



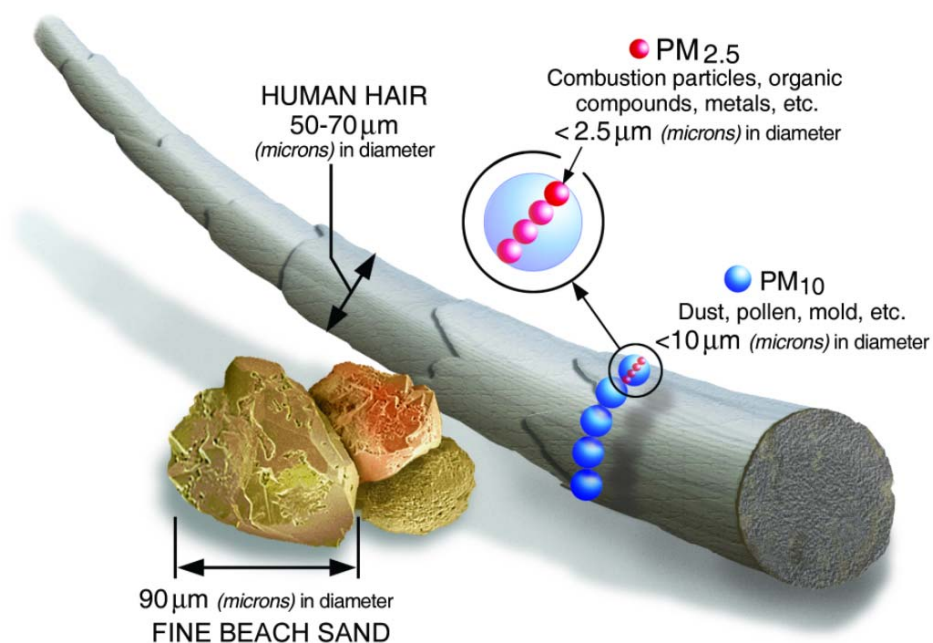
PEACE RIVER OPERATIONS FACT SHEET

SILICA DUST INFORMATION AND DATA

What is the definition of Respirable crystalline silica?

Particles less than 10 micrometers (μm) in size that can be inhaled deeply into the gas-exchange region of the lungs.

Reference: Alberta Occupational Health and Safety Bulletin, Crystalline Silica at the Work Site (CH059), November 2009



Reference: <https://www.epa.gov/pm-pollution/particulate-matter-pm-basics>



What are the sizes of sand produced at the Peace River Operations?

Frac Sand Grade	Size (µm)
16/30	600 – 1,180
20/40	425 – 850
30/50	300 – 600
40/70	212 – 425
50/140	106 – 300

What are the regulatory limits for exposures to silica dust?

8-hour Occupational Exposure Limit (OEL) for Silica-Crystalline

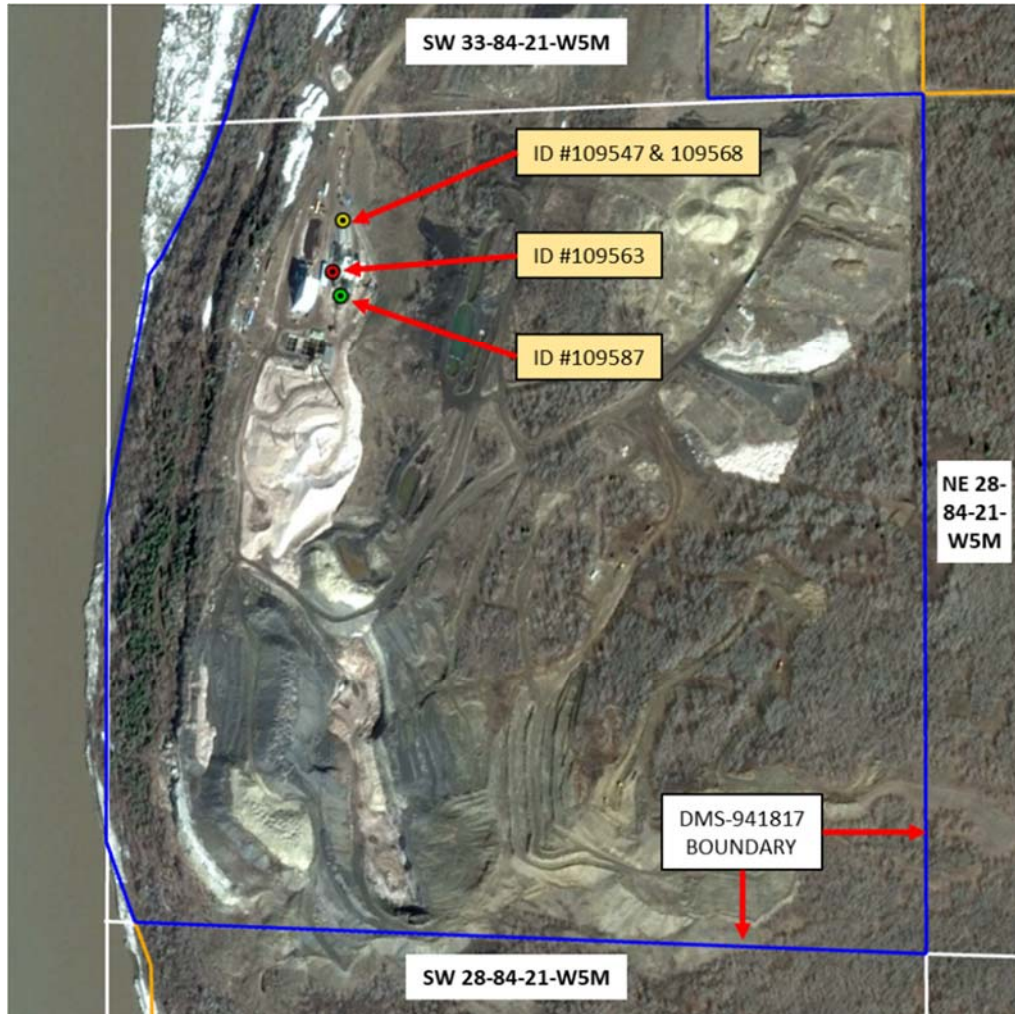
Reference: Occupational Health and Safety Code 2009

Substance	CAS number	8-hour occupational exposure limit		
		ppm	mg/m ³	f/cc
Silica-Crystalline, Respirable particulate Cristobalite Quartz	14464-46-1	-	0.025	-
	14808-60-7	-	0.025	-

What does the testing show for respirable dust levels directly at the mine site operations?

January-February 2017 Sampling

Sample ID	Sample Location	Date of Sample	Sampling Results	
			Quartz (mg/m ³)	Cristobalite (mg/m ³)
109547	Main office	Jan. 11, 2017	0.012	Below detection limits
109568	Main office	Jan. 16, 2017	0.011	Below detection limits
109563	Truck Scale	Jan. 27, 2017	0.012	0.025
109587	Dry plant groundsman	Feb. 3, 2017	0.018	0.021



Results summary:

CSI monitoring data shows that respirable dust produced at the point source of manufacturing the sand does not exceed regulatory guidelines.

The boundaries of the mine site are 600-800 meters away from this point source.



What are CSI's plan for ongoing monitoring and stewardship of respirable dust levels?

1. CSI currently undertakes periodic dust monitoring at the site and will be posting these levels on this fact sheet going forward.
2. CSI will extend the dust monitoring system to include measurements at the boundaries of the operations.