Notice

Environmental Protection Act 1994

Information request

This information request is issued by the administering authority under section 140 of the Environmental Protection Act 1994 *to request further information needed to assess an application for a site-specific environmental authority.*

To: Magnetic South Pty Ltd
Suite 302, Level 3
102 Adelaide Street
BRISBANE QLD 4000

ATTN: Gareth Bramston
Email: gbramston@aarc.net.au

Our reference: APP0043095

Further information is required to assess an application for environmental authority

1. Application details

The application for a site-specific environmental authority was received by the administering authority on 23 October 2019.

The application reference number is: **APP0043095**

Land description: MLA 700056

2. Information request

The administering authority has considered the abovementioned application and is writing to inform you that further information is required to assess the application (an information request).

The information requested is attached to this notice in Appendix A.

3. Actions

The abovementioned application will lapse unless you respond by giving the administering authority -

(a) all of the information requested; or
(b) part of the information requested together with a written notice asking the authority to proceed with the assessment of the application; or
(c) a written notice –
    i. stating that you do not intend to supply any of the information requested; and

ABN 46 640 294 485

Queensland Government

ii. asking the administering authority to proceed with the assessment of the application.

A response to the information requested must be provided by 2 September 2021 (the information response period). If you wish to extend the information response period, a request to extend the period must be made at least 10 business days before the last day of the information response period.

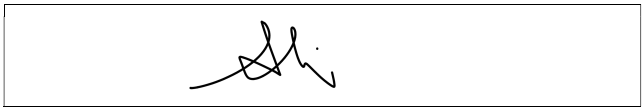
The response to this information request or a request to extend the information response period can be submitted to the administering authority by email to CRMining@des.qld.gov.au.

If the information provided in response to this information request is still not adequate for the administering authority to make a decision, your application may be refused as a result of section 176 of the *Environmental Protection Act 1994,* where the administering authority must have regard to any response given for an information request.

4. Review and appeal rights

You may apply to the administering authority for a review of this decision within 10 business days after receiving this notice. Information about your review rights is attached to this notice or search 'DES Internal review and appeals' at business.qld.gov.au. This information is guidance only and you may have other legal rights and obligations.

If you require more information, please contact Barbara van der Pol on the telephone number listed below.



Signature

3/03/2021

Date

Alison Sinclair
Department of Environment and Science
Delegate of the administering authority
Environmental Protection Act 1994

Enquiries:
Coal Business Centre
PO Box 3028, Emerald QLD 4720
Phone: (07) 4987 9320
Email: CRMining@des.qld.gov.au

Privacy statement

Pursuant to section 540 of the EP Act, the Department is required to maintain a register of certain documents and information authorised under the EP Act. A copy of this document will be kept on the public register. The register is available for inspection by members of the public who are able take extracts, or copies of the documents from the register. Documents that are required to be kept on the register are published in their entirety, unless alteration is required by the EP Act. There is no general discretion allowing the Department to withhold documents or information required to be kept on the public register. For more information on the Department's public register, search 'public register' at www.qld.gov.au. For queries about privacy matters please email privacy@des.qld.gov.au or telephone 13 74 68.

Attachments

Appendix A – Information request

Conceptual Project Layout		
EA Application Information Request Response Document Reference	**Comment**	**Requirement**
Volume 1 / Revised Supporting Information / Section 3.1 / Figure 7 and Section 3.2 / Table 7	Figure 7 Conceptual Layout – Gemini Project shows that the crest of the high wall on the southern end of the Pit AB final void is proposed to extend right to a corner boundary of the tenure, MLA 700056. Table 7 states that a 100 metre buffer has been included around the perimeter of the disturbance footprint, but it is not clear if the buffer has been applied to this part of Pit AB final void area. The Revised Supporting Information does not sufficiently address information requirements, such as, the expected geotechnical stability of the final battered high wall and potential liability of high wall failure. The assessing officer's concern is that as the final landform is proposed to be so close to the tenure boundary, there is a possibility that high wall failure may cause impacts outside of the tenure boundary.	Provide further information to justify the position of the final void for Pit AB with regard to the concerns of creating disturbance and impacts to environmental values (EVs) outside of the tenure boundary. Alternatively, provide a revised conceptual project layout that includes an appropriate buffer between the battered high wall of Pit AB final void and MLA 700056 boundary.

