

For submission to:



**Noranda Jamaica
Bauxite Partners
II (NJBPII)**

Port Rhoades
Discovery Bay P.O.
St. Ann
Jamaica, W.I.

Environmental Impact Assessment
for the
Proposed Mining of Bauxite
in the
Special Mining Lease 173 (SML 173) Area
in the parishes of
St. Ann and Trelawny

**Responses to Comments Received from the
Public by the National Environment &
Planning Agency**

on
January 5, 2021

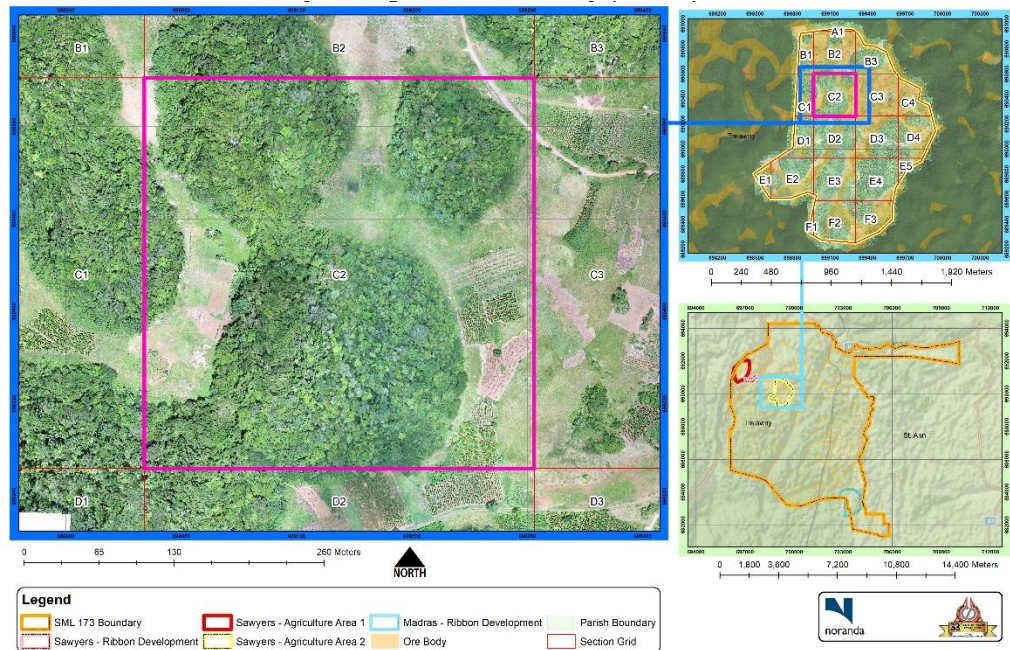
following

The Mandatory Public Meeting

held on

December 8, 2020

January 20, 2021



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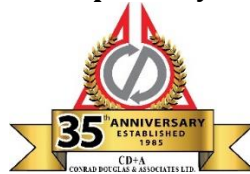
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Prepared for:



Noranda Jamaica Bauxite Partners II (NJBPII)
Port Rhoades
Discovery Bay P.O.
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January 20, 2021

COVER CREDITS

From Aerial Surveys conducted by Conrad Douglas & Associates Limited in
SML 173 area.

This shows mode of occurrence of bauxite deposit within SML 173 area.
Elevated limestone hillocks with high biodiversity and low-lying deposits of
bauxite supporting sparse grassland/shrub vegetation and agricultural
activities.

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1.0. Background & Introduction

Following on submission of the Volume I: Environmental Impact Assessment (EIA) Report and the following companion documents for the proposed mining of bauxite in Special Mining Lease 173 Area (SML 173) by Noranda Jamaica Bauxite Partners II (NJBP II), a mixed-virtual meeting of the Mandatory Public Meeting was convened after receiving the necessary approvals from the National Environment & Planning Agency (NEPA):

- ✓ Volume I: Environmental Impact Assessment (EIA) Report
- ✓ Volume II: Reports on Voluntary Stakeholder Consultations
- ✓ Volume III: Archaeological Impact Assessment
- ✓ Volume IV: Air Dispersion Modelling Report

Several comments and questions were sent to NEPA by members of the public after the mixed-virtual Mandatory Public Meeting and transmitted to Conrad Douglas & Associates Limited (CD&A) on January 5, 2021 (See Appendix III).

This report provides the responses to the comments and questions received from the public by NEPA.

Consequent on the COVID-19 pandemic, the Disaster Risk Management (Enforcement Measures) Order, 2020, and NEPA's instructions, the Mandatory Public Meeting had to be convened virtually in compliance with the Disaster Risk Management (Enforcement Measures) Order, 2020. In order to facilitate this, we were instructed by NEPA to carry out pre-consultations with the community leaders and stakeholders, which may be potentially impacted in the event that an environmental permit is granted by the agency. The need for the virtual meeting was explained and the views of the potentially impacted communities were obtained following which they signed a document to indicate that they were consulted prior to the meeting (See Appendix I and Appendix II).

This was followed by the placement of copies of the EIA report and companion documents in the following NEPA approved locations prior to the meeting:

- National Environment and Planning Agency Documentation Centre, 10 Caledonia Avenue, Kingston 5
- Gibraltar All Age & Infant School, Gibraltar, St. Ann
- Madras Primary School, Madras, St. Ann
- Discovery Bay Police Station, Discovery Bay, St. Ann
- Ulster Spring Police Station, Ulster Spring, Trelawny
- Albert Town Post Office, Albert Town, Trelawny
- Sawyers Post Office, Sawyers, Trelawny
- NEPA's Website www.nepa.gov.jm
- CD&A's Website www.cdaestech.com

The mandatory public meeting was subsequently advertised for 21 days (in both the Gleaner and Observer) with the expectation that persons would read the document before the meeting to objectively participate and ask questions during the meeting and afterwards, if necessary (See Appendix IV and Appendix V).

The following were also carried out in preparation for the mixed virtual Mandatory Public Meeting:

- ✓ An agenda was developed and approved by NEPA. The Agenda approved also indicated the allocation of time for each agenda item (See Appendix VI).
- ✓ Approval of the Chairperson by NEPA.
- ✓ Town Crier advertised the meeting throughout the communities.
- ✓ Distribution of Flyers (invitations) (See Appendix VII)
- ✓ Distribution of the Non-Technical Document (See Appendix IX)
- ✓ Submission of written invitations, in hard copy and email (See Appendix VIII) to the following:
 - Representatives from the following Ministries:
 - Transport and Mining
 - Science, Energy and Technology
 - Economic Growth and Job Creation

- Labour and Social Security
- Health & Wellness
- Members of Parliament & Councilors
- The following agencies:
 - National Environment & Planning Agency
 - Office of Disaster Preparedness & Emergency Management
 - Jamaica Constabulary Force
 - Jamaica Fire Brigade
 - Jamaica Bauxite Institute
 - Mines & Geology Division
 - Water Resources Authority
 - Jamaica National Heritage Trust
 - National Works Agency
 - Social Development Commission
 - St. Ann Municipal Corporation
 - Trelawny Municipal Corporation
- The Custos of St. Ann
- The Custos of Trelawny
- St. Ann Chamber of Commerce
- Trelawny Chamber of Commerce
- Jamaica Environment Trust
- South Trelawny Environmental Agency
- Windsor Research Centre
- The University of the West Indies

In order to afford the best coverage under the circumstances, the meeting had to be broadcasted on various platforms as follows:

- Broadcasted live on:
 - Jamaica News Network (JNN) and
 - Power 106 FM

- Streamed live on:
 - Jamaica News Network's YouTube Page
 - Television Jamaica's YouTube Page and
 - Zoom (ID: 969 9027 3594 | Password: 203943)
- Streamed live to the following Satellite Locations:
 - St. James Anglican Church, Endeavor, St. Ann,
 - Retreat Community Centre, Retreat, St. Ann and
 - Ulster Spring Baptist Church, Ulster Spring, Trelawny

In addition, the documents were kept at the locations mentioned above up to and beyond December 30, 2021. To this date, they still remain in place for consultation by the public. In addition, the recording of the Mandatory Public Meeting was available for viewing by the public following the meeting on TVJ and JNN YouTube web pages.

The Mandatory Public Meeting Report was prepared and submitted to NEPA seven (7) days after the meeting, as required. In keeping with NEPA's Guidelines, the Mandatory Public Meeting Report contained all the information required, inclusive of the *verbatim* minutes of the meeting.

The public was given a further 21 days to submit comments and questions to NEPA following the submission of the Mandatory Public Meeting Report on December 15, 2020. The 21-days came to an end on December 30, 2021. The comments compiled by NEPA were submitted to CD&A on January 5, 2021. CD&A's responses to the comments and questions are provided below.

2.0. Conclusions





From the comments and questions submitted to NEPA and received by CD&A, it appears that in general, there is a need for thorough and objective review of the EIA and companion documents by some participants. This is indicated by the nature of the comments and questions received by NEPA, because answers to several of the questions are documented in various sections of the EIA and the companion documents.

3.0. Responses to Comments Received from the Public

Table 1: Responses to Comments Received from the Public

No.	Comment	CD&A/NJBP II Response
1.	<i>No assessment was included in the EIA of the negative short-term/immediate impact on the farming communities.</i>	<p>This statement is incorrect. The EIA speaks to:</p> <ol style="list-style-type: none"> 1. The offering of compensation, in certain circumstances, to farmers and land owners whose activities may be temporarily dislocated due to the mining process. <p>Slide 6 of the Mandatory Public Meeting presentation made on December 8, 2020 stated that: <i>“The SML 173 area comprises private and government holdings of which, approximately, 70% is titled. Untitled lands are privately owned. Noranda holds 55% of the total land areas (for and behalf of the Commissioner of Lands) and the remainder is privately held (See Figure to the left and EIA Report Volume 1: Appendix V). If mining rights is required for any privately owned land, Noranda is obliged to pay fair and reasonable compensation to the owner or occupier for disturbance of surface rights, any damage to the land, affected crops and buildings. Upon completion of mining, the land will be rehabilitated in accordance with applicable laws and returned to the landowner or occupier.”</i> In the case of private lands, the rehabilitated lands are returned to the farmer (as one option) for their continued use.</p> <ol style="list-style-type: none"> 2. The recommendation that, where practicable, displaced farmers should be accommodated for continuation of farming in the ‘clawed back area’. <p>In “Section 10: Alternative Analysis” (pages 10-6 to 10-7 of the EIA Report), the third (3rd) alternative referred to the ‘clawed back area’, within which there is intensive agricultural production. <u>This alternative proposes that there will</u></p>

No.	Comment	CD&A/NJBP II Response
		<p><u>be no mining in the ‘clawed back area’, which hosts intensive agricultural production and the declared Forest Reserves.</u> Hence, the livelihoods of the farmers would not be negatively impacted.</p> <p>The potential impacts and proposed mitigation for the exclusions as a result of the proposed ‘<i>Clawed Back Area</i>’ were also outlined in: “<i>Section 7: Impact Identification & Assessment and Analysis of Potential Impacts</i>” (See page 7-14 of the EIA Report).</p> <p>It was also elaborated in the Mandatory Public Meeting and stated in the EIA Report on page 4-1 that mining progresses in a consecutive series of five (5) year Mining Plans, and that mining is projected to take place for an overall period of 25 years in SML 173. Every four (4) years a Mining Plan must be developed and submitted to the Commissioner of Mines for their review and approval. In each instance, before mining commences, the communities are advised far in advance and are provided with alternative lands (and other resources, as the case may require) to continue their farming activities.</p> <p>Our investigations have shown that it is the practice of NJBP II to mitigate or avoid disruption of the livelihoods of the residents in and around its mining locations. NJBP II has consistently demonstrated its commitment to work with farmers through partnerships with stakeholders such as the Jamaica Social Investment Fund (JSIF) and the Jamaica Bauxite Institute (JBI) to establish greenhouses and cultivate crops or engage in other forms of farming on rehabilitated lands (see Figure 1 below and pages 4-15 to 4-17 of the EIA Report). As an example, NJBP II has also supported the farming of peanuts and the establishment of a peanut processing factory.</p>

		<p>Greenhouses on rehabilitated lands</p> 	<p>Cabbage under cultivation on rehabilitated lands at Higgins Land</p> 
		<p>Water Storage Pond established on Rehabilitated land</p> 	<p>Aerial showing rows of corn thriving on rehabilitated land</p> 

No.	Comment	CD&A/NJBP II Response
		<div data-bbox="755 253 1636 773"><p>Land being prepared for planting on rehabilitated lands</p></div> <div data-bbox="1647 253 2429 773"><p>Sweet Potato being planted on rehabilitated lands</p></div> <p>Figure 1: From right to left - Watt Town Greenhouse cluster on rehabilitated lands Cabbage Growing on rehabilitated lands at Higgins Land Greenhouses Pond established on Rehabilitated land Aerial showing rows of corn thriving on rehabilitated land Land being prepared for planting on rehabilitated lands Sweet Potato being planted on rehabilitated lands</p>
2.	<i>Baseless statements in the EIA suggest that mining would have a sustainable outcome.</i>	<p>The EIA Report does not contain any baseless statement that the EIA suggest that mining would have a sustainable outcome. The EIA Report stated on page 1-13 that: “Jamaica’s immediate to medium social, economic and sustainable development future is highly dependent on providing NJBP II with the permits to mine these bauxite resources.” Please also see the Executive Summary (Page 1-3 of the EIA Report), where it is stated that bauxite is a finite non-renewable mineral resource: “In essence, the objective of the scientific investigations carried out in conducting this EIA is to inform a major decision concerning the critical balance, which exists between the management of a <u>finite non-renewable mineral resource of major economic importance (bauxite) and potential impacts on important renewable resources</u>. Both the finite non-renewable and renewable resources are important in</p>

No.	Comment	CD&A/NJBP II Response
		<p><i>supporting and sustaining the local and regional bio-physical and socio-economic future of Jamaica. The decision on the issuance of environmental permits is also to be guided by the regulatory framework."</i></p> <p>After mining is completed, the 15% of the total SML 173 area disturbed will be rehabilitated and put into agricultural production or other useful purposes agreed by the authorities. Some of these purposes are set out in the EIA Report (See pages 4-15 to 4-17 of the EIA Report).</p>
3.	<p><i>A disregard of negative views of the community in the area (SML173) towards mining.</i></p>	<p>This comment is inaccurate. The views and opinions of the community have been determined and reported on variously in the EIA Report through:</p> <ol style="list-style-type: none"> 1. A Contact survey, in which a representative sample of 1.5% was interviewed using a pre-tested, pre-coded questionnaire, approved by NEPA. Please see section 5-5 and pages 5-268 to 5-275 of the EIA Report section 5.5 and the questionnaire in Appendix III, page XL of the EIA Report. 2. Four (4) Voluntary Public Stakeholder Consultation meetings were also carried out in keeping with universally accepted best practices and among other things, included the <i>verbatim</i> meeting notes of each meeting and a summary of the analysis of the issues raised by the participants in Volume II: Reports on Voluntary Stakeholder Consultations. <p>Further, there was an analysis of the views of the communities, which were reported on and graphically illustrated in pie charts in the reports. See figures below which were extracted from pages 5-289 and 5-291 of the EIA Report. This is an example that shows that the reader did not take the time to thoroughly read the EIA Report.</p>

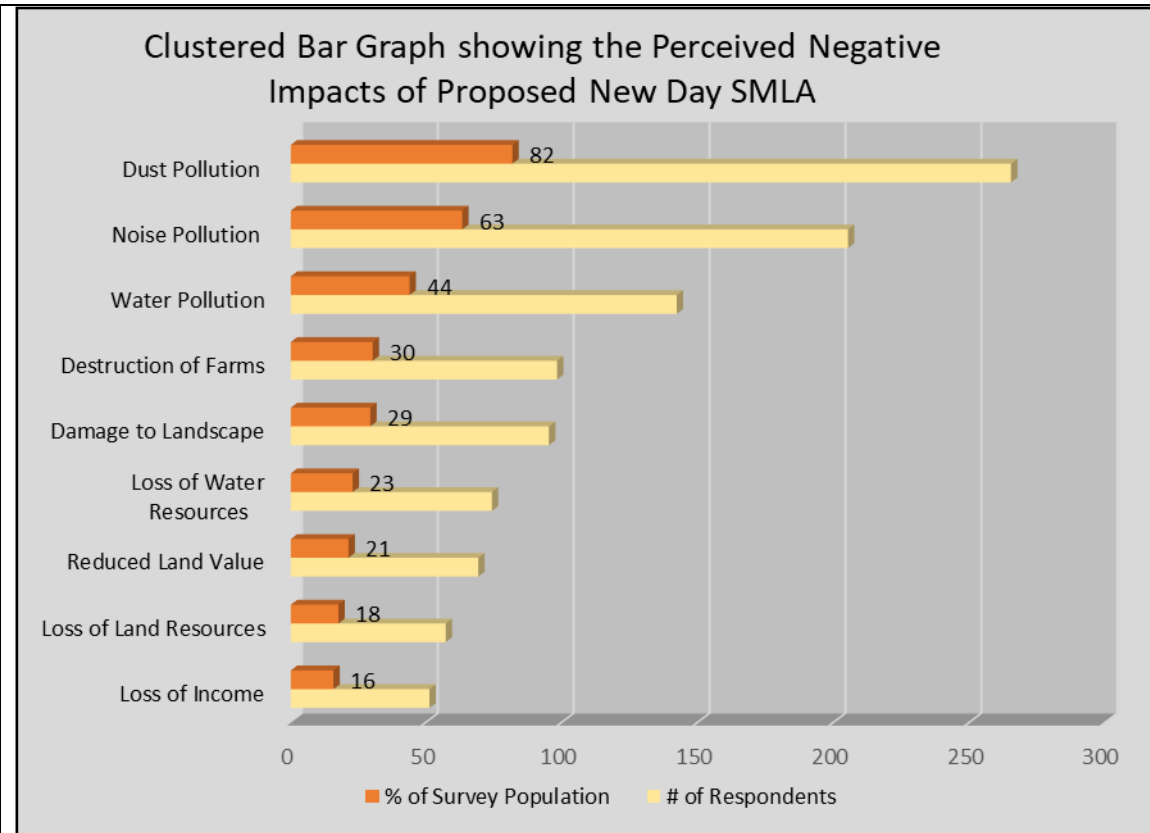


Figure 2: Perceived Negative Impacts of Proposed Mining in SML 173 Area

No.	Comment	CD&A/NJBP II Response
		<div data-bbox="747 277 1881 1157"> <p>The Major Perceived Negative Impacts of Proposed SMLA</p> <p>Residents indicated the negative impacts that they expect from the SMLA project. This map displays the spatial dimension of the major impacts selected.</p> <p>Legend</p> <ul style="list-style-type: none"> CLASS B Roads CLASS C Roads Special Mining Lease Area Dust Noise Water_Pol Loss_Farm Land_Aesth </div> <p>Figure 3: The Major Perceived Negative Impacts of Mining in SML 173 Area</p> <p>In addition, the EIA Report proposed measures to mitigate the potential negative impacts raised by the communities within the SML 173 Area.</p>

No.	Comment	CD&A/NJBP II Response
4.	<p><i>The EIA downplayed or ignored the impacts of mining on the livelihoods of the communities in the area.</i></p>	<p>This is not correct. The findings of the four (4) Voluntary Stakeholder Consultations were reported in detail in the EIA Report's companion document Volume II: Reports on Voluntary Stakeholder Consultations, "<i>Section 5.5. Socio-Cultural and Economic Environment</i>" of the EIA Report (See pages 5-268 – 5-315), as well as all other forms of consultations conducted during the preparation of the EIA.</p> <p>The Demography & Socio-Economic Profile of the communities in the project area were assessed and is described in Section 5.5.3, pages 5-275 to 5-280. It was concluded on page 5-297 of the EIA Report that: "<i>The proposed sites for the proposed mining project have the potential to impact on the livelihoods of residents who use the areas, predominantly for agriculture, but is restricted to very small areas adjacent to the communities of Gibraltar, Madras and Watt Town. Generally, with the exception of Brown's Town, the communities with a history of bauxite mining activities are not expecting positive outcomes.</i>"</p> <p>It was also stated in the EIA Report in Section 4.2.7, pages 4-27 to 4-28 that NJBP II demonstrates its Corporate Social Responsibility in several initiatives to assist the local communities. In this regard, NJBP II establishes Stakeholder Community Councils in all the areas in which it operates. The council comprises of members of the mining communities with the primary purpose of raising any concerns and proposing solutions and projects for implementation by NJBP II. Some of these are listed below:</p> <ol style="list-style-type: none"> 1. <i>Financed over 100 small business projects (GetStart Programme)</i> 2. <i>Mechanical and Welding Training continued at Water Valley and Discovery Bay Training Centers</i> 3. <i>Expansion of Green House Programme at Tobolski, Water Valley, Watt Town and Nine Mile</i> 4. <i>Commencement of aquaponics project on restored lands</i>

No.	Comment	CD&A/NJBP II Response
		<p>5. <i>Expansion of School Green House Project at:</i></p> <ul style="list-style-type: none"> a. <i>St Hilda's High School</i> b. <i>York Castle High School</i> c. <i>Aboukir Institute</i> d. <i>Aabuthnott Gallimore High School</i> e. <i>St. Christopher's School for the Deaf, and</i> f. <i>Browns Town High School</i> <p>6. <i>Tertiary Education Assistance Programme for over 100 college students receiving financial assistance each year</i></p> <p>7. <i>Sponsorship of primary and basic schools and undertaking school feeding programme</i></p> <p>8. <i>Seventy-six (76) GSAT students receiving NJBP II Scholarships</i></p> <p>9. <i>Construction of recreational facilities in various communities fostering community engagement</i></p> <p>10. <i>Sponsors and organizers of Community Concert Series at Sports Club each year (Produced Rising Star winner)</i></p> <p>11. <i>Active Community Councils at Mines and Plant</i></p> <p>12. <i>Provide Farming Assistance to farmers across communities</i></p> <p>13. <i>Provide potable water to communities</i></p> <p>14. <i>Distribution of care packages during the COVID-19 pandemic</i></p> <p>The EIA therefore acknowledges that there are potential impacts on the livelihoods of the communities in the project area and it has been illustrated how these will be mitigated. Please see "<i>Section 8.1.10. Dislocation and Compensation</i>", pages 8-6 of the EIA Report.</p>

No.	Comment	CD&A/NJBP II Response
		<p>In “Section 10: Alternative Analysis” (pages 10-6 to 10-7), the third (3rd) alternative referred to the ‘<i>clawed back area</i>’, within which there is intensive agricultural production. The map showing the ‘<i>clawed back area</i>’ is shown in Figure 4 below. <u>This alternative proposes that there will be no mining in the ‘clawed back area’, which hosts intensive agricultural production and the declared Forest Reserves.</u> The recommendation is for farmers who may be impacted by mining to be accommodated in the ‘<i>clawed back area</i>’.</p>

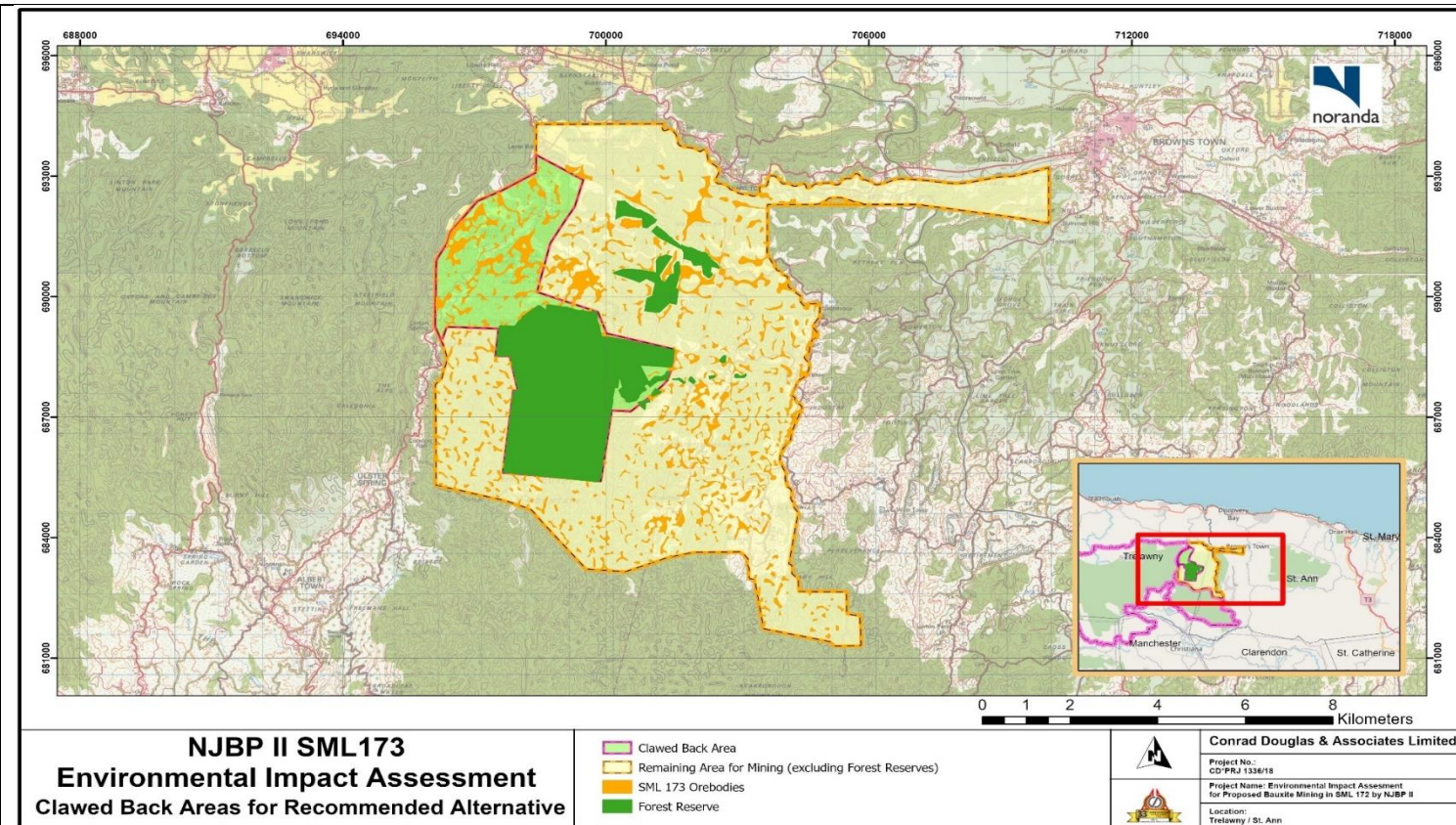







Figure 4: Boundaries of Entire SML 173 area and Modified ‘clawed back’ SML 173 (Source: EIA Report - Figure 5, page 10-7)

The potential impacts and proposed mitigation for the exclusions as a result of the proposed ‘Clawed Back Area’ were also outlined in: “Section 7: Impact Identification & Assessment and Analysis of Potential Impacts” (See page 7-14 of the EIA Report).

