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CANADA'S BEST MANAGED COMPANIES

June 6, 2014

Mr. Greg Sweetnam, B.Sc.
Vice President, Resources
James Dick Construction Limited
P.O. Box 470
Bolton, ON L7E 5T4

Re: RWDI Response to Airzone One Ltd. Screening-Level Review
Air Quality Assessment for the Proposed Hidden Quarry
RWDI Reference No. 1201429

Email: gsweetnam@jamesdick.com

Dear Mr. Sweetnam,

RWDI has reviewed the "Screening-level review of James Dick Construction Ltd. air quality assessment re: Proposed Hidden Quarry" prepared by Dr. Franco DiGiovanni of Airzone One Ltd., and has prepared this letter to respond to the comments contained in Dr. DiGiovanni's review.

General Overview

Section 4 of the report from Airzone One Ltd. is entitled "Requirements of an Air Quality Assessment." It says: "...actual measurements will not be available for a proposed aggregate project; instead, we have to rely on predicted changes in air quality (using air quality computer models)..." RWDI agrees with this statement and our assessment consisted of an MOE-approved computer model simulation, following MOE regulations, guidance and accepted practices.

Section 4 also states: "As the site does not yet exist much of the input data required to conduct the assessment also does not exist. In those cases estimates for those data must be made on a conservative basis." It goes on to say that "there is information available from other existing or past aggregate operations" and "data from those other sites may be used as an estimator." RWDI also agrees with these statements and took this approach in its assessment.

Section 4 goes on to state that "The key issue in assessing those data is dealing with the range of data values from those other sites. Unless one has a good reason to argue against it, it is prudent to choose the upper limit of the range, the value that will result in the highest emissions or impacts." RWDI profoundly disagrees with this statement and considers it to be inconsistent with sound engineering and scientific principles. It is not appropriate to choose the upper limit of the range for every uncertain input that goes into the model. This would lead to unrealistically high results that would not be informative for decision-making purposes.

The term "bias" is used to characterize whether a parameter has a tendency to be an overestimate or underestimate of reality. A high bias means that the parameter most likely overestimates reality, and a low bias means that it most likely underestimates reality. Unbiased means that there are equal chances

that the parameter overestimates or underestimates reality. Sound scientific practice attempts to be unbiased, i.e., realistic. However, when many of the model inputs are unknown and uncertain, this is difficult to do. The general practice in this case is to ensure that, while many of the uncertain inputs in the model are selected in an unbiased manner (middle of the range), some are selected so that they are biased on the high side (upper end of the range). This ensures that the model results have a high bias without being excessively biased and unrealistic. Table 1 summarizes the approach taken by RWDI for key input parameters of the modelling.

Table 1 shows that most of the input parameters used in the RWDI assessment are biased high (at or approaching the upper limit of the range) and, therefore, the overall effect is expected to be a high bias in the model results, i.e., they are likely to overestimate reality.

One set of parameters not shown in the table is the assumed effectiveness of control measures implemented at the site (e.g., 95% for watering of the internal unpaved haul road, 1.2 g/m^2 silt loading on paved entrance road). The reason is that control effectiveness is not an input parameter. Rather, it is an outcome of the modelling. The values adopted in our report represent the levels effectiveness that were determined from preliminary model runs and/or first guesses to be needed to achieve acceptable results. Mitigation procedures (watering amount and frequency) are recommended with the aim of achieving these levels of effectiveness.

Detailed Response

Table 2 provides a detailed response to the 44 comments provided in Dr. DiGiovanni's review.

Summary

RWDI believes that the 2012 Air Quality Assessment (AQA) is both technically complete and conservative, and adequately addresses the air quality issues posed by the proposed Hidden Quarry.

With respect to Dr. DiGiovanni's review, we reiterate that RWDI profoundly disagrees with Dr. DiGiovanni's opinion on biases, and considers it to be inconsistent with sound engineering and scientific principles. It is not appropriate to choose the upper limit of the range for every uncertain input that goes into the model. This would lead to unrealistically high results that would not be informative for decision-making purposes.

Yours very truly,

RWDI AIR Inc.