Traffic & Train Load Out Facility Construction		
EA Application Information Request Response Document Reference	**Comment**	**Requirement**
Volume 1 / Revised Supporting Information / Section 3.3.4	An existing access road off the Capricorn Highway, Red Hill Road, is proposed to be the revised intersection and access road for the Train Load Out Facility (TLO). No detail has been provided regarding: • existing condition of the intersection and road • justification for its suitability for TLO construction and operation access • whether upgrades will be necessary to make the intersection and road suitable for intended uses • reference to a traffic impact assessment for the Capricorn Highway / Red Hill Road intersection The original application states, in section 3.3.4 of the supporting information, that Red Hill Road is only suitable for light vehicles but the revised section 3.3.4 and the notice of changed application state that construction equipment can be mobilised to the TLO along this access; however, no further detail has been provided about how this will be possible.	Provide further detail and justification to demonstrate that Red Hill Road / Capricorn Highway intersection and Red Hill Road will be suitable for access to the TLO during construction and operation phases by addressing the concerns raised.

Volume 1 /Appendix A / Figure 1-1 and Figure 1-2	Figure 1-1 and Figure 1-2 do not show the revised mine layout as per the notice of change application. It is not clear what impacts the revised location of mine accommodation – which is now proposed to be accessed from the main mine access road – will have in terms of the potential increase in drive-in-drive-out traffic entering the mine access road, given that it is predicted that 80% of the operation workforce will be drive-in-drive-out on a weekly basis.	Provide updated mine layout figures in the traffic impact assessment report. Provide a revised Appendix A: Traffic Impact Assessment to address the potential impacts of the proposed relocation of mine accommodation on traffic using the Capricorn highway and mine access intersection, as per the written notice of changed application. Alternatively, provide a justification of why the potential impact does not warrant updates to the Traffic Impact Assessment.
Volume 1 / Appendix A / Section 2.1	The intersection Capricorn Highway / Red Hill Road has not been included in the assessment scope for State Intersections, and, as per the notice of changed application, this is the only proposed access road to the TLO. The written notice of change states that the road will only be used for two vehicle movements daily. It is not clear if this includes construction equipment during the TLO construction phase. Red Hill Road is directly adjacent to Charlevue Creek. Queensland Globe mapping indicates this is a watercourse with a stream order of 5 and contains Matters of State Environmental Significance (MSES) downstream. According to Figure 61 of the revised supporting information, Red Hill Road also falls within flood zone levels. However, the potential impacts to EVs related to Charlevue Creek have not been clearly addressed with regard to Red Hill Road use during construction and operation phases and contingency plans to access the TLO in case of flooding.	Provide more information about the potential impacts to traffic of using Red Hill Road and the intersection with the Capricorn Highway, differentiating between the frequency and intensity of impact during TLO construction and operation phases and including consideration to the potential for flooding. Provide more information about the potential impacts of the use of the Red Hill Road to the EVs associated with Charlevue Creek.

Groundwater		
EA Application Information Request Response Document Reference	**Comment**	**Requirement**
20201221_Compiled Information Request Response / Issue No.84 & Issue No.88	Two downstream gauging and water quality monitoring stations are noted to have been installed on Charlevue and Springton Creeks (CC2 and SC2). It is understood that flow will be recorded continuously during a flow event. The date of installation and the data collected should be provided. These monitoring stations are considered to be important in establishing the relationship between creek flow and ground water levels.	Provide the date of installation of the downstream flow gauging and water quality monitoring stations. Provide the stream flow and water quality data that has been collected to date. Collate this information with alluvial and groundwater dependent ecosystem (GDE) aquifer information to identify the relationship between streamflow and groundwater levels.
20201221_Compiled Information Request Response / Issue No.88	The information supporting the conclusions that have been made in relation to the limited hydraulic connectivity between the regional groundwater table and the perched aquifer that supports the GDE's (Appendix F: Groundwater Dependent Ecosystems Assessment) as well as the limited connectivity between the perched alluvium and deeper groundwater systems remain of concern to the department. The conclusion is that it is unlikely that the project will reduce surface flows that replenish the perched GDE aquifer and that impacts of drawdown will not be propagated into the perched aquifer system, which is likely disconnected. The proportions of major cations and anions within different monitoring bores can provide an indication of the degree of connectivity between groundwater bores.	All major anions and cations must be monitored for all bores in accordance with the current proposed monitoring regime. Produce a figure(s) that visualise the ionic chemistry of the groundwater samples, for example, a piper diagram. Conduct adequate hydraulic conductivity testing of alluvial aquifers and include the data and results in the response. Identify and justify appropriate draw down triggers and management actions for the protection of GDE values.

