



October 10, 2019

### Occupational Health Personal Exposure Monitoring Results

Dear s.22

Lehigh Hanson is dedicated to maintaining a safe and healthy workplace for its employees. As part of the Occupational Health Management System, you participated in personal monitoring conducted to evaluate workplace exposures to noise, respirable dust and respirable crystalline silica. The results of this monitoring are as follows:

#### Noise Exposure Monitoring Results

Sample # / Job Title	Date / Duration	8-Hour $L_{eq}$ Exposure dB(A)	WSBC 85 dB(A) Limit Exceeded	82 dB(A) Action Limit Exceeded
001 s.22	7/26/19 332 min	82.7	No	Yes

#### Respirable Dust / Silica Exposure Monitoring Results

Sample # / Job Title	Date / Duration of Sample	Respirable Dust 8 hour TLV: 3 mg/m <sup>3</sup>	Respirable Dust Exposure Limit Exceeded	Respirable Crystalline Silica BC Mines 8 hour TLV: 0.05 mg/m <sup>3</sup>	BC Mines Act Respirable Crystalline Silica Exposure Limit Exceeded
001 s.22	7/26/19 332 min	0.45	No	0.058	Yes

These results indicate that:

- Exposures to noise were above the action level but not above the 8 hour occupational exposure limit.
  - NAM implements a Hearing Conservation Program when exposure limits are at or above the action level of 82 dBA. If you have further questions on these programs and your participation in them please contact your area or facility Safety and Health representatives.



- Exposures to respirable dust and respirable crystalline silica were above the BC Mines PEL for 8 hour occupational exposure limit.
  - NAM operations initially implement engineering control measures to control workplace chemical exposure risks as a priority policy, whenever feasible. When engineering controls are feasible or effective enough to reduce workplace exposure risks to levels below action levels or exposure levels, as applicable, NAM operations implement a Respiratory Protection Program, if respiratory protection is appropriate. In addition, a Silica Exposure Management Program is implemented for operations where the potential for exposure at or above the action level to respirable crystalline silica exists. If you have further questions on these programs and your participation in them please contact your area or facility Safety and Health representatives.

If there are any further questions, please contact:

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**Area Manager Health and Safety**  
Office, 604-269-6570  
Cell, 604-828-4514  
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Sample # / Job Title	Date / Duration	8-Hour $L_{eq}$ Exposure dB(A)	WSBC 85 dB(A) Limit Exceeded	82 dB(A) Action Limit Exceeded
003 s.22	7/26/19 378 min	80	No	No

#### Respirable Dust / Silica Exposure Monitoring Results

Sample # / Job Title	Date / Duration of Sample	Respirable Dust 8 hour TLV: 3 mg/m <sup>3</sup>	Respirable Dust Exposure Limit Exceeded	Respirable Crystalline Silica BC Mines 8 hour TLV: 0.05 mg/m <sup>3</sup>	BC Mines Act Respirable Crystalline Silica Exposure Limit Exceeded
003 s.22	7/26/19 378 min	0.068	No	<0.0065	No

These results indicate that:

- Exposures to noise were below both the action level and the 8 hour occupational exposure limit.
  - NAM implements a Hearing Conservation Program when exposure limits are at or above the action level of 82 dBA. If you have further questions on these programs and your participation in them please contact your area or facility Safety and Health representatives.



- Exposures to respirable dust and respirable crystalline silica were below the BC Mines PEL for 8 hour occupational exposure limit.
  - NAM operations initially implement engineering control measures to control workplace chemical exposure risks as a priority policy, whenever feasible. When engineering controls are feasible or effective enough to reduce workplace exposure risks to levels below action levels or exposure levels, as applicable, NAM operations implement a Respiratory Protection Program, if respiratory protection is appropriate. In addition, a Silica Exposure Management Program is implemented for operations where the potential for exposure at or above the action level to respirable crystalline silica exists. If you have further questions on these programs and your participation in them please contact your area or facility Safety and Health representatives.

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Sample # / Job Title	Date / Duration	8-Hour $L_{\text{ex}}$ Exposure dB(A)	WSBC 85 dB(A) Limit Exceeded	82 dB(A) Action Limit Exceeded
004 s.22	7/26/19 374 min	82.7	No	Yes

#### Respirable Dust / Silica Exposure Monitoring Results

Sample # / Job Title	Date / Duration of Sample	Respirable Dust 8 hour TLV: 3 mg/m <sup>3</sup>	Respirable Dust Exposure Limit Exceeded	Respirable Crystalline Silica BC Mines 8 hour TLV: 0.05 mg/m <sup>3</sup>	BC Mines Act Respirable Crystalline Silica Exposure Limit Exceeded
004 s.22	7/26/19 374 min	<0.067	No	<0.0067	No

These results indicate that:

- Exposures to noise were above the action level but below the 8 hour occupational exposure limit.



- NAM implements a Hearing Conservation Program when exposure limits are at or above the action level of 82 dBA. If you have further questions on these programs and your participation in them please contact your area or facility Safety and Health representatives.
- Exposures to respirable dust and respirable crystalline silica were below the BC Mines PEL for 8 hour occupational exposure limit.
  - NAM operations initially implement engineering control measures to control workplace chemical exposure risks as a priority policy, whenever feasible. When engineering controls are feasible or effective enough to reduce workplace exposure risks to levels below action levels or exposure levels, as applicable, NAM operations implement a Respiratory Protection Program, if respiratory protection is appropriate. In addition, a Silica Exposure Management Program is implemented for operations where the potential for exposure at or above the action level to respirable crystalline silica exists. If you have further questions on these programs and your participation in them please contact your area or facility Safety and Health representatives.