Mike Lepage, M.Sc., ACM, CCM
Project Director, Principal

Brian Sulley, B.A.Sc., P.Eng.
Senior Specialist

MFL/BGS/kta

Table 1: Key Uncertain Input Parameters

Parameter	RWDI Approach	Comments
Meteorology	High bias	Based on worst-case from 5 years of hourly data, and assumes weather is always dry
Activity levels at the site	High bias	Based on maximum anticipated production/shipping levels associated with the licence limit, even though most aggregate operations infrequently attain their licence limit.
Locations of operations	High bias	Based on reasonable worst-case location of extraction and other operations.
Fallout of dust on site	High bias	Assumed all emitted dust leaves the site and none falls out within the site, even though operations will generally be below grade and the site has extensive tree cover.
Haul road silt levels	Unbiased	Used a middle-of-the range value from published data for other sites
Material moisture levels	High bias	Used middle-of-the range values from published data and previous measurements by RWDI for above-water aggregate extraction; whereas, this will be predominantly an underwater extraction operation.
Background contaminant concentrations	High bias	While highway 7 traffic was not explicitly included, an above-average background concentration was used (90^{th} percentile).

Table 2: Response to Comments Contained in Dr. DiGiovanni's (Airzone) Review

No.	Airzone One Ltd. Comment	RWDI Response
1	This statement [that precise flow of material may change between different pieces of processing equipment], would seem to provide a caveat to their assessment; this may mean that their assessment may not be reflective of the actual worst-case emissions whereas it should be reflective of the worst case emissions.	The maximum throughput of the processing plant is the primary driver of the emissions, and is set at a maximum value of 500 tonnes per hour. Once material enters the wash screen, it no longer generates significant emissions due to the high moisture content, so changes in the precise flow of this material are not relevant to the assessment. The assessment therefore does capture the worst case.
2	Further review on the operating schedule is required to verify RWDI's claims.	The modelling assessment conducted for AQA reflects the operating scenario as presented in the AQA and excluded operations between December 25 and April 1.
3	Valid and complete site-specific data is required in order to predict the composition of the dust that will be generated from the pit; this has not been provided. This renders RWDI's assessment uncertain and thus unreliable.	Calcium carbonate, crystalline silica and other compounds are included in an updated chemical analysis of both the unconsolidated deposit (sand and gravel) and the Amabel dolostone. This analysis is attached to this letter report. The data confirms RWDI's experience that levels of all trace metals and compounds identified in the assessment will be below the relevant criteria (when applied as a percentage of the predicted PM_{10} or TSP concentrations, as appropriate), when those criteria are met.
4	Missing combustion by-products assessments.	RWDI has conducted environmental assessments for highway projects throughout Ontario, and based on RWDI's analysis and experience, NO_2 is a suitable surrogate for examining potential impacts from diesel-fuelled vehicle emissions. The primary reason for including benzo(a)pyrene in the Henning Pit assessment was due to the presence of an asphalt recycling operation. There are no plans for asphalt recycling at the proposed Hidden Quarry.
5	Assessment on stripping and rehabilitation missing.	The scenario in which the use of quarry haul trucks was assessed during above-water extraction operations represents a larger amount of material handling and vehicle travel than occurs during stripping and rehabilitation, and is therefore the worst-case scenario as required by the regulations. No further assessment is warranted.