	The major cations include sodium, potassium, calcium and magnesium and the major anions include chloride, sulphate, bicarbonate and carbonate. Hydraulic conductivity has only been calculated for one (1) of the alluvial bores using the result from a single test to demonstrate that the alluvium is hydraulically isolated. Hydraulic conductivity testing should be provided to justify the conclusions drawn relating to the hydraulic conductivity of the GDE and alluvial aquifers. The department has been unable to identify indicators/ thresholds/triggers that have been identified specifically for the purpose of protecting GDE values. While it is noted that conclusions have been drawn around the lack of connectivity between surface water, deeper groundwater and the GDE aquifers; there is little data to support the conclusions. A trigger of 2m/year has been assigned for an unconsolidated quaternary alluvial aquifer, and it is unclear how a 2m/year drawdown is believed to afford the relevant necessary protection to GDE's. The department still considers it necessary to include indicators, thresholds and limits in drawdown that will be relevant to the protection of GDE values.	
20201221_Compiled Information Request Response / Issue No. 85	The groundwater network is representative of the groundwater units present, in that bores are located within each of the groundwater units; however, the bore locations have not been demonstrated to be representative of the *directional flow* of groundwater and reflect the up and down gradient for each groundwater unit. Furthermore, bore location continues to appear to be random and the spatial distribution is not well justified in terms of anticipated impacts from potential sources of contamination. Locations of reference bores should be located upgradient as opposed to just being 'distant'.	Detailed conceptual understanding of the direction of groundwater flow needs to be demonstrated. Provide a figure illustrating ground water level contours indicating directional flow of groundwater. To demonstrate that the bore network is entirely representative of up and down gradient for each groundwater unit, produce a figure that visualises the ionic chemistry of the groundwater samples, for example, a piper diagram.

	The demonstration of conceptual understanding of ionic chemistry and groundwater flow direction is important to evaluate if the bore network is appropriate and representative. There does not currently appear to be an upgradient or reference bore proposed for the alluvial aquifers.	Provide justification for a lack of reference bores and up/down gradient bores for the alluvial aquifer or alternatively install the necessary bores.
20201221_Compiled Information Request Response / Issue No.86	The proportions of major cations and anions within different monitoring bores can provide an indication of the degree of connectivity between groundwater units. It is therefore important that all major anions and cations are monitored at all bores. The department will continue to review the proposed trigger values and continue to provide advice relating to the appropriateness of the trigger values and compliance framework.	All major anions and cations must be monitored for all bores in accordance with the current proposed monitoring regime.

Geochemical Assessment of Mining Waste Materials		
EA Application Information Request Response **Document Reference**	**Comment**	**Requirement**
Volume 3 / Appendix G: Geochemical Assessment of Mining Waste Materials / Section 2.1 and Section 3.1	In Section 2.1, it states, “recoverable coal will come from the Rangal coal seams but may also target the Upper Burngrove formation.” Figure A2 in Attachment A indicates that the Upper Burngrove coals seams are found at depths of approximately 175 metres (m) to 250m. However, in section 3.1, Table 3-1 indicates the maximum sample depth was 158.00 metres. It is not clear how these samples are representative of the geochemical characteristics of the Upper Burngrove Formation.	Provide further explanation for the maximum sample depth, including justification that it is representative of geochemical characteristics and amount of potential mining waste materials expected to be encountered in the Upper Burngrove Formation given that Figure A2 identifies the coal seam presence at 175m to 250m, while the samples were taken at a shallower depth.