It was also elaborated in the Mandatory Public Meeting and stated in the EIA Report on page 4-1 that mining progresses in a consecutive series of five (5) year Mining Plans, and that mining is projected to take place for an overall period of 25 years in

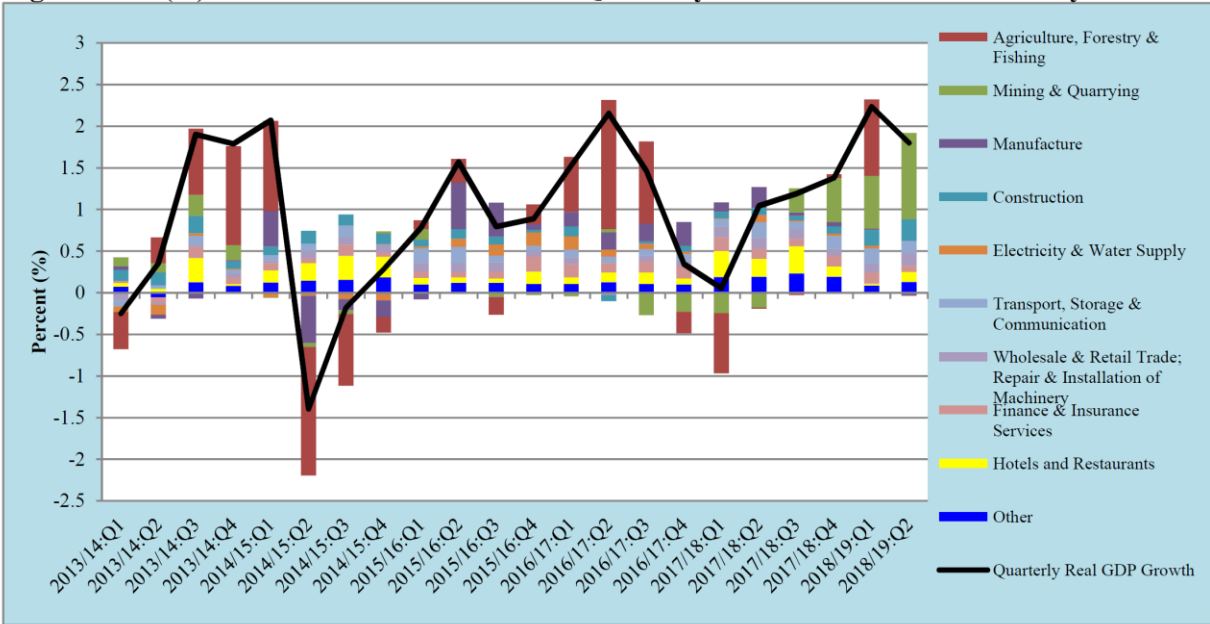
No.	Comment	CD&A/NJBP II Response
		<p>SML 173. Every four (4) years a Mining Plan must be developed and submitted to the Commissioner of Mines for their review and approval. In each instance, before mining commences, the communities are advised far in advance and are provided with alternative lands (and other resources, as the case may require) to continue their farming activities.</p> <p>From slide 6 of the Mandatory Public Meeting presentation made on December 8, 2020 it was stated that: <i>“The SML 173 area comprises private and government holdings of which, approximately, 70% is titled. Untitled lands are privately owned. Noranda holds 55% of the total land areas (for and behalf of the Commissioner of Lands) and the remainder is privately held (See Figure to the left and EIA Report Volume 1: Appendix V). If mining rights is required for any privately owned land, Noranda is obliged to pay fair and reasonable compensation to the owner or occupier for disturbance of surface rights, any damage to the land, affected crops and buildings. Upon completion of mining, the land will be rehabilitated in accordance with applicable laws and returned to the landowner or occupier.”</i> In the case of private lands, the rehabilitated lands are given back to the farmer (as one option) for their continued use.</p> <p>Our investigations have shown that it is the practice of NJBP II to mitigate or avoid disruption of the livelihoods of the residents in and around its mining locations. NJBP II has consistently demonstrated its commitment to work with farmers through partnerships with stakeholders such as the Jamaica Social Investment Fund (JSIF) and the Jamaica Bauxite Institute (JBI) to establish greenhouses and cultivate crops or engage in other forms of farming on rehabilitated lands (see Figure 1 below and pages 4-15 to 4-17 of the EIA Report). As an example, NJBP II has also supported the farming of peanuts and the establishment of a peanut processing factory.</p>

		<p>Greenhouses on rehabilitated lands</p> 	<p>Cabbage under cultivation on rehabilitated lands at Higgins Land</p> 
		<p>Water Storage Pond established on Rehabilitated land</p> 	<p>Aerial showing rows of corn thriving on rehabilitated land</p> 

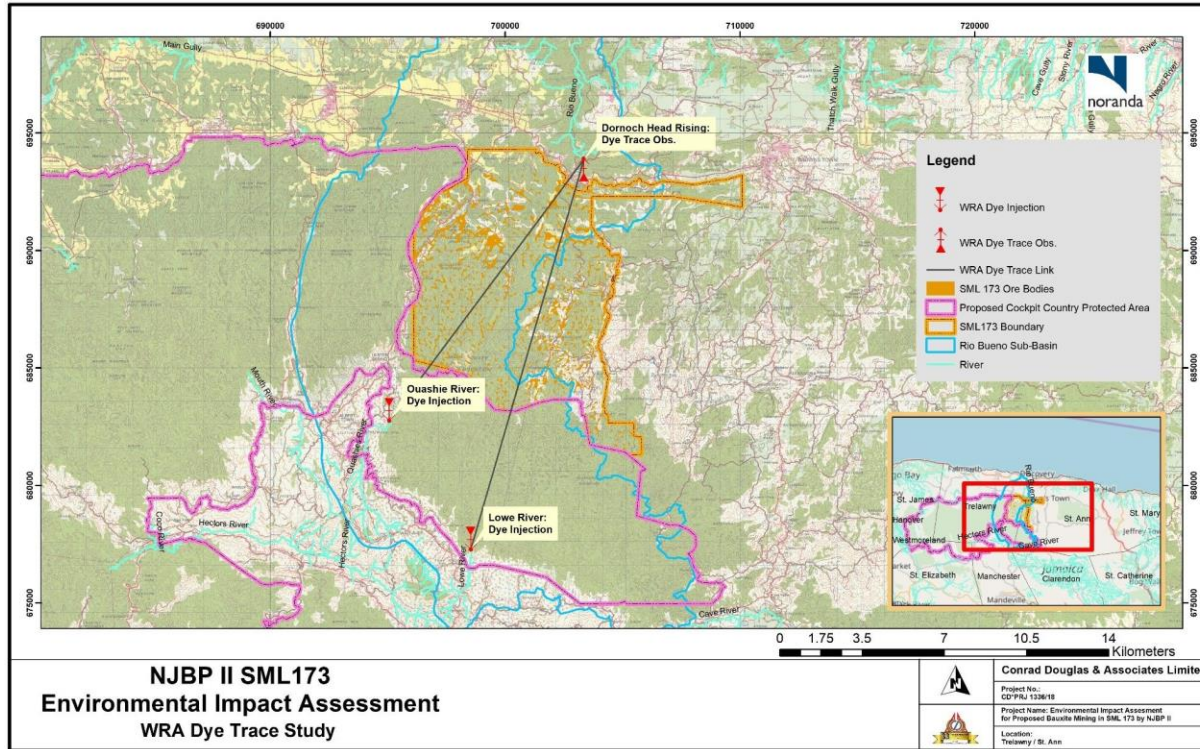
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5.	<p><i>Disconnect between the evidence and the EIA conclusions.</i></p>	<p>This is not correct. The conclusion of the EIA stated that:</p> <p><i>"Based on the findings of the scientific investigations reported in this EIA using internationally accepted approaches, methodologies and best practices, the impacts identified and the mitigations proposed, we recommend that NJBP II be granted an environmental permit to implement mining operations in the SML 173 area, in compliance with all the relevant regulations, standards and</i></p>

No.	Comment	CD&A/NJBP II Response
		<p><i>guidelines and where applicable, its own internal standards. However, it is recommended that the modified ‘clawed back’ area be considered as the preferred option.</i></p> <p><i>Jamaica’s immediate to medium social, economic and sustainable development future is highly dependent on providing NJBP II with the permits to mine these bauxite resources. There are no other feasible immediate or short-term economic alternatives that have been identified that can be considered as a substitute to bring equal or greater macro and micro-economic benefits to Jamaica, at this time.</i></p> <p><i>As stated by the Most Honourable Prime Minister and recognized by NJBP II, no mining will be carried out within the proposed Cockpit Country Protected Area (CCPA)."</i></p> <p>The conclusion is further supported by the responses provided in question 4 above.</p> <p>The Economic Profile (See Page 4-27 of the EIA) in the EIA gives the importance of bauxite mining and the mining sector, in general to the Jamaican economy. It has been illustrated in the EIA Report that the bauxite industry is a major contributor to Jamaica’s economy. The sector contributes to foreign exchange income, Jamaica’s GDP growth and employment.</p> <p><i>"There is a strong correlation between Jamaica’s economic performance and bauxite mining. Historically, whenever there is serious decline in bauxite production, the International Monetary Fund becomes deeply involved in the country’s economy"</i> (See page 4-26 of the EIA Report).</p>

No.	Comment	CD&A/NJBP II Response
		<p>NJBP II earns a gross annual income in the range of US\$80 – US\$150 million per year. “NJBP II’s operations provide about 400 direct jobs, 400 indirect contractor jobs (mining) and 2,500 indirect opportunities through contractor services and temporary jobs, for a total of 3,300 jobs.” The payroll taxes is a major contributor to the GoJ’s revenues.</p> <p><i>“The Jamaican economy is still at a very sensitive juncture and could be subject to exogenous and endogenous shocks. The former could take the form of natural hazards such as hurricanes and earthquakes or a pandemic. The latter refers to the potential collapse of major economic sectors including bauxite production. Changes in the global economy also have the potential to cause shocks to Jamaica’s economy. At the same time imports are still outperforming exports and there is a persistent trade deficit”</i> (Page 4-24 of the EIA Report). This statement was written from the first Draft EIA submitted to NEPA in July 2019, before the COVID-19 pandemic.</p>

No.	Comment	CD&A/NJBP II Response
		 <p>Source: STATIN</p> <p>Figure 7: Contribution to Quarterly GDP Growth by Industry (See section 4.7 of the EIA Report)</p> <p>The coronavirus pandemic (December 2019) has further diminished the economic growth of the Jamaican economy and the Planning Institute of Jamaica (PIOJ) has reported that there will be about 12 % decline in GDP in 2020. The PIOJ further projected the same level of decline in 2021 and have stated that recovery to 2018 performance is projected to take place in 2025.</p> <p>The economy (locally, nationally and internationally) is universally recognized as a necessary part of the EIA process. It is a critical component of any EIA that the economic considerations are integrated into the process. This includes the biological,</p>

No.	Comment	CD&A/NJBP II Response
		<p>physical, social, economic, cultural, historical and archaeological which are all potential receptors of negative and positive impacts.</p> <p>The EIA further concluded that: <i>“There are no other feasible immediate or short-term economic alternatives that have been identified that can be considered as a substitute to bring equal or greater macro and micro-economic benefits to Jamaica, at this time”</i> (Page 12-1). <u>We have reviewed several sectors including limestone, cannabis oil production, petroleum, to name a few and have not identified any.</u></p>
6.	<i>Why was the area’s geomorphology not explicitly identified, namely that it is cockpit karst?</i>	<p>The geomorphology was exhaustively studied, completed and included in the EIA Report in accordance with the requirements of the agreed TOR (See Appendix I of Volume I: EIA Report).</p> <p>There are major references to the characteristics of karst and karstic limestone in the report. For example, on page 1-6 of the EIA Report, it was stated that: <i>“This type of karstic geomorphology is not uncommon in Jamaica and the most significant work was first carried out on the formations in Lluidas Vale, St. Catherine”</i>. The references for this statement in the EIA Report were: <i>Cockpit Country, Jamaica Boundaries, Geological Significance, and Mining Impacts: A Report to the Jamaica Bauxite Institute, Prof. Edward Robinson,” n.d.</i> and <i>Robinson, E. 1997. Field Guide to the Natural Bridge at Riversdale, Lluidas Vale, and the eastern end of the Central Inlier, Jamaica. In Donovan, S.K. (ed.), De la Beche Meeting, Contributions to Geology, UWI, Mona, 2, 27-33.</i></p>
7.	<i>Why were landscape---level features of Maroon---British history excluded?</i>	<p>An independent Archaeological Impact Assessment was completed by the Jamaica National Heritage Trust. JNHT are the national experts and the management authority on the matter. The AIA, which forms a part of the EIA Report, describes the relevant Maroon features and all archaeological and historical heritage resources in the area (See Volume III: Archaeological Impact Assessment Report).</p>

No.	Comment	CD&A/NJBP II Response
8.	<i>Why did the EIA exclude mapping the proven underground flow from Cave River Sink to Dornoch (Dornock) Head Rising at the source of the Rio Bueno and attempt to dismiss its own description that changes in water flows have been detected in the Rio Bueno Sub Basin over the past 50 years of mining?</i>	<p>The EIA Report did not exclude the mapping of groundwater flows in relation to SML 173. That statement is therefore incorrect. The Water Resources Authority provided their comments and recommended that a map be prepared illustrating the flow of ground water in the EIA Report. This was done, please see the map below and Page 5-25 of the EIA Report:</p>  <p>NJBP II SML173 Environmental Impact Assessment WRA Dye Trace Study</p> <p>Figure 8: WRA Dye Trace Study (Source: Page 5-25 of the EIA Report)</p>

No.	Comment	CD&A/NJBP II Response
		The EIA correctly stated on page 5-29 of the EIA Report that, <i>“This may increase recharge to the aquifer and could entrain particulate material that could lead to a temporary increase in turbidity and discoloration of the water resources”</i> . As the rehabilitated areas move towards equilibrium, the physical processes will stabilize in time.
9.	<i>Why were no quantitative data presented for heavy metal concentrations in the bauxitic soils and why were there no toxicity risk estimates (esp. cadmium, chromium, and mercury) for ecological receptors and the public with regards to exposure concentrations in fugitive dust?</i>	This was not a part of the Terms of Reference (ToR) for the EIA (See ToR at Appendix 1 of Volume I: EIA Report).
		Although not a part of the Terms of Reference, it is important to comment on this question as it could be misleading and cause major concerns that could have serious implications beyond the bauxite industry and for Jamaica’s domestic agriculture, value added agricultural products, agricultural exports and the health & safety of farmers and several other workers throughout Jamaica.
		It was thought necessary to give the macro components of bauxite (See pages 2-3 to 2-4 of the EIA Report) to detail the physico-chemical characteristics of bauxite, in general and Jamaican bauxite, in particular. We consider this important so that the public could get a better understanding of the soil type, which is the subject mineral for mining, in this EIA. In addition, it was necessary to state, especially the moisture content of bauxite (which is about 20-25%) as it occurs naturally, and it’s very small particle size distribution to demonstrate the sticky nature of bauxite when wet. This poses difficulties in handling bauxite as well as the fact that it is not easily entrained and dispersed by the wind as fugitive dust in its natural state, and in particular when wet. This underscores the need for drying the bauxite, to about 16-18% moisture, as one major unit operation. The drying of bauxite enables it to flow easily and facilitates its handling. As stated in the EIA, there will be no drying of bauxite in the SML 173 area. See pages 4-10 to 4-11 of the EIA Report and slide 6 of the power point presentation made at the Mandatory Public Meeting.

No.	Comment	CD&A/NJBP II Response
		<p>Based on the history of bauxite mining throughout Jamaica and various activities in bauxitic soils such as: farming, the establishment of factories, residential areas, cemeteries (Dovecot Memorial Park and Meadowrest Memorial Gardens) and the scientific investigations carried out by reputable scientists and accredited laboratories, nationally and internationally (Lalor, et al, Geochemical Atlas of Jamaica, Douglas, C, UNEP Industry & Environment Office, Paris, France, 1983 and Chin, LAD), one may conclude that on the basis of:</p> <ul style="list-style-type: none"> the stable structure in the crystal lattices of various minerals and the mode in which they occur in Jamaican bauxite, through the ubiquitous phenomenon of isomorphism and other natural processes, which make these substances insoluble in water, the physical conditions required for their liberation and mobilization, which do not exists in nature, <p><u>there is no evidence to support the assertion that workers or the public may be exposed to harmful levels of air borne heavy metals from the mining of bauxite.</u></p>
10.	<i>In claiming that post---mining rehabilitation represents climate change mitigation, why did the EIA not include data on the amounts of CO₂ which will be emitted in association with this SML for</i>	<p>NJBP II operations does not involve the processing of bauxite to alumina or aluminum. Aluminum metal is not produced in Jamaica.</p> <p>It was not required in the agreed ToR (see Appendix I of the EIA Report) to address carbon sequestration, carbon storage or carry out calculations. Nonetheless, it was referenced in the EIA as it relates to the positive impacts from the rehabilitation of the bauxite lands with the increase of vegetation from rehabilitation and replanting post mining.</p>

No.	Comment	CD&A/NJBP II Response
	<i>the complete cycle of bauxite-extraction-to-processed-aluminum? Why did the EIA not present data on the carbon sequestration capacity of post-mined rehabilitated lands (incl. soil storage capacity) of Napier grass? And why did the EIA not present carbon storage data for an alternative scenario of “no mining, restoration of native forest land cover”?</i>	<p>Climate change was referenced in terms of hazard vulnerability as required by the agreed ToR.</p> <p>The carbon mitigation function that would be performed by rehabilitation in the planting of the Napier grass, which will be of a higher density (See Figure 9 below and slide 34 of the presentation made in the Mandatory Public Meeting, which show an illustration of the density of Napier grass on rehabilitated lands in SML 165, which is NJBP II’s current mining lease) than the naturally occurring grassland in the SML 173 area. This will provide carbon sequestration or photosynthesis. It is important to reiterate that mining will occur in the low grassland area and not the hillocks, which contains the forested areas in SML 173.</p> <p>Please also see “pages 10-1 to 10-4, <i>Section 10.2. No Action Alternative</i>” or ‘Do Nothing’ scenario, which outlines what could occur if NJBP II is not issued its permit and there is no mining in the SML 173 area. Carbon sequestration or carbon storage will not be applicable in a no mining scenario.</p> <p>It must also be noted that:</p> <ol style="list-style-type: none"> 1. Climate change mitigation also takes place through food production and through greenhouse activities. These are actively pursued by NJBP II. 2. Creative conservation and storage of epiphytic plants and other sensitive species of plants in greenhouse to conserve the biodiversity of the area in which there could be haul roads. The return of these epiphytic and other sensitive species of plants to the area is a climate change mitigation activity. 3. There will be no mining in the Forest Reserves or the hillocks, which contains the forest cover and the highest levels of biodiversity. Please see pages XCIII to CI of the EIA Report for the “<i>Appendix VII: Jamaica Gazettes for the Estates in the SML 173 supplied by the Forestry Department</i>”, which provides the gazetted areas for the Forest Reserves.

No.	Comment	CD&A/NJBP II Response
		<p>4. NJBP II is engaged in water storage activities, which is a critically important climate change adaptation action. This will be replicated, as far as practicable in SML 173.</p> <p>As stated in the EIA Report (See page 1-1) the area to be impacted represents approximately 15% of the area of SML 173 inclusive of the haul roads. The impact of the project on carbon sequestration is therefore minimal and temporary. Upon rehabilitation, for example, the planting of Napier grass or crops on rehabilitated lands, will provide greater carbon sequestration and climate change mitigation, which is superior to the existing grass cover in the depressions. The Napier grass will also provide a greater air cleansing function.</p> <p>Figure 9 below illustrate examples of the following in NJBP II's current mining lease:</p> <ul style="list-style-type: none"> A. grassland vegetation that existed before mining, B. mining in progress, C. rehabilitated lands planted with Napier grass





No.	Comment	CD&A/NJBP II Response	
		<div data-bbox="755 256 1771 730"><p data-bbox="755 256 1040 329">Before Mining</p></div> <div data-bbox="755 730 1878 1352"><div data-bbox="755 730 1314 1352"><p data-bbox="755 730 1314 841">Napier grass planted on rehabilitated lands</p></div><div data-bbox="1314 730 1878 1352"><p data-bbox="1314 1234 1878 1352">Illustration of the density of Napier grass on rehabilitated lands</p></div></div>	<div data-bbox="1771 256 2330 730"><p data-bbox="1771 256 2118 329">During Mining</p></div>

Figure 9: Images illustrating the various stages of mining – Pre-Mining, Mining and Rehabilitation

No.	Comment	CD&A/NJBP II Response
11.	<i>Since the 1950s, geologists, geomorphologists, and geographers have classified the area under SML---173 as cockpit karst. Despite repeatedly using the terms “cockpits” and “hillocks”, why does the EIA not name the landscape as cockpit karst in its description of geomorphology? Why during the Dec 8th 2020 Public Meeting did Dr. Douglas entirely avoid using the word “cockpit” to otherwise describe enclosed depressions between the hillocks? Is this to avoid the conclusion that the area of SML 173 IS part of Cockpit Country?</i>	<p>Contrary to the comment, there was absolutely no attempt to avoid using the word ‘<i>cockpit</i>’. In fact the EIA makes several references to “<i>lowlands or cockpits</i>”. For example, see “<i>Section 5.3.3.1.3. Lowlands – Cockpits</i>”.</p> <p>The geomorphology was exhaustively studied and completed in accordance with the requirements of the agreed TOR (See Appendix I of the EIA Report).</p> <p>There are major references to the characteristics of karstic geology and limestone in the report. For example, on page 1-6 of the report, it was stated that: “<i>This type of karstic geomorphology is not uncommon in Jamaica and the most significant work was first carried out on the formations in Lluidas Vale, St. Catherine</i>”. The reference for this statement, in the EIA report, was: “<i>Cockpit Country, Jamaica Boundaries, Geological Significance, and Mining Impacts: A Report to the Jamaica Bauxite Institute, Prof. Edward Robinson,</i>” n.d. (Robinson, E. 1997. <i>Field Guide to the Natural Bridge at Riversdale, Lluidas Vale, and the eastern end of the Central Inlier, Jamaica. In Donovan, S.K. (ed.), De la Beche Meeting, Contributions to Geology, UWI, Mona, 2, 27-33 mnb.</i> See List of References on pages 13-1 to 13-3 in the EIA Report.</p> <p>See also list of references on page 13-2 of the EIA Report - <i>Lyew-Ayee, Parris 2005; Redrawing the Boundaries of the Cockpit Country Jamaica. Caribbean Geography</i>. It was on the basis of the boundary proposed by Parris Lyew-Aye, Jr that the Cockpit Country Protected Area (CCPA) was declared and announced by the Most Honourable Andrew Holness, Prime Minister, in Parliament on November 21, 2017 (See Appendix IV of the EIA Report). The SML 173 is not within the designated CCPA.</p>

No.	Comment	CD&A/NJBP II Response
12.	<i>The EIA does not contain the results of any modelling to quantify the morphology (landform) of the karst White Limestone of the area. One relevance of modelling is for planning how haul roads will be configured, particularly in relation to how many saddle--corridors or hill slopes will be dynamited and / or bulldozed. Was modelling done? If not, why not? If it was done, why are the results not included in the EIA?</i>	<p>This was not a requirement of the agreed TOR (See Appendix I of the EIA Report). The baseline addresses the existing features and setting that could be potential impact receptors. Additionally, in relation to the configuration of haul roads, it was stated in the EIA Report (See page 5-8) that: <i>“As far as practical, existing pathways (bridle paths/roadways/footpaths) will be mainly converted to haul roads.”</i></p> <p>NJBP II does not engage in the use of dynamite in its operations. The use of explosive or dynamite requires applying for and granting of special permits by the relevant authorities.</p>
13.	<i>The AIA lists many human artifacts and relics but is silent about the landform and trails that were important to the Maroons. An example of this is</i>	<p>An independent Archaeological Impact Assessment was completed by the Jamaica National Heritage Trust (JNHT). JNHT are the national experts and are legally mandated to manage these matters. The AIA described the relevant Maroon features and all archaeological and historical heritage resources in the area (See <i>Volume III: Archaeological Impact Assessment Report</i>).</p> <p>The area referenced in the comments will not be impacted by mining.</p>

No.	Comment	CD&A/NJBP II Response
	<i>the historic Maroon Path from a British military camp near the Hectors River Bridge (the Trelawny--- Manchester border) to Mahogany Hall (near Stewart Town, St. Ann). This Path is depicted by James Robertson's 1803 map following the Second Maroon War. Why was mention of such an important historical Path, which is intrinsically linked to the morphology of the area, omitted from the AIA's and the EIA's Risk Assessments?</i>	<p>It is also documented in the AIA that the haul roads developed for accessing and transporting bauxite may be beneficial to the communities and community development. The JNHT has stated that not every historical artefact can necessarily be preserved 'in toto' but may be documented. JNHT may choose to preserve some parts of artefacts and use them as illustrations, if necessary.</p> <p>Guided by the findings of the JNHT, we are of the considered opinion that the AIA addresses all relevant matters concerning archaeological and historical heritage.</p>
14.	<i>The success of the Maroons' guerrilla warfare rested, in part, on knowing how to take advantage of the cockpit</i>	NJBP II is not proposing to dynamite any saddle corridor or use dynamite in SML 173. NJBP II does not engage in the use of dynamite in its operations. The use of explosive or dynamite requires applying for and granting of special permits by the relevant authorities.

No.	Comment	CD&A/NJBP II Response
	<i>morphology. This includes understanding how paths develop as humans (starting with the Tainos and continuing) follow elevation contour lines and weave through saddle---corridors between hilltops – known as taking the path---of--- least--- resistance inside of going uphill, downhill, uphill, downhill. It also includes knowing to climb to a higher elevation in order to look down onto the corridors, to ambush the single---file march of the enemy. That is, saddle---corridors are a key physical element of the Cockpit---Maroon---British</i>	<p>The AIA addresses all relevant matters concerning archaeological and historical heritage.</p> <p>With reference to SML 173, there will be a change in topography for the alignment of haul roads created that cannot be reversed to what it was original. CD&A stated on page 1-9 to 1-10 of the EIA Report that: <i>“In order to gain access and transport the mined bauxite, it will be necessary to create haul roads. There will be at least a temporary reversible loss of habitat associated with the construction of these haul roads, as well as, changes in the landscape aesthetics.”</i> It is also documented by the JNHT in the AIA that the haul roads developed for accessing and transporting bauxite may be beneficial to the communities and community development. The JNHT has further stated that not every historical artefact can necessarily be preserved ‘<i>in toto</i>’ but that documentation that these artefacts constitute a part of the nation’s heritage may be sufficient. JNHT, as the experts, will enable the preservation of historical heritage resources as they deem to be important and valuable.</p> <p>NJBP II has not demolished any saddle corridors.</p> <p>It may be useful to note the area of the treaty that was entered into by the Maroons (please see Figure 11 below). As shown none of the Maroon Towns fall within SML 173.</p>

