

Prevalence and risk factors for silicosis among a large cohort of stone benchtop industry workers

Online supplementary material

Details of the screening programme methodology and standardised stone benchtop industry questionnaire have been previously published.¹

Stone benchtop industry health screening programme protocol overview

Primary screening

Two occupational health providers provided primary screening under the supervision of an occupational and environmental physician.

SBI workers completed a standardised questionnaire (Appendix 1) about: demographics; employment history within the SBI; respiratory symptoms^{2,3}; smoking history; other relevant medical history; and the perceived stress scale.⁴ All workers underwent physical examination with a focus on the respiratory system and features of autoimmune diseases.

CXRs were acquired in accordance with the International Labour Office (ILO) International Classification of Radiographs of Pneumoconioses 2011 Guidelines.⁵ Single-read CXR interpretation and ILO classification were performed by a radiologist with B reader certification by the United States National Institute for Occupational Safety and Health. The concentration (profusion) of small opacities (≤ 10 mm in diameter) on the CXR was categorised from 0 (absence of opacities) to 3. A large opacity was defined as an opacity having the longest dimension exceeding 10 mm.

RFT parameters assessed were: FEV₁; FVC; ratio of FEV₁/FVC; and D_Lco. Spirometric measures were re-assessed post-bronchodilator. ATS/ERS standards were followed.^{6,7} Reference values and lower limits of normal (LLN) were calculated using Global Lung Initiative (GLI) equations, adjusting for age, sex, height and ethnicity.^{8,9}

After completion of primary screening, data were reviewed by an occupational and environmental physician and workers were referred for secondary screening, if one or more of the following criteria were met:

1. Abnormal CXR: ILO small opacity profusion category ≥ 1 , presence of large opacity or other relevant abnormal finding.
2. Abnormal RFT result, defined by FEV₁, FVC, FEV₁/FVC or D_Lco below LLN, and/or a 12% and 200ml improvement in FEV₁ and/or FVC post bronchodilator.
3. Symptoms or signs determined by the physician to be significant, such as exertional dyspnoea.
4. "High" or "very high" silica exposure category. Participants were assigned an estimated silica exposure category using an exposure intensity matrix based on duration of work in SBI and the identified job with highest intensity of either personal or bystander exposure to dry processing (e-Table 1). Investigators reviewed questionnaire responses to assign a final exposure category.

e-Table 1. Estimated silica exposure categories.

		Duration (years) of work in stone benchtop industry			
		≤ 2	>2 to ≤ 4	>4 to ≤ 6	> 6
Highest dry processing exposure intensity reported	Never (0%)	L	L	M	M
	Rarely (1- <10%)	L	L	M	M
	Sometimes (10-<25%)	M	H	H	H
	Frequently (25-<50%)	H	H	H	VH
	Very frequently (50-<100%)	VH	VH	VH	VH
	Always (100%)	VH	VH	VH	VH

Abbreviations: L = low, M = medium, H = high, VH = very high.

Duration (years) was calculated from the current year, or year the worker left the stone benchtop industry, minus the year of commencing work in the stone benchtop industry, or alternatively calculation of cumulative years if work was intermittent. Highest exposure intensity was determined from the response to “*What proportion of time have you spent doing dry work or near someone else doing dry work (bystander) exposure since starting this job?*” and identification of the job with the highest exposure regardless of duration.

Secondary screening

Workers referred for secondary screening underwent a non-contrast HRCT chest acquired in both inspiration and expiration, including the entire lung fields and submillimeter slices and reconstructions in the coronal and sagittal planes with dedicated maximum intensity projection images. Reporting radiologists had expertise in occupational respiratory diseases. Workers were assessed by a respiratory physician with expertise in occupational and/or interstitial lung diseases, all of whom participated in training provided by the WHS agency covering hazards in the SBI, screening methodology and diagnostic definitions of silicosis.

e-Table 2: Description of reasons for secondary screening (N=414)

Respiratory function parameter < LLN (GLI) *	n(%)
FEV ₁ (baseline)	34 (10.0)
FVC (baseline)	26 (7.6)
FEV ₁ /FVC ratio (baseline)	48 (14.1)
DLCO	28 (8.2)
Bronchodilator response present *	
Change in FEV ₁ and/or FVC >12% and 200 mls	23 (6.9)
Chest x-ray	
ILO > 0/1	114 (27.5)
Estimated exposure level	
High or very high	368 (89.1)
Significant respiratory, other symptoms/signs	
Yes (determined by OHP)	268 (64.7)
Number of reasons for referral	
1	103 (24.9)
2	209 (50.5)
≥ 3	102 (24.6)

* Lung function data missing for 74 participants> Bronchodilator response was missing for 81 participants.

