



March 24, 2017

Wes Markus  
Lafarge Canada Inc.  
10511, 15<sup>th</sup> St. S.E.  
Calgary, Alberta  
T2H 2H5

**Re: Noise and Particulate Monitoring for Lafarge – Stoney Trail #1**

Dear Wes Markus;

Attached are results of the monitoring for the period February 2017 for noise, TSP and PM2.5 particulate. A B&K model 2236 meter was used for noise, and the Airmetrics Minivol model for particulate. Winds were measured with a R.M. Young Model 5103 anemometer. Precipitation was recorded with a Texas Instruments model TE25M rain gauge.

Data recovery for all parameter was 100% during the monitoring period.

There was no exceedance for the sound level.

There was no exceedance of the Alberta Air Quality Objective for PM2.5 and TSP.

Please call if there are any questions regarding the results.

Yours truly,

**PROMET ENVIRONMENTAL GROUP LTD.**

A handwritten signature in black ink, appearing to read "Bill Murray", written over a horizontal line.

Dr. William (Bill) Murray  
President

WM/NO  
Cc: Travis Coates  
Enc.



## MONTHLY REPORT SUMMARY

**Stoney Trail #1**  
**Name/Location**

**Lafarge Canada Inc.**  
**Company**

**February 2017**  
**Monitoring Period**

<b>Continuous Ambient Monitoring</b>				
<b>Parameter</b>	<b>% Time Operational</b>	<b>Average</b>	<b>Maximum</b>	<b>Number of Hours above Guideline</b>
<b>Sound dB A</b>	<b>100%</b>	<b>50</b>	<b>68</b>	<b>0</b>
<b>PM2.5 <math>\mu\text{g}/\text{m}^3</math></b>	<b>100%</b>	<b>9.4</b>	<b>21.7</b>	<b>0</b>
<b>TSP <math>\mu\text{g}/\text{m}^3</math></b>	<b>100%</b>	<b>23.2</b>	<b>35.0</b>	<b>0</b>
<b>Wind Speed km/h</b>	<b>100%</b>	<b>11</b>	<b>32</b>	<b>-</b>
<b>Precipitation mm</b>	<b>100%</b>	<b>-</b>	<b>1.3</b>	<b>-</b>
<b>Trailer Temperature</b>	<b>100%</b>	<b>-5</b>	<b>17</b>	<b>-</b>

Sound level is analyzed only for wind speed less than 11 km/h and precipitation less than 3 mm/hour

### COMMENTS:

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The regulation for industrial areas is 85 dB A any time.

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The PM2.5 Standard is 30  $\mu\text{g}/\text{m}^3$  for the day.

