



February 27, 2017

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

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

Dear Wes Markus;

Attached are results of the monitoring for the period January 2017 for noise, TSP and PM2.5 particulate. A B&K model 2236 meter was used for noise, and the Aerometrics 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 parameters was 100% during the monitoring period.

There was no exceedance for the sound level.

There was one exceedance of the Alberta Air Quality Objective for TSP and none for PM2.5.

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". The signature is fluid and cursive, with a long horizontal stroke at the end.

Dr. William (Bill) Murray  
President

WM/NO  
Cc: Travis Coates  
Enc.



## MONTHLY REPORT SUMMARY

Stoney Trail #1

Lafarge Canada Inc.

Name/Location

Company

January 2017

Monitoring Period

Continuous Ambient Monitoring				
Parameter	% Time Operational	Average	Maximum	Number of Hours above Industrial Standards
Sound dB A	100%	56	80	0
PM2.5 $\mu\text{g}/\text{m}^3$	100%	8.9	20.0	0
TSP $\mu\text{g}/\text{m}^3$	100%	20.8	43.7	0
Wind Speed km/h	100%	12	30	-
Precipitation mm	100%	-	0.0	-
Trailer Temperature	100%	-5	13	-

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

### COMMENTS:

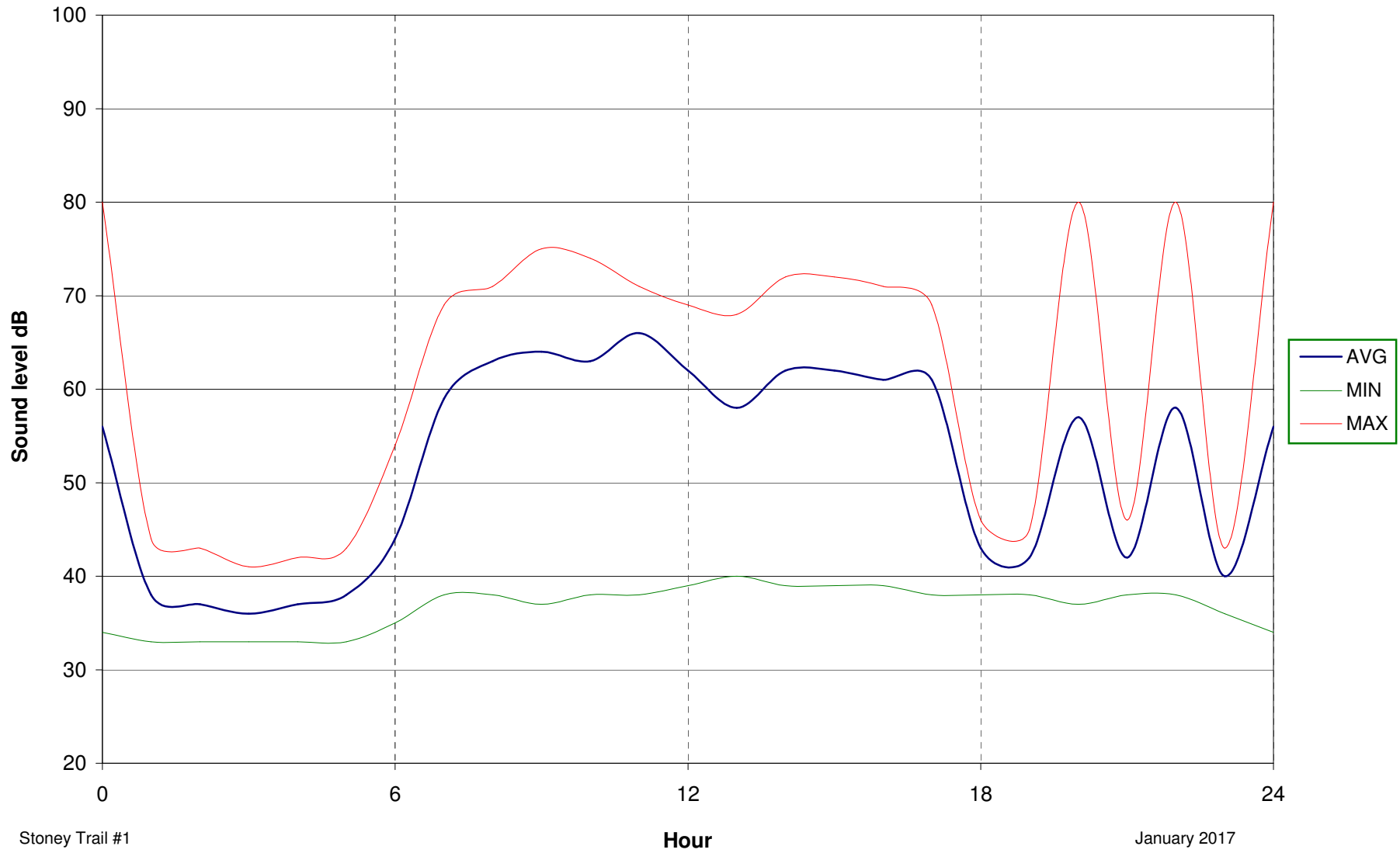
The regulation for industrial areas is 85 dB A any time.