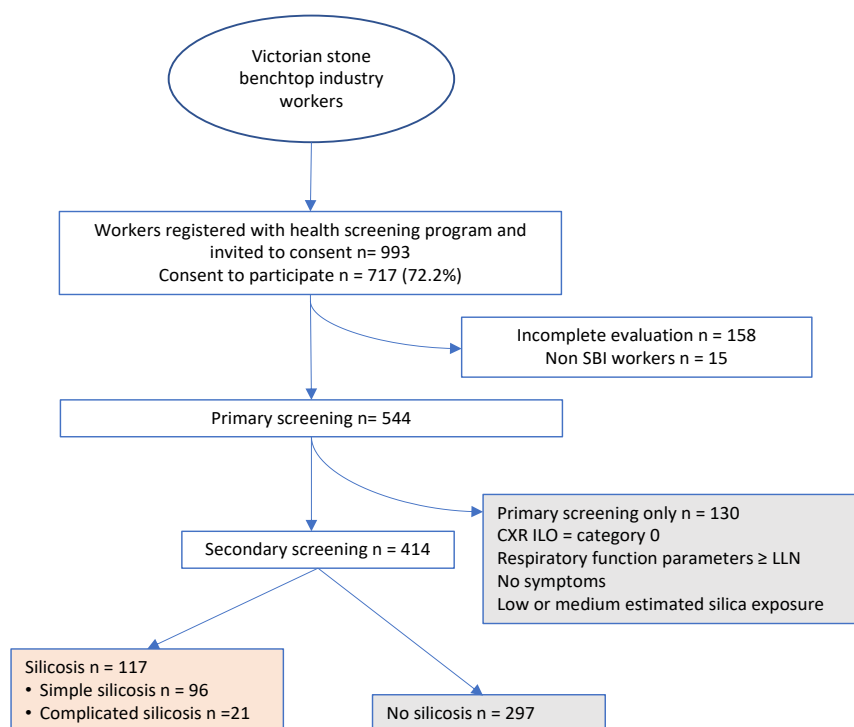
e-Table 3: Description of exposure-related reasons for secondary screening

	All (544)	Primary assessment only (N=130)	Primary and secondary assessment (N=414)
	n(column %)	n(row %)	n(row %)
Highest exposure intensity (Proportion of time in environment with dry work- highest job)			
Maximum from both personal and secondary exposure			
Never	75 (13.8)	58 (77.3)	17 (22.7)
Rarely 1 to 9%	90 (16.5)	67 (74.4)	23 (25.6)
Sometimes 10 to 24%	60 (11.0)	5 (8.3)	55 (91.7)
Frequently 25 to 49%	66 (12.1)	0 (0.0)	66 (100.0)
Very frequently 50 to 99%	144 (26.5)	0 (0.0)	144 (100.0)
Always 100%	109 (20.0)	0 (0.0)	109 (100.0)
Duration in industry (years)			
≤ 2	113 (20.8)	80 (70.8)	33 (29.2)
> 2 to ≤ 4	74 (13.6)	27 (36.5)	47 (63.5)
> 4 to ≤ 6	84 (15.4)	6 (7.1)	78 (92.9)
> 6	273 (50.2)	17 (6.2)	256 (93.8)
Exposure category			
Low/Medium	175 (32.2)	130 (74.3)	45 (25.7)
High/very high	369 (67.8)	0 (0.0)	369 (100.0)

e-Table 4: Relationship between worker characteristics and silicosis severity

	By silicosis severity		Comparison between groups (unadjusted)
	Simple (% row)	Complicated (% row)	
	N=96	N=21	OR (95% CI)
Sex, n (%)			
Male	96 (82.1)	21 (17.8)	---
Female	0 (0.0)	0 (0.0)	
Age (years), median (P25-P75)	42.0 (34.1-49.6)	42.1 (36.3-51.0)	1.01 (0.96-1.05)
BMI (kg/m²), mean (SD)	27.0 (4.3)	24.5 (4.7)	0.86 (0.76-0.98)
Smoking history, n (%)			
Never	27 (93.1)	2 (6.9)	Ref
Former/Current	28 (77.8)	8 (22.2)	3.72 (0.81-17.06)
Pack years, median (P25-P75)			
All	7.1 (0.0-13.9)	8.3 (2.0-12.6)	
Former/Current smokers only	11.9 (6.7-21.6)	9.3 (5.0-15.6)	
Place of birth, n (%)			
Australia	37 (77.1)	11 (22.4)	Ref
Other	2 (66.7)	1 (33.3)	0.60 (0.23-1.56)
Dyspnoea score, n (%)			
0	61 (85.9)	10 (14.1)	Ref
1	17 (77.3)	5 (22.7)	1.79 (0.54-5.96)
2	10 (83.3)	2 (16.7)	1.22 (0.23-6.41)
3	8 (66.7)	4 (33.3)	3.05 (0.77-12.05)
EXPOSURES			
Career duration (years),			
Median (P25, P75)	13 (9-22)	11 (9-18)	0.97 (0.91-1.03)
Range	3- 43	4 - 26	
Time since first exposure (years), median (P25, P75)	13 (9-23)	11 (9-18)	0.98 (0.92-1.04)
Age at first exposure (years)			
Median (P25, P75)	25 (20-33)	27 (21-40)	1.02 (0.97-1.07)
Range	14 - 58	13 - 46	
Duration of exposure (years), median (P25, P75)	11.3 (7.0-17.1)	10.9 (5.9-19.4)	1.00 (0.94-1.06)
Number of jobs held			
Median (P25, P75)	3 (2 - 4)	2 (1 - 4)	0.91 (0.72-1.16)
Range	1 - 30	1 - 10	
Highest exposure intensity, n (%)			
<i>Maximum from both personal and secondary exposure</i>			
Never/Rarely/Sometimes	19 (95.0)	1 (5.0)	Ref
(Very)Frequently/Always	77 (79.4)	20 (20.6)	4.94 (0.62-39.12)
Silica exposure category, n(%)			
Low/Medium	5 (100.0)	0 (0)	---
High/very high	91 (81.2)	21 (18.8)	