Volume 3 / Appendix G: Geochemical Assessment of Mining Waste Materials / Section 3.1 and Figure A3 in Attachment A	Table 3-1 in Section 3.1 presents the drill hole identification (ID) numbers from which samples were taken for geochemical assessments, that is DW7002, DW7003 and DW7012. The drill hole ID numbers correspond to locations provided in Figure A3 (Attachment A) of Appendix G. Figure A3 shows that the three (3) drill holes sample sites are in the centre of MLA 700056 tenure area, in an area that is not proposed to be disturbed by activities associated with the mining project. Neither Appendix G nor the Revised Supporting Information document provide discussion of the sufficiency of the geochemical sampling sites to be representative of the characteristics of the mining waste materials likely to be encountered. It is not clear how the drill hole samples sites are representative of mining waste materials likely to be encountered for Gemini Project when the samples have been taken from outside the proposed areas for Pit AB and Pit C.	Ensure a representative sampling regime is conducted for the assessment of geochemical properties of mining waste materials likely to be encountered. Provide a statement to justify that the chosen sampling regime sufficiently reflects the likely characteristics of mining waste materials encountered for Gemini Project, given the samples have been taken from outside the areas proposed to be disturbed by Pit AB and C.

Geochemical Assessment of Coal Reject Material		
EA Application Information Request Response **Document Reference**	**Comment**	**Requirement**
Volume 1 / Revised Supporting Information / Section 12.4 / Table 68 Volume 1 / Revised Supporting Information / Section 13.4.1 & 13.4.4	Regarding the expected coal reject material disposal, the Revised Supporting Information document states in Section 12.3, Table 68: "Coal rejects will be disposed of within Pit AB and Pit C and out-of-pit waste rock emplacements." Further in Section 13.4.1 and 13.4.4, respectively, it is stated: "Coal reject material will be placed where there is a lower risk of connectivity to surface water or groundwater resources." "Coal reject materials and any potentially acid forming waste rock materials identified will be selectively handled and encapsulated within waste rock emplacements and well away from the outside surface of rehabilitated landforms, where there is a low risk of connectivity to surface water or groundwater resources." Appendix H and the Revised Supporting Information document do not give clear locations of where coal reject material will be disposed of other than, generally, within the waste rock or spoil emplacements and at a depth where there is a lower risk of connectivity to surface water or groundwater resources.	Provide a discussion of the likely position of disposed coal reject material within the out-of-pit and in-pit waste rock emplacements and demonstrate that there is sufficient capacity for proposed coal reject material disposal, including sufficient quantities of benign material to encapsulate potentially acid forming waste.

	Further information is required to ensure that there is sufficient capacity for the achievement of the proposed disposal requirements with respect the proposed final landform.	
Volume 3 / Appendix H: Geochemical Assessment of Coal Reject Material / Section 2.1 and Figure A3 in Attachment A	Table 2.1 in Section 2.1 assigns geochemical samples to a sample number according to the coal seam (AR2, AR3, CAS, PLU1, PLU2); however, it is unclear what consideration was given to spatial variability across the coal seams. It is noted that the samples are composite. It is not clear what influence this has on geochemical characteristics of the samples where quality may be variable across the coal seam.	Provide a list of the coal reject drillhole ID numbers for each generated composite coal reject sample detailed in Table 2.1 of section 2.1. Provide further information on how the geochemical characteristics across a coal seam is considered in the assessment of the quality of coal reject material from each coal seam or each composite sample.
Volume 3 / Appendix H: Geochemical Assessment of Coal Reject Material / Figure A3 in Attachment A	Figure A3 provides the locations of the drill hole sites from which samples were extracted for geochemical assessment of coal rejects material. Figure A3 shows that one (1) drill hole was taken from the proposed area of Pit C (drill hole ID number DW7253C), while eight (8) where taken from the proposed area of Pit AB. Neither Appendix H nor the Revised Supporting Information document provide discussion of the sufficiency of the geochemical sampling sites to be representative of the characteristics of the mining waste materials likely to be encountered. It is not clear how the drill hole samples sites are representative of mining waste materials likely to be encountered for Gemini Project when the samples have been taken from outside the proposed areas for Pit AB and Pit C.	Ensure a representative sampling regime is conducted for the assessment of geochemical properties of coal reject material likely to be produced. Provide a statement to justify that the chosen sampling regime sufficiently reflects the likely characteristics of coal reject material produced by the Gemini Project.