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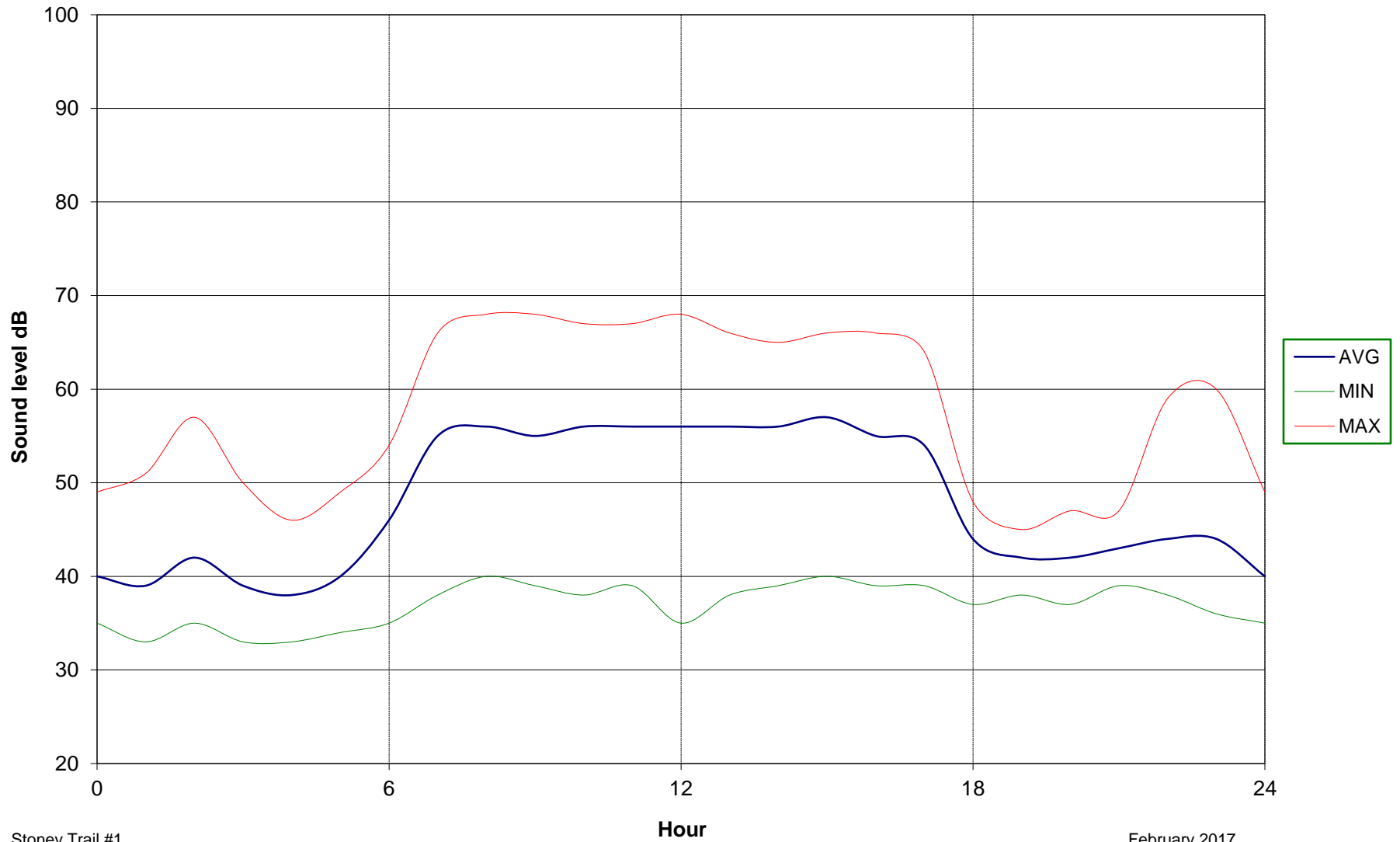
The TSP Objective is 100  $\mu\text{g}/\text{m}^3$  for the day.

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One 24 hour sample of PM2.5 and TSP is taken every 6<sup>th</sup> day following the federal NAPS schedule.