Supplementary figure 1. Study inclusion flow chart



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Appendix 1: Standardised stone benchtop industry questionnaire

Assessing doctor's name: _____

Organisation: _____

PART ONE	Photo ID Sighted:	Yes	No
Section A: Your personal details			
1. First Name			
2. Surname			
3. Address			
4. Postcode			
5. Suburb / State			
6. Email Address			
7. Home Phone ()			
8. Mobile Phone			
9. Date of Birth			
10 Gender at Birth		<input checked="" type="checkbox"/> Male	<input type="checkbox"/> Female
10. Family Doctor Name & Phone Number			
11. Country of Birth			
12. Employer			
13. Worksite Site Name & State			
14. Job Title (Current)			
15. Company Contact Person & Phone			
16. Employer Address			
17. Language Spoken			
18. Preferred Follow up Contact Method			

Section B Employment history in stone benchtop industry	
1. Year started work in the stone benchtop industry (YYYY):	
2. Are you still working in the stone benchtop industry?	Yes <input type="checkbox"/> No <input type="checkbox"/>
3. If no, what year did you finish work? (YYYY)	
4. How many different workplaces/employers have you had in the stone benchtop industry?	

Artificial stone is also known as engineered, agglomerated or reconstituted stone, quartz conglomerate, Caesarstone, EssaStone, Silestone, Smartstone.

On the following pages, starting with your **most recent job** we would like to know more about your work in the stone benchtop industry and use of artificial stone.

If you have worked at more than one company, please also complete details for the **three other longest places of employment** in the stone benchtop industry. Leave blank if not relevant.

I am going to ask some questions. I would like you to answer yes or no, whenever possible.

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5.	Company 1 name:					
6.	Country (if not Australia):					
7.	State:					
8.	Job title:					
9.	When did you start this job? (mm/yyyy)	/	If relevant, when did you finish this job? (mm/yyyy)	/		
10.	How many days per week do/did you work in this job?					
11.	How many hours per day do/did you work in this job?					
12.	How many people work in your organisation? (circle)					
	< 10	10 – 50	50 - 250	Over 250		
13.	In this job do you work with (circle):					
	Only artificial stone?	Only natural stone?	Both?			
14.	If both, what proportion of the time is spent with artificial stone? (circle)					
	Less than 50%		Over 50%			
15.	What do you do in this job? (Tick all that apply)					
	TASK		Estimate percentage of time in a typical week undertaking this task (e.g. 10%)			
	Shaping e.g. with powered hand tools	<input type="checkbox"/>				
	Sawing e.g. with bridge saw	<input type="checkbox"/>				
	Using CNC machine	<input type="checkbox"/>				
	Polishing/Finishing	<input type="checkbox"/>				
	General labouring	<input type="checkbox"/>				
	Maintenance	<input type="checkbox"/>				
	Cleaning the tools, surfaces and/or work space	<input type="checkbox"/>				
	Onsite Installing	<input type="checkbox"/>				
	Other eg Template maker, manager, supervisor, office worker	<input type="checkbox"/>				
	If other, specify: _____					
16.	What proportion of time have you spent doing dry work (without use of water) since starting this job? (circle)					
	Never 0%	Rarely 1- <10%	Sometimes 10- <25%	Frequently 25- <50%	Very frequently 50-<100%	Always 100%
17.	What proportion of time have you spent near someone else doing dry work since starting this job? (circle)					
	Never 0%	Rarely 1- <10%	Sometimes 10- <25%	Frequently 25- <50%	Very frequently 50-<100%	Always 100%
18.	Is there special ventilation that sucks dust away? (circle)					
	Yes		No			
19.	If yes, is the ventilation (tick all that apply)					
	On the tools <input type="checkbox"/>	At the bench <input type="checkbox"/>	In the ceiling <input type="checkbox"/>	Open window/door <input type="checkbox"/>		
20.	What sort of respirator (mask) do you usually wear at work (tick all that apply)?					
	None	<input type="checkbox"/>				
	Paper/disposable	<input type="checkbox"/>				
	Half face	<input type="checkbox"/>	If yes, tick if air supplied? <input type="checkbox"/>			
	Full face	<input type="checkbox"/>	If yes, tick if air supplied? <input type="checkbox"/>			
21.	What proportion of time do you wear a respirator? (circle)					
	Never 0%	Rarely 1- <10%	Sometimes 10- <25%	Frequently 25- <50%	Very frequently 50-<100%	Always 100%
22.	Doctors comments, if required:					