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#### Noise Exposure Monitoring Results

Sample # / Job Title	Date / Duration	8-Hour $L_{ex}$ Exposure dB(A)	WSBC 85 dB(A) Limit Exceeded	82 dB(A) Action Limit Exceeded
002 s.22	7/26/19 391 min	83.7	No	Yes

#### Respirable Dust / Silica Exposure Monitoring Results

Sample # / Job Title	Date / Duration of Sample	Respirable Dust 8 hour TLV: 3 mg/m <sup>3</sup>	Respirable Dust Exposure Limit Exceeded	Respirable Crystalline Silica BC Mines 8 hour TLV: 0.05 mg/m <sup>3</sup>	BC Mines Act Respirable Crystalline Silica Exposure Limit Exceeded
002 s.22	7/26/19 391 min	0.11	No	<0.0063	No

These results indicate that:

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- Exposures to respirable dust and respirable crystalline silica were below the BC Mines PEL for 8 hour occupational exposure limit.
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y email: Broad, Len D (Sechelt) CAN <Len.Broad@lehighhanson.com> Dear Mr. Broad,

Re: Inspection report 136144, Order 1

Upon review of the program submitted to satisfy HSR Code section 2.1.3, I have identified revisions that are required to ensure the program is developed and implemented to the satisfaction of the Chief Inspector of Mines. Please provide a response to each of the numbered bullets below on or before October 1st, 2019. Should you have any questions, please feel free to contact me.

1. Specify if contractors (eg. West Coast Mining) are included in the scope of the program, and if not, how will you ensure they are in compliance as per Mines Act section 25 and Code section 2.1.3?

Contractors such as WCM who are permanent operators on site will be included in future hygiene studies.

2. Define the roles and responsibilities of the program. This should include roles such as the mine manager, safety manager, program administrator, supervisors, workers/contractors, OHS Committee and the industrial hygienists.

See attachment Employee Health and Hygiene

3. Identify a formal means for communication of program deliverables to all levels of the organization. For example, aggregate results of the program should be posted in conspicuous locations and discussed at safety meetings. Names of those sampled must remain confidential/anonymous, but they should be privately informed of their results and informed of the hazard and how to effectively mitigate future exposures if needed.

As stated above the results have been reviewed by upper management and have now been shared with the Sechelt operation. The results re posted and will be reviewed. Results are going to be shared with the individuals who were tested.

4. Provide a general description of, or reference to, the procedures in place to anticipate potential occupational health hazards at the project planning or product procurement stage. Eg: inclusion of occupational health hazards in field level risk assessments.

See email attachment for FLHA Book.

Develop a suitable method for prioritization of Similar Exposure Groups (SEGs) for further information gathering, targeting education/training, and implementing controls. This is typically based on exposure ratings, health effect ratings and uncertainty ratings.

See email attachment for Workplace Monitoring Program

6. How is sampling frequency of SEGs being determined?

See email attachment for Workplace Monitoring Program

7. Define how sampling data will be evaluated, using valid statistical tools and professional judgement. Provide an example.

See email attachment for Workplace Monitoring Program

8. Implement an appropriate strategy to check and refine SEGs to ensure they are in fact similarly exposed.

See email attachment for Workplace Monitoring Program

9. The program, its revisions, and all associated information generated through the program elements during their development and implementation must be appropriately documented and kept on file for the life of the mine. The records must be transferred to the chief inspector upon abandonment of the mine. 10 years retention as stated in the program is not appropriate for the latency period of occupational diseases.

Records are on file.

Regards,

Andrew Sinstadt, M.Sc.

Inspector of Mines, Occupational Health

Ministry of Energy and Mines and Petroleum Resources Health, Safety and Permitting Branch

1810 Blanshard Street, Victoria, BC, V8W 9N3 Office: (778) 698-7159 | Cell: (778) 679-3769



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005 s.22	7/26/19 407 min	77.1	No	No

**Respirable Dust / Silica Exposure Monitoring Results**

Sample # / Job Title	Date / Duration of Sample	Respirable Dust 8 hour TLV: 3 mg/m <sup>3</sup>	Respirable Dust Exposure Limit Exceeded	Respirable Crystalline Silica BC Mines 8 hour TLV: 0.05 mg/m <sup>3</sup>	BC Mines Act Respirable Crystalline Silica Exposure Limit Exceeded
005 s.22	7/26/19 407 min	0.23	No	0.03	No

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Sample # / Job Title	Date / Duration	8-Hour L <sub>ex</sub> Exposure dB(A)	WSBC 85 dB(A) Limit Exceeded	82 dB(A) Action Limit Exceeded
006 s.22	7/26/19 392 min	80.8	No	No

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006 s.22	7/26/19 392 min	0.081	No	<0.0063	No

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Sample # / Job Title	Date / Duration	8-Hour L <sub>ex</sub> Exposure dB(A)	WSBC 85 dB(A) Limit Exceeded	82 dB(A) Action Limit Exceeded
007 s.22	7/26/19 349 min	90.9	Yes	Yes

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007 s.22	7/26/19 349 min	0.14	No	0.016	No

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