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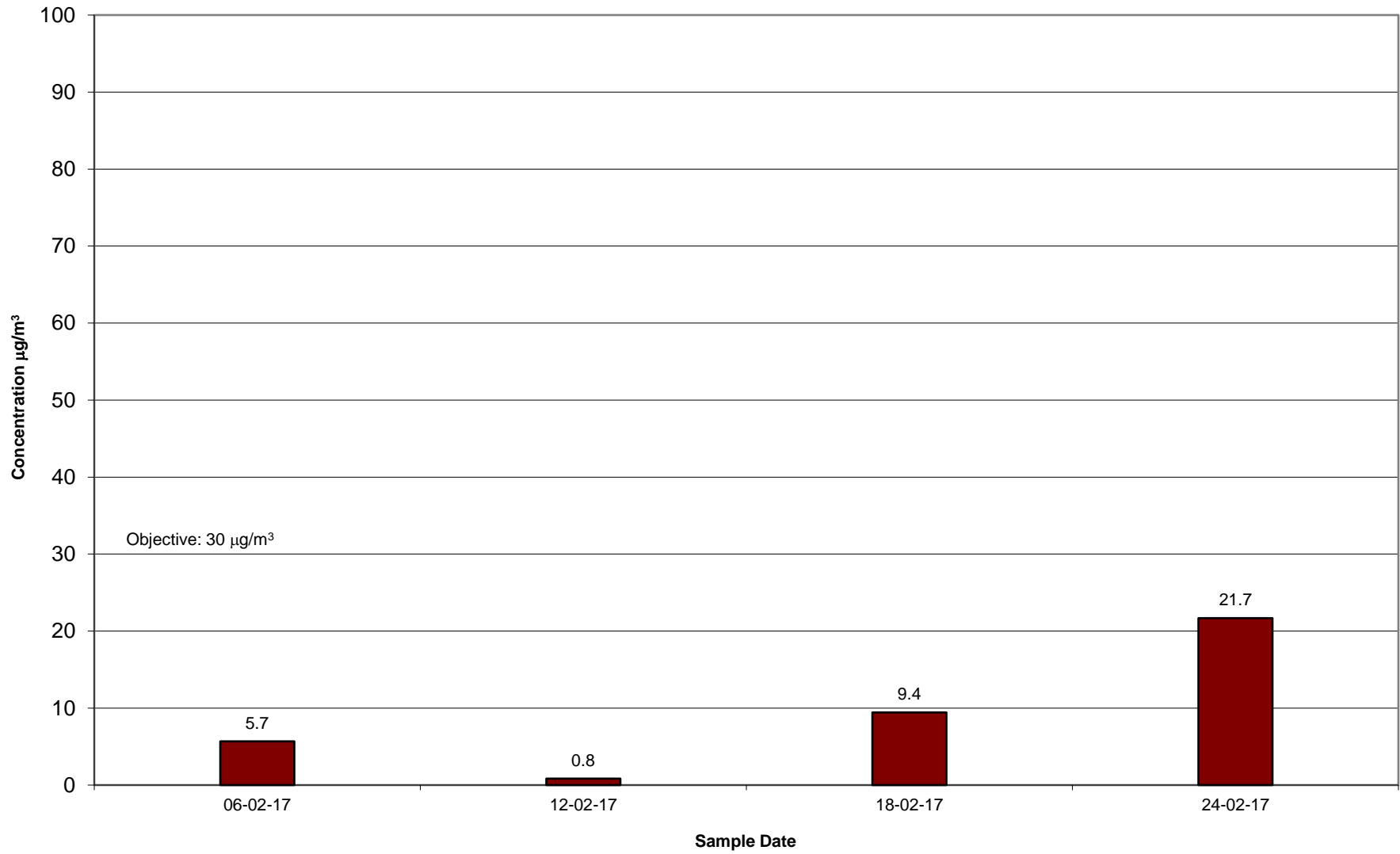
# Sound Level by Hour of the Day