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23.	Company 2 name:					
24.	Country (if not Australia):					
25.	State:					
26.	Job title:					
27.	When did you start this job? (mm/yyyy)	/	If relevant, when did you finish this job? (mm/yyyy)	/		
28.	How many days per week do/did you work in this job?					
29.	How many hours per day do/did you work in this job?					
30.	How many people work in your organisation? (circle)					
	< 10	10 – 50	50 - 250	Over 250		
31.	In this job do you work with (circle):					
	Only artificial stone?	Only natural stone?	Both?			
32.	If both, what proportion of the time is spent with artificial stone? (circle)					
	Less than 50%		Over 50%			
33.	What do you do in this job? (Tick all that apply)					
	TASK		Estimate percentage of time in a typical week undertaking this task (e.g. 10%)			
	Shaping e.g. with powered hand tools	<input type="checkbox"/>				
	Sawing e.g. with bridge saw	<input type="checkbox"/>				
	Using CNC machine	<input type="checkbox"/>				
	Polishing/Finishing	<input type="checkbox"/>				
	General labouring	<input type="checkbox"/>				
	Maintenance	<input type="checkbox"/>				
	Cleaning the tools, surfaces and/or work space	<input type="checkbox"/>				
	Onsite Installing	<input type="checkbox"/>				
	Other eg Template maker, manager, supervisor, office worker	<input type="checkbox"/>				
	If other, specify: _____					
34.	What proportion of time have you spent doing dry work (without use of water) since starting this job? (circle)					
	Never 0%	Rarely 1- <10%	Sometimes 10- <25%	Frequently 25- <50%	Very frequently 50- <100%	Always 100%
35.	What proportion of time have you spent near someone else doing dry work since starting this job? (circle)					
	Never 0%	Rarely 1- <10%	Sometimes 10- <25%	Frequently 25- <50%	Very frequently 50- <100%	Always 100%
36.	Is there special ventilation that sucks dust away? (circle)					
	Yes		No			
37.	If yes, is the ventilation (tick all that apply)					
	On the tools <input type="checkbox"/>	At the bench <input type="checkbox"/>	In the ceiling <input type="checkbox"/>	Open window/door <input type="checkbox"/>		
38.	What sort of respirator (mask) do you usually wear at work (tick all that apply)?					
	None	<input type="checkbox"/>				
	Paper/disposable	<input type="checkbox"/>				
	Half face	<input type="checkbox"/>	If yes, tick if air supplied? <input type="checkbox"/>			
	Full face	<input type="checkbox"/>	If yes, tick if air supplied? <input type="checkbox"/>			
39.	What proportion of time do you wear a respirator? (circle)					
	Never 0%	Rarely 1- <10%	Sometimes 10- <25%	Frequently 25- <50%	Very frequently 50- <100%	Always 100%
40.	Doctors comments, if required:					

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41.	Company 3 name:				
42.	Country (if not Australia):				
43.	State:				
44.	Job title:				
45.	When did you start this job? (mm/yyyy)	/	If relevant, when did you finish this job? (mm/yyyy)	/	
46.	How many days per week do/did you work in this job?				
47.	How many hours per day do/did you work in this job?				
48.	How many people work in your organisation? (circle)				
	< 10	10 – 50	50 - 250	Over 250	
49.	In this job do you work with (circle):				
	Only artificial stone?	Only natural stone?	Both?		
50.	If both, what proportion of the time is spent with artificial stone? (circle)				
	Less than 50%		Over 50%		
51.	What do you do in this job? (Tick all that apply)				
	TASK		Estimate percentage of time in a typical week undertaking this task (e.g. 10%)		
	Shaping e.g. with powered hand tools	<input type="checkbox"/>			
	Sawing e.g. with bridge saw	<input type="checkbox"/>			
	Using CNC machine	<input type="checkbox"/>			
	Polishing/Finishing	<input type="checkbox"/>			
	General labouring	<input type="checkbox"/>			
	Maintenance	<input type="checkbox"/>			
	Cleaning the tools, surfaces and/or work space	<input type="checkbox"/>			
	Onsite Installing	<input type="checkbox"/>			
	Other eg Template maker, manager, supervisor, office worker	<input type="checkbox"/>			
	If other, specify: _____				
52.	What proportion of time have you spent doing dry work (without use of water) since starting this job? (circle)				
	Never 0%	Rarely 1- <10%	Sometimes 10- <25%	Frequently 25- <50%	Very frequently 50-<100%
53.	What proportion of time have you spent near someone else doing dry work since starting this job? (circle)				
	Never 0%	Rarely 1- <10%	Sometimes 10- <25%	Frequently 25- <50%	Very frequently 50-<100%
54.	Is there special ventilation that sucks dust away? (circle)				
	Yes		No		
55.	If yes, is the ventilation (tick all that apply)				
	On the tools <input type="checkbox"/>	At the bench <input type="checkbox"/>	In the ceiling <input type="checkbox"/>	Open window/door <input type="checkbox"/>	
56.	What sort of respirator (mask) do you usually wear at work (tick all that apply)?				
	None	<input type="checkbox"/>			
	Paper/disposable	<input type="checkbox"/>			
	Half face	<input type="checkbox"/>	If yes, tick if air supplied? <input type="checkbox"/>		
	Full face	<input type="checkbox"/>	If yes, tick if air supplied? <input type="checkbox"/>		
57.	What proportion of time do you wear a respirator? (circle)				
	Never 0%	Rarely 1- <10%	Sometimes 10- <25%	Frequently 25- <50%	Very frequently 50-<100%
58.	Doctors comments, if required:				