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

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

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

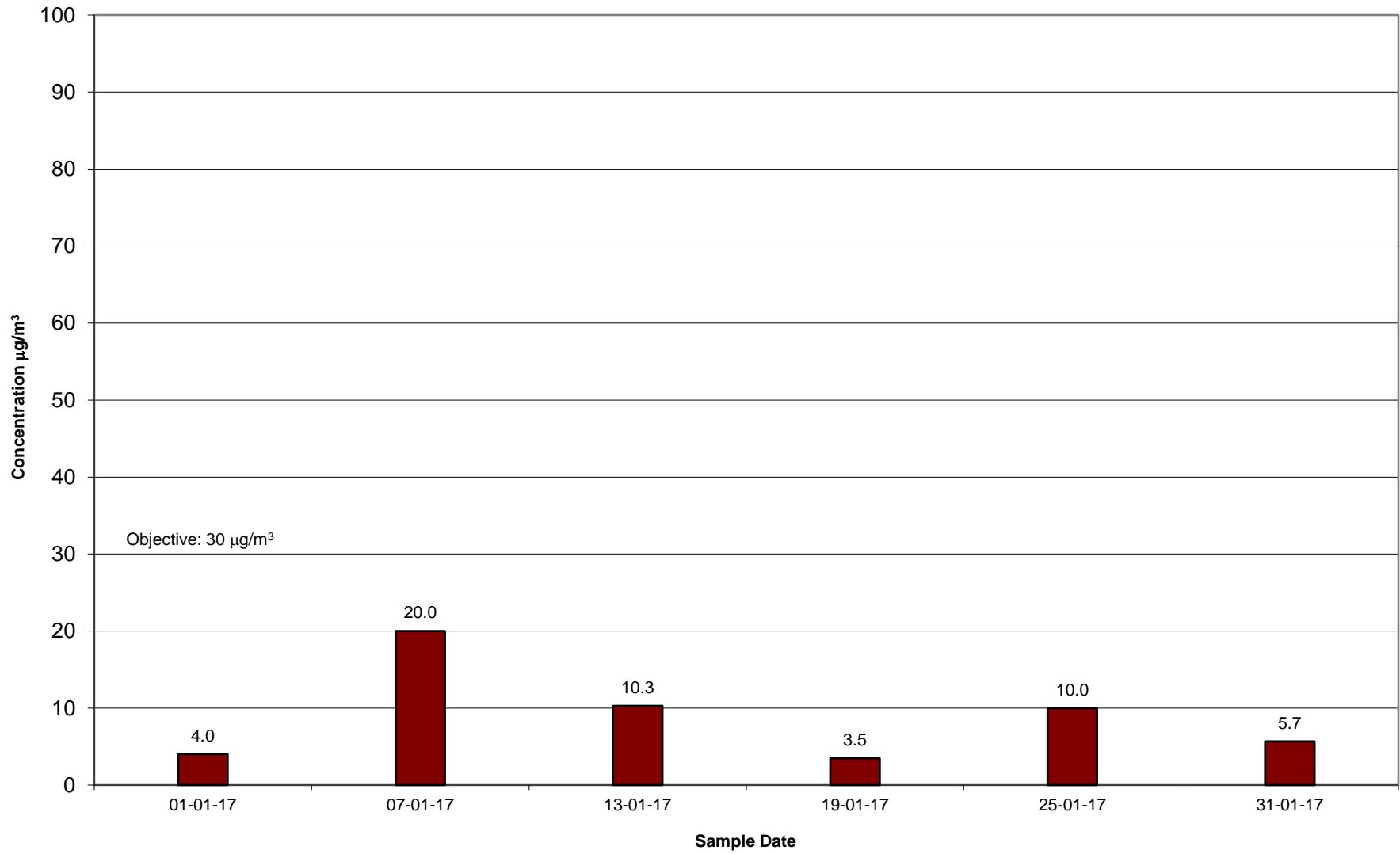