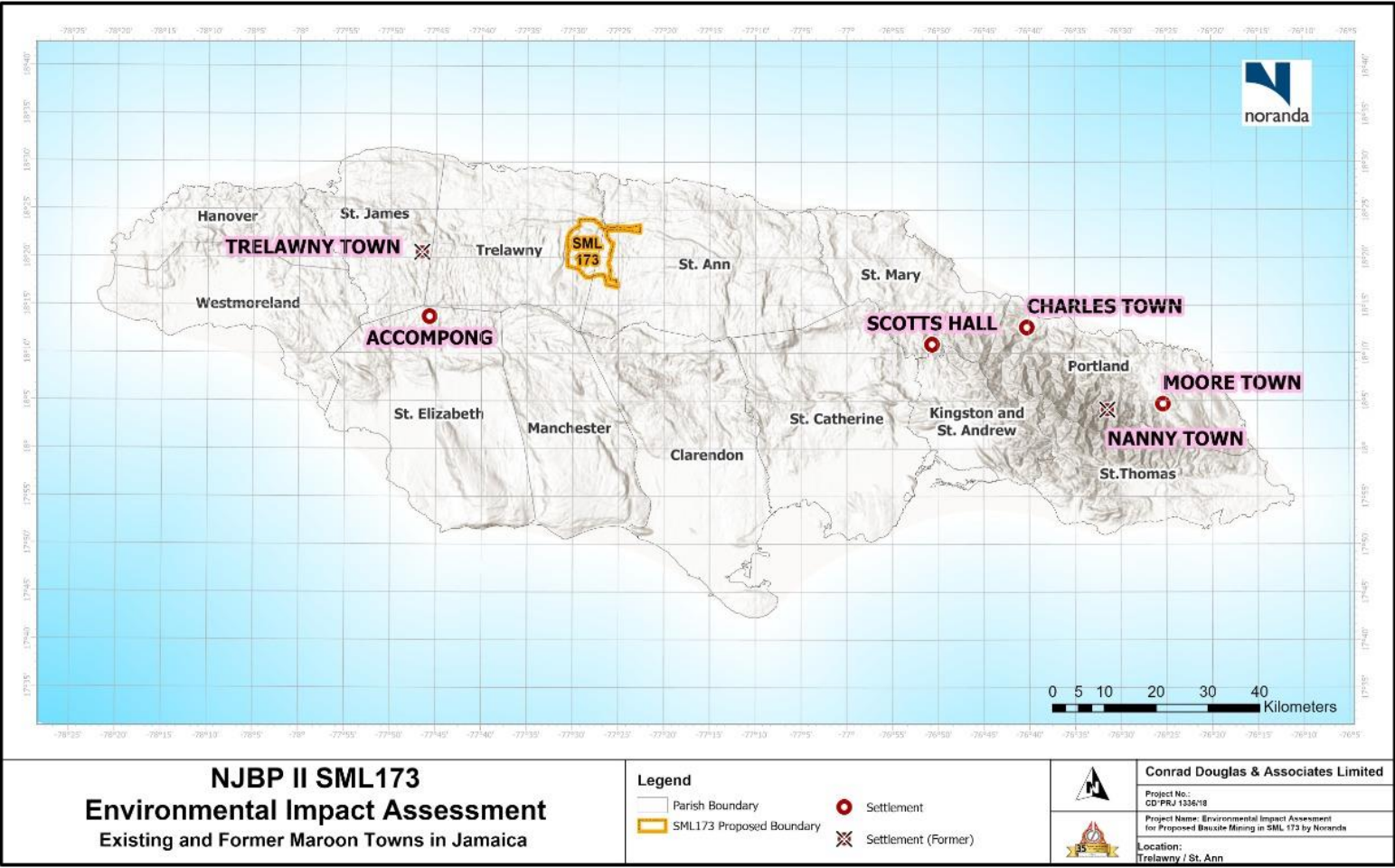
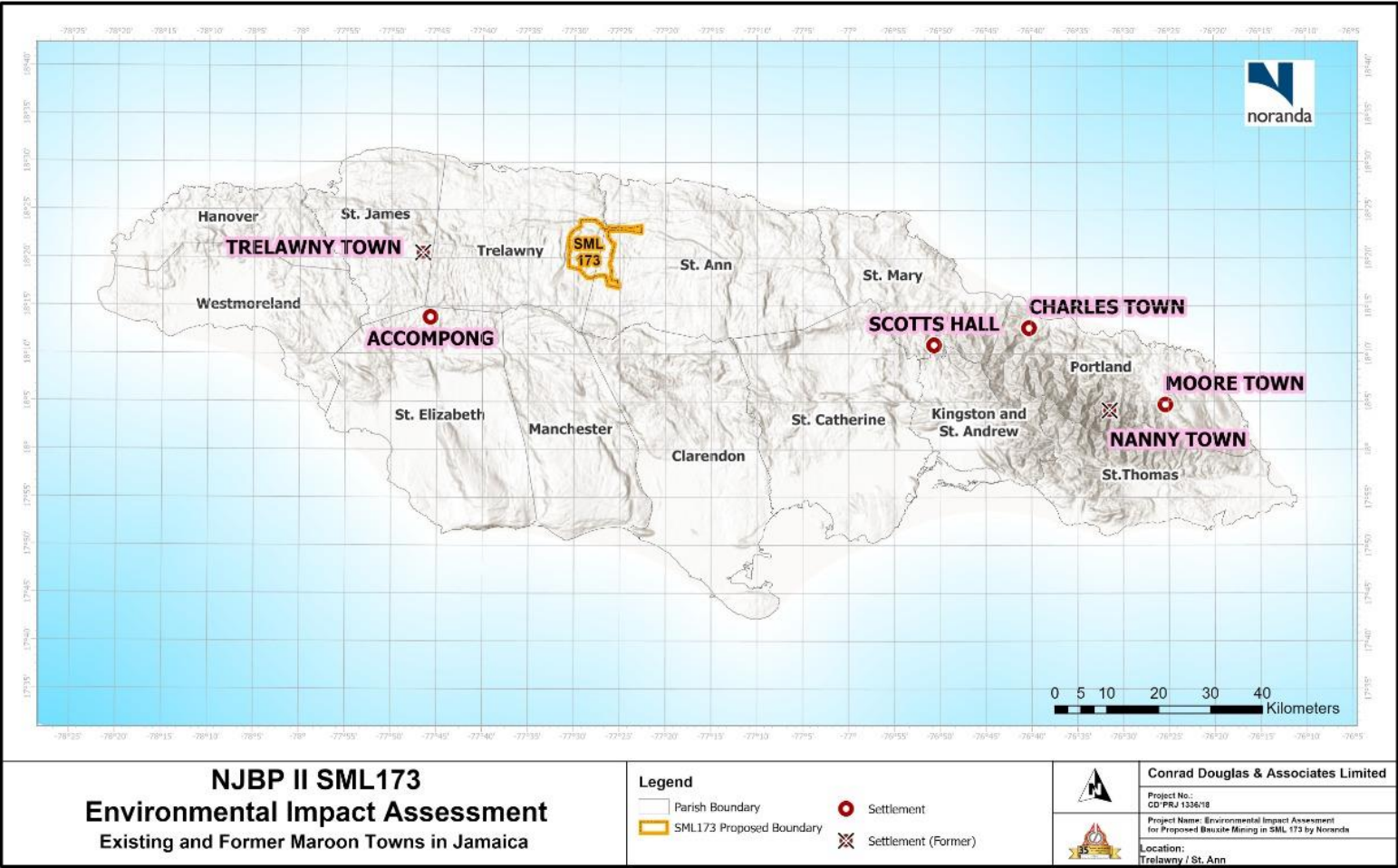
No.	Comment	CD&A/NJBP II Response
	<p>narrative. In order to create the network of haul roads, Noranda proposes to dynamite and / or bulldoze through possibly up---to 50---60 saddle--- corridors / hillsides during the first 5 years of mining (ref Figure 4--2); the total number of corridors to be obliterated over the entire lease area cannot be calculated from the information presented in the EIA. The EIA concluded that such haul road construction is "minor and reversible" (ref Table 7.1 Impacts to Physical Resources). Has Noranda ever attempted to reconstruct a demolished saddle---corridor</p>	 <p>NJBP II SML173 Environmental Impact Assessment Existing and Former Maroon Towns in Jamaica</p> <p>Legend</p> <ul style="list-style-type: none"> Parish Boundary SML173 Proposed Boundary Settlement Settlement (Former) <p>Conrad Douglas & Associates Limited Project No.: CD*PRJ 1336/18 Project Name: Environmental Impact Assessment for Proposed Bauxite Mining in SML 173 by Noranda Location: Trelawny / St. Ann</p>

Figure 10: Map of Jamaica Showing Parish Boundaries and Locations of the major Maroon Settlements

No.	Comment	CD&A/NJBP II Response
	<i>so as to re---establish the topographic contour line between two hilltops? That is, what evidence is there to support the assertion that the impacts of haul road construction are “reversible” and not, in fact, physically impossible?</i>	
15.	<i>Have the Maroons been advised that an area of an historic path is going to be irreversibly destroyed, that some of their heritage is going to be dynamited to oblivion?</i>	<p>All stakeholders within the sphere of influence of the project have been engaged through:</p> <ol style="list-style-type: none"> 1. A Contact survey, in which a representative sample of 1.5% was interviewed using a pre-tested, pre-coded questionnaire, approved by NEPA. Please see section 5-5 and pages 5-268 to 5-275 of the EIA Report section 5.5 and the questionnaire in Appendix III, page XL of the EIA Report. 2. Four (4) Voluntary Public Stakeholder Consultation meetings were also carried out in keeping with universally accepted best practices and among other things, included the <i>verbatim</i> meeting notes of each meeting and a summary of the analysis of the issues raised by the participants in Volume II: Reports on Voluntary Stakeholder Consultations. <p>NJBP II does not engage in the use of dynamite in its operations. The use of explosive or dynamite requires applying for and granting of special permits by the relevant authorities.</p>

No.	Comment	CD&A/NJBP II Response
		<p>It is also documented by the JNHT in the AIA that the haul roads developed for accessing and transporting bauxite may be beneficial to the communities and community development. The JNHT has further stated that not every historical artefact can necessarily be preserved ‘in toto’ but that documentation that these artefacts constitute a part of the nation’s heritage may be sufficient. JNHT, as the experts, will enable the preservation of historical heritage resources as they deem to be important and valuable.</p> <p>The AIA addresses all relevant matters concerning archaeological and historical heritage.</p> <p>It may be useful to note the area of the treaty that was entered into by the Maroons (please see Figure 11 below). As shown none of the Maroon Towns fall within SML 173.</p>


No.	Comment	CD&A/NJBP II Response
		<div><p>NJBP II SML173 Environmental Impact Assessment Existing and Former Maroon Towns in Jamaica</p><p>Legend</p><ul style="list-style-type: none">Parish BoundarySML173 Proposed BoundarySettlementSettlement (Former)<p>Conrad Douglas & Associates Limited Project No.: CD*PRJ 1336/18 Project Name: Environmental Impact Assessment for Proposed Bauxite Mining in SML 173 by Noranda Location: Trelawny / St. Ann</p></div> <p>Figure 11: Map of Jamaica Showing Parish Boundaries and Locations of the major Maroon Settlements</p>

No.	Comment	CD&A/NJBP II Response
16.	<i>During the December 8th, 2020 public meeting a Noranda official noted the company's history of social partnership. As a commitment to this ethos, one of being a good corporate citizen, would NJBP II provide to the public GIS shapefiles for all of the haul roads which have been constructed in SML---165 so as to enable an independent, transparent assessment of reclamation and rehabilitation claims? In those shapefiles, I ask that the linked Attribute Table include the status of all road segments (e.g. open for vehicle use;</i>	<p>This EIA Report and its companion documents are specifically concerned with Special Mining Lease 173 Area (SML 173). All information regarding any other Special Mining Lease (SML) can be obtained directly or indirectly from the relevant Government of Jamaica (GoJ) agencies.</p> <p>This is a required part of all Mining Plans, which must be submitted to the Commissioner of Mines for their review and approval. NJBP II is required to comply with the Commissioner of Mines and all other relevant GoJ agencies.</p> <p>It should be noted that land reclamation and rehabilitation, including that of haul roads must be completed to the satisfaction and approval of the relevant regulatory agencies. The regulators also monitor for compliance with the statutory timeframe for rehabilitation.</p>

No.	Comment	CD&A/NJBP II Response
	<i>closed to vehicles; reclaimed; rehabilitated, etc.).</i>	
17.	<i>Given the documented high concentrations of heavy metals in Jamaica's aluminum--- bearing soils (e.g. as identified in geochemical maps presented by ICENS (UWI), cadmium concentrations in SML---173 are 20 to > 78 times higher than what the WHO designates as "excessive" for soils), why did the EIA omit quantitative data on heavy metal concentrations in its descriptions of the area's soils? Why did the EIA not present toxicity risk estimates</i>	This was not a part of the Terms of Reference (ToR) for the EIA (See ToR at Appendix 1 of Volume I: EIA Report).
		Although not a part of the Terms of Reference, it is important to comment on this question as it could be misleading and cause major concerns that could have serious implications beyond the bauxite industry and for Jamaica's domestic agriculture, value added agricultural products, agricultural exports and the health & safety of farmers and several other workers throughout Jamaica.
		It was thought necessary to give the macro components of bauxite (See pages 2-3 to 2-4 of the EIA Report) to detail the physico-chemical characteristics of bauxite, in general and Jamaican bauxite, in particular. We consider this important so that the public could get a better understanding of the soil type, which is the subject mineral for mining, in this EIA. In addition, it was necessary to state, especially the moisture content of bauxite (which is about 20-25%) as it occurs naturally, and it's very small particle size distribution to demonstrate the sticky nature of bauxite when wet. This poses difficulties in handling bauxite as well as the fact that it is not easily entrained and dispersed by the wind as fugitive dust in its natural state, and in particular when wet. This underscores the need for drying the bauxite, to about 16-18% moisture, as one major unit operation. The drying of bauxite enables it to flow easily and facilitates its handling. As stated in the EIA, there will be no drying of bauxite in the SML 173 area. See pages 4-10 to 4-11 of the EIA Report and slide 6 of the power point presentation made at the Mandatory Public Meeting.


No.	Comment	CD&A/NJBP II Response
	<i>for exposure concentrations in fugitive dust on ecological</i>	<p>Based on the history of bauxite mining throughout Jamaica and various activities in bauxitic soils such as: farming, the establishment of factories, residential areas, cemeteries (Dovecot Memorial Park and Meadowrest Memorial Gardens) and the scientific investigations carried out by reputable scientists and accredited laboratories, nationally and internationally (Lalor, et al, Geochemical Atlas of Jamaica, Douglas, C, UNEP Industry & Environment Office, Paris, France, 1983 and Chin, LAD), one may conclude that on the basis of:</p> <ul style="list-style-type: none"> the stable structure in the crystal lattices of various minerals and the mode in which they occur in Jamaican bauxite, through the ubiquitous phenomenon of isomorphism and other natural processes, which make these substances insoluble in water, the physical conditions required for their liberation and mobilization, which do not exists in nature, <p><u>there is no evidence to support the assertion that workers or the public may be exposed to harmful levels of air borne heavy metals from the mining of bauxite.</u></p>
18.	<i>receptors and to members of the public and industry workers? What evidence is there that workers and the public are not being exposed to harmful levels of air---borne heavy metals (particularly cadmium, chromium, and mercury) during mining operations?</i>	
19.	<i>With regards to #7 above, in monthly reports of air quality monitoring by Noranda Jamaica Bauxite Partners from 2017 – 2019, for mining operations in SML---165, there is a data column to</i>	
		<p>This was not a requirement of the ToR (See Appendix I of the EIA Report).</p> <p>Based on the conditions of the licences issued to NJBP II, NJBP II is required to submit data for Total Suspended Particulates (TSP) for their mining operations and Particulate Matter of size 10 microns or less (PM₁₀) and TSP for their plant operations on a monthly basis. NJBP II is compliant with this requirement.</p> <p>Further, NJBP II is required to submit annual air emissions reports to the regulator and is compliant with all the requirements of the licences issued for its operations. The results of analysis for the concentrations of lead emissions from the mining</p>

No.	Comment	CD&A/NJBP II Response
	<i>report lead concentrations (Pb 24 Hr Averages). No data were included in any reports for this 2---year period. Why not? Has NJBP I or II ever measured any air--- borne concentrations of heavy metals in fugitive dust?</i>	operations is 0.00000000 tonnes for 2017-2019. This is consistent with the responses and observations made in question 17 above.
20.	<i>The EIA asserts “there is a general misconception that bauxite occurs under forested areas” (pg 5---17) but then quotes literature which directly contradicts this statement. As the EIA subsequently presented from Asprey and Robbins (1953), not only do bottomland cockpit depressions accumulate deep pockets of</i>	<p>The question clearly shows continued misunderstanding of the fact that bauxite does not generally support the growth of forests.</p> <p>This observation has been made for several decades and is a definitive characteristic of the mode of occurrence of Jamaican bauxite to the extent that it has been used as an indicator in exploration aimed at identifying bauxite deposits. It should be further noted that the infertility of bauxitic soil and the fact that it does not support the growth of forest was among the reasons which piqued the curiosity of Sir. Alfred DaCosta and led to the discovery of bauxite soils in Jamaica in the first place (please see page 2-4 of the EIA Report). Mr. James Lee was among the distinguished geologists who pioneered the use of this method of exploration for bauxite in Jamaica. Please see <i>Lee, J.W., Exploration & Development Drilling for Bauxite in Jamaica, The Journal of the Geological Society of Jamaica Bauxite/Alumina Symposium, 1971</i>, referenced in the EIA Report on page 5-18.</p>


No.	Comment	CD&A/NJBP II Response
	<i>bauxitic soils but these soils support the growth of the largest trees in comparison to the thin---to---absent--- soils of the associated limestone hills. What mineralogical and chemical evidence is there to support the assertion that soils of forest---covered cockpits are not bauxitic in their physical properties?</i>	<p>With specific reference to SML 173, please see Figure 12 and Figure 13, which illustrate examples of the mode of occurrence of Jamaican bauxite and that the forested areas are located on the hillocks and the depressions hosts mainly grasslands. NJBP II will not be mining in the hillocks.</p>  <p>Figure 12: Illustration showing the low lying bauxite deposits (highlighted in purple) in between the hillocks in SML 173 (See page 5-128 of the EIA Report)</p>

No.	Comment	CD&A/NJBP II Response
		<div></div> <p>Figure 13: Illustration showing the low lying bauxite deposits (foreground) in between the hillocks (background) in SML 173 (See page 5-128 of the EIA Report)</p>
21.	<i>In asserting that forests won't occur over bauxite, the EIA</i>	The question clearly shows continued misunderstanding of the fact that bauxite does not generally support the growth of forests.

No.	Comment	CD&A/NJBP II Response
	<p><i>not only ignored its own quotes from Asprey and Robbins (1953; see pp 5---127, 5---130, 5---131) but also ignored a substantial body of literature on the relationships between topography and phytogeography in tropical karst ecosystems. These natural relationships, in turn, explain the patterns of why humans convert forest to agriculture in bottomlands, valleys, glades, dolines, cockpits, poljes (i.e., the topographic areas where soils accumulate) while leaving hillsides and hilltops (which are mostly devoid of soils) with forest cover. The EIA also</i></p>	<p>This observation has been made for several decades and is a definitive characteristic of the mode of occurrence of Jamaican bauxite to the extent that it has been used as an indicator in exploration aimed at identifying bauxite deposits. It should be further noted that the infertility of bauxitic soil and the fact that it does not support the growth of forest was among the reasons which piqued the curiosity of Sir. Alfred DaCosta and led to the discovery of bauxite soils in Jamaica in the first place (please see page 2-4 of the EIA Report). Mr. James Lee was among the distinguished geologists who pioneered the use of this method of exploration for bauxite in Jamaica. Please see <i>Lee, J.W., Exploration & Development Drilling for Bauxite in Jamaica, The Journal of the Geological Society of Jamaica Bauxite/Alumina Symposium, 1971</i>, referenced in the EIA Report on page 5-18.</p> <p>The mode of occurrence of Jamaican bauxite and the fact that bauxite deposits do not support the growth of forests has also been proven by several national and international experts through a number of independent surveys carried out in Jamaica. Included among the institutions that have been involved in these surveys are: the Jamaica Bauxite Institute (JBI), Mines & Geology Division, ALCAN, Alumina Partners of Jamaica (ALPART), Kaiser Bauxite, Alcoa and the US Geological Survey Department.</p> <p>The bio-geo-stratigraphy in the region and the subject 173 area is naturally defined. It shows mainly grasslands on the depressions and the high biodiversity on the hillocks. See Figure 14 to Figure 16 below.</p>

No.	Comment	CD&A/NJBP II Response
	<p><i>ignored historic descriptions of Jamaica's central uplands, which include the proposed mining area, (e.g., Sloane's (1707) 1st sentence: The greatest Part of the Island of Jamaica was heretofore cover'd with Woods; the Trees remaining are very tall ; Browne 1756; Stewart 1823) and historic maps (e.g, Robertson's 1804 and 1828 maps of the island). In asserting forests won't occur on bauxite, the EIA also perpetuates a misreading of the botanic literature associated with bauxite mining in Jamaica, particularly the misreading of</i></p>	 <p>Figure 14: Illustration showing the low lying bauxite deposits (highlighted in purple) in between the hillocks in SML 173 (See page 5-128 of the EIA Report</p>

No.	Comment	CD&A/NJBP II Response
	<p><i>Howard and Proctor (1957). In maintaining a false premise that only grasslands occur on bauxite, the EIA not only failed to describe the functional roles of deep pockets of bauxitic soils but also failed to analyze alternative scenarios of: (a) no mining and restoration of native forest; (b) mining---but---not---down---to---the---full---depth---of---the---ore---body and rehabilitation using native plant species. These scenarios need to be properly evaluated based on a professional review of the literature on tropical karst ecosystems, including the functional roles</i></p>	<div></div> <p>Figure 15: Illustration showing the low lying bauxite deposits (foreground) in between the hillocks (background) in SML 173 (See page 5-128 of the EIA Report)</p>

No.	Comment	CD&A/NJBP II Response
	<i>of bauxitic soils in relation to vegetation and its associated water cycle.</i>	<div data-bbox="749 269 2376 1284"></div> <p>Figure 16: Illustration showing the low lying bauxite deposits (midground) in between the hillocks (background) in SML 173 (See Slide 10 of the presentation made at the Mandatory Public Meeting)</p>

No.	Comment	CD&A/NJBP II Response
22.	Aub (1969) deployed 69 rain gauges in Cockpit Country and documented the phenomenon that 14% more rainfall reaches forested cockpit floors compared to forested hilltops. Figure 5---18 in the EIA shows that only 1 weather station was deployed	<p>The research paper by Conrad F. Aub mentioned in the comment, is titled <i>The Nature of Cockpits and other depressions in the Karst of Jamaica</i> and was published in the Conference Proceedings for <i>Internationaler Kongress für Speläologie, Stuttgart, 1969</i>. The research was carried out in Lluidas Vale, St. Catherine and not within the Cockpit Country, located in Trelawny, as stated in the comment. In addition, Aub established 65 rain gauges and not 69 as mentioned in the comment.</p> <p>It is critically important to note that Conrad F. Aub did not state that the objective of his research was aimed at determining the status of micro climates within the Cockpit Country nor to assess the impact of changes in geomorphology on climate. The objective of the research was to determine the mechanism for the formation of the cockpits. One aspect of the investigation was to assess the potential of solution of limestone being responsible for the formation of the cockpits or depressions in the karst formation in the vicinity of Lluidas Vale, St Catherine. His results and observations were inconclusive, and he admitted that the data could not be used to discern whether the difference in rainfall measurements at ground level in the hillock and depressions were actually due to differences in rainfall over each area or just an effect of interception by foliage within the hillocks.</p>
23.	inside the area proposed for mining. That station, Sawyers, is located ~ 5 km northeast of Block 1, which would be mined first under the SML. The Watt Town, Water Valley and Ulster Spring stations are ~ 3, 7, and 6.5 km, respectively, from the borders of Block 1.	<p>The comment appears to reflect a deliberate misleading use of the study.</p> <p>Recent data from the following nine (9) collection points within and within proximity to the SML 173 were obtained from the Meteorological Office of Jamaica and NJBP II's databases:</p> <ul style="list-style-type: none"> • Bamboo • Llandovery • Moneague • Lowe River • Ulster Spring • Sawyers

[illegible]

No.	Comment	CD&A/NJBP II Response
24.	<i>How, exactly, will any changes in micro---site, localized rainfall be detected over the course of mining across the entire area given that the baseline assessment is determined from so few stations which are not even capable of detecting topographic variations as documented by Aub (1969)? Another way to phrase this question is: given the extremely coarse spatial resolution associated with the deployment of so few weather stations and no recording of data as a function of topographic positioning, how, exactly, will an Environmental</i>	<p>This is not a requirement of the agreed TOR (See Appendix 1 of the EIA Report).</p> <p>As stated above, it is critically important to note that Conrad F. Aub did not state that the objective of his research was aimed at determining the status of micro climates within the Cockpit Country nor to assess the impact of changes in geomorphology on climate. The objective of the research was to determine the mechanism for the formation of the cockpits.</p> <p>The data collected by the weather stations deployed in SML 173 and its environs are adequate for the purpose of obtaining baseline information within the area. CD&A also collected the following abiotic data along the transects for the ecological surveys:</p> <ul style="list-style-type: none"> • wind, • temperature, • incident light and • humidity <p>Aub stated that his results and observations were inconclusive. He admitted that the data could not be used to discern whether the difference in rainfall measurements at ground level in the hillock and depressions were actually due to differences in rainfall over each area or just an effect of interception by foliage within the hillocks. Therefore, this data cannot be used to warrant this level of monitoring in the Environmental Monitoring Plan.</p> <p>As stated in the EIA Report (See page1-1) the area to be impacted represents approximately 15% of the entire SML 173 (8,335 hectares) inclusive of the haul roads. Mining will not disrupt the hydrological cycles in the area. On completion of mining, which</p>

No.	Comment	CD&A/NJBP II Response
	<i>Monitoring Plan (ref pg 11---2) be capable of detecting and providing an early warning system for impact prevention to the karstscape's water cycle? Micro---site patterns of rainfall do, of course, have significance for agriculture and forest land cover.</i>	<p>will be restricted to the grass lands, the mined out area will be rehabilitated. The rehabilitated areas will continue to perform, if not exceed, the natural services (of air cleansing, evapo-transpiration, etc) that are performed by the existing grass cover.</p> <p>It is important to note that from scientific considerations including Aub's research, it is extremely difficult to quantify changes or differences in rainfall over relatively small distances such as SML 173. Therefore, it is impractical and unnecessary for SML 173 to be separated into micro sites of low resolutions in the manner being suggested in the comments.</p>
25.	<i>The EIA reports that the moisture content of bauxite in situ ranges from about 20% to 25% (pg 2---3). Was any assessment undertaken to evaluate how moisture stored across the full vertical depth of bauxitic soils influences survival and growth of terrestrial vegetation (including but not restricted</i>	<p>This is not a requirement of the agreed TOR (See Appendix I: Volume 1: EIA Report).</p> <p>However, the bauxite deposits targeted for mining support grass cover only, and not forests. As stated in the EIA Report (See page 1-1) the area to be impacted represents approximately 15% of the area of SML 173 inclusive of the haul roads. On completion of mining, which will be restricted to the grass lands, the mined out area will be rehabilitated. The rehabilitated areas will continue to perform, if not exceed the natural services (of air cleansing, evapo-transpiration, etc) that are performed by the existing grass cover.</p> <p>Further, it must be repeated that the infertility of bauxite in Jamaica, in general, and in particularly SML 173, does not support the growth of forests.</p>

No.	Comment	CD&A/NJBP II Response
	<i>to agricultural root crops, fruit trees, and forest trees) during periods of no rainfall? That is, was an assessment undertaken to evaluate the upwards movement of deeply--stored water via capillary action during drought cycles in relation to plant survival and growth? If not, why not? There is an extensive body of literature on this topic, not only for Neotropical forests but also for rehabilitated mining areas, most notably in Australia. Why was assessment of this major functional role of bauxitic soils omitted?</i>	Seldom, is there any naturally occurring soil that is bone dry. In the case of bauxite, the soil moisture is about 20-25%. There is no sharp difference in moisture profile between the bauxite-limestone interface.

No.	Comment	CD&A/NJBP II Response
26.	<i>When the adjacent SML---165 was signed on 1 October 2004, total “Bauxite Reserves” were estimated at 117 million dry metric tons (= metric tonne) (4.5 million dry metric tons x 26 years, as per the lease). This means that, when the ore is removed from the ground with the EIA’s reported average 22% hydration, the extracted material weight would be 127.5 million metric tonnes, of which 99 million metric tonnes are solids and 28 million metric tonnes are water. Thus, when the karstscape under SML---165 is fully mined---out, the area will have lost the capacity to hold</i>	<p>This was not a requirement of the Terms of Reference (See Appendix I of the EIA Report). This EIA is concerned with SML 173. The EIA Report, however, stated the moisture content of bauxite (which is about 20-25%) as it occurs naturally (See page 2-3 of the EIA Report). We also offer the following comments:</p> <p>The mining process does not lead to the mining out of the karstscape in any of NJBP II’s mining locations. It is not correct to say that mining will lead to irreversible loss of water from the karstscape.</p> <p>In addition, one should speak objectively and scientifically about soil water because soil water occurs in various forms. In the case of bauxite, soil water occurs in three distinct forms:</p> <ol style="list-style-type: none"> 1. Free water in the interstitial spaces, which is available to the root systems of plants and for transport through the soil system, evapo-transpiration to the atmosphere and for uptake to serve various physiological functions - <i>Functional water</i>. This forms a part of the process of transpiration, which is integral to the hydrological cycle. Free water also evaporates to the atmosphere directly from the soil (hence, evapo-transpiration). 2. Hygroscopic water, which is water that is tightly bound to the surface of the soil particles. 3. Water of crystallization, which is chemically bound to the minerals in the bauxite. For example, the iron mineral goethite ($\text{Fe}_2\text{O}_3 \cdot \text{H}_2\text{O}$) or gibbsite ($\text{Al}_2\text{O}_3 \cdot 3\text{H}_2\text{O}$) and boehmite ($\text{Al}_2\text{O}_3 \cdot \text{H}_2\text{O}$), among others. – <i>The osmotic pressure in the plant root cannot uptake this form of water.</i> <p>It is erroneous and misleading to carry out a water balance over a period of one year in which mining is proceeding at particular rates of: daily, weekly, monthly and annually. At the same time other events are taking place in the environment such as evapo-transpiration and rainfall. A water balance is therefore critical at a given period of time if an evaluation or assessment is to be</p>

No.	Comment	CD&A/NJBP II Response
	<i>and store 28,056,600,000 liters of water at any given moment.</i>	<p>made about soil moisture. Furthermore, the 1st 24 inch of topsoil, which is used in rehabilitation activities after mining is done, also contains soil moisture at the highest level as it contains humous. This 24 inches of top soil is replaced during the rehabilitation process. In addition, the bauxite-drying process (unit operation) at NJBP II's Discovery Bay plant also removes moisture, which condenses, form clouds and precipitates in the form of rainfall as a part of the hydrological cycle.</p> <p>As stated in the EIA Report and the Mandatory Public Meeting presentation slide 17, <i>"there are no rivers or streams (surface flows) within SML 173. These are located outside of the SML 173. SML 173 sits atop a limestone aquifer. Groundwater flow towards Rio Bueno passes subsurface (beneath) the area of SML 173 at a depth of 100 meters"</i>. It is unlikely that there will be water loss to the aquifer as a result of the mining of bauxite, which progresses in 5 years intervals.</p>
27.	The EIA states that there are "approximately 150 million tonnes of bauxite in the SML 173 area" (pg 2---2). Given the accepted practice of presenting this information as dry metric tonnes, ~ 163.5 million metric tonnes of material would be extracted, of which 127.5 million metric tonnes would be solid and 38 million metric tonnes would	<p>This was not a requirement of the Terms of Reference (See Appendix I of the EIA Report). This EIA is concerned with SML 173. The EIA Report, however, stated the moisture content of bauxite (which is about 20-25%) as it occurs naturally (See page 2-3 of the EIA Report). We also offer the following comments:</p> <p>The mining process does not lead to the mining out of the karstscape in any of NJBP II's mining locations. It is not correct to say that mining will lead to irreversible loss of water from the karstscape.</p> <p>In addition, one should speak objectively and scientifically about soil water because soil water occurs in various forms. In the case of bauxite, soil water occurs in three distinct forms:</p> <ol style="list-style-type: none"> 1. Free water in the interstitial spaces, which is available to the root systems of plants and for transport through the soil system, evapo-transpiration to the atmosphere and for uptake to serve various physiological functions - <i>Functional water</i>.