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59.	Company 4 name:					
60.	Country (if not Australia):					
61.	State:					
62.	Job title:					
63.	When did you start this job? (mm/yyyy)	/ ____	If relevant, when did you finish this job? (mm/yyyy)	/ ____		
64.	How many days per week do/did you work in this job?					
65.	How many hours per day do/did you work in this job?					
66.	How many people work in your organisation? (circle)					
		< 10	10 – 50	50 - 250	Over 250	
67.	In this job do you work with (circle):					
	Only artificial stone?	Only natural stone?	Both?			
68.	If both, what proportion of the time is spent with artificial stone? (circle)					
		Less than 50%	Over 50%			
69.	What do you do in this job? (Tick all that apply)					
	TASK		Estimate percentage of time in a typical week undertaking this task (e.g. 10%)			
	Shaping e.g. with powered hand tools	<input type="checkbox"/>				
	Sawing e.g. with bridge saw	<input type="checkbox"/>				
	Using CNC machine	<input type="checkbox"/>				
	Polishing/Finishing	<input type="checkbox"/>				
	General labouring	<input type="checkbox"/>				
	Maintenance	<input type="checkbox"/>				
	Cleaning the tools, surfaces and/or work space	<input type="checkbox"/>				
	Onsite Installing	<input type="checkbox"/>				
	Other eg Template maker, manager, supervisor, office worker	<input type="checkbox"/>				
	If other, specify: _____					
70.	What proportion of time have you spent doing dry work (without use of water) since starting this job? (circle)					
	Never 0%	Rarely 1- <10%	Sometimes 10- <25%	Frequently 25- <50%	Very frequently 50-<100%	Always 100%
71.	What proportion of time have you spent near someone else doing dry work since starting this job? (circle)					
	Never 0%	Rarely 1- <10%	Sometimes 10- <25%	Frequently 25- <50%	Very frequently 50-<100%	Always 100%
72.	Is there special ventilation that sucks dust away? (circle)					
		Yes	No			
73.	If yes, is the ventilation (tick all that apply)					
	On the tools <input type="checkbox"/>	At the bench <input type="checkbox"/>	In the ceiling <input type="checkbox"/>	Open window/door <input type="checkbox"/>		
74.	What sort of respirator (mask) do you usually wear at work (tick all that apply)?					
	None	<input type="checkbox"/>				
	Paper/disposable	<input type="checkbox"/>				
	Half face	<input type="checkbox"/>	If yes, tick if air supplied? <input type="checkbox"/>			
	Full face	<input type="checkbox"/>	If yes, tick if air supplied? <input type="checkbox"/>			
75.	What proportion of time do you wear a respirator? (circle)					
	Never 0%	Rarely 1- <10%	Sometimes 10- <25%	Frequently 25- <50%	Very frequently 50-<100%	Always 100%
76.	Doctors comments, if required:					

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77.	Company 5 name:				
78.	Country (if not Australia):				
79.	State:				
80.	Job title:				
81.	When did you start this job? (mm/yyyy)	/	If relevant, when did you finish this job? (mm/yyyy)	/	
82.	How many days per week do/did you work in this job?				
83.	How many hours per day do/did you work in this job?				
84.	How many people work in your organisation? (circle)				
	< 10	10 – 50	50 - 250	Over 250	
85.	In this job do you work with (circle):				
	Only artificial stone?	Only natural stone?	Both?		
86.	If both, what proportion of the time is spent with artificial stone? (circle)				
	Less than 50%		Over 50%		
87.	What do you do in this job? (Tick all that apply)				
	TASK		Estimate percentage of time in a typical week undertaking this task (e.g. 10%)		
	Shaping e.g. with powered hand tools	<input type="checkbox"/>			
	Sawing e.g. with bridge saw	<input type="checkbox"/>			
	Using CNC machine	<input type="checkbox"/>			
	Polishing/Finishing	<input type="checkbox"/>			
	General labouring	<input type="checkbox"/>			
	Maintenance	<input type="checkbox"/>			
	Cleaning the tools, surfaces and/or work space	<input type="checkbox"/>			
	Onsite Installing	<input type="checkbox"/>			
	Other eg Template maker, manager, supervisor, office worker	<input type="checkbox"/>			
	If other, specify: _____				
88.	What proportion of time have you spent doing dry work (without use of water) since starting this job? (circle)				
	Never 0%	Rarely 1- <10%	Sometimes 10- <25%	Frequently 25- <50%	Very frequently 50-<100%
89.	What proportion of time have you spent near someone else doing dry work since starting this job? (circle)				
	Never 0%	Rarely 1- <10%	Sometimes 10- <25%	Frequently 25- <50%	Very frequently 50-<100%
90.	Is there special ventilation that sucks dust away? (circle)				
	Yes		No		
91.	If yes, is the ventilation (tick all that apply)				
	On the tools <input type="checkbox"/>	At the bench <input type="checkbox"/>	In the ceiling <input type="checkbox"/>	Open window/door <input type="checkbox"/>	
92.	What sort of respirator (mask) do you usually wear at work (tick all that apply)?				
	None	<input type="checkbox"/>			
	Paper/disposable	<input type="checkbox"/>			
	Half face	<input type="checkbox"/>	If yes, tick if air supplied? <input type="checkbox"/>		
	Full face	<input type="checkbox"/>	If yes, tick if air supplied? <input type="checkbox"/>		
93.	What proportion of time do you wear a respirator? (circle)				
	Never 0%	Rarely 1- <10%	Sometimes 10- <25%	Frequently 25- <50%	Very frequently 50-<100%
94.	Doctors comments, if required:				

