply surfactant inside the enclosure, or a man-lift to perform repair work within an enclosure have not become contaminated with Be, and therefore do not have to be confined to Enclosure 9. On the other hand, Track-Hoe's (John Deere 270, and the existing John Deere in Enclosure 9) will need to be decontaminated and tested for effectiveness in removing Be to below 0.2 µg/100 cm² prior to moving off of TA21.

Review of Existing Sampling Data: Enclosure 9 Beryllium/Iron sampling data as of 5-11-2011 is:

1. 58 wipes inside the enclosure and adjacent clean areas are all below the level of concern (0.2µg/100 cm²).
2. 190 of the 191 super sack samples were below 2µg/100 cm², one was above (0.22 µg/100 cm²)
3. All 58 air samples (personal and area) sampled after the day of discovery were below 0.03µg/m³
4. All decontaminated masks (159 samples) were below 0.20 µg/100 cm²
5. 27 wipes on sky-lifts used for repair for short periods in the enclosure were wiped and all were below 0.20 µg/100 cm²
6. Track-hoe wipes used in the enclosure were found to contain some surface contamination of Be above 0.2 µg/100 cm²

Plan

5. INACCESSIBLE BERYLLIUM AREA ONLY

NOTE: Use these buttons to print or save the form. DO NOT use the browser tool bar.



Beryllium Hazard Assessment Form

Beryllium Hazard Assessment Completed By

Name: Robert Edgar, CIH	Z No.: 242184	Org: ESH&Q	Phone:500-6172	Date: 05-11-11
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Beryllium Operation Description

FOD: 9	TA: 21	Bldg: MDA-B	Room(s): Enclosure 9
Other: Inaccessible Beryllium Area Only		Inventory Rec ID (if known): 412	
Area/Operation/Activity Description (no part numbers; no classified information allowed; check box if <input type="checkbox"/> UCNi) (only brief description needed if detailed document attached; attach additional pages as needed): Hazardous waste site clean up on MDA-B. Beryllium metal shavings were discovered in jars in dig area. Area with beryllium has been excavated and the shavings removed. This plan covers the IH monitoring in the remainder of the enclosure during digging, removal, and sampling of waste from the Inaccessible Beryllium Area.			
DC Review (as needed): <input type="checkbox"/> UCNi <input type="checkbox"/> Unclassified Z No./Signature/Date: NA			

Identification of Beryllium Hazards (check those that apply; see instructions)

Beryllium Type:	<input checked="" type="checkbox"/> Metal	<input checked="" type="checkbox"/> Oxide	<input type="checkbox"/> Alloy	<input type="checkbox"/> Salt	<input type="checkbox"/> Other: In Inaccessible Areas
Beryllium form:	<input type="checkbox"/> Solid	<input checked="" type="checkbox"/> Powder/Dust	<input type="checkbox"/> Suspension	<input type="checkbox"/> Ceramic	<input type="checkbox"/> Solution <input type="checkbox"/> Other: _____
Exposure Route:	<input type="checkbox"/> Inhalation	<input checked="" type="checkbox"/> Dermal	<input type="checkbox"/> Contamination Spread	<input type="checkbox"/> Other: _____	
Frequency:	<input type="checkbox"/> Daily	<input type="checkbox"/> Weekly	<input type="checkbox"/> Monthly	<input type="checkbox"/> Quarterly	<input type="checkbox"/> Annually <input checked="" type="checkbox"/> As Needed
Duration:	<input type="checkbox"/> Number of Hours: _____	<input type="checkbox"/> Half Day	<input type="checkbox"/> Full Day	<input checked="" type="checkbox"/> Number of Days: <u>intermittent</u>	
Comment on Beryllium Hazards: Beryllium hazard is potentially in inaccessible areas (in ducting, above 8 feet, inside equipment). Hazard will be monitored with routine representative swipes, routine daily personal and area monitoring, and waste.					
Associated Hazards (describe briefly): All associated hazards are identified and assessed in the MDA-B Site Specific Health and Safety Plan (SSHASP) TA21-MDAB-PLAN-00015					

Review of Existing Sampling Data (reference data in Hazard Assessment Documentation section)

Type of sampling data available:	<input checked="" type="checkbox"/> Surface Wipes	<input checked="" type="checkbox"/> Breathing Zone	<input checked="" type="checkbox"/> Area Air	<input checked="" type="checkbox"/> Bulk	<input type="checkbox"/> None
Any air sample results ≥ action level?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Any surface wipe result ≥ trigger levels?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Comment on Existing Data: See Attachment A.					