No.	Comment	CD&A/NJBP II Response
	<p>be water. Thus, if the area were mined as outlined by SML---173, 35,970,000,000 liters of water---holding capacity of the soils will be irreversibly lost from the karstscape. Why did the EIA omit discussion of the functional importance associated with percentage moisture content of in situ bauxitic soils? Why was this functionality excluded from the Risk Assessment?</p>	<p>This forms a part of the process of transpiration, which is integral to the hydrological cycle. Free water also evaporates to the atmosphere directly from the soil (hence, evapo-transpiration).</p> <ol style="list-style-type: none"> Hydroscopic water, which is water that is tightly bound to the surface of the soil particles. Water of crystallization, which is chemically bound to the minerals in the bauxite. For example, the iron mineral goethite ($\text{Fe}_2\text{O}_3 \cdot \text{H}_2\text{O}$) or gibbsite ($\text{Al}_2\text{O}_3 \cdot 3\text{H}_2\text{O}$) and boehmite ($\text{Al}_2\text{O}_3 \cdot \text{H}_2\text{O}$), among others. – <i>The osmotic pressure in the plant root cannot uptake this form of water.</i> <p>It is erroneous and misleading to carry out a water balance over a period of one year in which mining is proceeding at particular rates of: daily, weekly, monthly and annually. At the same time other events are taking place in the environment such as evapo-transpiration and rainfall. A water balance is therefore critical at a given period of time if an evaluation or assessment is to be made about soil moisture. Furthermore, the 1st 24 inch of topsoil, which is used in rehabilitation activities after mining is done, also contains soil moisture at the highest level as it contains humous. This 24 inches of top soil is replaced during the rehabilitation process. In addition, the bauxite-drying process (unit operation) at NJBP II's Discovery Bay plant also removes moisture, which condenses, form clouds and precipitates in the form of rainfall as a part of the hydrological cycle.</p> <p>As stated in the EIA Report and the Mandatory Public Meeting presentation slide 17, <i>“there are no rivers or streams (surface flows) within SML 173. These are located outside of the SML 173. SML 173 sits atop a limestone aquifer. Groundwater flow towards Rio Bueno passes subsurface (beneath) the area of SML 173 at a depth of 100 meters”</i>. It is unlikely that there will be water loss to the aquifer as a result of the mining of bauxite, which progresses in 5 years intervals.</p>
28.	<p>What studies were used to guide the statement that</p>	<p>The baseline of bauxite mining in Jamaica for the past 70 years objectively informs this statement. Bauxite bearing lands that have been mined have been put back into long term sustainable uses after rehabilitation. NJBP II established and operates citrus</p>

No.	Comment	CD&A/NJBP II Response
	bauxite mining and all its attendant activities, such as haul roads, constitute a “temporary” land use change? Does NEPA know of a single example of a haul road being restored to forest cover in Jamaica?	<p>and apple farms on rehabilitated lands (See Figure 18 below). NJBP II has also engaged with farmers on rehabilitated lands to produce corn, sweet potato, cabbage and other cash crops(Figure 19 below). Reynolds Jamaica Mines, ALPART and ALCAN rehabilitated lands have supported the best diary and cattle farms in Jamaica. In addition, ALCAN Jamaica Company has established highly productive orange and other citrus orchards in Jamaica and Manchester.</p> <p>There are naturally recolonized haul roads in proximity to Brown’s Town and other areas in Jamaica. These bear a variety of plants and crops growing on rehabilitated lands. Other naturally recolonized haul roads are found in Tobolski, St. Ann, as well as several other areas across Jamaica since bauxite mining started 70 years ago.</p> <p>We agree that the surface will not return to its original shape. However, natural recolonization will take place. Further, it is documented in the AIA that the haul roads developed for accessing and transporting bauxite may be beneficial to the communities and community development. Additionally, as stated in the EIA Report (See page 5-8) <i>“As far as practical, existing pathways (bridle paths/roadways/footpaths) will be mainly converted to haul roads.”</i></p>



Figure 18: Apple Orchard on Rehabilitated Lands – NJBP II Orebody 8086





No.	Comment	CD&A/NJBP II Response	
		 	 

Figure 19: A: Citrus Orchard growing on rehabilitated lands (Source: NJBP II) | B: Potato growing on restored bauxite land. (Photo: Jamaica Bauxite Institute – Jamaica Observer, Friday, September 08, 2017) | C: Cabbage Growing on rehabilitated lands at Higgins Land Greenhouses | D: Aerial showing rows of corn thriving on rehabilitated land

No.	Comment	CD&A/NJBP II Response
29.	There are several uses of the word “temporary” to describe impacts. For instance, on Page 5-29, it is acknowledged that water may collect in mined out pits and drain via sinkholes into the aquifer, causing “temporary” turbidity. What time period is considered “temporary”.	<p>The EIA states on page 5-29 of the EIA Report that, <i>“This may increase recharge to the aquifer and could entrain particulate material that could lead to a temporary increase in turbidity and discoloration of the water resources”</i>.</p> <p>As the rehabilitated areas move towards equilibrium, the physical processes will stabilize in time. Temporary means that it is not persistent, irreversible nor permanent. The Oxford Dictionary defines temporary as: <i>“lasting or intended to last or be used only for a short time; not permanent”</i>. The time period for each potential impact depends on the intensity and duration of each incident. However, the duration of the potential impact is not expected to pose a significant risk or nuisance to the impact receptors.</p> <p>As stated in the EIA Report, bauxite occurs at an average depth of about 10m. The mining of bauxite will not occur beyond the limestone bedrock, which hosts the bauxite. Further, as stated in the EIA Report and the Mandatory Public Meeting presentation slide 17, <i>“there are no rivers or streams (surface flows) within SML 173. These are located outside of the SML 173. SML 173 sits atop a limestone aquifer. Groundwater flow towards Rio Bueno passes subsurface (beneath) the area of SML 173 at a depth of 100 meters”</i>. It is unlikely that there will be water loss to the aquifer as a result of the mining of bauxite, which progresses in 5 years intervals.</p> <p>As stated in the EIA, mined out lands will be reclaimed and rehabilitated in accordance with applicable regulations. NJBP II is fully compliant with its reclamation and rehabilitation obligations, with 90% of mined out lands being certified rehabilitated and 10% remaining in accordance with the regulatory schedule.</p>
30.	On page 5-82, the EIA states that faunal assessments were	This is incorrect. The nine blocks covered more that 50% of the 8,335 hectares SML 173 area, or 2.5 times of what best practice requires. It included all land uses within the area. Nine sampling blocks were used (Please see Figure 20 below and pages 5-71

No.	Comment	CD&A/NJBP II Response
	<p>undertaken during Phase 2 of the field surveys, during four days in August 2019, two days in September 2019, and an unstated period in December 2019. There is no indication of what factors guided the faunal surveys, so apparently the consultants did not consider breeding seasons, rainy/dry seasons, migration, insect emergence or other conditions which influence the presence or detectability of species.</p>	<p>to 5-84 of the EIA Report). The study was carried out comprehensively using universally acceptable scientific methods. The sampling methods used are described in “<i>Section 5.3.2. Approach & Methodology</i>” on pages 5-70 to 5-127 of the EIA Report. The field investigations covered both the wet and dry seasons and nocturnal studies. Field visits were conducted within SML 173 and its environs covering a period of 20 months over the period February 2018 to December 2019:</p> <ul style="list-style-type: none"> i. February 2018, ii. August 2018, iii. August to September 2019, and iv. December 2019. <p>The study went beyond the requirements of the Terms of Reference (See Appendix I of the EIA Report) and conducted flora and fauna assessments within control sites outside of the SML 173. We found that the biomass was significantly increased, as well as the biodiversity of other invertebrates and population of fauna, which becomes a part of the food chain and allow insectivores birds and other predatory insectivores to thrive.</p>

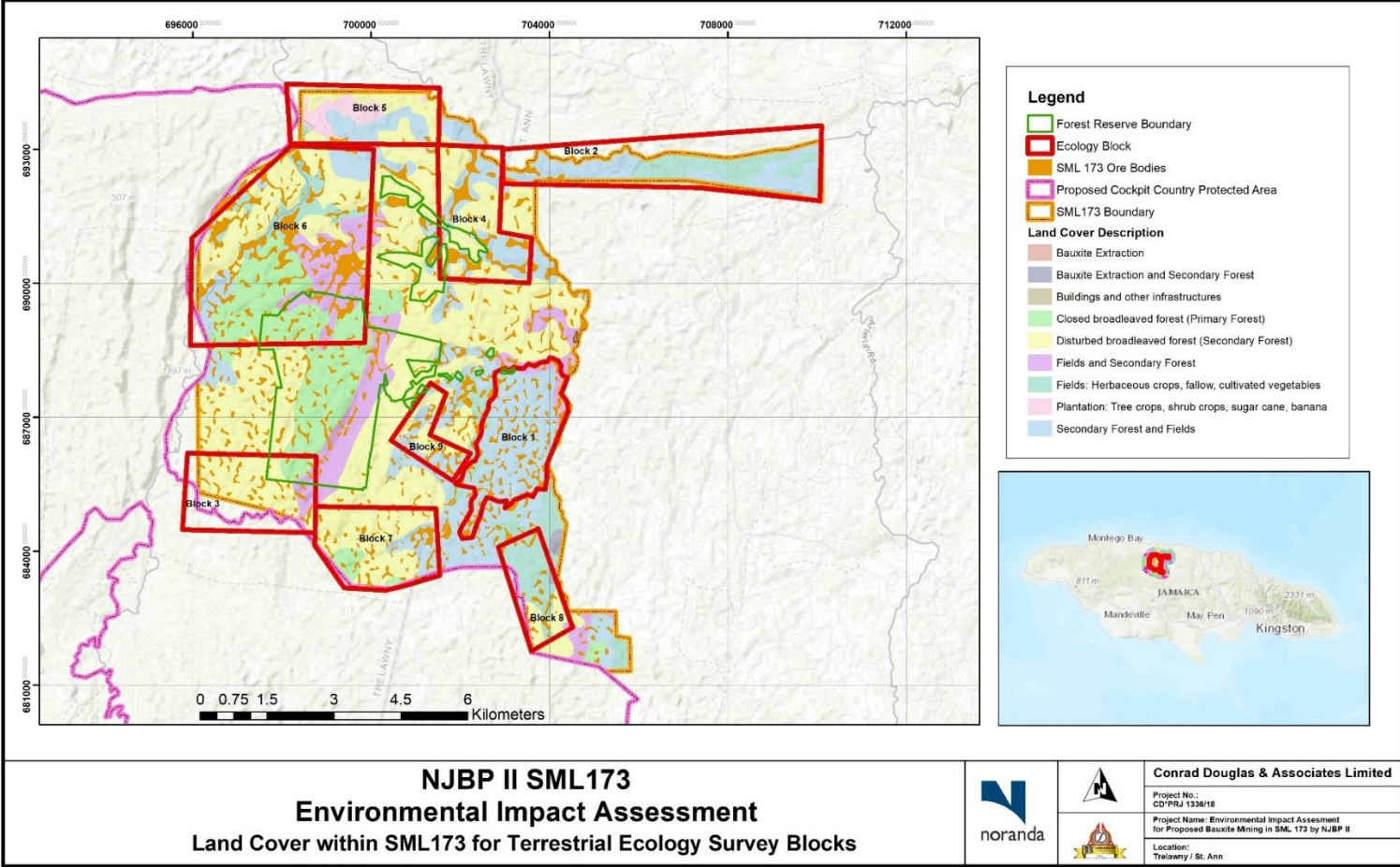
No.	Comment	CD&A/NJBP II Response
		 <p>NJBP II SML173 Environmental Impact Assessment Land Cover within SML173 for Terrestrial Ecology Survey Blocks</p> <p>Legend</p> <ul style="list-style-type: none"> Forest Reserve Boundary Ecology Block SML 173 Ore Bodies Proposed Cockpit Country Protected Area SML173 Boundary <p>Land Cover Description</p> <ul style="list-style-type: none"> Bauxite Extraction Bauxite Extraction and Secondary Forest Buildings and other infrastructures Closed broadleaved forest (Primary Forest) Disturbed broadleaved forest (Secondary Forest) Fields and Secondary Forest Fields: Herbaceous crops, fallow, cultivated vegetables Plantation: Tree crops, shrub crops, sugar cane, banana Secondary Forest and Fields <p>Conrad Douglas & Associates Limited Project No: CD*PRJ 1336/18 Project Name: Environmental Impact Assessment for Proposed Bauxite Mining in SML 173 by NJBP II Location: Trailway / St. Ann</p>
31.	The levels of cadmium is some Jamaican soils have	This was not a part of the Terms of Reference (ToR) for the EIA (See ToR at Appendix 1 of Volume I: EIA Report).

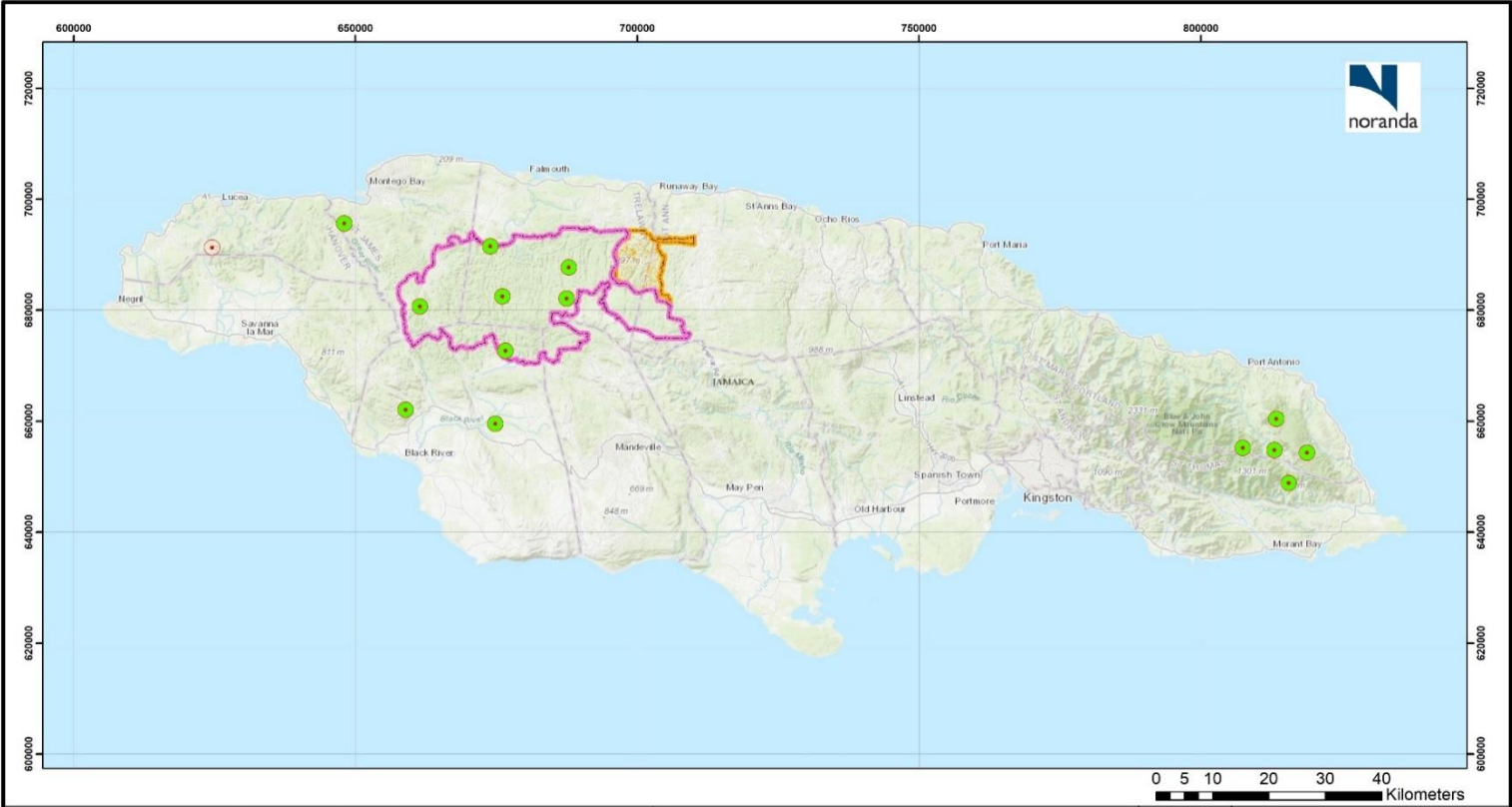





Figure 20: Terrestrial Ecology Study Area Blocks within SML 173 (numbered 1-9) (Source: EIA Report)

No.	Comment	CD&A/NJBP II Response
	been found by ICENS (International Centre for Environmental & Nuclear Studies, UWI, Jamaica) to be extremely high compared to other countries (Jamaican mean 20 mg/kg vs. world mean of 0.5 mg/kg). The soils with the highest levels (max about 900 mg/kg) are located in central Jamaica. The White Limestone group underlies soils with high Cd, As, etc. About 40% of Cd is bioavailable and could enter the food cycle. White Limestone is very transmissive, in places karstic, and allows for rapid circulation of infiltrated	<p>Although not a part of the Terms of Reference, it is important to comment on this question as it could be misleading and cause major concerns that could have serious implications beyond the bauxite industry and for Jamaica's domestic agriculture, value added agricultural products, agricultural exports and the health & safety of farmers and several other workers throughout Jamaica.</p> <p>It was thought necessary to give the macro components of bauxite (See pages 2-3 to 2-4 of the EIA Report) to detail the physico-chemical characteristics of bauxite, in general and Jamaican bauxite, in particular. We consider this important so that the public could get a better understanding of the soil type, which is the subject mineral for mining, in this EIA. In addition, it was necessary to state, especially the moisture content of bauxite (which is about 20-25%) as it occurs naturally, and it's very small particle size distribution to demonstrate the sticky nature of bauxite when wet. This poses difficulties in handling bauxite as well as the fact that it is not easily entrained and dispersed by the wind as fugitive dust in its natural state, and in particular when wet. This underscores the need for drying the bauxite, to about 16-18% moisture, as one major unit operation. The drying of bauxite enables it to flow easily and facilitates its handling. As stated in the EIA, there will be no drying of bauxite in the SML 173 area. See pages 4-10 to 4-11 of the EIA Report and slide 6 of the power point presentation made at the Mandatory Public Meeting.</p> <p>Based on the history of bauxite mining throughout Jamaica and various activities in bauxitic soils such as: farming, the establishment of factories, residential areas, cemeteries (Dovecot Memorial Park and Meadowrest Memorial Gardens) and the scientific investigations carried out by reputable scientists and accredited laboratories, nationally and internationally (Lalor, et al, Geochemical Atlas of Jamaica, Douglas, C, UNEP Industry & Environment Office, Paris, France, 1983 and Chin, LAD), one may conclude that on the basis of:</p>

No.	Comment	CD&A/NJBP II Response
	rainwater. What if the rainwater percolating through bauxitic soils picks up some heavy metals, dissolves them and carries down to aquifer?"	<ul style="list-style-type: none"> the stable structure in the crystal lattices of various minerals and the mode in which they occur in Jamaican bauxite, through the ubiquitous phenomenon of isomorphism and other natural processes, which make these substances insoluble in water, the physical conditions required for their liberation and mobilization, which do not exists in nature, <p><u>there is no evidence to support the assertion that workers or the public may be exposed to harmful levels of air borne heavy metals from the mining of bauxite.</u></p>
32.	On page 5-195, the EIA refers to the food plant of the Giant Swallowtail Butterfly, the Water Mahoe (<i>Hernandia catalpifolia</i>), and on page 5-196, the EIA reports that "No Water Mahoe was observed." This is unsurprising, given the Water Mahoe is restricted to Portland and St Thomas.	<p>Noted. In compiling the document, CD&A erred by reporting only one member of the <i>Hernandia</i> genus. In the final EIA report, the statement will be adjusted to read, "No member of the <i>Hernandia</i> genus was observed during the field surveys".</p> <p>Adams, C. D. <i>Flowering Plants of Jamaica</i>, 1972. University of the West Indies was extensively used as reference throughout the survey. In addition, there was consensus with where the Giant Swallowtail Butterfly may be found in Jamaica in the book: Thomas, Turner and Vaughan, Turland, 2017; <i>Discovering Jamaican Butterflies and Their Relationships Around the Caribbean</i>. Caribbean Wildlife Publications. See Figure 21 below and page 5-127 of the EIA Report.</p> <p>During our field investigations in SML 173, specimens of plant shoot system (including leaves) were collected in the field and taken to the Life Sciences Herbarium at the University West Indies (UWI) for identifying the species of plant. In addition, the Director of the Herbarium, Mr. Patrick Lewis (Taxonomist employed to the Herbarium) was a member of the team, which carry out the field investigations. Further, there were no sightings of the endangered and protected Giant Swallowtail Butterfly (<i>Pterourus homerus</i>, formerly called <i>Papilio homerus</i>) nor the Water Mahoe (<i>Hernandia catalpelofia</i>) nor any member of the</p>

No.	Comment	CD&A/NJBP II Response
		Hernandia genus. The Water Mahoe is crucial for supporting the existence of the Giant Swallowtail Butterfly at all phases of its life cycle.



No.	Comment	CD&A/NJBP II Response
		<div><div><p>NJBP II SML173 Environmental Impact Assessment Distribution of Giant Swallow Tail Butterfly across Jamaica</p><p>Legend</p><ul style="list-style-type: none"> Proposed Cockpit Country Protected Area SML 173 Proposed Boundary SML 173 Ore Bodies Confirmed Current Presence Evidence of Presence<p>Conrad Douglas & Associates Limited</p><p>Project No.: CD*PRJ 1336/18</p><p>Project Name: Environmental Impact Assessment for Proposed Bauxite Mining in SML 173 by Noranda</p><p>Location: Trelawny / St. Ann</p></div></div> <p>Figure 21: Distribution Map for Giant Swallowtail (<i>Pterourus homerus</i>, formerly called <i>Papilio homerus</i>) (Source: Turner and Turland, 2017) (See page 5-197 of the EIA Report)</p>

No.	Comment	CD&A/NJBP II Response
33.	The EIA detected 46 bird species. Checklists from eBird (www.ebird.org) for this same area report 86 species. Given the inadequate sampling periods and timing, the EIA was only able to record about half the bird species known to occur in the area, including near-threatened and vulnerable species.	eBird (www.ebird.org) is an unverifiable, unaudited source which cannot supersede primary data collected in the field. The online portal referenced, eBird, is not a scientific or audited tool and cannot and should not be used as a reference in a highly scientific document such as an EIA. The website was assessed by CD&A and found to be easily manipulated wherein additions/modifications of species and their concentrations can be made by any individual with or without the necessary expertise.
34.	<i>The EIA is filled with generalities, vague and unsubstantiated statements, advocates for the aluminum industry and promotes the interests of Noranda. The pro Noranda and pro bauxite mining bias in the EIA is</i>	This is incorrect and we object. Grateful you provide evidence to the contrary to these statements. The reference to the alumina industry in the EIA was made to distinguish between bauxite mining and alumina refining and stated that NJBP II does not undertake alumina refining. At the mandatory public meeting there was a specific question or comment to the effect that the mining of bauxite was responsible for contamination of ground water resources. As consultant, we clarified that bauxite mining was not responsible for ground water contamination. It was further stated that in the past there were issues caused by the refining of alumina but that the alumina industry had substantially improved on the process.