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Section B: Other silica associated work

We would like to know if you have ever worked or are currently working in any other workplaces with possible silica exposure?
Example jobs include other benchtop companies (not listed previously), mining, quarry work, abrasive blasting, excavation, building and road construction, tunneling and excavation.

	Job title (e.g. stone cutter, kitchen installer, mason, labourer, miner)	Industry (e.g. stone benchtop, construction, manufacturing, mining, quarrying)	Start date (mm/yyyy)	End date (mm/yyyy)	If stone benchtop industry which stone type?	Proportion time with DRY work? (tick if work with stone)	Ventilation present? (tick if present)	Respiratory protection? (tick if provided)
1.					No stone..... <input type="checkbox"/> Only artificial... <input type="checkbox"/> >50% artificial.. <input type="checkbox"/> <50% artificial.. <input type="checkbox"/> Only natural <input type="checkbox"/>	0% <input type="checkbox"/> 1-10%..... <input type="checkbox"/> 10-25%... <input type="checkbox"/> 25-50%... <input type="checkbox"/> 50-100%. <input type="checkbox"/> 100%..... <input type="checkbox"/>	On-tools.. <input type="checkbox"/> Bench <input type="checkbox"/> Ceiling <input type="checkbox"/> Open doors <input type="checkbox"/> <input type="checkbox"/> N/A..... <input type="checkbox"/>	Paper..... <input type="checkbox"/> Non-air supplied. <input type="checkbox"/> Air supplied.. <input type="checkbox"/>
2.					No stone..... <input type="checkbox"/> Only artificial... <input type="checkbox"/> >50% artificial.. <input type="checkbox"/> <50% artificial.. <input type="checkbox"/> Only natural <input type="checkbox"/>	0% <input type="checkbox"/> 1-10%..... <input type="checkbox"/> 10-25%... <input type="checkbox"/> 25-50%... <input type="checkbox"/> 50-100%. <input type="checkbox"/> 100%..... <input type="checkbox"/>	On-tools.. <input type="checkbox"/> Bench <input type="checkbox"/> Ceiling <input type="checkbox"/> Open doors <input type="checkbox"/> <input type="checkbox"/> N/A..... <input type="checkbox"/>	Paper..... <input type="checkbox"/> Non-air supplied. <input type="checkbox"/> Air supplied.. <input type="checkbox"/>
3.					No stone..... <input type="checkbox"/> Only artificial... <input type="checkbox"/> >50% artificial.. <input type="checkbox"/> <50% artificial.. <input type="checkbox"/> Only natural <input type="checkbox"/>	0% <input type="checkbox"/> 1-10%..... <input type="checkbox"/> 10-25%... <input type="checkbox"/> 25-50%... <input type="checkbox"/> 50-100%. <input type="checkbox"/> 100%..... <input type="checkbox"/>	On-tools.. <input type="checkbox"/> Bench <input type="checkbox"/> Ceiling <input type="checkbox"/> Open doors <input type="checkbox"/> <input type="checkbox"/> N/A..... <input type="checkbox"/>	Paper..... <input type="checkbox"/> Non-air supplied. <input type="checkbox"/> Air supplied.. <input type="checkbox"/>
4.					No stone..... <input type="checkbox"/> Only artificial... <input type="checkbox"/> >50% artificial.. <input type="checkbox"/> <50% artificial.. <input type="checkbox"/> Only natural <input type="checkbox"/>	0% <input type="checkbox"/> 1-10%..... <input type="checkbox"/> 10-25%... <input type="checkbox"/> 25-50%... <input type="checkbox"/> 50-100%. <input type="checkbox"/> 100%..... <input type="checkbox"/>	On-tools.. <input type="checkbox"/> Bench <input type="checkbox"/> Ceiling <input type="checkbox"/> Open doors <input type="checkbox"/> <input type="checkbox"/> N/A..... <input type="checkbox"/>	Paper..... <input type="checkbox"/> Non-air supplied. <input type="checkbox"/> Air supplied.. <input type="checkbox"/>
5.					No stone..... <input type="checkbox"/> Only artificial... <input type="checkbox"/> >50% artificial.. <input type="checkbox"/> <50% artificial.. <input type="checkbox"/> Only natural <input type="checkbox"/>	0% <input type="checkbox"/> 1-10%..... <input type="checkbox"/> 10-25%... <input type="checkbox"/> 25-50%... <input type="checkbox"/> 50-100%. <input type="checkbox"/> 100%..... <input type="checkbox"/>	On-tools.. <input type="checkbox"/> Bench <input type="checkbox"/> Ceiling <input type="checkbox"/> Open doors <input type="checkbox"/> <input type="checkbox"/> N/A..... <input type="checkbox"/>	Paper..... <input type="checkbox"/> Non-air supplied. <input type="checkbox"/> Air supplied.. <input type="checkbox"/>
6.					No stone..... <input type="checkbox"/> Only artificial... <input type="checkbox"/> >50% artificial.. <input type="checkbox"/> <50% artificial.. <input type="checkbox"/> Only natural <input type="checkbox"/>	0% <input type="checkbox"/> 1-10%..... <input type="checkbox"/> 10-25%... <input type="checkbox"/> 25-50%... <input type="checkbox"/> 50-100%. <input type="checkbox"/> 100%..... <input type="checkbox"/>	On-tools.. <input type="checkbox"/> Bench <input type="checkbox"/> Ceiling <input type="checkbox"/> Open doors <input type="checkbox"/> <input type="checkbox"/> N/A..... <input type="checkbox"/>	Paper..... <input type="checkbox"/> Non-air supplied. <input type="checkbox"/> Air supplied.. <input type="checkbox"/>