No.	Airzone One Ltd. Comment	RWDI Response
6	RWDI's claim on soil moisture levels is not sufficiently supported.	This comment pertains to stripping of overburden. As stated at item 5 above, this activity does not represent the worst-case scenario, regardless of the moisture levels in the soil. Nevertheless, the data presented for Illinois supports RWDI's field experience indicating that soil moisture levels are generally high during stripping of overburden.
7	RWDI's claim on wind erosion frequency is not sufficiently supported.	Materials stockpiled at the site will generally consist of non-homogenous materials containing a significant proportion of non-erodible elements (stone). The US EPA, in chapter 13.2.5 of AP-42 summarizes the results of field tests for such materials, indicating that threshold wind speeds for wind erosion exceed 10 m/s (36 km/h) at 7m above the surface. This finding is consistent with RWDI's general experience in the field. In relation to published information from the US EPA, therefore, the AQA report for the quarry is conservative in its statement that wind erosion begins to occur when the wind gusts exceed 15-20 km/h and becomes significant when the gusts exceed about 30 km/h. Use of 30 km/h as a relevant wind speed threshold is conservative compared to the minimum wind erosion threshold of 36 km/h cited by the US EPA. The estimated frequency of exceeding 30 km/h was based on a review of publicly available meteorological data from three locations in the surrounding area. Wind Roses are provided on Figure 6.1.1 of the AQA, and the quoted frequencies can be verified by examination of those plots. RWDI expects that if Mr. DiGiovanni were to review the meteorological data for this area, he would arrive at the same conclusion based on the data.
8	Road particulate assessments missing from compliance assessment.	Mr. Di Giovanni misunderstands Section 7.4.1 of MOE Guideline A10. Section 7.4.1 actually refers to a specific set of facilities (identified by the relevant North American Industrial Classification System, or NAICS Code) that must include metals from road dust emissions in their compliance assessment. An aggregate facility such as the proposed Hidden Quarry falls under NAICS Code 212315, which is not included on Table 7-2 in Section 7.4.1. Therefore, dust emissions from internal haul roads can be excluded from the compliance assessment. RWDI's interpretation of the MOE guidance has been confirmed to RWDI by the MOE on numerous occasions. In any case, additional model runs were performed as part of the cumulative effects assessment that included the haul roads.

No.	Airzone One Ltd. Comment	RWDI Response
9	Clarification required on above-water-table blasting.	Section 1.2 of the AQA clearly lists the activities in both the above-water and below-water portions of the extraction. Blasting is not included in the above-water extraction.
10	Clarification in the Site Plans required on source locations.	The processing plant is located in the area defined on the Site Plans. The source locations shown on Figure 5.2B were selected as representative of operations throughout the life of the proposed Hidden Quarry, at locations where operations would pose the highest predicted impacts. The very nature of operations at aggregate facilities requires that some of these sources will move as the quarry operates, and therefore a set of reasonable worst-case locations are used. A requirement to fix the locations of sources such as haul routes or extraction operations to a specific UTM coordinate is impractical and not warranted.
11	RWDI's claim that truck loading estimates are applicable to conveyor transfers is not sufficiently supported.	A quick review of the U.S. EPA emission factor suggested by Dr. DiGiovanni (conveyor transfers of wet material provided in Chapter 11.19-2) provides a value of 0.00007 kg TSP per Mg of aggregate handled. RWDI used the bulk transfer factors from Chapter 13.2.4 of AP-42. At 1m/s, the factor used by RWDI is essentially the same, at 0.000056 kg TSP per Mg of aggregate handled. At 2 m/s however, the factor used by RWDI is 3 times higher than that proposed by Mr. DiGiovanni, and this trend continues with increasing wind speed. RWDI therefore used a higher emission factor for all but the lowest wind speeds. This is conservative, and is fully supported by publicly available information. In any case, this is a minor source with little implications for the overall predicted dust levels.
12	RWDI's claim that moisture values [for haul truck loading and dumping operations] used are minimal is not sufficiently supported.	The value of 5% for moisture content was conservatively based on previous measurements by RWDI at aggregate sites where unconsolidated aggregates were extracted. RWDI's measurements show moisture values consistently higher than 5%. Dr. DiGiovanni has not provided any experience of his own with respect to moisture measurements of material from active pit faces.