No.	Comment	CD&A/NJBP II Response
	<i>resounding. This sometimes takes the form of dramatic fawning language, as in: “Noranda Jamaica Bauxite Partners’ return to full production was like a shot in the arm for the local and national economy.” (4-21; pg. 106) Or sudden passionate outrage, as in: “The reasons not to mine bauxite in the Rio Bueno Catchment/sub-basin is neither based on scientific information nor on the experience of bauxite mining in Jamaica and indicates a clear misunderstanding of bauxite-limestone relationship and limestone</i>	<p>Contrary to the assertion that the EIA was biased because of the economic data presented therein, it is a fact that:</p> <ol style="list-style-type: none"> 1. The economy (locally, nationally and internationally) is universally recognized as a necessary part of the EIA process. It is a critical component of any EIA that the economic considerations are integrated into the process. This includes the biological, physical, social, economic, cultural, historical and archaeological which are all potential receptors of negative and positive impacts. 2. A country’s poor economic performance has the potential to result in negative impacts on the environment, including but not limited to: informal settlements without proper sanitary facilities, improper agricultural practices, clearing of forested areas for illegal charcoal production destruction of coastal resources and over fishing, which coupled with climate change impact may have a deleterious impact on the environment. 3. NJBP II accounted for 6% of Jamaica’s Total Domestic Export for 2019 and 7.6% for the period January to July 2020. <i>(Source: STATIN)</i> 4. Noranda Jamaica Bauxite Partners II’s operations provides about 400 direct jobs, 400 indirect contractor jobs (mining) and 2,500 indirect opportunities through contractor services and temporary jobs, for a total of 3,300 jobs The payroll taxes is a major contributor to the GoJ’s revenues. NJBP II contributes to foreign investment income. 5. The bauxite industry is critical to Jamaica’s economic performance and recovery, more so given the economic impacts caused by the pandemic. <p>The EIA shows that all the potential impact receptors: biological, physical, social, economic, historical, and archaeological were taken into account into the environmental baseline and setting as well as the immediate environs external to the boundaries of SML 173. The environmental impact identification and risk assessment were taken into account for all the</p>

No.	Comment	CD&A/NJBP II Response
	<i>geology and processes.” (7-25; pg. 463).</i>	<p>potential risk receptors. These resources will not be adversely impacted. These resources include: water resources, biodiversity, human health, cultural and heritage resources. Hence, Overall, the EIA clearly demonstrates (taking into account that only 15% of SML 173 will be impacted by mining activities) the continued use of NBP II’s best practices in the mining of bauxite in compliance with the regulatory framework will result in continued benefits such as the contributions to the country’s GDP.</p> <p>In addition it should be noted that the PIOJ has stated that there was a 12.0% negative growth in 2020, and that this level of negative growth is expected to continue into 2020. The projection has been made by PIOJ that Jamaican economy is not expected to perform to the level it experienced 2018 until 2025.</p>

No.	Comment	CD&A/Noranda Response
	<i>Context: The EIA lacks maps of all elements of the project</i>	
	<i>Section 5 of the TOR for the EIA for the project requires the following (in summary):</i>	
35.	<ul style="list-style-type: none"> <i>A description of all major elements of the project (construction, operation, recommissioning and rehabilitation)</i> 	<p>This is incorrect. The full description of all the activities involved in NJBP II’s operations were documented in both the EIA report as well as during the Mandatory Public Meeting. It must be noted that most of NJBP II’s operations are existing/brownfield sites, while the only greenfield operation is the proposed mining activity in SML 173, the subject of the EIA.</p> <p>The “<i>Description of the Proposed Project</i>” is provided in Section 4.0 (pages 4-2 to 4-28) of the EIA Report. In addition, NJBP II’s operations process flow sheet was shown and described at the Mandatory Public Meeting presentation on slide 6 (See Figure</p>

		<p>24 below). The following, among other relevant maps and flow sheets, were also provided in the <i>Description of the Proposed Project</i> section (pages 4-2 to 4-28) within the EIA Report:</p> <ul style="list-style-type: none"> • <i>“Project Location and Major Supporting Infrastructure</i> • <i>Proposed project location showing Ore Bodies for SML 173 Five Year Plan</i> • <i>Process flowchart for Site Clearance for each orebody</i> • <i>Overview of NJBP II’s Operations</i> • <i>Flowchart of mining process</i> • <i>Process Flow for Rehabilitation of mined out areas”</i>
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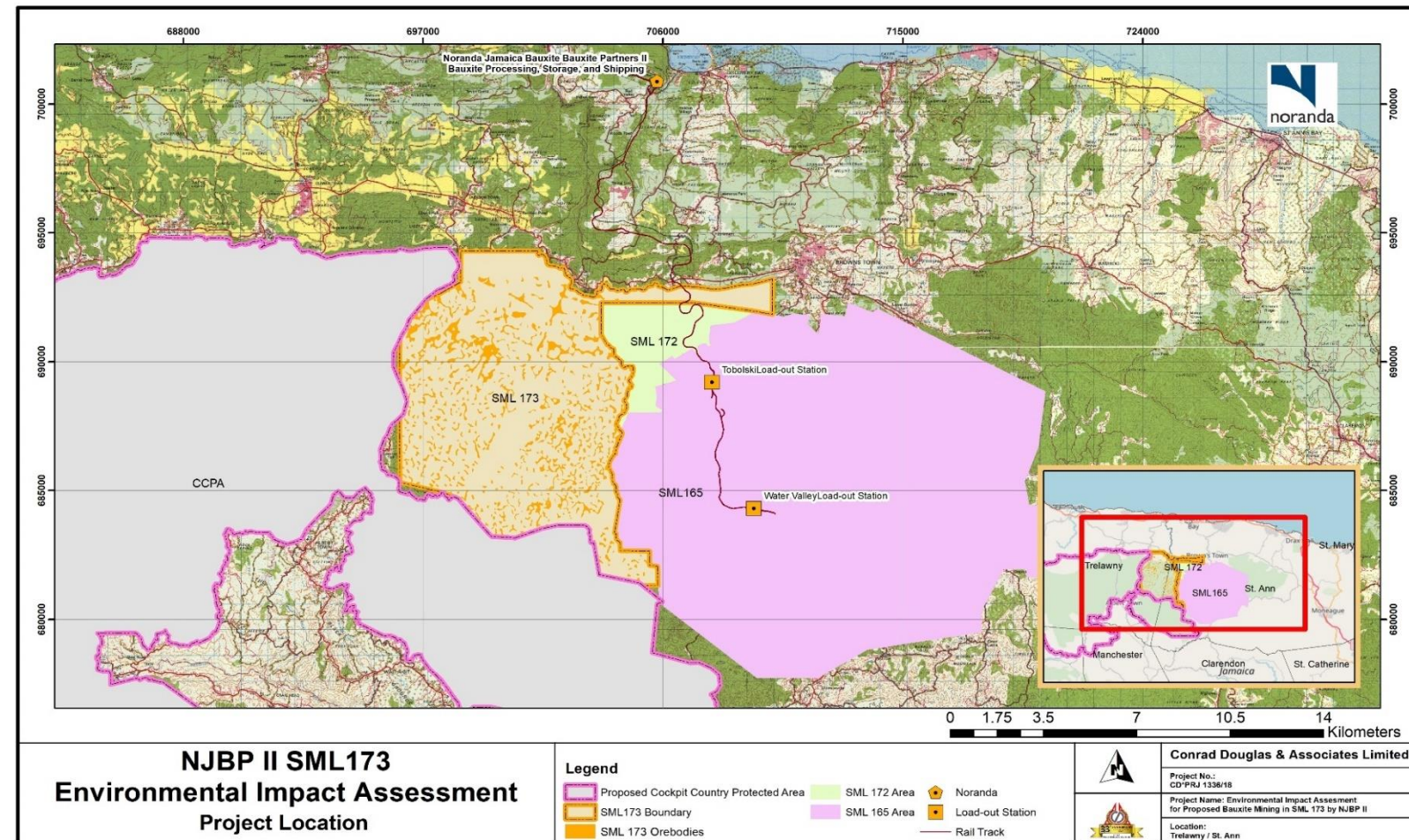
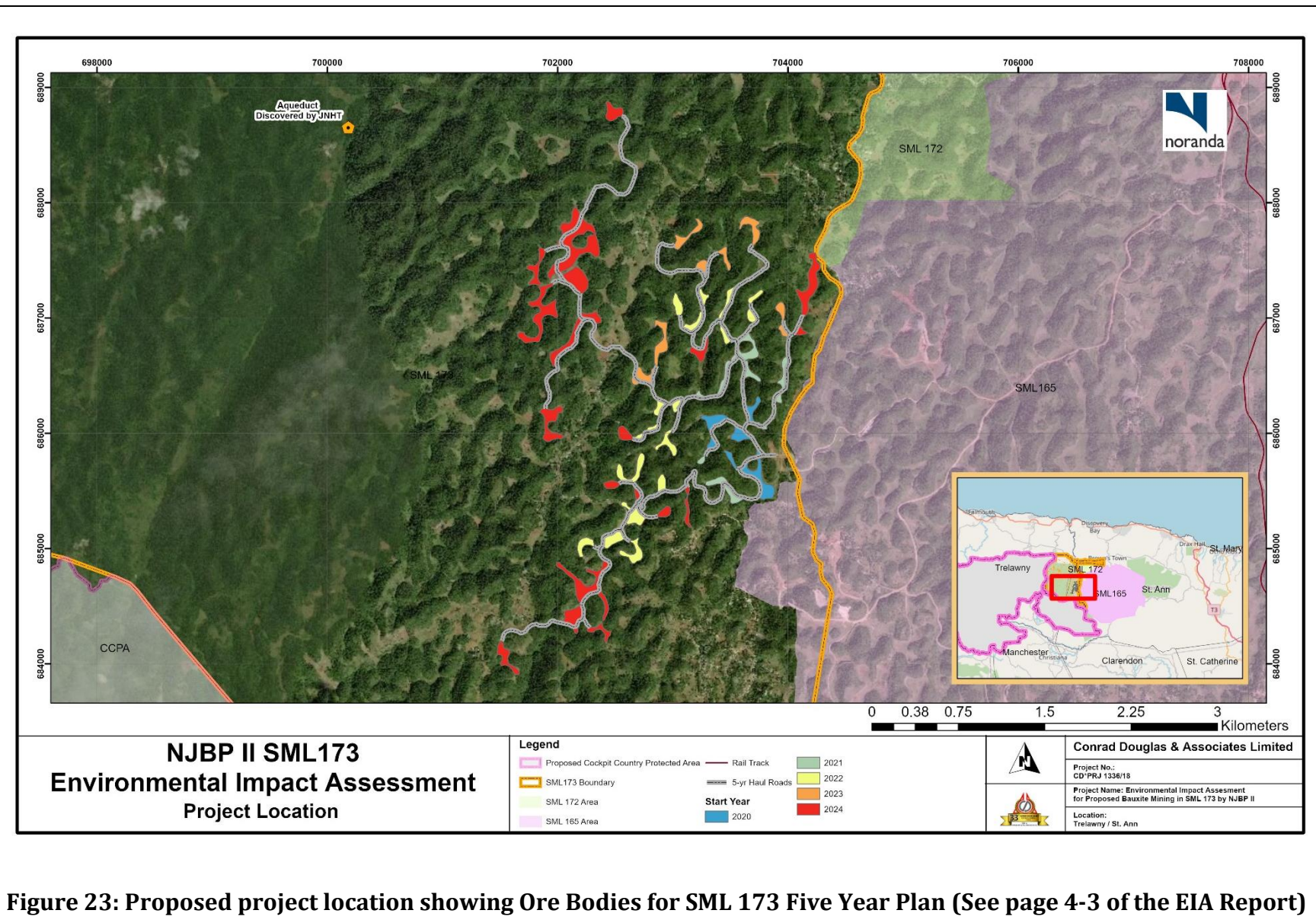


Figure 22: Project Location and Major Supporting Infrastructure (See page 4-2 of the EIA Report)



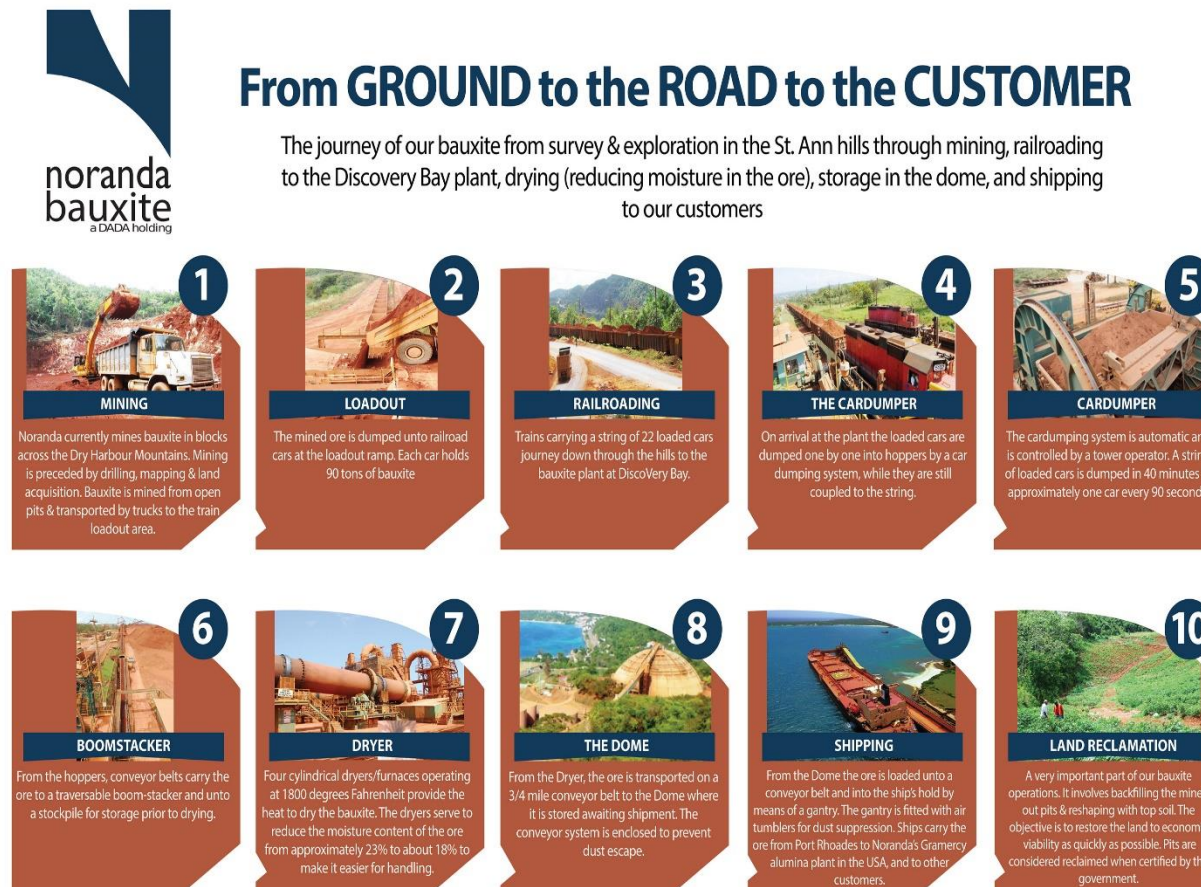


Figure 24: NJBP II's Operations Process Flow Sheet (See slide 6 of the Mandatory Public Meeting presentation)

36.	<ul style="list-style-type: none"> <i>The provision of essential site maps, illustrating estimated reserves and extent of target area to be mined, used for ore transport, storage and/or stockpiling of material.</i> 	<p>The storage and stockpiling areas, which are outside of SML 173 are a part of NJBP II's existing permitted storage area. Detailed flowsheets are provided in section 4.0. Description of the Proposed Project. It should be noted that there is no stockpiling proposed for SML 173.</p> <p>Other areas of the comments are covered in the response to question 35 above, in which site maps and illustrations are provided.</p>
	Context: The EIA lacks baseline data about the ecological services and the biological environment of the project area	
37.	<p><i>Section 6 of the TOR for the EIA requires the following (in summary):</i></p> <ul style="list-style-type: none"> <i>Baseline data for terrestrial flora and fauna, including a ranking of flora/fauna regarding their ecological importance with special emphasis on rare, endangered, threatened, endemic, protected and economically important species, as well as migratory and nocturnal species</i> <i>Identification/description of different ecosystem types, structure and</i> 	<p>This statement is incorrect. The EIA was responsive to the requirements of the ToR (See Appendix I of the EIA Report). In order to analyze the ecology of SML 173, excluding the Forest Reserves, the 8,335 hectares area was divided into nine (9) random blocks (See Figure 25 below and <i>Figure 5-44 on page 5-72 in the EIA Report</i>). The exclusion of the Forest Reserves ensured that the requirements of the ToRs were met. By law, the Forest Reserves are excluded from mining activities. Further, page 3 of the ToR (Appendix I of the EIA Report) states that <i>"This terms of reference and EIA will cover all areas of the SML except those area declared under the Forest Act as forest reserves"</i>. Consultations were made with the Forestry Department during the EIA and permitting process and they provided the consultants with the Jamaica Gazettes for the estates in the SML 173, which illustrates the boundaries of the Forest Reserves (See Appendix III, page XCIII of the EIA Report). Notwithstanding, remote sensing was done in the areas overlapping with the Forest Reserves. The nine (9) blocks covered more that 50% of the 8,335 hectares of SML 173 area, or 2.5 times of what best practice requires. It included all land uses within the area.</p> <p>The detail results of the exhaustive study are presented in the EIA, for instance:</p> <ol style="list-style-type: none"> The species list for flora observed in SML 173 is provided in Appendix I: Flora Species List for SML 173 Area on pages CXVI to CXVIII of the EIA Report The species list for fauna observed in SML 173 is provided in Appendix XX, pages CXXV to CXXVIII of the EIA Report

<p><i>functions, including species dominance, dependence and diversity, biological loss and/or habitat fragmentation.</i></p> <p><i>However, the areas surveyed to collect information for the EIA about ecological services and the biological environment were extraordinarily limited. Vast areas – a substantial majority of the project area – were never surveyed, as discussed in more detail below.</i></p>	<ol style="list-style-type: none"> 3. The Vegetation Categories and Species Lists for Hillocks in Study Area, inclusive of the DAFOR scale and IUCN ranking are provided in Table 5 14 on page 5-151 to 5-154 of the EIA Report. 4. The characterization of the habitats within SML 173 are presented in Section 5.3.4, pages 5-250 to 5-266 of the EIA Report.
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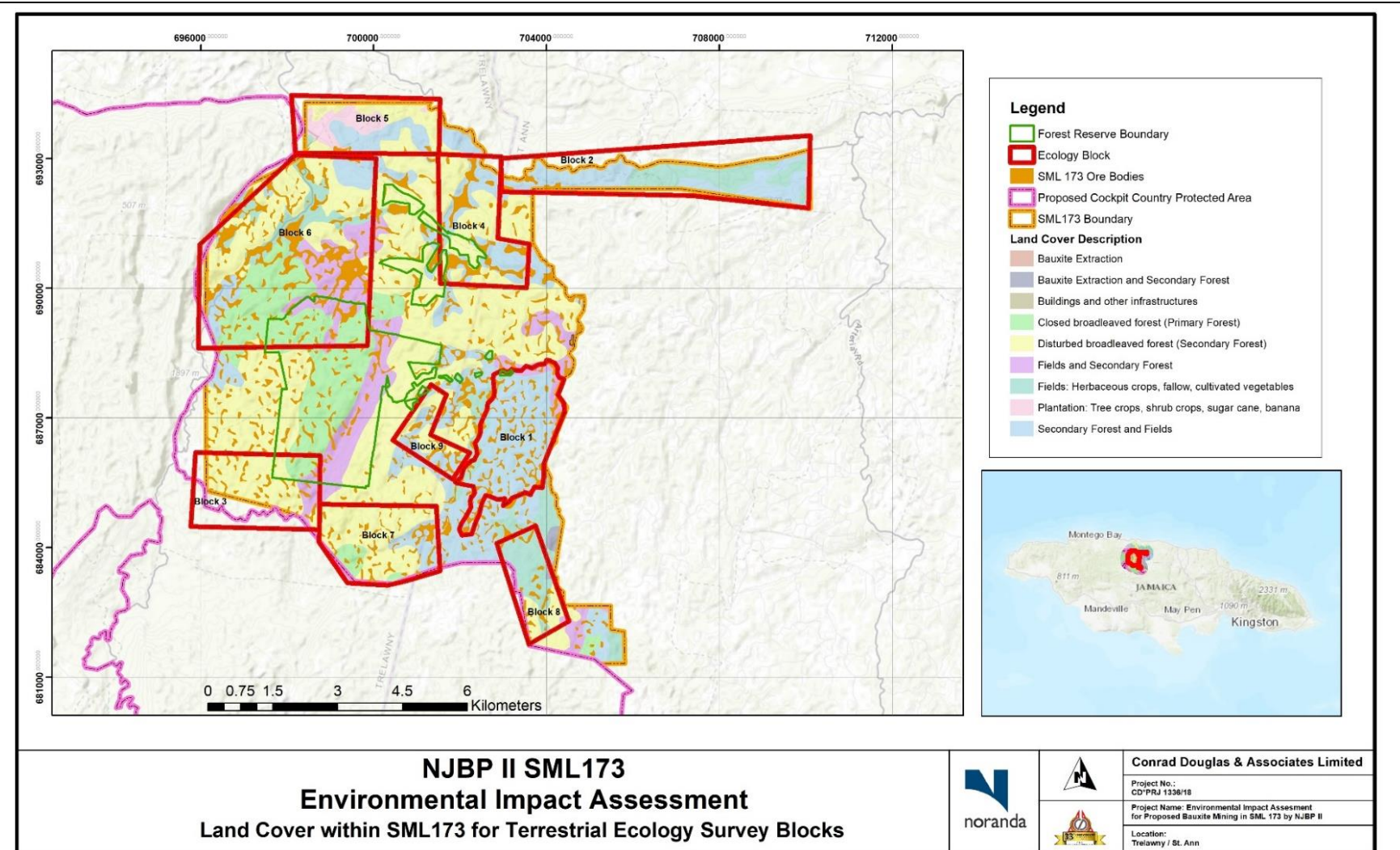


Figure 25: Terrestrial Ecology Study Area Blocks within SML 173 (numbered 1-9) (Figure 5-44 on page 5-72 in the EIA Report)

	<p><i>Context: There is general acceptance in the Rim Communities that the project cannot be reversed as it is cast in stone. The EIA should provide information to the decision makers so that they can properly assess the project's impact on the environment and the people. In this project the assessment of the social impacts and the concomitant mitigation measures and related management and monitoring plans are critical. So issues that arise during the construction and operational phases cannot be dismissed for someone else to deal with at some future date.</i></p>	
38.	<ul style="list-style-type: none"> What are the recommendations for how the communication challenges may be overcome? 	<p>CD&A conducted the EIA in compliance with the agreed Terms of Reference (See Appendix I of the EIA Report). The agreed ToR was developed after intensive discussions with all relevant GoJ agencies and visits to the project area with these agencies. The ToRs therefore contained the requirements of the policy and '<i>decision makers</i>' (<i>relevant authorities</i>) for conducting the EIA.</p> <p>The EIA and permitting process involves the formulation of the ToR by the regulators. This requires that the ToR is fully addressed or complied with by the consultants. As a part of the EIA process, an Outline Environmental Monitoring & Management Plan must be prepared and included in the EIA Report (See <i>Section 11, page 11-1 to 11-7 of the EIA Report</i>). Further, in the event that a permit is issued, there are several conditions stated by the regulator in the permit, which NJBP II must comply with during all phases of the project (planning, pre-construction, construction and operations).</p> <p>A major component of the ToR of the EIA was conducting a socio-cultural and economic assessment within SML 173 and its environs. This involved conducting consultations with members of the communities in the sphere of influence of the project. The following were done:</p> <ol style="list-style-type: none"> 1. A Contact survey, in which a representative sample of 1.5% was interviewed using a pre-tested, pre-coded questionnaire, approved by NEPA. Please see section 5-5 and pages 5-268 to 5-275 of the EIA Report section 5.5 and the questionnaire in Appendix III, page XL of the EIA Report.

	<p>2. Four (4) Voluntary Public Stakeholder Consultation meetings were also carried out in keeping with universally accepted best practices and among other things, included the <i>verbatim</i> meeting notes of each meeting and a summary of the analysis of the issues raised by the participants in Volume II: Reports on Voluntary Stakeholder Consultations.</p> <p>These were done in keeping with the ToR. It is on the basis of the socio-cultural and economic surveys that alternative 3, a '<i>Clawed Back area</i>', which involves intensive agriculture and the livelihoods of several members of communities was taken into consideration.</p> <p>As stated on page 3-7, section 3.2.9. of the EIA Report, the Town and Country Planning Development Order (Trelawny Parish) Confirmed Development Order, 2015 <i>"speaks to the development of a policy with the objective to:</i></p> <p style="padding-left: 40px;"><i>"ensure that mineral extraction minimizes adverse effects on communities, the landscape, wildlife and habitats."</i></p> <p><i>A further policy is to:</i></p> <p style="padding-left: 40px;"><i>"ensure that mineral extraction and waste disposal operations maintain high standards of site operation and restoration and provide for beneficial post mining activities...to safeguard mineral resources by identifying areas for minerals workings and extraction."</i></p> <p>In practicing their Corporate Social Responsibility, NJBP II establishes and interacts with Community Councils within their project areas. These Community Councils bring issues of concern by residents of the communities to NJBP II and the concerns are then addressed in an interactive consultative manner.</p>
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39.	<ul style="list-style-type: none"> <i>What of the increased consumption of energy, water and other utilities in the area and the capacity to deliver, the EIA must address this in both the construction and operational phases?</i> 	<p>The comment reflects a lack of understanding of the components of the project and the mining process, in general See <i>Description of the Project</i> section 3.0., pages 4-1 to 4-28 of the EIA Report.</p> <p>There will be no material increase of consumption of energy, water or utilities with bauxite mining in SML 173. The specific consumption or efficiency (consumables per tonne of bauxite) of all consumables remain unchanged, as they have been for previous operations. NJBP II will not use any electricity within the project areas. It is noteworthy that all water is supplied from NJBP II's existing facilities, which are outside of SML 173 and permitted and operated within the battery limits of NJBP II operations.</p>
40.	<ul style="list-style-type: none"> <i>Should the reduced scope for greenhouse gas emissions be addressed as a significant proportion of green spaces will be replaced by concrete</i> 	<p>In general, the comment reflects a lack of understanding of the components of the project and the mining process. See <i>Description of the Project</i> section 3.0., pages 4-1 to 4-28 of the EIA Report.</p> <p>The project does not propose the use of any concrete or permanent structures within SML 173.</p> <p>Further, the activities that NJBP II employ involve off-setting greenhouse gas emissions through the reclamation and rehabilitation processes. This involves, for example, the planting of Napier grass on rehabilitated lands, which provides greater carbon sequestration and climate change mitigation, which are superior to the existing grass cover in the depressions.</p>

Specific Comments/Concerns			
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41.	Pages 5-70	<i>The exclusion of surveys of forest reserves within the project area means that the ecological and biological baseline of a large extent of the project area was never characterized, as shown by Figure 5-223 ("Special Mining Lease 173 Area and Conservation Areas") on page 5-305.</i>	<p>It is not true to state that "<i>a large extent of the project area was never characterized</i>". By law, the Forest Reserves are excluded from mining activities. Further, page 3 of the ToR (Appendix I of the EIA Report) states that "<i>This terms of reference and EIA will cover all areas of the SML except those area declared under the Forest Act as forest reserves</i>". Consultations were made with the Forestry Department during the EIA and permitting process and they provided the consultants with the Jamaica Gazettes for the estates in the SML 173, which illustrates the boundaries of the Forest Reserves (See Appendix III, page XCIII of the EIA Report).</p> <p>Alternative 3 explicitly illustrates the '<i>Clawed Back Area</i>' within SML 173, which includes the Forest Reserves.</p> <p>The ecological surveys covered nine (9) blocks, which was more than 50% of the 8,335 hectares of SML 173 area, or 2.5 times of what best practice requires.</p>
42.	Pages 5-150	<i>The assumption that biodiversity within the hillocks would not be impacted significantly by bauxite mining within the lowland areas is incorrect as biodiversity within the hillocks can easily be affected by forest</i>	<p>We disagree with this statement. In addition to transect lines, the area was ground truthed (actual walk through and photogrammetry) while the character of large areas of non-hillock vegetation (grassland) interpreted from high altitude google earth images. Subsequently, transects through the hillocks were done for identification and characterization of the forest tree types. Our land use surveys also included detail aerial surveys of large areas using drone technology.</p>

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		<p><i>fragmentation, noise, dust and vibration associated with the project. Also, the actual extent of the surveys within the seven blocks, was a single transect line of 30 metres, for a total of just over 200 metres of actual field work. Given the known diversity of flora and fauna in Cockpit Country, this is entirely insufficient. It is completely misleading to portray the biological surveys as having covered 50% of the area.</i></p>	<p>It is important to note that no fragmentation will occur as a result of mining. The geomorphology of the areas with its hillocks and flat lands between presents a maze of corridors which naturally facilitates access throughout SML 173. As stated variously in the EIA and the public presentation <u>there will be no mining in the forest reserves or in the hillocks which contain the forest cover in SML 173.</u></p> <p>The mechanisms for seed dispersal by wind, water or animals would have naturally caused the introduction of species that could compete with the indigenous flora in the area. There is no fauna that can conceivably enter the area as a result of mining to compete significantly with the fauna that is characteristic of the area.</p> <p>Dust and noise generation are transient. Environmental permits are typically issued with terms and conditions and standards to mitigate against dust and noise, with which NJBP II is mandated to comply. Our investigations show that NJBP II operates within the required regulatory standards for these parameters.</p> <p>SML 173 is located outside the boundaries of the designated CCPA and we did not conduct assessments within the boundaries of the designated Cockpit Country Protected Area.</p> <p>See Table 5-13 in the EIA Report for the measurement of areas that were assessed.</p>

Specific Comments/Concerns			
	Section/Page #	Comment	CD&A/Noranda Response
43.	Pages 5-28	The EIA mostly dismisses these risks, conceding that there may be increased surface runoff <i>“but volumes will be small and can easily be absorbed by the highly permeable limestone”</i> , failing to discuss the role of vegetation in ensuring heavy rain percolates through soil and limestone to the aquifer, or the collection of rainfall in ore pits, which then connect to the aquifer.	<p>This statement is incorrect. Aquifer recharge will not be affected because rain runoff water will ultimately permeate through the soil or limestone and enter the aquifer. The clearing of vegetation temporarily changes the rate of runoff but does not affect the volume of water, which falls on the surface of the soil and eventually percolates into the aquifer. It is to be noted that there will be no significant modification to the drainage area that will affect the volume of water abstracted by natural processes in the SML 173.</p> <p>It is important to note that as stated in the EIA Report (See page 5-28): <i>“The mining of the bauxite orebodies will not result in the wholesale stripping of the land, exposing the limestone surfaces. Mining is restricted to less than 15 % (i.e. ~1,300 hectares) of the SML 173 (8,335 hectares). The bauxite ore to be mined is that located within the depressions of the erosional limestone (wavy) surface.”</i></p> <p>It was also elaborated in the Mandatory Public Meeting and stated in the EIA Report on page 4-1 that mining progresses in a consecutive series of five (5) year Mining Plans. Rehabilitation of the mined out lands, including revegetation follows immediately after mining is completed.</p>
44.	Section 8.3	<p><i>TOR for the EIA requires the following (in summary):</i></p> <p><i>Description of direct and indirect impacts and associated risks on</i></p>	<p>This statement is incorrect and demonstrates that the reader is not familiar with or has no appreciation of the contents of the EIA report. The EIA is fully compliant with the Terms of Reference of the EIA inclusive of the Biological Environment and its ecological relationships. (See Appendix I of the EIA Report).</p>