Doctors comments, if required:

WorkSafe Victoria-Monash University
Stonemason
Crystalline Silica
Health Surveillance Medical Assessment

Name: _____

Date: _____

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Section C: Non-Occupational History

	YES	NO
Q1. Do you have any hobbies which involve exposure to dust? For example- pottery, stone work, surfboards, fiberglass? If Yes, please specify your hobbies in further detail: _____	<input type="checkbox"/>	<input type="checkbox"/>
Dr MUST provide comments for any 'Yes' responses and clarify duration and length of exposure:		

Section D: Respiratory symptom questionnaire

BREATHLESSNESS AND WHEEZING		
During the last month:		
1. Are you troubled by shortness of breath when hurrying on level ground or walking up a slight hill?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
2. If Yes to 1 - Do you get short of breath walking with other people of your age on level ground?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
3. If Yes to 2 - Do you have to stop for breath when walking at your own pace on level ground?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
4. If you run, or climb stairs fast do you ever		
a. cough?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
b. wheeze?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
c. get tight in the chest?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
5. Is your sleep ever broken		
a. by wheeze?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
b. difficulty in breathing?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
6. Do you ever wake up in the morning (or from your sleep if a shift worker)		
a. with wheeze?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
b. difficulty with breathing?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
7. Do you ever wheeze		
a. if you are in a smoky room?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
b. if you are in a very dusty place?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
8. If Yes to either Q5, Q6, Q7 - Are your symptoms better		
a. at weekends (or equivalent if shift worker)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
b. when you are on holidays?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
If Yes to Question 8, please record details of any occupational exposure to respiratory hazards e.g. isocyanates, wood dust, aluminium pot room or asbestos, in doctors comments below		
COUGH		
9. Do you usually cough first thing in the morning in winter?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
10. Do you usually cough during the day/ or at night / in the winter?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

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Section D: Respiratory symptom questionnaire

11. If Yes to Q9 or Q10 – Do you cough like this on most days for as much as three months each year? Yes No

PHLEGM

12. Do you usually bring up phlegm from your chest first thing in the morning in winter? Yes No

13. Do you usually bring up any phlegm from your chest during the day / or at night / in winter? Yes No

14. If Yes to Q12 or Q13 – Do you bring up phlegm like this on most days for as much as three months each year? Yes No

PERIODS OF COUGH AND PHLEGM

15. In the past three years, have you had a period of (increased) cough and phlegm lasting for three weeks or more? Yes No

16. If Yes to Q15 – Have you had more than one such episode? Yes No

CHEST ILLNESSES

17. During the past three years, have you had any chest illness that has kept you from your usual activities for as much as a week? Yes No