Sampling Requirements (complete section for each required sampling type; justify in comments section if sampling is not required)

Personal BZ Samples:	<input type="checkbox"/> Not Required	<input checked="" type="checkbox"/> Required			
	<input checked="" type="checkbox"/> Each Time	<input type="checkbox"/> Annual	<input type="checkbox"/> Semi-Annual	<input type="checkbox"/> Quarterly	<input type="checkbox"/> Monthly <input type="checkbox"/> Other: _____
	<input type="checkbox"/> Each Worker Must be Sampled		<input type="checkbox"/> Representative Samples Acceptable; Minimum Number: <u>Min of 1 / shift</u>		
Area Air Samples:	<input type="checkbox"/> Not Required	<input checked="" type="checkbox"/> Required	<input type="checkbox"/> Standard (2 to 4 lpm)	<input checked="" type="checkbox"/> High-Vol (≥ 10 lpm)	
	<input checked="" type="checkbox"/> Each Time	<input type="checkbox"/> Annual	<input type="checkbox"/> Semi-Annual	<input type="checkbox"/> Quarterly	<input type="checkbox"/> Monthly <input checked="" type="checkbox"/> Other: <u>Dust levels per SSHASP</u>
	Sampling Locations (include sampling in adjacent areas): <u>Adjacent to dig face. Full day sampling (can switch out filter).</u>				
Surface Wipe Samples:	<input type="checkbox"/> Not Required	<input checked="" type="checkbox"/> Required	Minimum # per sampling event: _____		
	<input checked="" type="checkbox"/> Each Time	<input type="checkbox"/> Annual	<input type="checkbox"/> Semi-Annual	<input type="checkbox"/> Quarterly	<input type="checkbox"/> Monthly <input type="checkbox"/> Other: _____
	Sampling Locations (include sampling in adjacent areas): <u>Work surfaces, excavator, waste bins, equipment</u>				
Other Samples:	<input type="checkbox"/> Not Required	<input checked="" type="checkbox"/> Required, Describe (e.g. bulk, waste water, etc.):	<u>Dirt - bulk</u>		

Plan

5. INACCESSIBLE BERYLLIUM AREA ONLY (continued)

Type of Sampling Plan Required

<input checked="" type="checkbox"/> Simple (i.e. sampling section on this form is adequate)	<input type="checkbox"/> Formal plan for release of area
<input type="checkbox"/> Formal (i.e. IWD or procedure)	Document Number(s): _____

Controls (only brief description needed if detailed document attached)

Engineering: Dilution ventilation of at least 3 air changes per hour. HEPA filtered ventilation systems.
Hood/LEV #s:
Administrative: Ensure overall dust levels are less than 0.36 mg/ m3 and all other IH instruments meet the requirements of the MDA-B SSHASP before door is opened and PPE can be downgraded to level D per SSHASP.
PPE: Airline respirators or SCBAs during intrusive work. Full face air purifying respirator (APR) with P100 cartridges during all other times (except when downgraded per administrative requirements listed in above section and SSHASP). Other PPE may include protective body coverings, hoods, booties, gloves, etc. as outlined in the MDA-B SSHASP.
Controls demonstrated or expected to be effective: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (if no, recommended improvements and follow-up required)

Training Requirements

<input checked="" type="checkbox"/> Beryllium Awareness (course 28340)	<input type="checkbox"/> Beryllium Hazards (course 725 and 21784)	<input checked="" type="checkbox"/> Site Specific/OJT
<input type="checkbox"/> Beryllium Awareness (course 28340) for Adjacent Workers	Other: _____	

Designated Beryllium Area Type and Posting Requirements

<input type="checkbox"/> Not a Beryllium Area	<input type="checkbox"/> Beryllium Storage Area	<input checked="" type="checkbox"/> Beryllium Contamination Area (also check below):
<input type="checkbox"/> Airborne Beryllium Area	<input type="checkbox"/> Regulated Beryllium Area	<input type="checkbox"/> Accessible <input checked="" type="checkbox"/> Inaccessible