Specific Comments/Concerns			
	Section/Page #	Comment	CD&A/Noranda Response
		<p><i>terrestrial habitats, with emphasis on rare, endemic, protected or endangered species, loss of biodiversity, loss of ecosystem functions, habitat loss and fragmentation, loss of niches and natural features due to construction and operation.</i></p> <p><i>Exploration of the impact of noise, dust and vibration on flora and fauna.</i></p> <p><i>Given that no information is provided in the EIA regarding mining activities disturbing more than 900 hectares of land and given that baseline information about existing ecological services and biological resources is based on extraordinarily limited surveys, the EIA cannot and has not adequately assessed direct and</i></p>	<p>As explained above, in order to analyze the ecology of SML 173, excluding the Forest Reserves, the 8,335 hectares area was divided into nine (9) random blocks (See Figure 25 below and <i>Figure 5-44 on page 5-72 in the EIA Report</i>). The exclusion of the Forest Reserves ensured that the requirements of the ToRs were met. Notwithstanding, remote sensing was done in the areas overlapping with the Forest Reserves. The nine (9) blocks covered more than 50% of the 8,335 hectares of SML 173 area, or 2.5 times of what best practice requires. It included all land uses within the area.</p> <p>Ecological assessments were also conducted outside of the SML in mined out rehabilitated areas for comparison with the baseline within the SML. This is beyond what was required by the ToRs.</p> <p>The summary findings of the biological environment were presented in the Mandatory Public meeting held on December 8, 2020.</p> <p>The detail results of the exhaustive study are presented in the EIA for instance:</p> <ol style="list-style-type: none"> 1. The species list for flora observed in SML 173 is provided in Appendix II: Flora Species List for SML 173 Area on pages CXVI to CXVIII of the EIA Report 2. The species list for fauna observed in SML 173 is provided in Appendix XX, pages CXXV to CXXVIII of the EIA Report

Specific Comments/Concerns			
	Section/Page #	Comment	CD&A/Noranda Response
		<i>indirect impacts on the ecology of terrestrial habitats.</i>	<p>3. The Vegetation Categories and Species Lists for Hillocks in Study Area, inclusive of the DAFOR scale and IUCN ranking are provided in Table 5 14 on page 5-151 to 5-154 of the EIA Report.</p> <p>4. The characterization of the habitats within SML 173 are presented in Section 5.3.4, pages 5-250 to 5-266 of the EIA Report.</p> <p>Please see section 7.0. for details of the Impact Identification & Assessment and Analysis of Potential Impacts for all potential impacts to the physical, biological socio-economic and socio-cultural environments.</p>
Executive Summary concerns showing evidence of bias (Pro bauxite)			
45.	Page 1-2:	<i>“There are important bauxite deposits in the SML 173 area which are required for providing bauxite feedstock for NJBP II’s mining, railroading, drying, storage and shipping operations from Port Rhodes in Discovery Bay St Ann, to export markets overseas. NJBPII’s export earnings from bauxite are variable. However, based on the volume of bauxite, it can be as high as, or in</i>	<p>This allegation of bias is incorrect and totally refuted.</p> <p>Contrary to the assertion that the EIA was biased because of the economic data presented therein, it is a fact that:</p> <ol style="list-style-type: none"> 1. The economy (locally, nationally and internationally) is universally recognized as a necessary part of the EIA process. It is a critical component of any EIA that the economic considerations are integrated into the process. This includes the biological, physical, social, economic, cultural, historical and archaeological which are all potential receptors of negative and positive impacts. 2. A country’s poor economic performance has the potential to result in negative impacts on the environment, including but not limited to: informal settlements without proper sanitary

Specific Comments/Concerns			
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		<p><i>excess of US\$150,000,000 per annum. This is a major contribution to maintaining NJBP II's operations and a critically important contribution to Jamaica's economy overall, and more specifically foreign exchange earnings, GDP growth and employment."</i></p>	<p>facilities, improper agricultural practices, clearing of forested areas for illegal charcoal production destruction of coastal resources and over fishing, which coupled with climate change impact may have a deleterious impact on the environment.</p> <p>3. NJBP II accounted for 6% of Jamaica's Total Domestic Export for 2019 and 7.6% for the period January to July 2020. (Source: STATIN)</p> <p>4. Noranda Jamaica Bauxite Partners II's operations provides about 400 direct jobs, 400 indirect contractor jobs (mining) and 2,500 indirect opportunities through contractor services and temporary jobs, for a total of 3,300 jobs The payroll taxes is a major contributor to the GoJ's revenues. NJBP II contributes to foreign investment income.</p> <p>5. The bauxite industry is critical to Jamaica's economic performance and recovery, more so given the economic impacts caused by the pandemic.</p> <div> <p>The EIA shows that all the potential impact receptors: biological, physical, social, economic, historical, and archaeological were taken into account into the environmental baseline and setting as well as the immediate environs external to the boundaries of SML 173. The environmental impact identification and risk assessment were taken into account for all the potential risk receptors. These resources will not be adversely impacted. These resources include: water resources, biodiversity, human health, cultural and heritage resources. Hence, Overall, the EIA clearly demonstrates (taking into account that only 15% of SML 173 will be impacted by mining</p> </div>

Specific Comments/Concerns			
	Section/Page #	Comment	CD&A/Noranda Response
			<p>activities) the continued use of NBP II's best practices in the mining of bauxite in compliance with the regulatory framework will result in continued benefits such as the contributions to the country's GDP.</p> <p>In addition it should be noted that the PIOJ has stated that there was a 12.0% negative growth in 2020, and that this level of negative growth is expected to continue into 2020. The projection has been made by PIOJ that Jamaican economy is not expected to perform to the level it experienced 2018 until 2025.</p>
46.	Page 1-3:	<i>"Maintaining the mining sector, in general and bauxite mining in particular, is more important ever before for sustaining macro-economic performance and stability, and to continue the support and micro-economic development at the community level. There is no other sector of the Jamaican economy which can in the immediate and short term, provide the necessary level of export income to support the economy."</i>	This is factual. See our response to question 45 above.

Specific Comments/Concerns			
	Section/Page #	Comment	CD&A/Noranda Response
47.	Page 1-9	<i>“The communities receptive to the proposed project anticipated employment opportunities and by extension an improvement in their quality of life. This is consistent with the mining of bauxite in Jamaica which has resulted in improvements in economic performance nationally and the provisions of social amenities at the community level.”</i>	This is factual. See our response to question 45 above.
48.	Page 1-10	<i>“There will be at least a temporary reversible loss of habitat associated with the construction of these haul roads, as well as, changes in the landscape aesthetics.”</i>	<p>This is factual. As elaborated in the Mandatory Public Meeting and stated in the EIA Report on page 4-1, mining progresses in a consecutive series of five (5) year Mining Plans. Rehabilitation of the mined out lands, including revegetation follows immediately after mining is completed.</p> <p>The Impact Mitigation section of the EIA Report (See 8.1.4, pages 8-4 to 8-5) states that: <i>“NJBP II operations will temporarily impact on less than 15% of the total area inclusive of construction of haul roads. Haul roads constructed will be at a maximum width of 35 feet. This will be the distance of separation for those specific areas for which the haul roads traverse. This does not prevent any plant</i></p>

Specific Comments/Concerns			
	Section/Page #	Comment	CD&A/Noranda Response
			<p><i>species that reproduces itself by any method of sexual reproduction to constrain propagation through pollen and seed dispersal.</i></p> <p><i>In addition to the replanting of epiphytes, natural recolonization, in general, will also occur.</i></p> <p><i>Once the haul roads have been taken out of service, they will be rehabilitated. In addition, the recommendation in the Archaeological Impact Assessment (AIA) states that haul roads may be beneficial to facilitate community development. This can be done through agreement (with the relevant authority), provided the Local Authority formally and legally accepts responsibility for the future operations and maintenance of the haul roads."</i></p>
49.	Page 1-13:	<p><i>"There are no other feasible immediate or short-term economic alternatives that have been identified that can be considered as a substitute to bring equal or greater macro or micro-economic benefits to Jamaica, at this time."</i></p>	<p>This is factual. Our investigations did not show any other feasible immediate or short-term economic alternatives. Additionally, the PIOJ has independently and repeatedly spoken about the mining sector's contribution to GDP and the negative impact on the Jamaican economy resulting from downturn in some areas of the sector. For example, the PIOJ stated that: <i>"The out-turn for the April to June 2020 period largely reflected the impact of: Lower capacity utilization within the Mining & Quarrying industry, following the temporary closure of Jamaica's largest Alumina refinery in September 2019 to upgrade productive capacity"</i>, among other factors such as <i>"implementation of measures to manage the COVID-19 pandemic commencing in mid-March."</i> Source: <i>The Planning Institute of Jamaica's Review of Economic Performance, April-June 2020 Media Brief September 9, 2020</i></p>

Specific Comments/Concerns			
	Section/Page #	Comment	CD&A/Noranda Response
50.	Page 4-21:	<i>“Noranda Jamaica Bauxite Partners II’s’ (NJBP II) return to full production was like a shot in the arm for the local and national economy. Commerce, trade, service and manufacturing activities were bolstered by the effects of NJBP II local purchases and employment.”</i>	This statement is supported by our investigation and assessment in conducting the EIA. See the response to question 49 above.
51.	Page 4-27:	<i>“The local economy will benefit from the mining operation within SML 173 and its environs. Jobs will be created and local goods and services will be required by NJBP II and its employees. Living standards of local communities (and Jamaica, in general) will improve through increased employment and earnings.” This is followed by a list of corporate social initiatives, which are unquantified.</i>	<p>This is a statement of fact. The history of bauxite mining over the several decades supports our statement that the sector has provided jobs and economic opportunities for the residents in local communities.</p> <p>The Statistical Institute of Jamaica (STATIN) and the HEART Trust/NTA Corporate Office’s Labour Market Information Portal (LMIP) provides information on the labour force categorized by industries. This includes data on the Mining & Quarrying Sector. STATIN’s report on Labour Force by Industry Using Jamaica Industrial Classification (JIC) 2016 is shown in Table 2 below.</p>


		<p>Table 2: Labour Force by Industry Using Jamaica Industrial Classification (JIC) 2016 (Source: https://statinja.gov.jm/LabourForce/NewLFS.aspx)</p> <p>Labour Force by Industry Using Jamaica Industrial Classification (JIC) 2016</p> <table><tr><th>Industry</th><th>Jul 2019</th><th>Jul 2020</th></tr><tr><td colspan="3">BOTH SEXES</td></tr><tr><td>Agriculture, Forestry and Fishing</td><td>192,600</td><td>192,100</td></tr><tr><td>Mining and Quarrying</td><td>7,200</td><td>6,500</td></tr><tr><td>Manufacturing</td><td>87,400</td><td>80,300</td></tr><tr><td>Electricity Gas and Water Supply</td><td>10,300</td><td>8,100</td></tr><tr><td>Construction</td><td>124,400</td><td>115,700</td></tr><tr><td>Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles</td><td>252,900</td><td>241,000</td></tr><tr><td>Transport and Storage</td><td>68,000</td><td>56,500</td></tr><tr><td>Accommodation and Food Service Activities</td><td>124,600</td><td>106,000</td></tr><tr><td>Information and Communication</td><td>13,800</td><td>14,800</td></tr><tr><td>Financial and Insurance Activities</td><td>29,500</td><td>26,700</td></tr><tr><td>Real Estate and Other Business Services</td><td>100,100</td><td>107,600</td></tr><tr><td>Public Administration and Defence; Compulsory Social Security</td><td>69,400</td><td>68,900</td></tr><tr><td>Education, Human Health and Social Work Activities</td><td>113,500</td><td>108,900</td></tr><tr><td>Arts, Entertainment, Recreation and Other Services</td><td>139,300</td><td>120,800</td></tr><tr><td>Industry Not Specified (Incl. Extraterritorial Bodies)</td><td>2,700</td><td>3,100</td></tr><tr><td>TOTAL CLASSIFIABLE LABOUR FORCE</td><td>1,335,700</td><td>1,257,000</td></tr><tr><td>NO PREVIOUS INDUSTRY</td><td>25,100</td><td>22,600</td></tr><tr><td>TOTAL LABOUR FORCE</td><td>1,360,800</td><td>1,279,600</td></tr></table> <p>NJBP II's corporate social initiatives are well documented in the Company's bulletin or literature and are also published in national newspapers, from time to time. We are not aware of any statement contradicting the same. To our best knowledge, the initiatives outlined in the EIA are factual and have provided the related benefits.</p>	Industry	Jul 2019	Jul 2020	BOTH SEXES			Agriculture, Forestry and Fishing	192,600	192,100	Mining and Quarrying	7,200	6,500	Manufacturing	87,400	80,300	Electricity Gas and Water Supply	10,300	8,100	Construction	124,400	115,700	Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	252,900	241,000	Transport and Storage	68,000	56,500	Accommodation and Food Service Activities	124,600	106,000	Information and Communication	13,800	14,800	Financial and Insurance Activities	29,500	26,700	Real Estate and Other Business Services	100,100	107,600	Public Administration and Defence; Compulsory Social Security	69,400	68,900	Education, Human Health and Social Work Activities	113,500	108,900	Arts, Entertainment, Recreation and Other Services	139,300	120,800	Industry Not Specified (Incl. Extraterritorial Bodies)	2,700	3,100	TOTAL CLASSIFIABLE LABOUR FORCE	1,335,700	1,257,000	NO PREVIOUS INDUSTRY	25,100	22,600	TOTAL LABOUR FORCE	1,360,800	1,279,600
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Specific Comments/Concerns			
	Section/Page #	Comment	CD&A/Noranda Response
			<p>We do not agree that the recognition of the economic importance or benefits of the sector or bauxite mining by NJBP II supports any allegation of bias on the part of the Consultants. As previously mentioned, the EIA process is a multidimensional, multi-disciplinary and interdisciplinary activity, in which there is comprehensive assessments of the processes and their inter-relationships. This includes, among other things, assessing the bio-physical, socio-cultural and economic environment.</p> <p>It is on the bases of all components, as documented in Volumes I, II, III and IV of the EIA Report that the rationale and justification is provided for the alternatives and the selection of the preferred alternative No. 3. The alternatives as stated in the EIA Report are:</p> <ol style="list-style-type: none"> 1. <i>No Action' or 'Do Nothing' alternative</i> 2. <i>The Proposed Mining Activity</i> 3. <i>Modified Project Proposal (SML 173 inclusive of the 'Clawed Back Area' as well as any other areas within SML 173, which is consonant with and practicable as mining progresses)</i> <ul style="list-style-type: none"> ○ <i>No mining in the Forest Reserves</i> ○ <i>In general, recommendation for farmers who may temporarily be displaced to be accommodated in the 'Clawed Back Area'</i> 4. <i>Location</i> 5. <i>Conveyance Technology</i>

Specific Comments/Concerns																		
	Section/Page #	Comment	CD&A/Noranda Response															
			<p>The Modified Project Proposal was the preferred and recommended option based on the rationale and justification provided in section 10.4, pages 10-5 to 10-6 of the EIA Report and outlined in the table below.</p> <p>Table 3: Comparison of Entire SML 173 Area and Modified ('clawed back') SML 173 area – Rationale & Justification (Source: Table 10-1, page 10-5 of the EIA Report)</p> <table><tr><th>Parameter</th><th>Entire SML 173 area</th><th>Modified ('clawed back') SML 173</th></tr><tr><td>Area (hectares)</td><td>The entire SML 173 area is 8,335 ha</td><td>The area of the modified SML 173 is 6,226 ha - reduction of 25%</td></tr><tr><td>Exclusions</td><td>All Forest Reserves within the SML 173 area</td><td>1.→ All Forest Reserves within the SML 173 area, and 2.→ A section located north west within the SML 173 area The aerial photographs and maps for sections of the 'clawed back area' are shown in Appendix XXIII.</td></tr><tr><td>Potential Impacts on Communities</td><td>Communities located north west within SML 173 may be impacted.</td><td>The likelihood that there will be any impact on communities located to the north west within SML 173 will be minimal to non-existent.</td></tr><tr><td>Potential impacts on Agriculture</td><td>The livelihoods of yam and other farmers located to the north west within SML 173 may be impacted</td><td>The likelihood that there will be any impact on the livelihoods of yam and other farmers located in the north west areas will be minimal to non-existent.</td></tr></table>	Parameter	Entire SML 173 area	Modified ('clawed back') SML 173	Area (hectares)	The entire SML 173 area is 8,335 ha	The area of the modified SML 173 is 6,226 ha - reduction of 25%	Exclusions	All Forest Reserves within the SML 173 area	1.→ All Forest Reserves within the SML 173 area, and 2.→ A section located north west within the SML 173 area The aerial photographs and maps for sections of the 'clawed back area' are shown in Appendix XXIII.	Potential Impacts on Communities	Communities located north west within SML 173 may be impacted.	The likelihood that there will be any impact on communities located to the north west within SML 173 will be minimal to non-existent.	Potential impacts on Agriculture	The livelihoods of yam and other farmers located to the north west within SML 173 may be impacted	The likelihood that there will be any impact on the livelihoods of yam and other farmers located in the north west areas will be minimal to non-existent.
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Appendix I: Pre-Consultation Report




For submission to:



**Noranda Jamaica
Bauxite Partners II
(NJBP II)**
Port Rhoades
Discovery Bay P.O.
St. Ann
Jamaica, W.I.

REPORT
on a
Pre-Consultation Exercise
for
Mandatory Public Meeting
in respect of an
Environmental Impact Assessment
for proposed
MINING OPERATIONS
in the
SPECIAL MINING LEASE 173 (SML 173) AREA
located in the Parishes of
St. Ann and Trelawny, Jamaica
by
Noranda Jamaica Bauxite Partners II (NJBP II)

October 28, 2020

Legend

 SML 173 Boundary	 Sayer's - Agriculture Area 1	 Marine - Ribbon Development	 Parish Boundary
 Sayer's - Ribbon Development	 Sayer's - Agriculture Area 2	 One Body	 Section Grid

CONRAD DOUGLAS & ASSOCIATES LIMITED

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REPORT
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Prepared for:



Noranda Jamaica Bauxite Partners II (NJBP II)
Port Rhoades
Discovery Bay P.O.
St. Ann
Jamaica, W.I.

Prepared by:



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October 28, 2020

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1.0. Introduction and Background

NJBP II, with Head Offices at Discovery Bay, St. Ann, has engaged the services of the 35-year-old, pioneering multi-disciplinary, environmental management firm, Conrad Douglas & Associates Limited, with its subsidiary Environmental Science & Technology Limited, to carry out an Environmental Impact Assessment (EIA) for proposed mining operations in the Special Mining Lease 173 (SML 173) Area located in the parishes of St. Ann and Trelawny, Jamaica.

The draft EIA report has been submitted to the National Environment and Planning Agency (NEPA) and instructions were given to commence preparation for the mandatory public meeting in keeping with the document titled, *"Addendum to Public Consultation Guidelines (EIA Projects)"*. A proposal was submitted to NEPA on September 29, 2020 in keeping with the aforementioned addendum and in keeping with the Disaster Risk Management (Enforcement Measures) Order, 2020.

Subsequently, CD&A received an electronic mail from NEPA, requiring for pre-consultation to be undertaken inter alia, *"with influential community members in the SML 173 area regarding:*

- a) Preferred and ideal locations for the 'face to face'/'satellite' meetings.*
- b) Modus operandi of these meetings - i.e., preferred and ideal form the meeting should take, the nature of the discussion and question and answer sessions etc.*
- c) Persons to be invited to the meeting, including key community representatives."*

This is with a view to ensure, "transparent representation and participation of the communities".

This report outlines the main findings of this pre-consultation exercise, including recommendations by the stakeholders as well as evidence that said consultations were undertaken.



2.0. Stakeholders Consulted

Stakeholder consultations were undertaken as outlined in Table 1 below:

Table 1: List of Consultations Convened

Date Consulted	Stakeholder Name	Position	Community(ies) Represented
20 October 2020	Lelith Richards	Former Councilor Gibraltar Division	Watt Town
20 October 2020	Desria Reynolds	Community Leader	Watt Town
21 October 2020	Hugh Dixon	Executive Director	Southern Trelawny Environmental Agency
21 October 2020	Tamar Case	Representative	
21 October 2020	Lyndore Howard	Youth Club President	Gibraltar
21 October 2020	Eleen Edwards	Community Leader	Gibraltar
21 October 2020	Joycelyn Codner	Teacher, Madras Primary School	Caledonia (Stewart Piece)
21 October 2020	Arlene Dunbar	Principal Linton Park Primary & Secretary of local Jamaica Agricultural Society Group	Barnstaple & Richmond Pen
22 October 2020	Susan Koenig	Director of Research	Windsor Research Centre

Consultations were undertaken by the following members of the Conrad Douglas & Associates Limited Team:

- Dr. Mark Richards, Technical Director
- Ms. Ruth-Ann Lacey, Manager, Strategic Development



3.0. Main Concerns raised by Stakeholders Consulted

Table 2 below provides a summary of the list of main concerns received from the stakeholders and the responses by NJBP II and CD&A.

Table 2: List of Main Concerns raised by Stakeholders Consulted

Concern	Response by NJBP II & CD&A
Mobile internet accessibility is very poor in some of the communities, including but not limited to Madras, Caledonia, Watt Town, Endeavour and Ulster Spring.	NJBP II & CD&A are aware of the issues regarding internet availability in these communities.
Most communities do not have access to home internet.	NJBP II & CD&A acknowledge same.
Community members should not be forced to incur expenses to participate in the meetings.	NJBP II & CD&A agree and do not intend for the proposal to force any community member or interested party to incur any expense to participate in the public meeting.
Jamaica News Network is not a free-to-air station and therefore only community members with Cable will have access.	NJBP II & CD&A is aware. For this reason, the meeting will also be live streamed on other media platforms including YouTube and Zoom
Based on the nature of the project, one "WhatsApp line" is inadequate.	NJBP II & CD&A acknowledge this concern and will contact our service provider to discuss the option for additional "WhatsApp" lines.
Process must be trustworthy and transparent.	NJBP II & CD&A agree with this statement and for this reason ensured that the pre-consultation exercise was undertaken.
"Transition" areas, such as Rio Bueno, appears to be excluded, as well as, downstream receptors.	NJBP II & CD&A note this concern. The notification for the public meeting will be undertaken on a national level and also via social media. Further, the multi-media approach for consultation process will also ensure a very wide reach and participation.



4.0. Main Recommendations made by Stakeholders

The following outlines the main recommendations made by stakeholders subsequent to the proposal presented by CD&A (See Appendix 1). The information is presented in tabular form along with appropriate comments or observations of NJBP II & CD&A.

Table 3: Recommendations made by Stakeholders

Concern	Response by NJBP II & CD&A
Broadcast using a free-to-air station such as Television Jamaica (TVJ).	Unfortunately, this cannot be accommodated due to previous commitments from the free-to-air stations. Exclusive broadcasting hours on TVJ would also be extremely costly. Note other numerous costs items that are already associated with the consultation exercise
Simultaneous broadcast on a radio station that most communities will have access to such as RJR.	NJBP II & CD&A agree with this recommendation and are currently exploring the possibility for broadcast on Power 106 as well as IRIE FM, which is very popular in Western parishes of St. Ann, Trelawny and St. James.
Provision of a "hot spot" area in the community to access internet or provision of phone cards for data service to access the live YouTube or Zoom stream.	NJBP II & CD&A agree with this recommendation and are currently exploring the possibility with both telecommunication providers.
Provision of an individual WhatsApp line for each "satellite location to increase the feeling of inclusivity"	NJBP II & CD&A do not object to this recommendation and are exploring the possibility with our service provider.
Use of a town crier for live broadcast of segments of radio broadcast.	NJBP II & CD&A do not agree with this recommendation as it may promote public gatherings in breach of the DISASTER RISK MANAGEMENT (ENFORCEMENT MEASURES) (NO. 11) ORDER. In addition to the standard use of the Town Crier to advise the communities in the days preceding the meeting, the Town crier will also be used during the broadcast to remind residents of the ongoing broadcast/consultation and how to participate.
Partner with Digicel & Flow to broadcast the Zoom link for easier accessibility to the mass population.	NJBP II & CD&A are exploring this recommendation.
Provision of masks and sanitation stations at each satellite locations.	NJBP II will provide masks and sanitation stations at each satellite locations.



Provision of security at the satellite locations for crowd management	NJBP II will provide security at each location. The Jamaica Constabulary Force will also be contacted in advance of the meeting to assist with public order and safety and to ensure compliance with the Disaster Risk Management Order.
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APPENDIX



Appendix 1: NJBP II & CD&A Mandatory Public Consultation Proposal

Noranda Jamaica Bauxite Partners II (NJBP II) Conrad Douglas & Associates Limited (CD&A) Proposal for Public Consultation

Noranda Jamaica Bauxite Partners II (NJBP II) Conrad Douglas & Associates Limited (CD&A) acknowledge NEPA's request for two (2) local face-to-face/virtual meetings in the more remote areas of the SML 173. However, as discussed in our telephone conversation and zoom meetings, these meetings can only be virtual at this time for the following prevailing factors:

- Community spread of Covid-19
- Imposed Curfew
- Population Demographics (>70 years old)
- Limitation by the DISASTER RISK MANAGEMENT (ENFORCEMENT MEASURES) ORDER, 2020 of gatherings not in excess of 15 persons.

Based on the context of the Covid-19 pandemic which has spread throughout the island, NJBP II & CD&A propose the following:

1. NJBP II & CD&A propose a singular meeting broadcasted Nationally. It is further recommended as follows:

The meeting will be broadcasted live via the following media:

- Television Broadcast – JNN
- YouTube Live – JNN
- YouTube Live – TVJ
- Zoom

Questions will be facilitated via zoom, a designated hotline and a WhatsApp chat. Should time not permit the provision of responses to all questions, an addendum will be prepared with the responses.

N.B. Should the need arise, NJBP II & CD&A support the re-broadcast of the meeting on JNN.

2. In addition to the JNN broadcast, NJBP II & CD&A recommend that the meeting be concurrently streamed live at three satellite communities:

- Endeavour – St. Paul's Anglican Church
- Retreat/Lyndale – Retreat Community Centre
- Ulster Spring – Ulster Spring Baptist Church

These meetings will adhere to the public gathering standards and will be moderated by `approved chairpersons. Questions posed from those meetings will be communicated to the meeting Chairperson in studio for responses to be provided by the panel.

- All efforts will be made to ensure adherence to the COVID 19 protocols. Special invitations will be extended to the following stakeholders:
 - Local political representatives
 - St. Ann and Trelawny Chambers of Commerce
 - Trelawny Environmental NGOs

Conrad Douglas & Associates Limited
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II

CD*PRJ 1336/18


"Science & Technology for Sustainable Development"



- Civil Society Groups
 - Citizen associations and
 - Municipal Corporations.
3. The recording of the meeting will be made available on YouTube, NEPA and CD&A's website for a minimum of 30 days to ensure availability locally and internationally.
 4. A non-technical summary of the EIA will be prepared and widely distributed, particularly in the remote communities, with contact information provided on how to submit questions prior to the meeting.
 5. In addition to the profile on the findings of the EIA, booklets about SML 173 and NJBP II's operations within the community will be distributed. Booklet will highlight economic gains as well as impact and mitigation measures. These will be distributed to potentially impacted communities.
 - Electronic copies of the booklet to be posted on NJBP II Website and CD&A website. The company will request permission from NEPA to post the booklet on the Agency's website.



Appendix 2: Evidence of Pre-Consultation

 **CONRAD DOUGLAS & ASSOCIATES LTD.**
PROJECT PLANNING, DEVELOPMENT MANAGEMENT, ENVIRONMENTAL MANAGEMENT,
ENGINEERING & TECHNICAL CONSULTANTS

14 Carveho Drive, Kingston 10, Jamaica, W.I.
Telephone: (878) 922-8824, 929-0029/25 Fax: (878) 960-2014
E-mail: info@cdastech.com, cdastech@hotmail.com, conraddouglascdastech@gmail.com
Website: www.cdastech.com

Dear Sir/Madam

Re: Pre-Consultation for Mandatory Public Meeting

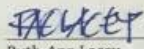
Conrad Douglas and Associates Limited appreciates the time you have taken to accommodate this pre-consultation meeting in preparation for the mandatory public meeting. We recognize in the face of a global pandemic and the restrictions in accordance with the Disaster Risk Management (Enforcement Measures) Order, 2020, the normal face-to-face meeting(s) cannot be accommodated and as such our alternate proposal to ensure the participation of all interested stakeholders has been shared and discussed with you today.