18. If Yes to Q17 – Did you bring up more phlegm than usual in any of these illnesses? Yes No

19. If Yes to Q18 – Have you had more than one illness like this in the past three years? Yes No

PAST ILLNESSES

20. Have you ever had, or been told that you have had any of the following?

a. An injury, or operation affecting your chest? Yes No

b. Heart problems? Yes No

c. Bronchitis? Yes No

d. Pneumonia? Yes No

e. Pleurisy? Yes No

f. Asthma? Yes No

g. Other chest trouble? Yes No

h. Hay fever? Yes No

TOBACCO SMOKING

21. Do you smoke? Yes No

If No to Q21

22. Have you ever smoked as much as one cigarette a day for as long as one year? Yes No

23. How old were you when you started smoking regularly? _____

24. a. Do (did) you smoke manufactured cigarettes? Yes No

If Yes to Q24a: How many do (did) you usually smoke per day? ____

b. on weekdays? _____ c. at weekends? ____

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Section D: Respiratory symptom questionnaire25. Do (did) you smoke any other forms of tobacco? Yes No

If Yes to Q25, record details under Additional notes

FOR EX-SMOKERS

26. When did you give up smoking? Month_ Year ____

Doctors comments, if required:

Section E: Other Medical History - Do you have or been told that you have:

	Yes	No		Yes	No		Yes	No
1. Arthritis /Painful / Swollen joints	<input type="checkbox"/>	<input type="checkbox"/>	4. Kidney or bladder Problems	<input type="checkbox"/>	<input type="checkbox"/>	7. Skin problems	<input type="checkbox"/>	<input type="checkbox"/>
2. Anxiety and/or Depression	<input type="checkbox"/>	<input type="checkbox"/>	5. Neurological Problems	<input type="checkbox"/>	<input type="checkbox"/>	8. Tuberculosis	<input type="checkbox"/>	<input type="checkbox"/>
3. Autoimmune Conditions (such as lupus or scleroderma)	<input type="checkbox"/>	<input type="checkbox"/>	6. Heart problems	<input type="checkbox"/>	<input type="checkbox"/>			

Doctors comments, if required:

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Stonemason
Crystalline Silica
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Date: _____

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Section F: Perceived Stress Scale

NOTE: The questions in this scale ask about your feelings and thoughts during the last month. In each case, you will be asked to indicate how often you felt or thought a certain way. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. The best approach is to answer fairly quickly. That is, don't try to count up the number of times you felt a particular way; rather indicate the alternative that seems like a reasonable estimate.

FOR EACH QUESTION CHOOSE ONE FROM THE FOLLOWING ALTERNATIVES

	0 (Never)	1 (Almost never)	2 (Sometimes)	3 (Fairly often)	4 (Very often)
1. In the last month, how often have you been upset because of something that happened unexpectedly?					
2. In the last month, how often have you felt that you were unable to control the important things in your life?					
3. In the last month, how often have you felt nervous and stressed?					
4. In the last month, how often have you felt confident about your ability to handle your personal problems?					
5. In the last month, how often have you felt that things were going your way?					
6. In the last month, how often have you found that you could not cope with all the things that you had to do?					
7. In the last month, how often have you been able to control irritations in your life?					
8. In the last month, how often have you felt that you were on top of things?					
9. In the last month, how often have you been angered because of things that happened that were outside of your control?					
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?					

Doctor to determine worker's PSS score by following these directions:

Firstly, reverse the scores for questions 4, 5, 7, & 8. On these 4 questions, change the scores like this:
0 = 4, 1 = 3, 2 = 2, 3 = 1, 4 = 0.
 Now add up the scores for each item to get a total.
 Individual scores on the PSS can range from 0 to 40 with higher scores indicating higher perceived stress. Scores ranging from 0-13 would be considered low stress.
 Scores ranging from 14-26 would be considered moderate stress.
 Scores ranging from 27-40 would be considered high perceived stress

TOTAL SCORE _____

Doctors comments, if required

WorkSafe Victoria-Monash University
Stonemason
Crystalline Silica
Health Surveillance Medical Assessment

Name: _____

Date: _____

PART TWO		EXAMINATION	
Section G: Measurement			
1. Height (without shoes)	cm	2. Weight	kg
3. BMI			

Section H: Respiratory (Doctor)					
	Yes	No		Yes	No
1. Breathing normal and regular in character	<input type="checkbox"/>	<input type="checkbox"/>	2. Chest expansion normal	<input type="checkbox"/>	<input type="checkbox"/>
3. Auscultation normal	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Comments:					

Section I: Respirator Fit (Doctor)					
	Yes	No		Yes	No
1. Facial hair			2. Dental deformities		
3. Deformity of face					
Comments:					
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>					
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>					

Section J: Cardiovascular (Doctor)					
	Yes	No		Yes	No
1. Blood pressure normal			2. Heart sounds normal		
3. Pulse and peripheral pulses normal			4. Evidence of Cardiac failure / oedema		
Comments:					
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>					
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>					

SECTION K: OTHER	
1. Clinical features of Raynaud's Yes / No	
2. Clinical features of scleroderma Yes / No	
3. Clinical features of small joint arthritis Yes / No	

The services of an interpreter were used to assist with gathering information for this medical

Yes No

Doctor Signature	Date: / /
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**WorkSafe Victoria-Monash University
Stonemason
Crystalline Silica
Health Surveillance Medical Assessment**

Name: _____

Date: _____

WorkSafe-Vic ID No: _____

Supplementary material references:

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