### Sound Level by Hour of the Day



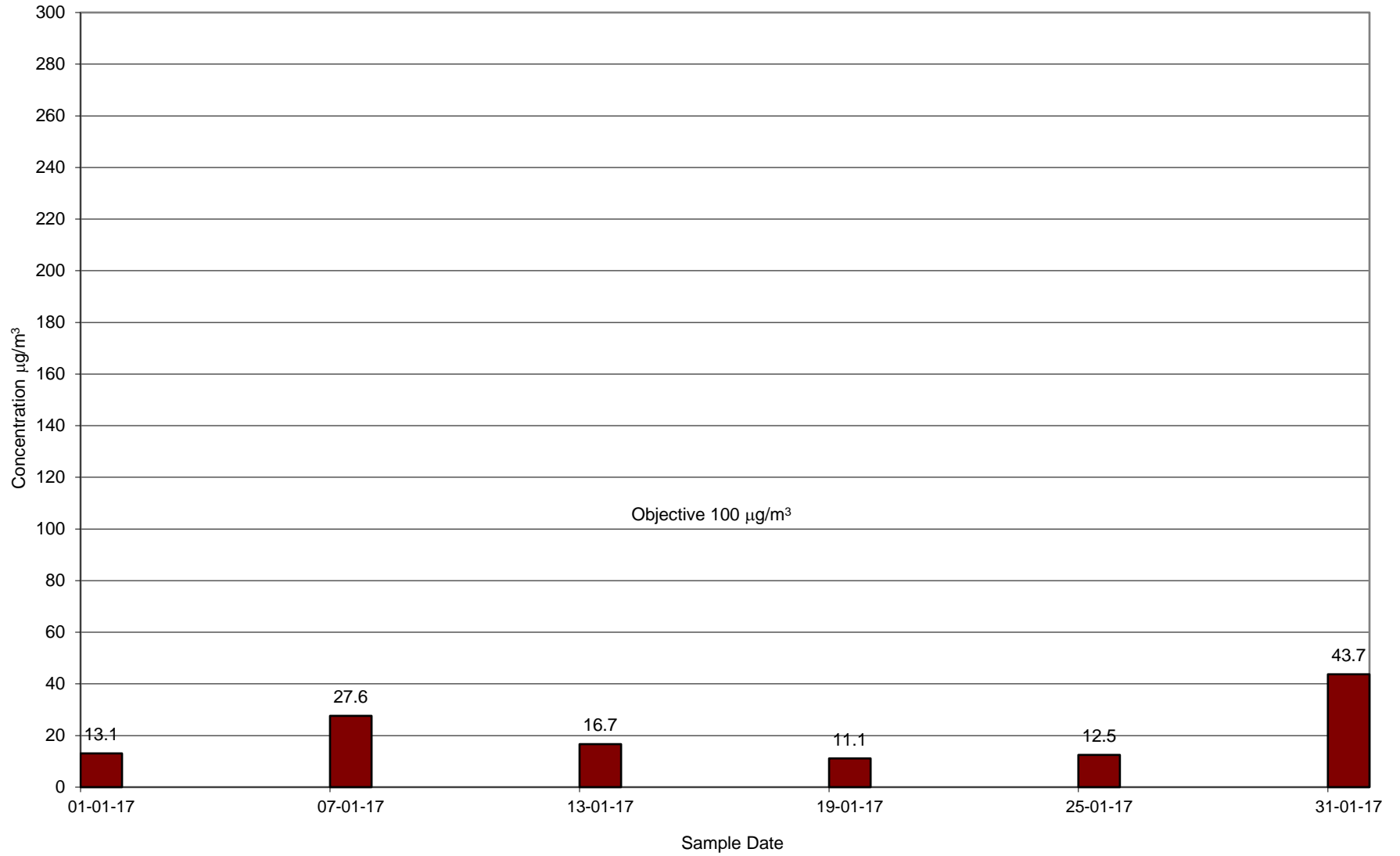
Stoney Trail #1

January 2017

PM2.5 at Lafarge Stoney Trail #1 January 2017



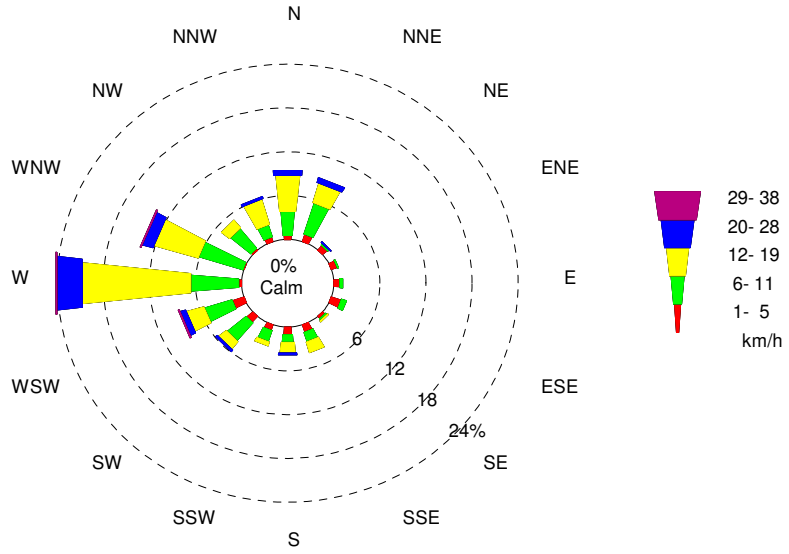
TSP at Lafarge Stoney Trail #1 January 2017