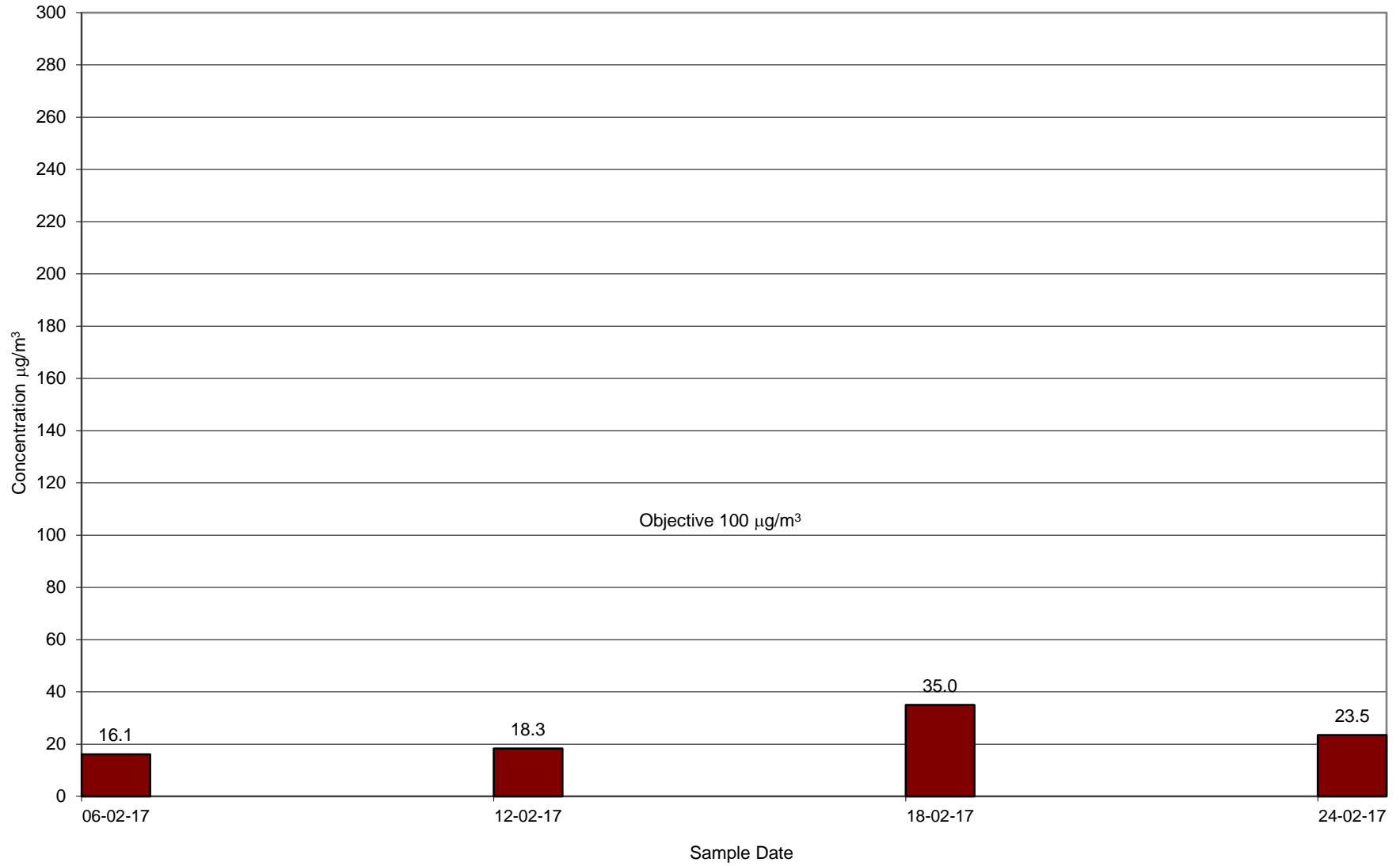
Stoney Trail #1

February 2017

PM2.5 at Lafarge Stoney Trail #1 February 2017

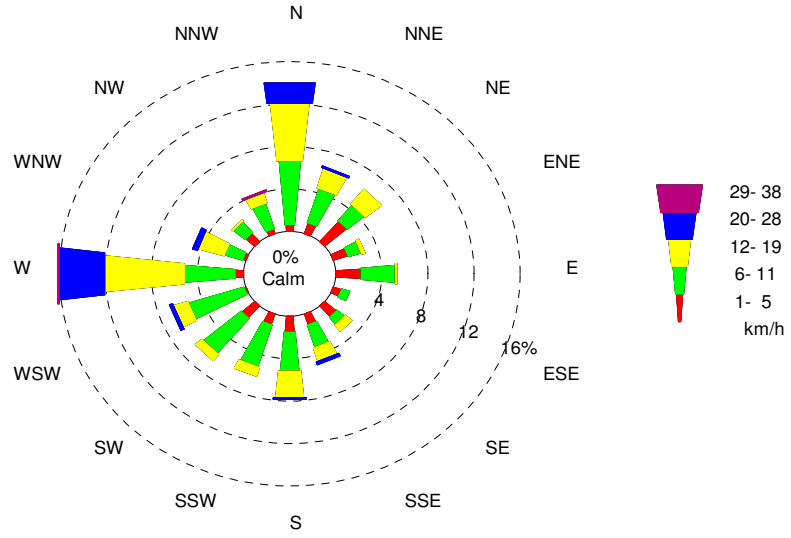


TSP at Lafarge Stoney Trail #1 February 2016



Wind rose for FEB 2017  
Stoney Trail 1

Bar length is proportional to frequency of winds from its direction



SOUND LEVEL [dBA] Leq 1 hour  
Lafarge Canada Inc.  
Stoney Trail 1  
STATION 620  
FEB 2017