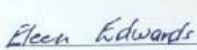

As a key stakeholder and representative member of your community, we value your comments and opinions and have noted any concerns you have raised and suggestion you have provided.

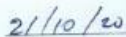
Please sign and date this letter below as proof of your participation in this pre-consultation.

With kindest regards,

Yours sincerely,
CONRAD DOUGLAS & ASSOCIATES LIMITED



for Ruth-Ann Lacey
Executive Chairman & Principal Consultant

  Knibb Street
Name & Signature


Date

Quality Service at its Best
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DIRECTORS: DR. CONRAD G.C. DOUGLAS, GD B.Sc., Ph.D., M.J.M., M.J.E., Executive Chairman & Principal Consultant * LYNDEN NUGENT, B.Sc. Chem. Eng. (Hons), MBA (Hons), Dip. Man Studies, M.J.I.M.
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Website: www.cdastech.com

Dear Sir/Madam

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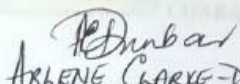
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Please sign and date this letter below as proof of your participation in this pre-consultation.

With kindest regards,

Yours sincerely,
CONRAD DOUGLAS & ASSOCIATES LIMITED



for Ruth-Ann Lacey
Executive Chairman & Principal Consultant


ARLENE CLARKE-DUNBAR (RICHMOND PEN)
Name & Signature

22. 10. 20
Date

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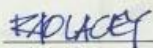
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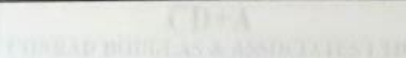
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With kindest regards.

Yours sincerely,
CONRAD DOUGLAS & ASSOCIATES LIMITED


Ruth-Ann Lacey
for Executive Chairman & Principal Consultant




Name & Signature

21-10-2020
Date

(Calidonia)

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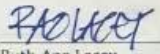
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CONRAD DOUGLAS & ASSOCIATES LIMITED


Ruth-Ann Lacey
for Executive Chairman & Principal Consultant

Name & Signature *Southern Trelawny Environmental Agency.*

21.10.2020
Date

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VII

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"Science & Technology for Sustainable Development"





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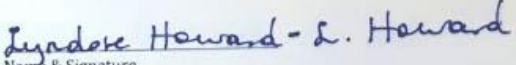
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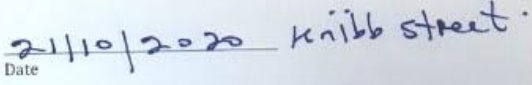
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 Ruth-Ann Lacey
 Executive Chairman & Principal Consultant


 Name & Signature


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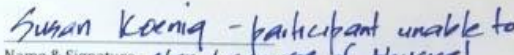
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Yours sincerely,
CONRAD DOUGLAS & ASSOCIATES LIMITED


Ruth-Ann Lacey
for Executive Chairman & Principal Consultant


Name & Signature *sign because of physical isolation. Photo attached.*

22 October 2020
Date

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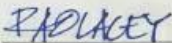
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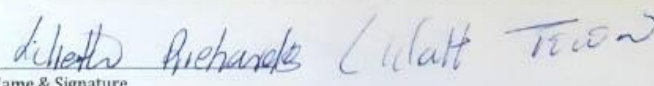
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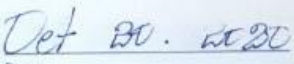
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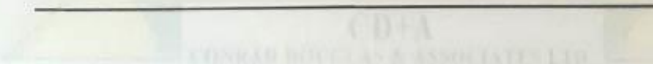
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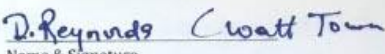
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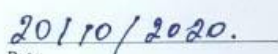
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Ruth-Ann Lacey
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Name & Signature


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Appendix 3: Photography Inventory of Some of the Pre-Consultation meetings



Figure 1: Pre-Consultation with Ms. Arlene Clarke-Dunbar - October 21, 2020



Figure 2: Pre-Consultation with Mr. Hugh Dixon - October 21, 2020



Figure 3: Pre-Consultation with Ms. Lilieth Richards - October 20, 2020



Figure 4: Pre-Consultation with Dr. Susan Koenig - October 22, 2020

Appendix II: Addendum Guidelines for Convening of Mandatory Public Meeting

Addendum to Public Consultation Guidelines For Environmental Impact Assessments

This addendum is made in relation to the conduct of public consultations for Environmental Impact Assessments where public meetings cannot be held and permission to be proceed with the consultation has been given by the National Environment and Planning Agency.

For public consultations, where public meetings cannot be held, the following guidelines must be followed:

1. The consultations should be broadcast live (radio/television). As far as is reasonably possible, the applicant should use local and community stations (for example PCB, JIS). This should be twinned with livestreaming on the various social media platforms (must be interactive)
2. Toll free numbers should be created and disseminated for the stakeholders to call in and participate
3. The proceedings should be recorded and posted to a website that is zero rated for 21 days to allow for further comments
4. Targeted groups to include local political representatives, environmental NGOs, civil society groups, municipal corporations, chambers of commerce and, citizens associations should be specifically invited to participate

TAKE CAREFUL NOTE: All other requirements of the **Public Consultation Guidelines for Environmental Impact Assessments** remain and the Applicant is to strictly comply.

Appendix III: Comments Received from the Public by the National Environment & Planning Agency

Comments from the Public Proposed Mining at SML 173 by Noranda Jamaica Bauxite Partners II

General Comments/Concerns

- No assessment was included in the EIA of the negative short-term/immediate impact on the farming communities.
- Baseless statements in the EIA suggest that mining would have a sustainable outcome.
- A disregard of negative views of the community in the area (SML173) towards mining.
- The EIA downplayed or ignored the impacts of mining on the livelihoods of the communities in the area.
- Disconnect between the evidence and the EIA conclusions.
- Why was the area's geomorphology not explicitly identified, namely that it is cockpit karst?
- Why were landscape-level features of Maroon-British history excluded?
- Why did the EIA exclude mapping the proven underground flow from Cave River Sink to Dornoch (Dornock) Head Rising at the source of the Rio Bueno and attempt to dismiss its own description that changes in water flows have been detected in the Rio Bueno Sub Basin over the past 50 years of mining?
- Why were no quantitative data presented for heavy metal concentrations in the bauxitic soils and why were there no toxicity risk estimates (esp. cadmium, chromium, and mercury) for ecological receptors and the public with regards to exposure concentrations in fugitive dust?
- In claiming that post-mining rehabilitation represents climate change mitigation, why did the EIA not include data on the amounts of CO₂ which will be emitted in association with this SML for the complete cycle of bauxite-extraction-to-processed-aluminum? Why did the EIA not present data on the carbon sequestration capacity of post-mined rehabilitated lands (incl. soil storage capacity) of Napier grass? And why did the EIA not present carbon storage data for an alternative scenario of "no mining, restoration of native forest land cover"?
- Since the 1950s, geologists, geomorphologists, and geographers have classified the area under SML---173 as cockpit karst. Despite repeatedly using the terms "cockpits" and "hillocks", why does the EIA not name the landscape as cockpit karst in its description of geomorphology? Why during the Dec 8th 2020 Public Meeting did Dr. Douglas entirely avoid using the word "cockpit" to otherwise describe enclosed depressions between the hillocks? Is this to avoid the conclusion that the area of SML 173 IS part of Cockpit Country?

- The EIA does not contain the results of any modelling to quantify the morphology (landform) of the karst White Limestone of the area. One relevance of modelling is for planning how haul roads will be configured, particularly in relation to how many saddle--- corridors or hill slopes will be dynamited and / or bulldozed. Was modelling done? If not, why not? If it was done, why are the results not included in the EIA?
- The AIA lists many human artifacts and relics but is silent about the landform and trails that were important to the Maroons. An example of this is the historic Maroon Path from a British military camp near the Hectors River Bridge (the Trelawny--- Manchester border) to Mahogany Hall (near Stewart Town, St. Ann). This Path is depicted by James Robertson's 1803 map following the Second Maroon War. Why was mention of such an important historical Path, which is intrinsically linked to the morphology of the area, omitted from the AIA's and the EIA's Risk Assessments?
- The success of the Maroons' guerrilla warfare rested, in part, on knowing how to take advantage of the cockpit morphology. This includes understanding how paths develop as humans (starting with the Tainos and continuing) follow elevation contour lines and weave through saddle---corridors between hilltops – known as taking the path---of---least--- resistance inside of going uphill, downhill, uphill, downhill. It also includes knowing to climb to a higher elevation in order to look down onto the corridors, to ambush the single---file march of the enemy. That is, saddle---corridors are a key physical element of the Cockpit---Maroon---British narrative. In order to create the network of haul roads, Noranda proposes to dynamite and / or bulldoze through possibly up---to 50---60 saddle--- corridors / hillsides during the first 5 years of mining (ref Figure 4---2); the total number of corridors to be obliterated over the entire lease area cannot be calculated from the information presented in the EIA. The EIA concluded that such haul road construction is "minor and reversible" (ref Table 7.1 Impacts to Physical Resources). Has Noranda ever attempted to reconstruct a demolished saddle---corridor so as to re---establish the topographic contour line between two hilltops? That is, what evidence is there to support the assertion that the impacts of haul road construction are "reversible" and not, in fact, physically impossible?
- Have the Maroons been advised that an area of an historic path is going to be irreversibly destroyed, that some of their heritage is going to be dynamited to oblivion?
- During the December 8th, 2020 public meeting a Noranda official noted the company's history of social partnership. As a commitment to this ethos, one of being a good corporate citizen, would NJBP II provide to the public GIS shapefiles for all of the haul roads which have been constructed in SML---165 so as to enable an independent, transparent assessment of reclamation and rehabilitation claims? In those shapefiles, I ask that the linked Attribute Table include the status of all road segments (e.g. open for vehicle use; closed to vehicles; reclaimed; rehabilitated, etc.).
- Given the documented high concentrations of heavy metals in Jamaica's aluminum---bearing soils (e.g. as identified in geochemical maps presented by ICENS (UWI), cadmium concentrations in SML---173 are 20 to > 78 times higher than what the WHO designates as "excessive" for soils), why did the EIA omit quantitative data on heavy metal concentrations in its descriptions of the area's soils? Why did the EIA not

present toxicity risk estimates for exposure concentrations in fugitive dust on ecological

- receptors and to members of the public and industry workers? What evidence is there that workers and the public are not being exposed to harmful levels of air-borne heavy metals (particularly cadmium, chromium, and mercury) during mining operations?
- With regards to #7 above, in monthly reports of air quality monitoring by Noranda Jamaica Bauxite Partners from 2017 – 2019, for mining operations in SML-165, there is a data column to report lead concentrations (Pb 24 Hr Averages). No data were included in any reports for this 2-year period. Why not? Has NJBP I or II ever measured any air-borne concentrations of heavy metals in fugitive dust?
- The EIA asserts “there is a general misconception that bauxite occurs under forested areas” (pg 5-17) but then quotes literature which directly contradicts this statement. As the EIA subsequently presented from Asprey and Robbins (1953), not only do bottomland cockpit depressions accumulate deep pockets of bauxitic soils but these soils support the growth of the largest trees in comparison to the thin-to-absent soils of the associated limestone hills. What mineralogical and chemical evidence is there to support the assertion that soils of forest-covered cockpits are not bauxitic in their physical properties?
- In asserting that forests won’t occur over bauxite, the EIA not only ignored its own quotes from Asprey and Robbins (1953; see pp 5-127, 5-130, 5-131) but also ignored a substantial body of literature on the relationships between topography and phytogeography in tropical karst ecosystems. These natural relationships, in turn, explain the patterns of why humans convert forest to agriculture in bottomlands, valleys, glades, dolines, cockpits, poljes (i.e., the topographic areas where soils accumulate) while leaving hillsides and hilltops (which are mostly devoid of soils) with forest cover. The EIA also ignored historic descriptions of Jamaica’s central uplands, which include the proposed mining area, (e.g., Sloane’s (1707) 1st sentence: The greatest Part of the Island of Jamaica was heretofore cover’d with Woods ; the Trees remaining are very tall ; Browne 1756; Stewart 1823) and historic maps (e.g, Robertson’s 1804 and 1828 maps of the island). In asserting forests won’t occur on bauxite, the EIA also perpetuates a misreading of the botanic literature associated with bauxite mining in Jamaica, particularly the misreading of Howard and Proctor (1957). In maintaining a false premise that only grasslands occur on bauxite, the EIA not only failed to describe the functional roles of deep pockets of bauxitic soils but also failed to analyze alternative scenarios of:
 - (a) no mining and restoration of native forest;
 - (b) mining-but-not-down-to-the-full-depth-of-the-ore-body and rehabilitation using native plant species. These scenarios need to be properly evaluated based on a professional review of the literature on tropical karst ecosystems, including the functional roles of bauxitic soils in relation to vegetation and its associated water cycle.
- Aub (1969) deployed 69 rain gauges in Cockpit Country and documented the phenomenon that 14% more rainfall reaches forested cockpit floors compared to

forested hilltops. Figure 5---18 in the EIA shows that only 1 weather station was deployed

- Inside the area proposed for mining. That station, Sawyers, is located ~ 5 km northeast of Block 1, which would be mined first under the SML. The Watt Town, Water Valley and Ulster Spring stations are ~ 3, 7, and 6.5 km, respectively, from the borders of Block 1.
- How, exactly, will any changes in micro---site, localized rainfall be detected over the course of mining across the entire area given that the baseline assessment is determined from so few stations which are not even capable of detecting topographic variations as documented by Aub (1969)? Another way to phrase this question is: given the extremely coarse spatial resolution associated with the deployment of so few weather stations and no recording of data as a function of topographic positioning, how, exactly, will an Environmental Monitoring Plan (ref pg 11---2) be capable of detecting and providing an early warning system for impact prevention to the karstscape's water cycle? Micro---site patterns of rainfall do, of course, have significance for agriculture and forest land cover.
- The EIA reports that the moisture content of bauxite in situ ranges from about 20% to 25% (pg 2---3). Was any assessment undertaken to evaluate how moisture stored across the full vertical depth of bauxitic soils influences survival and growth of terrestrial vegetation (including but not restricted to agricultural root crops, fruit trees, and forest trees) during periods of no rainfall? That is, was an assessment undertaken to evaluate the upwards movement of deeply---stored water via capillary action during drought cycles in relation to plant survival and growth? If not, why not? There is an extensive body of literature on this topic, not only for Neotropical forests but also for rehabilitated mining areas, most notably in Australia. Why was assessment of this major functional role of bauxitic soils omitted?
- When the adjacent SML---165 was signed on 1 October 2004, total "Bauxite Reserves" were estimated at 117 million dry metric tons (= metric tonne) (4.5 million dry metric tons x 26 years, as per the lease). This means that, when the ore is removed from the ground with the EIA's reported average 22% hydration, the extracted material weight would be 127.5 million metric tonnes, of which 99 million metric tonnes are solids and 28 million metric tonnes are water. Thus, when the karstscape under SML---165 is fully mined---out, the area will have lost the capacity to hold and store 28,056,600,000 liters of water at any given moment.
- The EIA states that there are "approximately 150 million tonnes of bauxite in the SML 173 area" (pg 2---2). Given the accepted practice of presenting this information as dry metric tonnes, ~ 163.5 million metric tonnes of material would be extracted, of which 127.5 million metric tonnes would be solid and 38 million metric tonnes would be water. Thus, if the area were mined as outlined by SML---173, 35,970,000,000 liters of water---holding capacity of the soils will be irreversibly lost from the karstscape. Why did the EIA omit discussion of the functional importance associated with percentage moisture content of in situ bauxitic soils? Why was this functionality excluded from the Risk Assessment?

- What studies were used to guide the statement that bauxite mining and all its attendant activities, such as haul roads, constitute a “temporary” land use change? Does NEPA know of a single example of a haul road being restored to forest cover in Jamaica?
- There are several uses of the word “temporary” to describe impacts. For instance, on Page 5-29, it is acknowledged that water may collect in mined out pits and drain via sinkholes into the aquifer, causing “temporary” turbidity. What time period is considered “temporary”.
- On page 5-82, the EIA states that faunal assessments were undertaken during Phase 2 of the field surveys, during four days in August 2019, two days in September 2019, and an unstated period in December 2019. There is no indication of what factors guided the faunal surveys, so apparently the consultants did not consider breeding seasons, rainy/dry seasons, migration, insect emergence or other conditions which influence the presence or detectability of species.
- The levels of cadmium in some Jamaican soils have been found by ICENS (International Centre for Environmental & Nuclear Studies, UWI, Jamaica) to be extremely high compared to other countries (Jamaican mean 20 mg/kg vs. world mean of 0.5 mg/kg). The soils with the highest levels (max about 900 mg/kg) are located in central Jamaica. The White Limestone group underlies soils with high Cd, As, etc. About 40% of Cd is bioavailable and could enter the food cycle. White Limestone is very transmissive, in places karstic, and allows for rapid circulation of infiltrated rainwater. What if the rainwater percolating through bauxitic soils picks up some heavy metals, dissolves them and carries down to aquifer?”
- On page 5-195, the EIA refers to the food plant of the Giant Swallowtail Butterfly, the Water Mahoe (*Hernandia catalpifolia*), and on page 5-196, the EIA reports that “No Water Mahoe was observed.” This is unsurprising, given the Water Mahoe is restricted to Portland and St Thomas.
- The EIA detected 46 bird species. Checklists from eBird (www.ebird.org) for this same area report 86 species. Given the inadequate sampling periods and timing, the EIA was only able to record about half the bird species known to occur in the area, including near-threatened and vulnerable species.
- The EIA is filled with generalities, vague and unsubstantiated statements, advocates for the aluminum industry and promotes the interests of Noranda. The pro Noranda and pro bauxite mining bias in the EIA is resounding. This sometimes takes the form of dramatic fawning language, as in: “Noranda Jamaica Bauxite Partners’ return to full production was like a shot in the arm for the local and national economy.” (4-21; pg. 106) Or sudden passionate outrage, as in: “The reasons not to mine bauxite in the Rio Bueno Catchment/sub-basin is neither based on scientific information nor on the experience of bauxite mining in Jamaica and indicates a clear misunderstanding of bauxite-limestone relationship and limestone geology and processes.” (7-25; pg. 463).

Context:

The EIA lacks maps of all elements of the project

<p><u>Comments:</u></p> <p>Section 5 of the TOR for the EIA for the project requires the following (in summary):</p> <ul style="list-style-type: none"> • A description of all major elements of the project (construction, operation, recommissioning and rehabilitation) • The provision of essential site maps, illustrating estimated reserves and extent of target area to be mined, used for ore transport, storage and/or stockpiling of material. 	
<p><u>Context:</u></p> <p>The EIA lacks baseline data about the ecological services and the biological environment of the project area</p> <p><u>Comments:</u></p> <p>Section 6 of the TOR for the EIA requires the following (in summary):</p> <ul style="list-style-type: none"> • Baseline data for terrestrial flora and fauna, including a ranking of flora/fauna regarding their ecological importance with special emphasis on rare, endangered, threatened, endemic, protected and economically important species, as well as migratory and nocturnal species • Identification/description of different ecosystem types, structure and functions, including species dominance, dependence and diversity, biological loss and/or habitat fragmentation. <p>However, the areas surveyed to collect information for the EIA about ecological services and the biological environment were extraordinarily limited. Vast areas – a substantial majority of the project area – were never surveyed, as discussed in more detail below.</p>	
<p><u>Context:</u></p> <p>There is general acceptance in the Rim Communities that the project cannot be reversed as it is cast in stone. The EIA should provide information to the decision makers so that they can properly assess the project's impact on the environment and the people. In this project the assessment of the social impacts and the concomitant mitigation measures and related management and monitoring plans are critical. So issues that arise during the construction and operational phases cannot be dismissed for someone else to deal with at some future date.</p> <p><u>Questions:</u></p> <ul style="list-style-type: none"> • What are the recommendations for how the communication challenges may be overcome? • What of the increased consumption of energy, water and other utilities in the area and the capacity to deliver, the EIA must address this in both the construction and operational phases? • Should the reduced scope for greenhouse gas emissions be addressed as a significant proportion of green spaces will be replaced by concrete 	
<p>Specific Comments/Concerns</p>	
Section/Page #	Comment
Pages 5-70	The exclusion of surveys of forest reserves within the project area means that the ecological and biological baseline of a large extent of the project area

	was never characterized , as shown by Figure 5-223 (“Special Mining Lease 173 Area and Conservation Areas”) on page 5-305.
Pages 5-150	The assumption that biodiversity within the hillocks would not be impacted significantly by bauxite mining within the lowland areas is incorrect as biodiversity within the hillocks can easily be affected by forest fragmentation, noise, dust and vibration associated with the project. Also, the actual extent of the surveys within the seven blocks, was a single transect line of 30 metres, for a total of just over 200 metres of actual field work. Given the known diversity of flora and fauna in Cockpit Country, this is entirely insufficient. It is completely misleading to portray the biological surveys as having covered 50% of the area.
Pages 5-28	The EIA mostly dismisses these risks, conceding that there may be increased surface runoff “but volumes will be small and can easily be absorbed by the highly permeable limestone”, failing to discuss the role of vegetation in ensuring heavy rain percolates through soil and limestone to the aquifer, or the collection of rainfall in ore pits, which then connect to the aquifer.
Section 8.3	TOR for the EIA requires the following (in summary): <ul style="list-style-type: none"> - Description of direct and indirect impacts and associated risks on terrestrial habitats, with emphasis on rare, endemic, protected or endangered species, loss of biodiversity, loss of ecosystem functions, habitat loss and fragmentation, loss of niches and natural features due to construction and operation. - Exploration of the impact of noise, dust and vibration on flora and fauna. <p>Given that no information is provided in the EIA regarding mining activities disturbing more than 900 hectares of land and given that baseline information about existing ecological services and biological resources is based on extraordinarily limited surveys, the EIA cannot and has not adequately assessed direct and indirect impacts on the ecology of terrestrial habitats.</p>
Executive Summary concerns showing evidence of bias (Pro bauxite)	
Page 1-2:	“There are important bauxite deposits in the SML 173 area which are required for providing bauxite feedstock for NJBP II’s mining, railroading, drying, storage and shipping operations from Port Rhodes in Discovery Bay St Ann, to export markets overseas. NJBP II’s export earnings from bauxite are variable. However, based on the volume of bauxite, it can be as high as, or in excess of US\$150,000,000 per annum. This is a major contribution to maintaining NJBP II’s operations and a critically important contribution to Jamaica’s economy overall, and more specifically foreign exchange earnings, GDP growth and employment.”
Page 1-3:	“Maintaining the mining sector, in general and bauxite mining in particular, is more important ever before for sustaining macro-economic performance and stability, and to continue the support and micro-economic development at the community level. There is no other sector of the Jamaican economy which can in the immediate and short term, provide the necessary level of export income to support the economy.”

Page 1-9	“The communities receptive to the proposed project anticipated employment opportunities and by extension an improvement in their quality of life. This is consistent with the mining of bauxite in Jamaica which has resulted in improvements in economic performance nationally and the provisions of social amenities at the community level.”
Page 1-10	“There will be at least a temporary reversible loss of habitat associated with the construction of these haul roads, as well as, changes in the landscape aesthetics.”
Page 1-13:	“There are no other feasible immediate or short-term economic alternatives that have been identified that can be considered as a substitute to bring equal or greater macro or micro-economic benefits to Jamaica, at this time.”
Page 4-21:	“Noranda Jamaica Bauxite Partners II’s’ (NJBP II) return to full production was like a shot in the arm for the local and national economy. Commerce, trade, service and manufacturing activities were bolstered by the effects of NJBP II local purchases and employment.”
Page 4-27:	“The local economy will benefit from the mining operation within SML 173 and its environs. Jobs will be created and local goods and services will be required by NJBP II and its employees. Living standards of local communities (and Jamaica, in general) will improve through increased employment and earnings.” This is followed by a list of corporate social initiatives, which are unquantified.

Appendix IV: Advertisements in the Gleaner

THE SUNDAY GLEANER, NOVEMBER 22, 2020 | BUSINESS

C9



In this November 5, 2020 photo, US President Donald Trump speaks at the White House in Washington.

Criminal probe, legal fights await Trump after White House

A FEW miles south of the namesake tower where Donald Trump began his run for president, New York prosecutors are grinding away at an investigation into his business dealings that could shadow him long after he leaves office in January.

The probe led by Manhattan District Attorney Cyrus Vance Jr is one of several legal entanglements likely to intensify when Trump loses power – and immunity from prosecution – upon leaving the White House.

Trump faces two New York state inquiries into whether he misled tax authorities, banks or business partners. Two women alleging he sexually assaulted them are suing him. Some Democrats are calling for the revival of a federal campaign finance investigation that appeared to end under US Attorney General William Barr.

It isn't known whether any investigation has gathered sufficient evidence to charge Trump with any crimes.

Prosecuting a former president would also be an unprecedented step in a country that has sought, since its founding, to sweep aside a departing commander-in-chief's alleged transgressions in favour of a peaceful transition of power.

"With the country so sharply polarised in 2020, would a legal battle ultimately be seen as political retaliation?" That is a difficult calculation, said Meena Bose, executive director of the Peter S. Kalikow Center for the Study of the American Presidency at Hofstra University.

Trump has said that he has the "absolute right" to pardon himself for any federal offences, but the concept remains untested because no president has ever attempted to do so. A 1974 Justice Department opinion said presidents could not pardon themselves because that would violate the "fundamental rule that no one may be a judge in his own case."

Trump has used his pardon power to help out friends and high-profile defendants in the past, commuting the sentence of long-time friend Roger Stone in July and pardoning Illinois Governor Rod Blagojevich in February, and has suggested he could do more of the same before his term ends.

Vance's investigation is particularly troublesome for Trump because it involves possible state-level charges that could not be wiped away with a presidential pardon.

Vance, a Democrat, hasn't disclosed the details of his probe, citing grand jury secrecy rules, but his office has said in court filings that it is related to public reports of "extensive and protracted criminal conduct at the Trump Organization."



Manhattan District Attorney Cyrus Vance Jr.



New York Attorney General Letitia James.

Trump's former personal lawyer and fixer, Michael Cohen, told Congress that Trump often inflated the value of his assets when dealing with lenders or potential business partners, but deflated them when it benefited him for tax purposes.

While Trump has been in office, the investigation's progress has been hampered by court fights over whether prosecutors could get access to his tax returns, or whether a president has any immunity from a state investigation. One appeal related to the records battle is now before the US Supreme Court.

Vance's office declined to comment. It isn't clear whether the long-running probe is close to conclusion, or months or years away from any resolution.

A message seeking comment was left with a lawyer for Trump. In the past, Trump has called Vance's investigation "a continuation of the witch hunt – the greatest witch hunt in history."

New York Attorney General Letitia James is also investigating whether Trump's company lied about the value of its assets to get loans or tax benefits, though her probe is civil – not criminal – in nature. Trump's son, Eric Trump, spoke by video with investigators last month after losing a court fight to postpone the deposition until after the election.

There were new revelations Thursday that both James and Vance

had also subpoenaed documents related to tax deductions taken by Trump's company related to business consulting fees paid to his daughter, Ivanka Trump.

Part of Vance's criminal investigation pertains to payments made during Trump's 2016 campaign to porn actress Stormy Daniels and model Karen McDougal to prevent them from publicly alleging they had extramarital affairs with him.

Cohen pleaded guilty to orchestrating the payments, which Manhattan federal prosecutors said amounted to illegal gifts to Trump's campaign. They identified Trump in court filings as having directed Cohen's efforts, but he was not charged. Trump has denied the affairs and said any payments were a personal matter, not a campaign expense.

The Justice Department has a long-time policy stating that it is unconstitutional to prosecute a sitting president in federal court. There is also the potential that a Democrat-led Justice Department could pursue matters left unchanged in Robert Mueller's investigation into Russian election interference, such as allegations Trump obstructed justice.

President-elect Joe Biden, a Democrat, has said that he would not direct his Justice Department to pursue charges against Trump – nor would he stand in the way of investigations it might take up on its own.

"I am not going to make that individual judgement," Biden told reporters in August. Some Democrats have cautioned that indicting Trump could enrage the nearly 74 million Americans who voted for him, complicating Biden's promised effort to heal the nation's political divisions. Former U.S. Attorney General Eric Holder, a Democrat, has warned of the "potential cost to the nation" from prosecuting a former president.

Richard Nixon was pardoned by his successor, Gerald Ford, after resigning in 1974 over the Watergate break-in in an effort by Ford to end the fallout from an all-consuming political scandal. Bill Clinton, on his final day in office, struck a deal with special counsel Robert Ray to avoid prosecution over perjury allegations that led to his impeachment. He agreed to give up his law license for five years and pay a US\$25,000 fine for lying in a sexual harassment lawsuit.