Wind rose for JAN 2017

Stoney Trail 1

Bar length is proportional to frequency of winds from its direction



PROMET

27/ 2/2017

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

Day	1	2	3	4	5	6	7	8	9	10	11	Hour	12	13	14	15	16	17	18	19	20	21	22	23	24	Avg	
1																											
2	38	35	34	35	36	35	36	38	40	39	44	44	44	44	43	44	40	39	41	39	39	39	41	39	39	41	39
3	36	35	35	33	34	35	38	45	43	43	44	C	45	46	45	45	42	41	41	41							
4							40														80	43	80	40	40	37	40
5	80	35				39	38	42	43				46	46	47	46				41	40	41	40	39	40	58	
6	40	37	37	37																						38	
7	39	40	40	38											41	44	42	41	41	40	38	39	39	38	36	40	
8	37	33	33	34	33	34	35	38	38	37	41															37	
9	37	36	35	34	34	35	39	41									44	42								38	
10	36	37	34	33	33	35	38	41	43	41	41		41	42						42	41	41				39	
11																									39	39	
12	35	35	35		37	38	41	43	44	46	47		75	74	69	69										41	
13										75	74	69	69			72	66	57								70	
14																										M	
15																										M	
16										71									68	45	41	42		41	41	60	
17	38	38	36	37	35					71	71	68		64					44	44	42	42	43	39	43	58	
18	42	35	34	34		36	46	60	61	61			64	67	64	65	67	64	61	45						59	
19		44	43	41	41	41	48	68	68	66	65	67														58	
20	34	33		34	36					64	62	62	64													57	
21	39	38	37	38	38	41	46	63	64	64	63	63		63	60	60	61	61	58	45	44	42	44	43	56		
22	39	34	36	34	33	33	38	38	40	39	38	38	39	40	39	41	40	40	38	38	37	39	41	41	38	56	
23	40	38	40	37	38	43	49	66	66	68	67	67	69	68	70	69	68	66	44	45	45	44	43	43	62	62	
24	44	43	40	40	42	41	46	64	66	67	64	66	66	63												58	
25	40	40	36	36	35	37	46		71	69		70				68	68	69	67	43					63		
26																										63	
27											70	71														70	
28																										M	
29	38	36				35	35																			36	
30							54	69																		64	
31																				62	46	42	44	40	42	43	50
AVG	56	38	37	36	37	38	44	59	63	64	63	66	62	58	62	62	61	61	43	42	57	42	58	40	40		
MAX	80	44	43	41	42	43	54	69	71	75	74	71	69	68	72	72	71	69	46	45	80	46	80	43	43		
MIN	34	33	33	33	33	33	35	38	38	37	38	38	39	40	39	39	39	38	38	38	37	38	38	36	36		

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

Percent of time operational: 100 M - missing data

Monthly Average: 56    Monthly Maximum: 80    Monthly Minimum: 33 C - Calibration

Averages are computed only when time operational > 75%

Median: 41.4

\*\*\* No Exceedances of Guideline \*\*\*

SOUND METER CALIBRATIONS

DATE	TIME	STANDARD	RESPONSE	ERROR
JAN 3, 2017	11	94.0	93.6	-.4





PRECIPITATION [mm]  
 Lafarge Canada Inc.  
 Stoney Trail 1  
 STATION 620  
 JAN 2017

Day	Hour																								Tot	
	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Percent of time operational: 100      M - missing data  
 Monthly Total: 0      Maximum in an hour: 0  
 Year to Date: 0