No.	Airzone One Ltd. Comment	RWDI Response
13	RWDI's use of a non-conservative moisture value is not sufficiently supported.	As noted in our letter, Sound scientific practice attempts to be unbiased, i.e., realistic. However, when many of the model inputs are unknown and uncertain, this is difficult to do. The general practice in this case is to ensure that, while many of the uncertain inputs in the model are selected in an unbiased manner (middle of the range), some are selected so that they are biased on the high side (upper end of the range). This ensures that the model results have a high bias without being excessively biased and unrealistic. The table 1 summarized the approach taken by RWDI for key input parameters of the modelling. Overall, the approach used by RWDI is biased high and, therefore, appropriate. It is not appropriate to choose the upper limit of the range for every uncertain input that goes into the model. This would lead to unrealistically high results that would not be informative for decision-making purposes.
14	RWDI's claim of a supplemental control efficiency is not sufficiently supported.	It is normally assumed that there are negligible emissions from handling of washed stone, and it is common practice for air quality experts to assume 100% control when dealing with aggregate sites. This practice is supported by observations made by RWDI and other respected air quality consulting firms over decades of work on aggregate sites. Regardless, RWDI has used 90%, which is conservative given the washed nature of the stone.
15	RWDI's claim that the paved road silt loading level used is appropriately conservative is not sufficiently supported.	The value adopted for modelling, was based on preliminary model trials indicated what level of silt loading would be needed to achieve acceptable results at all receptors. Therefore, the paved road silt loading is an outcome of the modelling, rather than an input parameter that needs to be conservative. RWDI is recommending dust management procedures for the paved haul route that are aimed at attaining this value. RWDI has been involved in extensive sampling of road surface silt loadings at industrial facilities in Ontario. At a large industrial that uses aggressive road sweeping procedures, several years of sampling has indicated that silt loadings are consistently below 1 g/m^2. Dr. DiGiovanni cites published values in the US EPA's AP-42, but those values do not pertain to a road that is subject to an aggressive cleaning program. Therefore, they are not applicable to the controlled scenario that RWDI was assessing in the AQA.

No.	Airzone One Ltd. Comment	RWDI Response
		Dr. DiGiovanni has not provided any experience of his own with respect to silt loading on aggressively cleaned haul roads.
16	RWDI's claim that the unpaved road silt level is appropriate is not sufficiently supported.	The value used by RWDI represents an average value from data reported in the literature for unpaved routes at aggregate operations (US EPA, AP-42, Chapter 13.2.2). Therefore, it is an unbiased estimate of the average silt loading along the unpaved road. As noted in the introduction, the general practice to ensure that, while many of the uncertain inputs in the model are selected in an unbiased manner (middle of the range), some are selected so that they are biased on the high side (upper end of the range). This ensures that the model results have a high bias without being excessively biased and unrealistic. While the unpaved road silt loading value is an unbiased estimate, Table 1 above highlighted the various other ways in RWDI applied a high bias to the assessment. As such, the use of an unbiased estimate for road surface silt loading is appropriate.
17	RWDI's claim on watering road dust efficiency is not sufficiently supported.	The 95% level of control is an outcome of the modelling, not an input. It represents the level of control found to be needed to achieve acceptable results at the nearest receptors. Published studies show that it is achievable. Rosbury (Dust Control at Hazardous Waste Sites. EPA/540/2-85/003, 1985) summarized results from various studies showing that levels of control as high as 98% were attained in some cases. He went on to prescribe a watering rate that wold achieve near 100% control (approximately 1.7 L/m²/h). The US EPA (AP-42, Chapter 13.2.2) showed that by maintaining a road surface moisture level of 5 times that of the ambient soil, a 95% level of control could be achieved. It is clear therefore that the 95% level of control prescribed by RWDI is attainable through sufficient watering. This finding of the studies is consistent with RWDI past experience in observing the effect of intensive watering programs.
18	Further review is required to verify RWDI's claims on the characterisation of source parameters.	This was conducted by the Township's peer reviewer and no concerns were raised. No additional action required.
19	RWDI's claim that these alternative meteorological datasets are more appropriate is not sufficiently supported.	RWDI used the MOE's preferred dataset in the assessment, as is stated in Section 6.1.2 of the report. The other data sets referred to in S. 6.1.1 of the report were used only to provide a qualitative discussion of potential wind frequencies at the site. .