Soils and Land Suitability		
EA Application Information Request Response **Document Reference**	**Comment**	**Requirement**
Volume 3 / Appendix I: Soil and Land Suitability Assessment / Section 7.1	Appendix I provides pre-mining land suitability classes for grazing, which range from Class 2 to 4. It is stated that, "the majority of areas in the final landform will aim to restore a post-mining land use of grazing." However, "grazing" is not defined by a land suitability class that it will aim to achieve. Further discussion in this section describes areas that may not achieve the pre-mining land suitability class, "such as steeper outer slopes of spoil", but these areas are not referenced by a specific location. For the mining disturbance domains that have a post-mining land use of grazing, it is unclear which areas are proposed to achieve the pre-mining land suitability class and which areas will not, and furthermore, what land suitability class for grazing they are proposed to achieve.	Provide more detailed explanation and acceptance criteria for the post-mining land use "grazing", particularly: • the land suitability class/es that will be achieved for areas with a post mining land-use "grazing", including if it will return to pre-mining land suitability class or different • if an area will have a different class to pre-mining, provide justification for how the proposed post-mining land suitability class is appropriate • if "grazing" will achieve varying land suitability classes in the post-mining landform, provide proposed areas and locations for each class • given land suitability classes are assessed against limitations, provide the parameters that will demonstrate that an area has achieved the proposed post-mining land suitability class.

Terrestrial Ecology & Environmental Offsets Strategy		
EA Application Information Request Response **Document Reference**	**Comment**	**Requirement**
Volume 1 / Revised Supporting Information / Section 15.0 / Table H2 – Significant Residual Impacts to Prescribed Environmental Matters	The maximum extent of impact (ha) has been provided as a *total* area for all regulated vegetation that are regional ecosystems within a defined distance of a vegetation management watercourse and for connectivity areas that are regional ecosystems. It is unclear the maximum extent of impact (ha) to each regional ecosystem identification for both these prescribed matters. The draft EA conditions for impacts to prescribed environmental matters does not include reference figures associated with Table H2 to provide context about the locations of prescribed environmental matters being offset and therefore, it is unclear the locations within the project area they are located.	As per the mining guideline for Model Mining Conditions (ESR/2016/1936, Version 6.02, Effective 07 Mar 17) for Impacts to Prescribed Environmental Matters, provide the location of impact and area (ha) of maximum extent of impact for each regional ecosystem (RE) within the prescribed environmental matters for regulated vegetation and connectivity areas. For the location of impact, multiple figures that reference only the areas of the prescribed environmental matters that are being impacted by the resource activity, is preferable.

Aquatic Ecology		
EA Application Information Request Response **Document Reference**	**Comment**	**Requirement**
Volume 4 / Appendix K: Aquatic Ecology Assessment / Section 4.1	Section 4.1 states: "EHP (2013b) identifies ten EVs in the Mackenzie River sub-basin. Two of these are deemed relevant for the waters surrounding the study area: 1. protection of aquatic ecosystem values; and 2. suitability for stock watering." Discussion about the other eight (8) EVs for waters listed in the *Environmental Protection (Water) Policy 2009* has not been addressed to provide sufficient explanation for why only two (2) EVs are relevant. Please also note, the original application for Gemini Project was submitted on 23 October 2019. *Environmental Protection (Water) Policy 2009* was superseded by *Environmental Protection (Water and Wetland Biodiversity) Policy 2019* (EPP Water 2019) on 1 September 2019. Section 6 of the EPP Water 2019 defines eleven (11) EVs for waters to be enhanced and protected.	Ensure references to subordinate legislation are current for the time of original submission of the EA application for Gemini Project. Address all EVs for waters providing justification for why they may or may not be relevant.

Air Quality and Greenhouse Gases		
EA Application Information Request Response Document Reference	**Comment**	**Requirement**
Volume 4 / Appendix L: Air Quality and Greenhouse Gas Assessment / Section 3.3.3.2.1 Volume 1 / Revised Supporting Information / Section 9.2.3.1	It is noted from Section 3.3.3.2.1 of Appendix L that air quality data from a Department of Environment and Science (the department) monitoring station in Blackwater has been used to provide ambient background concentrations. Section 9.2.3.1 of Revised Supporting Information states that data from the department's monitoring station in Blackwater adequately accounts for potential cumulative contributions from surrounding industry, including Bluff Coal Mine. Bluff Coal Mine is 12 kilometres (km) from Gemini Project. Blackwater is located a further 23km west of Bluff Coal Mine, i.e., a total of 35 km from Gemini Project. Ambient background concentrations measured at Blackwater would, therefore, not be representative of the ambient air quality at Gemini, which is a lot closer to Bluff, for example, than Bluff is to Blackwater. Gemini Project is also located in a different direction from Bluff than Blackwater, and therefore, ambient air quality as influenced by prevailing winds, for example, would be quite different. Section 9.2.3.1 also states that Bluff Coal Mine is currently in care and maintenance with no certainty of return to operations. Therefore, it is not clear if air quality modelling for Gemini Project has accounted for the worst case scenario which assumes Bluff Coal Mine is operating at full capacity at the same time as Gemini Project.	Explain how Blackwater monitoring data is expected to adequately account for the potential contributions to existing air quality and adequately represent cumulative impacts to air quality in the assessment model, with particular reference to Bluff Coal Mine.