Hazard Assessment Documentation (reference or attach)

<input checked="" type="checkbox"/> CTS Survey ID#s or other sampling data: Sample results to be entered into CTS
<input type="checkbox"/> CTS QEA & Au #s:
<input checked="" type="checkbox"/> IWDs: See attachment B
<input checked="" type="checkbox"/> Other work control documents: MDA-B SSHASP (TA21-MDAB-PLAN-00015).
<input checked="" type="checkbox"/> Other documents (SOPs, statistical analysis, report, memos, email, etc.): IH Sample results and summaries in TA21, MDAB, IH offices

Notes and Comments (attach additional pages as needed, reference or attach other documents)

While current data indicates classification as an Inaccessible Beryllium Area is appropriate, the sampling referenced above will allow us to effectively monitor for changes in the Be status. Additional plans will be written to cover further down-posting as required. Containers which contain beryllium at or above 3.3 ppm will be labeled as with Beryllium Contamination labels to communicate the hazard to down-stream waste handlers. PPE used during inaccessible Beryllium operations (excavation, sampling, waste handling, etc.) will be handled as per outlined in the MDAB procedures. Respirators will be decontaminated by their user after each use, retained by the employee for use throughout that shift, and processed after each shift through the standard MDAB sanitary decontamination procedure.
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Beryllium Program Only

Reviewed by:	Z Number: NA	Org.:	Date:
Operation within scope of CBDPP? <input type="checkbox"/> Yes <input type="checkbox"/> No	Follow-up required? <input type="checkbox"/> Yes <input type="checkbox"/> No	Action Date:	

ATTACHMENT A

Beryllium Hazard Assessment, Inaccessible Beryllium Area

Review of Existing Sampling Data: Enclosure 9 Beryllium/Iron sampling data as of 5-11-2011 is:

7. 58 wipes inside the enclosure and adjacent clean areas are all below the level of concern (0.2µg/100 cm²).
8. 190 of the 191 super sack samples were below 2µg/100 cm², one was above (0.22 µg/100 cm²)
9. All 58 air samples (personal and area) sampled after the day of discovery were below 0.03µg/m³
10. All decontaminated masks (159 samples) were below 0.20 µg/100 cm²
11. 27 wipes on sky-lifts used for repair for short periods in the enclosure were wiped and all were below 0.20 µg/100 cm²
12. Track-hoe wipes used in the enclosure were found to contain some surface contamination of Be above 0.2 µg/100 cm²

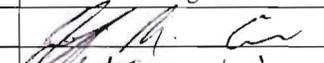
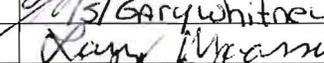
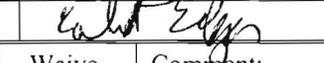
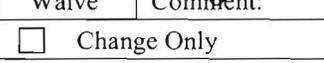
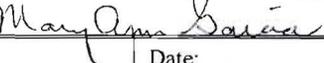
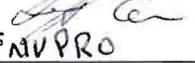
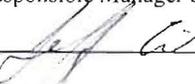
ATTACHMENT B**MDA-B IWD INDEX**