No.	Airzone One Ltd. Comment	RWDI Response
20	RWDI's claim that using datasets with lower wind speeds provides conservative ("high-end") estimates of wind erosion is not sufficiently supported.	Dr. DiGiovanni has misread the RWDI report and, in fact, the report states the opposite.
21	Further review is required to verify RWDI's claims that they included all appropriate receptors.	This was conducted by the Township's peer reviewer and no concerns were raised. No additional action required.
22	Further review is required to verify RWDI's claims on terrain data used.	RWDI used the terrain data provided by the MOE for use in dispersion modelling assessments. This approach is standard practice for dispersion modelling in Ontario. Base elevations within the quarry were based on the Site Plans. The Township's peer reviewer raised no concerns with the base elevations used. No additional action required.
23	Annualized assessments for certain contaminants are missing	RWDI has assessed annualized concentrations for TSP and PM2.5. Ontario has an annual average AAQC for TSP of 60 µg/m³. The proposed annual-average Canadian Ambient Air Quality Standards (CAAQS) for PM2.5 is 10.0 µg/m³ which takes effect in 2015, and 8.8 µg/m³, which takes effect in 2020. RWDI's modelling shows compliance with these criteria for all scenarios
24	Assessments missing of ecological exposures to air quality contaminants.	Information on air quality contaminants were provided to GWS Ecological & Forestry Services Inc. and Gray Owl Environmental Inc. for consideration in the Level II Natural Environment Technical Report. The report states clearly that: "With respect to dust control, the notes on the ARA Site Plans (Stovel, 2012) are considered sufficient to ensure that residual woodland and adjacent woodlands are effectively protected from dust damage to their foliage." No additional action required.
25	RWDI's claim that there are no "non-background" sources within 5 km is not sufficiently supported.	RWDI agrees that RWDI's methodology for arriving at this conclusion was not fully explained in the AQA. A clarification is provided here. A review of the National Pollutant Release Inventory (NPRI) shows no reporting facilities within 5 km of the site, which is supported by aerial photography and was confirmed during site visits to the area.

No.	Airzone One Ltd. Comment	RWDI Response
		There is a small hardwood flooring manufacturing facility located on 7th Line, to the east of the proposed Hidden Quarry, for which RWDI has previously done air quality modelling work. This site is equipped with modern sawdust collection systems, and is not expected to be a major local source of emissions, and is downwind of the site for the prevailing wind conditions. With respect to Highway 7, 2010 traffic data from the Ministry of Transportation shows average annual daily traffic volumes on this section of Highway 7 of only 8,100 vehicles per day. In comparison, the MOE monitoring station in Guelph is located less than 300 metres southwest of Woolwich Street, with has a traffic volume of 26,700 for the same year. Edinburgh Road, located less than 800m to the southwest of the monitoring station, has a traffic volume of 16,825 vehicles per day. Speedvale Avenue, located less than 800m to the northwest of the monitoring station, has a traffic volume of 16,994 vehicles per day. London Road, located less than 550m south of the monitoring station, has a traffic volume of 6,494 vehicles per day. Lastly, the station is generally downwind of Guelph's industrial area, which includes over 20 facilities that reported to the NPRI. RWDI's conclusion that there are no major local sources of emissions is valid. There is certainly no justifiable reason to require local monitoring prior to the establishment of the proposed Hidden Quarry, given that sources of similar air emissions surrounding the Guelph monitoring station are significantly larger in scale.
26	RWDI's claim that the Guelph data is conservative compared to all areas in Rockwood is not sufficiently supported.	See discussion of non-background sources at item 25 above.
27	Further justification is required from RWDI, and, a detailed review of the data they used is required (if this dataset is justified, as per previous point of criticism).	The information used by RWDI is publicly available information through the MOE's Air Quality in Ontario Reports. With respect to the Guelph monitoring station had 8561 hours of valid observations for PM2.5 in 2011 (compared to 8760 hours the year), and a similar number of observations in previous years. The data set for this location is therefore suitable for this assessment.