TRAILER TEMPERATURE  
Lafarge Canada Inc.  
Stoney Trail 1  
STATION 620  
JAN 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	-7	-8	-8	-9	-9	-10	-11	-11	-11	-11	-10	-10	-10	-9	-9	-9	-10	-11	-11	-13	-14	-16	-16	-17	-11
2	-17	-17	-17	-18	-18	-19	-19	-19	-20	-18	-14	-11	-9	-7	-7	-8	-11	-15	-16	-16	-17	-16	-16	-17	-15
3	-17	-17	-17	-17	-18	-18	-18	-18	-19	-19	-17	-13	-11	-10	-10	-10	-12	-15	-17	-18	-17	-16	-16	-15	-16
4	-14	-13	-12	-12	-11	-11	-10	-11	-11	-11	-9	-7	-6	-5	-4	-4	-5	-8	-9	-9	-10	-10	-11	-11	-9
5	-10	-9	-9	-8	-7	-7	-7	-6	-6	-6	-5	-4	-3	-2	-2	-3	-3	-5	-5	-6	-7	-7	-8	-8	-6
6	-8	-9	-10	-11	-11	-11	-11	-11	-11	-11	-11	-11	-10	-9	-9	-9	-10	-13	-13	-14	-13	-13	-13	-13	-11
7	-14	-15	-16	-17	-17	-17	-16	-16	-16	-16	-16	-14	-12	-11	-11	-11	-12	-14	-15	-15	-15	-15	-15	-15	-15
8	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16	-15	-14	-14	-13	-13	-14	-15	-17	-17	-17	-17	-17	-17	-16
9	-17	-18	-18	-18	-18	-19	-19	-20	-21	-20	-18	-17	-15	-15	-15	-14	-14	-16	-19	-19	-19	-19	-19	-19	-18
10	-19	-19	-19	-19	-19	-18	-18	-18	-18	-18	-18	-17	-15	-13	-13	-13	-13	-15	-18	-19	-21	-21	-21	-21	-18
11	-21	-21	-20	-20	-19	-19	-19	-18	-17	-17	-15	-13	-9	-7	-5	-4	-5	-7	-8	-9	-10	-10	-11	-13	-13
12	-14	-14	-14	-14	-14	-14	-14	-15	-16	-15	-13	-11	-9	-7	-5	-4	-4	-5	-6	-6	-5	-5	-5	-5	-10
13	-6	-6	-7	-6	-6	-6	-6	-6	-6	-6	-5	-2	0	1	1	1	0	-2	-4	-4	-5	-5	-5	-4	
14	-6	-6	-6	-5	-5	-5	-4	-4	-4	-2	1	3	4	5	5	4	3	1	1	1	1	1	1	2	-1
15	2	2	2	2	2	2	2	1	2	2	2	3	5	6	7	7	6	4	1	0	-1	-1	-1	2	2