Day	Hour																								Avg	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	35		36					50	64	68							66	64	45	44	45	44	42	43	57	
2	41	37	37	37	37	42	51	65	65	65	64	65	65	64	64	65		63				45	42	43	59	
3	43	41	39	38	36						C												59	60	50	
4	49	51	50	50	46	46	48	66	68	68	67	67	68	66	65	66	62	58	41	43	42	43	43	42	60	
5	40	38	38	38	36	36	39	39	40	39	38	39	35	38	39	40									38	
6	41	39	39	39	39	39	40	42	41	40	41				41	41	41	40	40	40	38	39	39	41	40	
7	36	37	36	37	35	36	40	43	42	42	42	41	42	44	43	44	44	42	42	42	44	43	40	40	41	
8	39	39	37		34	37	43	45	45	45	43	45	44								43	43	42	43	42	
9	41	42	41	43	41	43	44	54	49	54	57	54	56		60	59	56	49	48		46		43	51		
10					39	43	49	58			59	59					59	57	45	42	42	44	44	52		
11	41									59															54	
12																									M	
13																									M	
14						43				58	54				58	59	55	56	46	45	45	44	43	44	52	
15	45	44	43	42	42	43	51	59	52	52	52	54		57							41	43	41	45	50	
16	38	35	35	35	36	39						61	60	60	59										54	
17	39	33					51	60											58	43	44	40	43	38	39	49
18	38	38	37	38	37	40	54		62	61	60	61													40	53
19	40	37	35	33	33	35	36	41	42	41	40	41	41	42	41	42	41	39	37	38	37	40	40	41	39	
20	41	38	38	38	38	36	39	41	42	45	46	47	46	47	45	46	47	48	46	45	47	47	45	45	44	
21	39	38	37	34	39	37	49	57	60	60	58	60	62	61	61	62	58	57	42	44	44	43	43	43	54	
22	35											51							45	41	45	44	39	40	44	
23	38	38	36	37	39	38	42	47	45	42													43	40	41	
24	40	36	57	36	38	37	41	42	45										43	43	42	39	40	39	44	
25	38	35	35	36	35	34	35	38	40	42	45	46	47	47	46			43	45	47					42	
26								39	41									39	41	41	39	39	39	38	36	39
27	36	36	36	38	38	39	42	47	47	46	52	53	51	51	52		48	45	43	41	41	40	39	41	45	
28	35	35	37	35	36	49	41	47	46	44	48	48	48	47	49	48							41	40	44	
AVG	40	39	42	39	38	40	46	55	56	55	56	56	56	56	57	55	54	44	42	42	43	44	44	44		
MAX	49	51	57	50	46	49	54	66	68	68	67	67	68	66	65	66	66	64	48	45	47	47	59	60		
MIN	35	33	35	33	33	34	35	38	40	39	38	39	35	38	39	40	39	39	37	38	37	39	38	36		

\*\*\* SOUND DATA REPORTED ONLY FOR WIND SPEED < 11.5 KM/H \*\*\*

Percent of time operational: 100 M - missing data  
 Monthly Average: 50 C - Calibration  
 Monthly Maximum: 68  
 Monthly Minimum: 33  
 Averages are computed only when time operational > 75%  
 Median: 42.4  
 \*\*\* No Exceedances of Guideline \*\*\*

SOUND METER CALIBRATIONS

DATE	TIME	STANDARD	RESPONSE	ERROR
FEB 3, 2017	10	94.0	93.5	-.5







TRAILER TEMPERATURE  
Lafarge Canada Inc.  
Stoney Trail 1  
STATION 620  
FEB 2017