No.	Airzone One Ltd. Comment	RWDI Response
		Given the decreasing trend in PM2.5 concentrations both at the Guelph monitoring location, and throughout Ontario as a whole over the last decade, using the 5-year average of the 90th percentile is indeed conservative. In fact, the most recent MOE report (2011 Air Quality in Ontario Report) report shows a corresponding value of 13 µg/m³, which is below the average value used in the AQA.
28	RWDI have used a less appropriate estimation method for PM10 and TSP background levels that leads to their underestimation, and thus underestimation of community-level impacts.	The differences to which Dr. DiGiovanni reflect some of the uncertainty in the estimates of the background concentrations of PM_{10} and TSP. However the differences are small and are not material to the findings of the assessment. This source of uncertainty is adequately accounted for in the conservatisms built into the analysis, such as using the 90th percentile background values.
29	Values derived for ozone and NO2 should be checked at some point in the future.	This was conducted by the Township's peer reviewer and no concerns were raised. No additional action required.
30	Given the issues noted above, the actual number of exceedances may be significantly higher than claimed by RWDI. In addition, under s.7.2.3., RWDI speak to results "without the inclusion of background air quality data" and yet this is meant to be a cumulative effects assessment. Thus their analysis would seem to be incorrect.	For the numerous reasons already cited, RWDI disagrees with Dr. DiGiovanni's conclusion that actual number exceedances may be significantly higher. RWDI agrees that there is a typographical error in Section 7.2.3 of the AQA. The statement to which Dr. DiGiovanni refers should read: The results of the dispersion modelling analysis indicate that <u>with</u> the inclusion of background air quality data, predicted concentrations of NO_2 and $PM_{2.5}$ are below the relevant criteria at all receptors. Regardless, Table 7.1C, which presents the results for this scenario, clearly shows the results of the assessment, both with and without background data included.
31	RWDI are misidentifying a required practise as a source of additional conservatism when it is not.	RWDI profoundly disagrees with this statement. RWDI understands that these practices are required by MOE guidance for the very reason that they are conservative and impart a high bias to the modelling in order to offset the uncertainties. It does not matter that they are standard practice in dispersion modelling, they provide are significantly conservative (biased high) nevertheless.

No.	Airzone One Ltd. Comment	RWDI Response
32	RWDI's claims that (i) exceedances are acceptable, and, (ii) that the level of exceedances they predict are acceptable, are not sufficiently supported.	No jurisdiction requires 100% compliance with short-term standards, guidelines or objectives. Perhaps the most stringent jurisdictions are Ontario, Alberta and Newfoundland and Labrador. In these provinces, the general requirement is for the 99.9th percentile concentration to meet the limit. However, both Canada and the U.S. apply their national standard for $PM_{2.5}$ to the 98th percentile concentration. The U.S. also uses a 98th percentile for 1-hour NO_2 and a 99th percentile for 1-hour SO_2. Considering the high bias in RWDI's estimates of frequency of exceedance (the modelling assumes operations are fixed at maximum production and in worst-case locations throughout the year, and that weather is dry at all times), the results of both the conveyor scenario and the off-highway truck scenario meet the aforementioned tests. In the off-highway truck scenario, the predicted levels of TSP and PM_{10} do not meet the criteria at the 99.9th percentile level at some receptors, but meet it at the 98th percentile level (except for TSP at one receptor, where it is met at the 97th percentile level), which is consistent with the spirit of the national standard for respirable particulate matter.
33	I believe that RJB's review was inadequate.	Dr. DiGiovanni has questioned the credentials of the Township peer reviewer, which is a serious allegation, without providing any sound substantiation.
34	It may be that some limited monitoring is being proposed by the proponent (AQA s.3.1.1.1. Crystalline Silica) but this is not clear from their report as what was written is not understandable. It can only be said, at this point, that whatever is proposed is not adequate as it is not explained appropriately. Assuming what was meant was airborne monitoring for crystalline silica, then this still leaves other contaminants unmonitored, and therefore is still not adequate.	RWDI's report clearly states that: "To ensure this aspect of air quality standard is met, the silica content will be monitored as part of the normal chemical analysis of particulate matter at the site." The silica content of the material processed at this site will naturally be found in the particulate generated at the site. Silica testing of the material will therefore be a suitable means of estimating the silica content of the particulate generated.
35	Dust mitigation is proposed (primarily road dust watering) but it is not defined on a quantitative, verifiable basis; therefore it is not adequate.	See our response to comment #17.