Volume 4 / Appendix L: Air Quality and Greenhouse Gas Assessment / Section 2, Section 3.4.1 & Section 3.4.4 / Table 7	The list of main activities (included in Section 2 and Table 7 in Section 3.4.4) associated with Gemini Project does not include "workers' accommodation and associated infrastructure (camp access road, sewage treatment plant, sewage pipeline and effluent irrigation management area)" as proposed by the written notice of changed application and the revised conceptual mine layout. Furthermore, workers' accommodation and associated infrastructure was not included as key dust-generating activities for Gemini Project (Section 3.4.1). It is noted that these activities were not considered as a source in air quality modelling and assessment in the original EA application submission. However, given the changed application, it is not clear how the revised mine layout has the potential to impact the EVs of air at nearby sensitive receptors.	Provide justification for why workers' accommodation and associated infrastructure, which includes camp access road, sewage treatment plant, sewage pipeline and effluent irrigation management area, has been excluded as sources from the air quality modelling and assessment. Demonstrate how the EVs of air will be enhanced or protected given the change to the conceptual mine layout.
Volume 4 / Appendix L: Air Quality and Greenhouse Gas Assessment / Section 3.3.2 / Table 2	Table 2 lists sensitive receptors surrounding the project. The property name for SR31 and SR32 is "unknown". It is not clear if the revised conceptual mine layout affects and alters the impacts to air quality at these sensitive receptors from the original application.	Provide more information about SR31 and SR32 and the potential impacts to air at these locations given the change to the conceptual mine layout.
Volume 4 / Appendix L: Air Quality and Greenhouse Gas Assessment / Section 3.4.4 / Table 7	Table 7 presents the list of activities that will create dust emissions and provides estimates of the quantity (kg/year) of emissions that will be produced during mine operational year 2, 5 and 15. However, it is not clear how this data has been applied to conclusions of the air quality assessment.	Provide a summary or conclusion that interprets the data in Table 7 to help provide understanding of how the emission quantities differ between years of mine operation and explain what might cause differences.

Volume 4 / Appendix L: Air Quality and Greenhouse Gas / Appendix A / A1.1	The Air Pollution Model (TAPM) was configured using meteorological data from 2016. Configuring TAPM based on one year of historical 24-hourly data is acceptable if that year represents the worst case scenario.	Explain and demonstrate that meteorological data from 1 January 2016 to 31 December 2016 represents the worst case meteorological conditions, very low rainfall and strong windy conditions, compared to 5 years of hourly site meteorological data.

Noise		
EA Application Information Request Response Document Reference	**Comment**	**Requirement**
Volume 4 / Appendix M: Noise Impact Assessment / Section 3.1	The list of main activities associated with Gemini Project does not include “workers’ accommodation and associated infrastructure (camp access road, sewage treatment plant, sewage pipeline and effluent irrigation management area)” as proposed by the written notice of changed application and the revised conceptual mine layout. It is noted that these activities were not considered as a source in noise quality modelling and assessment in the original EA application submission. However, given the changed application, it is not clear how the revised mine layout has the potential to impact the EVs of noise at nearby sensitive receptors.	Provide justification for why workers’ accommodation and associated infrastructure, which includes camp access road, sewage treatment plant, sewage pipeline and effluent irrigation management area, has been excluded as sources from the noise modelling and assessment. Demonstrate how the EVs of noise will be enhanced or protected given the change to the conceptual mine layout.

Volume 4 / Appendix M: Noise Impact Assessment / Section 2 / Table 2.1	Table 2.1 lists sensitive receptors surrounding the project. The real property description for SR31 and SR32 is not provided. It is not clear if the revised conceptual mine layout affects and alters the impacts to noise at these sensitive receptors from the original application.	Provide more information about SR31 and SR32 and the potential impacts to the EVs of noise at these locations given the change to the conceptual mine layout.