Day	Hour																								Avg	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	-10	-10	-10	-9	-9	-9	-10	-10	-10	-10	-9	-7	-6	-6	-5	-5	-6	-9	-11	-11	-11	-12	-11	-11	-9	
2	-11	-10	-10	-10	-11	-11	-13	-14	-14	-13	-10	-7	-4	-4	-3	-2	-3	-5	-8	-10	-10	-11	-12	-13	-9	
3	-14	-15	-15	-15	-14	-15	-15	-15	-16	-15	-13	-10	-9	-9	-9	-10	-11	-11	-12	-12	-13	-13	-13	-13	-13	
4	-13	-14	-14	-14	-14	-14	-15	-15	-15	-14	-13	-10	-7	-7	-7	-8	-10	-12	-14	-16	-17	-17	-16	-16	-13	
5	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-14	-13	-12	-12	-11	-11	-12	-13	-14	-15	-15	-15	-15	-15	-14	
6	-17	-18	-18	-18	-19	-19	-19	-19	-19	-19	-18	-16	-15	-14	-14	-14	-14	-16	-19	-21	-22	-22	-23	-23	-18	
7	-23	-23	-24	-24	-24	-23	-23	-23	-24	-22	-19	-15	-12	-10	-9	-8	-8	-11	-16	-19	-21	-23	-23	-23	-19	
8	-23	-22	-22	-22	-21	-21	-21	-21	-21	-18	-14	-11	-8	-7	-7	-8	-9	-11	-12	-13	-13	-14	-12	-11	-15	
9	-11	-11	-10	-10	-9	-9	-8	-8	-8	-8	-5	-3	-2	0	1	2	2	0	-3	-3	-4	-4	-7	-5		
10	-9	-10	-11	-11	-11	-11	-12	-12	-11	-8	-3	2	5	6	7	7	7	5	1	-1	-3	-4	-4	-4	-4	
11	-5	-5	-4	-4	-4	-4	-4	-4	-5	-3	-1	1	3	3	3	4	4	2	0	-1	-1	0	-1	-1	-1	
12	-2	-3	-3	-2	-2	-2	-2	-2	-1	2	3	5	5	5	5	5	5	5	4	3	3	2	2	2	2	
13	2	3	2	2	1	1	1	1	1	4	6	8	11	12	12	12	11	10	8	6	6	5	5	5	6	
14	4	4	4	3	3	2	2	2	2	5	8	11	12	12	12	12	12	11	9	8	6	5	4	4	7	
15	3	3	3	4	5	6	6	7	7	8	9	11	15	17	16	15	13	12	10	9	8	6	5	5	8	
16	4	4	4	4	4	4	4	4	5	6	8	12	13	13	14	14	14	13	10	8	7	5	4	4	8	
17	3	3	3	3	2	2	1	1	1	2	6	7	9	10	10	11	11	10	6	3	4	3	3	2	5	
18	-1	-2	-3	-3	-4	-4	-3	-2	-2	-1	-1	1	2	3	3	3	2	2	1	1	0	0	0	0	0	0
19	0	0	-1	-1	-1	-1	-2	-3	-3	-2	-1	0	1	2	3	3	2	2	1	0	0	0	0	-1	0	
20	-2	-3	-3	-4	-4	-4	-4	-5	-6	-4	-2	2	5	6	6	7	6	4	2	0	-1	-2	-2	-2	0	
21	-2	-2	-3	-3	-3	-3	-3	-3	-3	-3	-2	-1	1	3	4	5	5	3	0	-1	-2	-3	-4	-4	-1	
22	-4	-5	-5	-4	-3	-3	-3	-3	-4	-3	-3	-2	-1	0	0	0	0	-2	-3	-4	-4	-5	-5	-3	-3	
23	-5	-6	-6	-6	-6	-6	-6	-5	-5	-5	-4	-2	-2	-2	-2	-1	0	-1	-3	-5	-4	-4	-4	-5	-4	
24	-7	-9	-9	-9	-9	-8	-7	-7	-6	-5	-5	-4	-3	-3	-1	-1	-3	-4	-6	-7	-7	-8	-8	-8	-6	
25	-8	-8	-8	-8	-8	-9	-9	-9	-10	-8	-5	-2	1	3	3	2	0	-1	-3	-4	-5	-5	-5	-5	-5	
26	-6	-6	-7	-7	-8	-8	-9	-10	-10	-8	-7	-6	-5	-4	-5	-5	-6	-7	-9	-10	-11	-11	-12	-12	-8	
27	-13	-14	-14	-15	-15	-15	-15	-16	-15	-12	-8	-5	-3	-1	0	-1	-4	-5	-8	-9	-10	-11	-12	-12	-10	
28	-12	-12	-12	-12	-13	-13	-12	-12	-11	-9	-5	-2	-1	-1	0	1	0	-2	-5	-7	-9	-10	-10	-10	-7	
AVG	-7	-7	-7	-8	-8	-8	-8	-8	-8	-6	-4	-2	0	1	1	1	0	-1	-3	-5	-5	-6	-6	-6	-6	
MAX	4	4	4	4	5	6	6	7	7	8	9	12	15	17	16	15	14	13	10	9	8	6	5	5	5	
MIN	-23	-23	-24	-24	-24	-23	-23	-23	-24	-22	-19	-16	-15	-14	-14	-14	-14	-16	-19	-21	-22	-23	-23	-23	-23	

Percent of time operational: 100      M - missing data  
 Monthly Average: -5      Monthly Maximum: 17      Monthly Minimum: -24