MDAB IWD INDEX	EXP DATE	#
MDAB-IWD-7701 R.O GENERAL SITE HAZARDS	12/31/2011	1
MDAB-IWD-7705 R.O SITE MOBILIZATION MAINTENANCE	12/31/2011	2
MDAB-IWD-7706 INSTALLATION, INSPECTION, AND MAINTENANCE OF BMP'S	12/31/2011	3
MDAB-IWD-7707 DELIVERY AND SETUP OF NON-PERM STRUCTURES	12/31/2011	4
MDAB-IWD-7709 INSTALLATION OF ENCLOSURE ELECTRICAL SYSTEMS	12/31/2011	5
MDAB-IWD-7710 CALIBRATION AND MAINTENANCE OF TRUCK SCALE	12/31/2011	6
MDAB-IWD-7711 INSTALLATION AND MAINTENANCE OF HEPA FILTER	12/31/2011	7
MDAB-IWD-7712 INSTALLATION AND MAINTENANCE OF DUST SUPPRESSION	12/31/2011	8
MDAB-IWD-7713 INSTALLATION OF EXCAVATION ENCLOSURE	12/31/2011	9
MDAB-IWD-7714 CONSTRUCTION OF FIXED ENCLOSURES	12/31/2011	10
MDAB-IWD-7715 EXCAVATION AND ENCLOSURE OPERATIONS	12/31/2011	11
MDAB-IWD-7716 CRANE OPERATIONS	12/31/2011	12
MDAB-IWD-7719 DECON OF PERSONNEL, EQUIPMENT, ETC	12/31/2011	13
MDAB-IWD-7720 EXCAVATION ENCLOSURE RELOCATION OPERATIONS	12/31/2011	14
MDAB-IWD-7721 OPERATION OF FIELD LAB GAMMA SPEC	12/31/2011	15
MDAB-IWD-7722 DEFINITIVE INVESTIGATION FACILITY OPERATIONS	12/31/2011	16
MDAB-IWD-7723 ROLL OFF TRUCK OPERATIONS	12/31/2011	17
MDAB-IWD-7724 OPERATION OF BREATHING AIR SYSTEM	12/31/2011	18
EAQ-145-MDAB AIR SAMPLE STATIONS AT MDAB	12/31/2011	19
381300-01 TA21 CRANE SUPPORT MSS	12/31/2011	20
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Received

MAY 12 2011

FOD-9 DCC

Document Action Request			
Section 1 - Originator Request			
Document No.: TA21-MDAB-PLAN-00029		Revision No.: 1	
Title: MDA-B Beryllium Plan		Page 1 of 1	
Description of requested action (Attach numbered additional sheets if needed.): Revised Section 4, Decontamination, Waste, and Equipment Release Plan and Section 5, Inaccessible Beryllium Area Only.			
Originator Name (print): Robert Edgar	Z#: 242184	Organization: ESH&Q	Date: 5-11-2011
Section 2 - Responsible Manager Approval for Processing			
<input type="checkbox"/> New Procedure	<input type="checkbox"/> Minor Revision	<input type="checkbox"/> Deactivation	<input type="checkbox"/> Perform Concurrent Periodic Review?
	<input checked="" type="checkbox"/> Major Revision	<input type="checkbox"/> Cancellation	
Superseded Document(s) and Revision Number: TA21-MDAB-PLAN-00029, Rev 0			
<input checked="" type="checkbox"/> Approved		<input type="checkbox"/> Disapproved (return to originator)	
Comments:			
Signature: 	Print Name, Title: Jeff Erickson, ESH&Q Manager	Z#: 186677	Date: 5-11-2011
Section 3 - Hazard Grading			
Hazard Determination: <input type="checkbox"/> Low <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> High/Complex			
Document is authorized to serve as IWD? <input type="checkbox"/> Part I only <input type="checkbox"/> Full IWD <input checked="" type="checkbox"/> N/A			
Section 4 - Required Reviews (see P315, Ch 16, Section 16.5.3)			
Discipline:	Name:	Signature:	Date:
ESH&Q	Jeff Erickson		5/11/11
LANL Be SME	Gary Whitney		5/11/11
QA	Larry Maassen		5/11/11
MDA-B IH	Bob Edgar		5/11/11
Validation Required: <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Waive			
Comment:			
Scope of Validation: <input type="checkbox"/> Entire Procedure <input type="checkbox"/> Change Only			
Validation Method: <input type="checkbox"/> Walkdown <input type="checkbox"/> Simulation <input type="checkbox"/> Tabletop <input type="checkbox"/> First Time Use			
Training Determination completed?: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A			
Completed by: 			
USQ/USI Number (if needed): N/A 9PK 5-12-11	Signature: 	Z#: 231322	Date: 5-12-11
Derivative Classifier: <input type="checkbox"/> Unclassified <input type="checkbox"/> OOU <input type="checkbox"/> UCNI <input type="checkbox"/> Classified	Signature: 	Z#: 186677	Date: 5-12-11
DUSA ENVPRO			
Section 5- Final Approvals			
<input checked="" type="checkbox"/> Release		Details:	
<input type="checkbox"/> Hold			
Responsible Manager Signature: 	Print Name, Title: Jeff Erickson	Z#: 186677	Date: 5-12-11