16	-1	-1	-1	-2	-2	-2	-2	-2	-3	-2	1	3	4	6	7	7	7	6	6	6	5	5	4	2	2
17	5	5	6	5	6	6	6	7	6	6	7	8	12	13	13	13	12	10	8	7	6	5	4	7	6
18	3	2	2	2	3	3	2	2	2	3	5	8	10	12	12	11	10	8	6	5	5	6	7	7	6
19	6	5	4	4	3	3	3	3	3	4	4	5	7	9	10	10	9	7	5	3	2	1	0	0	5
20	-1	-2	-1	-1	-1	-1	-1	-2	-2	-1	2	5	6	7	8	8	7	4	1	-1	-3	-4	-4	-5	1
21	-5	-5	-5	-5	-6	-6	-7	-7	-7	-5	-2	1	3	4	6	6	3	0	-3	-4	-4	-4	-3	-2	-2
22	-4	-4	-4	-4	-5	-5	-5	-5	-5	-4	-4	-3	-3	-3	-3	-3	-4	-4	-4	-5	-5	-5	-5	-4	
23	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-4	-1	2	2	1	0	-2	-3	-4	-4	-5	-5	-3	-3
24	-5	-5	-5	-6	-7	-7	-7	-6	-6	-5	-5	-3	-2	0	0	0	0	-1	-3	-4	-3	-2	-3	-2	-4
25	-4	-4	-4	-4	-4	-4	-4	-5	-5	-5	-3	0	2	3	4	5	4	1	-2	-4	-4	-5	-5	-2	-2
26	-5	-5	-5	-5	-5	-5	-5	-5	-5	-4	-1	1	3	5	6	7	7	4	1	-1	-2	-3	-3	-1	-1
27	-2	-2	-2	-2	-2	-2	-2	-2	-1	-1	1	5	6	6	6	6	6	5	4	3	3	2	3	3	1
28	3	4	4	3	3	3	3	3	3	5	6	7	9	9	9	8	8	8	7	6	5	5	5	4	5
29	4	4	4	5	5	5	5	5	5	6	7	9	11	12	12	12	11	9	7	5	4	3	2	2	6
30	2	1	1	1	0	0	-2	-3	-3	-3	-1	2	4	3	2	1	-1	-2	-4	-5	-4	-4	-4	-1	-1
31	-5	-6	-6	-7	-8	-8	-8	-8	-8	-8	-7	-6	-6	-6	-6	-5	-6	-8	-10	-12	-12	-12	-11	-10	-8
AVG	-6	-7	-7	-7	-7	-7	-7	-7	-7	-7	-5	-3	-2	0	0	0	-1	-3	-5	-6	-6	-6	-6	-6	-6
MAX	6	5	6	5	6	6	6	7	6	6	7	9	12	13	13	13	12	10	8	7	6	6	7	7	7
MIN	-21	-21	-20	-20	-19	-19	-19	-20	-21	-20	-18	-17	-15	-15	-14	-14	-16	-19	-19	-21	-21	-21	-21	-21	-21

Percent of time operational: 100  
 Monthly Average: -5      Monthly Maximum: 13      M - missing data  
 Monthly Minimum: -21