No.	Airzone One Ltd. Comment	RWDI Response
36	Due to the numerous technical issues identified above I do not believe that the RWDI evaluation is technically complete.	RWDI has responded to all of Dr. DiGiovanni's alleged "technical issues" in the responses above, and strongly disagrees with this statement.
37	The conclusions and recommendations are not valid for the various issues noted above (lack of evaluations, non-conservative assessments, etc.) as the issues may well lead to higher, and perhaps significantly higher, community-level exposures.	See the response at item 36.
38	The applicant has not assessed the effect of emissions on any ecological elements and other operations around the site including the mushroom farm; therefore, any mitigation mentioned is without basis with respect to this receptor. The mushroom farm may represent a particularly sensitive receptor with regards to the requirement for controlled environments for its growing operations.	With respect to ecological elements, see the response at Item 24. With respect to the mushroom farm, Dr. DiGiovanni is speculating with regard to any unique impacts and has provided no evidence to support his suggestion.
39	Complete a full review of all data and calculations conducted by RWDI and presented in their assessment.	Data and model input files not already included in the report can be made available on request.
40	Major reworking of the AQA, corrections and explanations based on the issues raised in the screening-level analysis presented in this report, and the more fulsome review mentioned in 1, above.	See our response to comment #36.
41	Use the (corrected) preliminary modelling study to help identify locations to conduct background monitoring.	As per our response to comments #25 and #27, this is not warranted.
42	Conduct background air monitoring; meanwhile conduct site-specific sampling (for aggregate composition, for example).	As per our response to comments #25 and #27, this is not warranted.

No.	Airzone One Ltd. Comment	RWDI Response
43	Re-do modelling with site-specific input and site-specific background data.	See our response to comment #37.
44	Assess need for mitigation and predict effectiveness of mitigation (e.g., road dust watering controls) on a quantitative, conservative basis.	See our response to comment #37.

ATTACHMENT A

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Mineralogy
Attn :
Phone: -
Fax:-

27-May-2014

Date Rec. : 14 May 2014
LR Report : **CA02478-MAY14**
Client Ref : MI4513-MAY14

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	V2O5 %	LOI %	Sum %
1: M15 Dolostone Core	0.35	0.11	0.25	19.7	28.8	0.04	0.04	< 0.01	0.01	0.04	< 0.01	< 0.01	47.6	97.0
2: HQ Gravel	7.32	1.28	0.84	15.5	30.2	0.30	0.27	0.08	0.04	0.06	< 0.01	< 0.01	42.3	98.3

Control Quality Assay
Not Suitable for Commercial Exchange

Tom Watt
Project Coordinator

OnLine LIMS

0000170076

James Dick Construction
Custom XRD/MI4513-MAY14
05/30/2014

Chemical Balance

M15 Dolostone Core

Name	Assay[1]	SQD[2]	Delta	Status
CaO	28.8	30.4	-1.57	Both
MgO	19.7	21.7	-2.02	Both
SiO2	0.35	0.34	0.01	Both
Fe2O3	0.25	-	0.25	XRF
Al2O3	0.11	0.02	0.09	Both
MnO	0.04	-	0.04	XRF
K2O	0.04	-	0.04	XRF
Na2O	0.04	0.01	0.03	Both
CO2	-	47.5	-47.5	SQD

HQ Gravel

Name	Assay[1]	SQD[2]	Delta	Status
CaO	30.2	30.8	-0.59	Both
MgO	15.5	16.8	-1.30	Both
SiO2	7.32	7.55	-0.23	Both
Al2O3	1.28	1.10	0.18	Both
Fe2O3	0.84	0.72	0.12	Both
Na2O	0.30	0.01	0.29	Both
K2O	0.27	1.00	-0.73	Both
TiO2	0.08	-	0.08	XRF
MnO	0.06	-	0.06	XRF
P2O5	0.04	-	0.04	XRF
H2O	-	0.03	0.03	SQD
CO2	-	42.1	42.1	SQD

1. Values measured by chemical assay.

2. Values calculated based on mineral/compound formulas and quantites identified by semi-quantitative XRD.