Paul Rosenzweig, a former senior counsel in the Clinton investigation, argues that potentially criminal behaviour stemming from Trump's time as a businessman would make him an exception to the practice of not prosecuting former presidents.

"Never before have we had a president, who has been credibly

accused of criminal activity from before his presidency," he said. Once out of office, Trump won't be able to point to his busy schedule as a reason to delay civil lawsuits. He leaves office in two months, on January 20.

—AP

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NOTIFICATION OF PUBLIC MEETING

Conrad Douglas & Associates Limited, as consultant with responsibility for the Environmental Impact Assessment for Proposed Bauxite Mining Operations, by Noranda Jamaica Bauxite Partners II, in the Special Mining Lease 173 (SML 173) area, located in the Parishes of St. Ann and Trelawny, hereby, invites you to the Public Participation on the said Environmental Impact Assessment, to be held on December 8, 2020 at 5pm (Bogota or Local Time).

Due to COVID 19 concerns and protocols, the Public Participation will be an interactive "Mixed-Virtual Public Meeting" that will be

- Broadcasted live on Jamaica News Network (JNN)
- Broadcasted live on Power 106 FM
- Streamed live on Jamaica News Network's YouTube Page
- Streamed live on Television Jamaica's YouTube Page
- Streamed live on Zoom
- Streamed live to the following Satellite Locations
 - St. Paul's Anglican Church, Endeavor, St. Ann
 - Retreat Community Centre, Retreat, St. Ann and
 - Ulster Spring Baptist Church, Ulster Spring, Trelawny.

ALL COVID 19 PROTOCOLS, INCLUDING NUMBER OF ATTENDEES, WILL BE OBSERVED AT THE SATELLITE LOCATIONS.

The public is invited to participate in the meeting at the Satellite Locations or through Zoom, WhatsApp, and Telephone using the following information:

- WhatsApp – 876 878 1356
- Telephone – 876 773-2461-6
- Zoom <https://zoom.us/j/96990273594?pwd=slRvR0VkdTlMclZpbnNsXkYlbi9VbHh0Q09>

Meeting ID: 969 9027 3594
Password: 203943

A copy of the Environmental Impact Assessment Report may be consulted at:

- National Environment and Planning Agency Documentation Centre, 10 Caledonia Avenue, Kingston 5
- Gibraltar All Age & Infant School, Gibraltar, St. Ann
- Madras Primary School, Madras, St. Ann
- Discovery Bay Police Station, Discovery Bay, St. Ann
- Ulster Spring Police Station, Ulster Spring, Trelawny
- Albert Town Post Office, Albert Town, Trelawny
- Sawyers Post Office, Sawyers, Trelawny
- National Environment and Planning Agency Website www.nepa.gov.jm
- Conrad Douglas & Associates Limited Website www.cdaaestech.com

All responses/comments should be sent to NEPA's Applications Secretariat Branch via email at applications@nepa.gov.jm or by mail to 10 Caledonia Avenue, Kingston 5.

For further information on the meeting, please contact the offices of Conrad Douglas & Associates Limited at 876-929-0023 & 876-929-8824 or info@cdaaestech.com

■ **ADVISORY COLUMN: RISKS & INSURANCE**

Some risks are best avoided

Puerto Bueno Mountain, also called the Dry Harbour Mountains, in St Ann.

Cedric Stephens

RISKS & INSURANCE

THE CARIBBEAN Tourism Organization (CTO) reported last week that it had developed a Multi-Hazard Risk Management Guide for the Caribbean's tourism sector. The plan was designed to "assist

practitioners and policymakers to prepare for, and manage, multiple hazards that pose a risk to the industry".

The CTO's actions should be copied by other sectors – government and private. COVID-19 has highlighted the inter-connection between sectors. The development of plans – ex ante, not ex post – are important to achieve resilience and sustainability.

The absence of such plans was evident in the aftermath of recent weather systems that caused

flooding. The resulting damage amounted to billions of dollars across the island even though the country was spared a direct hit during an unusually active hurricane season.

I have been following with great interest the controversy surrounding the Government's decision, in the words of Ralston Nembhard, "to overrule" the National Environment & Planning Agency (NEPA) and allow for limestone mining in the Dry Harbour Mountains, near Rio Bueno.

While he understands the rationale for the Government's decision, Dr Nembhard "strongly believes" that Jamaica has "more to lose than gain from allowing any mining in 'them thar mountains'". Once you put a bulldozer in a forest, the first tree that is knocked over begins the degradation of that territory. After that, there is no telling what will happen next".

Dr Nembhard's comments can be interpreted to mean that he considers the risks associated with limestone mining as outweighing its economic benefits. Put another way, he believes that the choice is binary. Absent from his observations, however, is a detailed analysis of the specific risks that mining will create and a discussion of the effectiveness, or otherwise, of the mitigation strategies that the investors must implement to protect the "delicate ecological treasure".

Unlike the CTO and the investors in the Caribbean's tourist industry, he appears to think that the risks that will be created by the mining will pose threats to the ecology of the area that cannot be mitigated. As a result, mining must be avoided at all costs.

Abe Dubdoub, the attorney who represents the mining investors, provided useful information and valuable insights that helped me to better understand the issues. He furnished evidence that was published in an article in this newspaper on November 25 that he feels justified the granting of the

permit. Unfortunately, the headline 'Dry Harbour Mining Deal is All Legal' did not do justice to the substance of his argument. The key points that he made were:

- The investor has spent 10 years in seeking to obtain a licence.

- The area in which the mining will be undertaken consists of 123 acres, out of 572 acres.

- The mining area was arrived at by NEPA after consultation with 'relevant stakeholders'.

- A vegetation survey of the proposed site revealed an endemism – an ecological state of a species being native to a single defined geographical location – percentage of the proposed site of approximately 10 per cent. This is below the approximately 30 per cent national endemism average.

- The area will be conserved as outlined in the permit that NEPA granted.

- Of the eight government agencies that were involved in the application review process, only the Forestry Department objected. All the other agencies gave their approval, some of them subject to compliance with certain conditions. The Forestry Department's objections were reflected in the NEPA permit.

- The investors have agreed to comply with all risk-mitigation strategies imposed by the regulatory agencies. Managing risks involves the identification, analysis, and

response to risk factors that threaten business enterprises, organisations, industries, and individuals. Effective risk management means attempting to control, as much as possible, future outcomes by acting proactively than reactively. It offers the potential to reduce the possibility of a risk occurring and the potential impact.

This approach appears to be consistent with the goals of the CTO's Multi-Hazard Risk Management Guide. The permit that was granted for the Dry Harbour mining deal seems to have followed the same ideas underlying the drafting of the CTO guide.

Notwithstanding my support of the decision-making process, government departments are notorious for formulating policies and standards and failing to take effective measures to enforce them. I would have been happier with the granting of the mining permit if the authorities had developed a Plan B if something unforeseen in Plan A was to occur.

A financial instrument or performance bond issued by a reputable institution triggered by an unusual COVID-19 type event would make environmentalists, and persons like me, sleep better at nights.

■ **Cedric E. Stephens provides independent information and advice about the management of risks and insurance. For free information or consult, write to: agis@flowja.com.**



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SALADA FOODS JAMAICA LIMITED

Notice of Delay in Submission of Audited Financial Statements for Fiscal Year 2019/2020

TAKE NOTICE that because of some unavoidable delays during the audit process **SALADA FOODS JAMAICA LIMITED** will be delayed in submitting to the Jamaica Stock Exchange its audited financial statements for the fiscal year 2019/2020 due on **November 29, 2020**. The audited financial statements for the fiscal year 2019/2020 will be submitted to the **Jamaica Stock Exchange** on or before **December 4, 2020**.

By Order of the Board

Michelle N. Smith
Company Secretary
Salada Foods Jamaica Limited
20 Belt Road, Kingston 11

Clarendon fathers recognised for their roles in children's lives

**Cecelia Campbell-Livingston/
Gleaner Writer**

SOME 10 fathers from Clarendon were recently recognised by the Child Protection and Family Services Agency (CPFSA) for their involvement in their children's lives.

Commenting on the initiative, Antonette Brooks, CPFSA team leader in Clarendon, said the decision was made to honour them during Parent Month because the national focus was on fathers, and

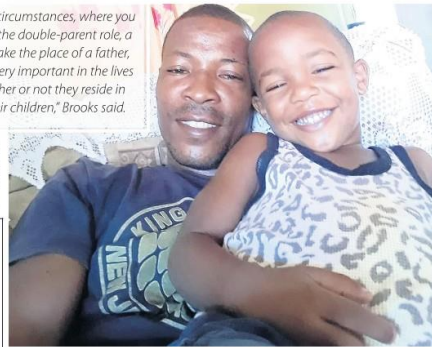
so they wanted them to know that 'we see them, we see the effort that they are making, and we want to encourage them to do what they are doing'.

She said the hope is that other fathers would follow their examples and see how important it is for fathers to be involved in the lives of their children and the critical role they play.

"Despite our Jamaican circumstances, where you have mothers playing the double-parent role, a mother really cannot take the place of a father, and so

"Despite our Jamaican circumstances, where you have mothers playing the double-parent role, a mother really cannot take the place of a father, and so the fathers are very important in the lives of their children, whether or not they reside in the same home as their children," Brooks said.

The fathers who were honoured



Fabian Binns, who is one of 10 fathers from Clarendon who were recognised by the Child Protection and Family Services Agency, with his son Kyle. **CONTRIBUTED**

were from the different programme areas within the agency – such as foster fathers; fathers of children who are or were in the childcare facilities; and fathers who had to taken on the role without the child's mother.

TRAINING

"The training included ones we offer at the agency and this is ongoing for our parents, so these fathers, many of them would have been a part of our ongoing parent training, depending on their situations and the reason why their children would have come to our attention in the first place. For those who are foster fathers, they

would have gone through our foster parent training, because we have a specific training that we do with our foster parent before they can be approved," Brooks informed. Brooks told *The Gleaner* that it was a really rewarding and "feel-good" moment to observe the fathers' reaction to being honoured.

One father, she said, expressed that he felt like a hero, while another said he would be framing his certificate as he expressed joy at being recognised.

"What has come across to us clearly from the way they received this recognition, is that fathers need to hear how good a job they

are doing when they do a good job. They need to be appreciated, and that their roles are considered just as special as mothers," Brooks shared.

Fabian Binns, one of the fathers honoured, is described as one who was always playing an active role in his son Kyle's life.

Commenting on the recognition, Binns said it made him feel "good and proud" and that it has always been his dream to be a father.

"I have to stand up for my child. I ensure he does his schoolwork, liaise with his teachers, and see how best I can be there for him," he said of his four-year-old.

NOTICE RESTRICTIVE COVENANTS (DISCHARGE AND MODIFICATION) ACT. CLAIM NO. SU 2020 CV 03957

Re: No. 13 Charlemont Drive, Kingston 6, Saint Andrew

TAKE NOTICE that an Application has been made on behalf of B.Y.D. CONSTRUCTION LIMITED for the modification of restrictive covenants numbered "1", "3", "4", "5", "6" and "7" affecting the user of **ALL** THAT parcel of land now known as **NUMBER THIRTEEN CHARLEMONT DRIVE** in the parish of **SAINT ANDREW**, being the Lot numbered **ONE HUNDRED AND FOURTEEN** on the plan of **WIDCOMBE HEIGHTS** deposited in the Office of Titles on the 13th day of March, 1964 of the shape and dimensions and built-upon as appears by the plan and being part of the land formerly comprised in Certificate of Title registered at Volume 607 Folio 5 and now being all the land comprised in Certificate of Title registered at Volume 881 Folio 36 of the Register Book of Titles also known as 13 Charlemont Drive, Kingston 6 in the parish of Saint Andrew, which restrictive covenants read as follows:

"1." There shall be no sub-division of the said land."

"3." No building of any kind other than a private dwelling house with appropriate out-buildings appurtenant thereto and to be occupied therewith shall be erected on the said land and the value of such private dwelling house and out-buildings shall in the aggregate not be less than One Thousand Five Hundred Pounds."

"4." The main building to be erected on the said land shall face the roadway or one of the roadways bounding the said land and no building or structure shall be erected on the said land nearer than Thirty Feet to any road boundary which the same may face nor less than Ten Feet from any other boundary thereof and all gates and doors in or upon any road shall open inwards and all outbuildings shall be erected to the rear of the main building."

"5." No building erected on the said land shall be used for the purposes of a Shop, School, Chapel, Church or Nursing Home or for racing stables and no trade or business whatsoever shall be carried on upon the said land or any part thereof."

"6." Water closets and cess or absorption pits for the purpose of receiving sewage and sullage water shall be erected on the said land in accordance with the regulations of the Public Sanitary Authorities and shall thereafter be maintained in good order and condition by the Registered Proprietor."

"7." No bath water or water used for domestic purposes in respect of the said land or any part thereof or any water except storm water shall be permitted or allowed to flow from the said land or any part thereof on to any portion of the land now or formerly comprised in Certificate of Title registered at Vol 770 Fol 26 and Volume 607 Folio 5 or on to any road street or lane adjacent to the said land but all such water as aforesaid shall be disposed of by being run into an absorption pit or pits or by evaporation or percolation on the said land and nothing shall be done by the Registered Proprietor whereby the drainage or flow of storm water along any drain gully or water course may be obstructed or impeded."

"1." There shall be no subdivision of the said land **SAVE AND EXCEPT** with the approval of the relevant authorities.

"3." No building other than a **multi-family residential development consisting of a four-storey apartment building which house twenty-four apartment units** with appropriate outbuildings appurtenant thereto and to be occupied therewith or any other building or buildings approved by the relevant authorities shall be erected on the said land."

"4." The main building to be erected on the said land shall face the roadway or one of the roadways bounding the said land and no building or structure shall be erected on the said land nearer than Thirty Feet to any road boundary which the same may face nor less than Ten Feet from the **Eastern and Southern boundaries** thereof and all gates and doors in or upon any fence or opening upon any road shall open inwards and all outbuildings shall be erected to the rear of the main building **PROVIDED** that this covenant shall not apply to the **guardhouse, electrical room, and garbage receptacle which shall be built on the road boundary, nor to the pool deck and bar which shall be not less than Eight Feet from the Southern boundary, nor to the eaves of any building or structure and the boundaries between apartments erected on the said land.**

"5." No building erected on the said land shall be used for the purposes of a Shop, School, Chapel, Church or Nursing Home or for racing stables and no trade or business whatsoever shall be carried on upon the said land or any part thereof **SAVE AND EXCEPT** for a **Strata Office** and **PROVIDED THAT** the rental of residential units shall not be considered a breach of this restriction."

"6." The Registered Proprietor shall ensure that the development is connected to the **National Water Commission's Central Sewage System servicing the area.**

"7." No bath water or water used for domestic purposes in respect of the said land or any part thereof or any water except storm water shall be permitted or allowed to flow from the said land or any part thereof on to any portion of the land now or formerly comprised in Certificate of Title registered at Vol 770 Fol 26 and Volume 607 Folio 5 or on to any road street or lane adjacent to the said land but all such water as aforesaid shall be disposed of by being run into the **National Water Commission's Central Sewage System servicing the area**, and nothing shall be done by the Registered Proprietor whereby the drainage or flow of storm water along any drain gully or water course may be obstructed or impeded."

The purpose of this Application is to facilitate the amendment of the covenants affecting the use of land.

All persons claiming to be entitled to the benefit of the restriction must, before the expiration of fourteen (14) days from the date of the publication or service of this Notice, file with the Registrar of the Supreme Court of Judicature of Jamaica and serve on the Claimant at No. 21 East Street, Kingston, any objection they may have to the Application and the grounds and if they claim compensation for the modification of the restriction, the amount of compensation claimed.

Dated the 23rd day of November, 2020

MYERS, FLETCHER & GORDON

PER: 
CLAIMANT'S ATTORNEYS-AT-LAW

The Claimant's address for service is that of its Attorneys-at-Law, Myers, Fletcher & Gordon, Attention: Mr. Krishna Desai, Attorney No. 4358. Telephone: (876) 922-5860-8; Fax: (876) 922-4811 or 922-8781; Email: krishna.desai@mfg.com.jm.

THIS NOTICE is taken out by MYERS, FLETCHER & GORDON of No. 21 East Street, Kingston, Attorneys-at-Law for the Claimant.



NOTIFICATION OF PUBLIC MEETING

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- Broadcasted live on Power 106 FM
- Streamed live on Jamaica News Network's YouTube Page
- Streamed live on Television Jamaica's YouTube Page
- Streamed live on Zoom
- Streamed live to the following Satellite Locations
 - St. James Anglican Church, Endeavor, St. Ann
 - Retreat Community Centre, Retreat, St. Ann and
 - Ulster Spring Baptist Church, Ulster Spring, Trelawny.

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- WhatsApp – 876 878 1356
- Telephone – 876-733-2461-6
- Zoom <https://zoom.us/j/96990273594?pwd=avRoVXBodTlZL2p0NSxYVlBvVhQ09>

Meeting ID: 969 9027 3594
Password: 203943

A copy of the Environmental Impact Assessment Report may be consulted at:

- National Environment and Planning Agency Documentation Centre, 10 Caledonia Avenue, Kingston 5
- Gibraltar All Age & Infant School, Gibraltar, St. Ann
- Madras Primary School, Madras, St. Ann
- Discovery Bay Police Station, Discovery Bay, St. Ann
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- Albert Town Post Office, Albert Town, Trelawny
- Sawyers Post Office, Sawyers, Trelawny
- National Environment and Planning Agency Website www.nepa.gov.jm
- Conrad Douglas & Associates Limited Website www.cdaestech.com

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For further information on the meeting, please contact the offices of Conrad Douglas & Associates Limited at 876-929-0023 & 876-929-8824 or info@cdaestech.com

Appendix V: Advertisements in the Observer

12/7/2020

Jamaica Observer | Saturday, November 14, 2020 | News | 9



LAWRENCE... In the semi-finals and finals, we beat teams who were ranked higher than us in the preliminary rounds.



YOUNG... I was pleased to recognize that my patterns of argumentation were in line with my international peers.

UWI team tops international debate competition

BY BRITANY HUTCHINSON
Observer writer
editorial@jamaicaobserver.com

A two member team from The University of the West Indies (UWI) Mona Campus — second year law student Kymari Young, and second year economics and statistics student Sebastian Lawrence — has walked away with the top prize in the recently completed novice final of the Huber Debate Invitational. The annual tournament, which was hosted virtually by the United States-based University of Vermont in honour of its debate coach for 45 years, Robert “Doc” Huber, featured competition in the British Parliamentary debate format with five preliminary rounds, an open break to semi-final elimination rounds and a novice breakout which lasted from November 6-8. Young, who has been a part of The UWI Debating and Public Speaking Society (DPPS) for more than a year, always had high hopes of his arguments being recognised on an international stage. “This debate marked my first experience of the concept of the equity violation and equity concerns [which] permeated the tournament. Getting familiar with the language and possible uses of equity was interesting and an invaluable experience for me. “The tournament was also the biggest and most international

debate I have taken part in and I was pleased to recognise that my patterns of argumentation were in line with my international peers from a quality perspective,” Young told the Jamaica Observer. According to Young, the British parliamentary style of debate required trust in order to keep the lines of argument coherent across speeches. “I learned that we have completely different approaches and understandings of certain ideas and it was often the case that an argument that I might have less, when filtered through his style, came out completely differently than I had imagined,” said Young. In the meantime, his teammate Lawrence, who started learning British Parliamentary debating this year, said he is still in disbelief at the victory. “I respect seeing that we were one of the last two teams to break into the novice out rounds,” said Lawrence. “However, once again, when the pressure kicked in our performances improved. In the semi-finals and finals, we beat teams who were ranked higher than us in the preliminary rounds. What surprised me the most was that we achieved this feat debating in closing half, which arguably was not our strong suit. “This victory is a testament to our growth as debaters and a signal to me as a rookie debater that if I continue putting in the work, I can

achieve greatness,” added Lawrence. The UWI DPPS was also represented by team Captain Ronaldo Blake, Jonathan Atkins, Peter John Thompson, Andre Harrett, Kuan-Kera Whields, and Thirry Campbell. “I’m deeply satisfied by the

performance of the team. Making such a final is definitely a huge accomplishment, and winning it shows that both debaters have grown a lot since they started. Kymari and Sebastian have seen such success because of their eagerness to learn, practice and

compete, and because of their own interpersonal cohesion. “Team UWI’s performance is also a testament to the strength of our programme which was recently renewed to focus on substantive argumentation, and then on strategy,” said Blake.



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Meeting ID: 969 9027 3584 Password: 203943

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- vii. Sawyers Post Office, Sawyers, Trelawny
- viii. National Environment and Planning Agency Website www.nepa.gov.jm
- ix. Stewart Town Police Station, Stewart Town
- x. Conrad Douglas & Associates Limited Website www.cdastech.com

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For further information on the meeting, please contact the offices of Conrad Douglas & Associates Limited at 876-829-0323 & 876-829-0324 or info@cdastech.com

ON SERVER ON SATURDAY November 14, 2020 Twitter/jamaicaobserver or www.jamaicaobserver.com

12/7/2020

Jamaica Observer | Wednesday, November 18, 2020 | Business Observer | 25B

Jamaicans urged by Real Estate Board to verify legitimacy of dealers

THE Real Estate Board (REB) is urging members of the public to verify the legitimacy of dealers via their website, to avoid becoming victims of real estate fraud.

This comes against the background of a case currently in the Kingston and St. Andrew Parish Court involving a real estate salesman accused of accepting millions of dollars from a complainant for the purchase of land. The salesman was not authorised to sell.

"The member search section of our website, www.reb.gov.jm, is shared by dealer, salesman, developer and development. The site will show his or her licence number, contact information, and the current licensed period," chief executive officer (CEO) of the REB, Sandra Garrick, said in a recent interview.

She explained that in the fraud case currently before the court, such a check would have indicated that the salesman in question had not been licensed with the board for more than two years and, therefore, not legally allowed to practise.

She pointed out that doing the necessary "pre-checks" will provide further insight into the ownership of the real estate and information on the authorisation to sell the property.

"Members of the public can

lodge complaints with the board against a real estate professional involving any kind of impropriety. The board will, where necessary, refer matters to the police, especially those involving forgery of documents or breaches of the Larceny Act, such as Fraudulent Conversion and obtaining money under false pretence," Garrick said.

She highlighted that the board has the authority to enact its own disciplinary action, most commonly the suspension or revocation of a licence to practise real estate in relation to various breaches under the Real Estate (Dealers and Developers) Act.

These breaches include practising without a licence; professional misconduct; failure to lodge prepayment monies into a trust account and reporting these to the board; failure to account for clients' money when called on to do so; and undertaking duties and responsibilities for which he or she is not properly registered or licensed.

Garrick pointed out that as stipulated by the Real Estate (Dealers and Developers) Act, Section 35 (4) (a) (ii), the board cannot register or maintain the licence of anyone convicted of a crime related to real estate, or who has an undischarged bankruptcy charge against him or her.



GARRICK...checking the validity of a dealer's licence is a crucial step in exercising due diligence. Other steps may include the use of a conveyancing attorney or checks with other regulatory bodies, such as the National Land Agency, where the title may be examined



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25 BUSINESS OBSERVER

THE DAILY OBSERVER Wednesday November 18, 2020 Twitter/JamaicaObserver www.jamaicaobserver.com

12/7/2020

Jamaica Observer | Wednesday, November 25, 2020 | Business Observer | 25B

US President-elect Joe Biden taps ex-Fed Chair Yellen to lead treasury

WASHINGTON (AP) — President-elect Joe Biden has chosen former Federal Reserve Chair Janet Yellen to serve as treasury secretary, a pivotal role in which she would help shape and direct his economic policies at a perilous time, according to a person familiar with the transition plans.

Yellen, who is widely admired in the financial world, would be the first woman to lead the Treasury Department in a line stretching back to Alexander Hamilton in 1789. Her nomination was confirmed to The Associated Press by a person who spoke on condition of anonymity to discuss Biden's plans.

If confirmed as treasury secretary, Yellen would inherit a shaky US economy, weakened by the pandemic recession and now in the grip of a surging viral epidemic that is intensifying pressure on businesses and individuals. Concern is rising that the economy could slide into a "double-dip" recession this winter as states and cities re-impose restrictions on businesses and consumers may home to avoid contracting the disease.

A path-breaking figure in the male-dominated economics field, Yellen, 74, was also the first woman to serve as Fed chair, from 2014 to 2018. She later became an adviser to Biden's presidential campaign in an unusual departure for a former Fed leader.

"She will bring to the role deep economic and policy-making expertise, national and international stature, and a personal commitment to fostering strong labour market conditions that draw in marginalised workers," said Kristina Guha, an analyst at investment bank Livercore ISI.

The treasury post would add another new chapter to

Yellen's varied career in financial policymaking. She would represent the administration in global financial affairs and lead a sprawling department whose responsibilities range from the government's finances and tax collections to currency markets, bank regulation and the printing of money.

Yellen would also take on the formidable task of helping negotiate economic policy with Senator Mitch McConnell, the Kentucky Republican who will remain Senate majority leader if his party wins at least one of two Senate run-off elections in Georgia in early January. Those talks would likely focus most urgently on a new stimulus package that most economists say is vital to sustaining an economic recovery.

Janet Seltzer, a banking industry analyst at Cowen, described Yellen as a "pragmatist" who would likely pursue a relatively moderate path on banking regulation. Stock markets, which had already risen on Monday, rose further after news leaked of her selection.

Yellen enjoys a close working relationship with Jerome Powell, who succeeded her as Fed chair, something that would likely improve coordination between the Fed and the Treasury and perhaps result in additional support for the economy. Powell and the current treasury secretary, Steven Mnuchin, last week publicly disagreed over Mnuchin's decision to cancel several Fed emergency lending programmes at the end of this month.

Yellen has consistently favoured further stimulus spending for the economy, including for state and local governments, which she has said need "substantial support" to avoid further job cuts. Such

rescue aid has been a key sticking point in congressional

negotiations on a stimulus package, with McConnell

redoubling the larger amounts sought by Democrats.



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Janet Yellen (Photo: AP)

25 BUSINESS OBSERVER

THE DAILY OBSERVER Wednesday, November 25, 2020 Twitter: @jamaicaobserver or www.jamaicaobserver.com

12/7/2020

Jamaica Observer | Wednesday, December 02, 2020 | Business Observer | 19B



SWIFT...we're anticipating huge demand for travel to the Caribbean as customers look to escape the UK winter for some Caribbean sun or as they travel to visit friends and loved ones.

Virgin Atlantic appoints Hannah Swift as Caribbean country manager

VIRGIN Atlantic on Friday, November 27 announced the appointment of Hannah Swift as the airline's country manager for the U.S. East Coast.

Swish in her new role will be responsible for the airline's daily commercial activity in the region including sales, marketing, reservations and ticketing.

"I am thrilled to be taking on this role for Virgin Atlantic. As travel restrictions around the world start to relax and demand for international travel increases, the Caribbean will play an important part in Virgin Atlantic's recovery.

"We're anticipating huge demand for travel to the Caribbean as customers look to escape the UK winter for

some Caribbean sun or as they travel to visit friends and loved ones. We look forward to welcoming our customers to the region and flying them safely to their favourite Caribbean destination.

"Myself and my team look forward to working closely with our partners and customers in the Caribbean. I'm excited to establish and deepen relationships with our key partners as we continue to build trust in the Virgin Atlantic brand," Swift said. Virgin Atlantic is currently flying to Barbados, Antigua, Jamaica and Grenada and expects to return to Tobago, Havana and Manchester to Barbados services in the coming months. Further schedules will increase.

throughout 2020 and 2021 in line with consumer demand and in addition, the airline looks forward to launching new services to St Vincent in June 2021.

Virgin Atlantic's Caribbean services now fly from London Heathrow, the UK's only hub

airport, and customers will be able to join a vast option of connecting services on the Virgin Atlantic International network or disembark at the UK capital city.

Swift spent five years in Barbados from 2014, working in an advertising agency prior

to joining Virgin Atlantic as marketing manager in 2019 and now as country manager. She has a degree in geology & science communication from Royal Holloway, University of London and owned her own business in the UK focusing on online marketing strategy.

19 BUSINESS OBSERVER

THE DAILY OBSERVER Wednesday, December 2, 2020 Twitter: @jamaicaobserver or www.jamaicaobserver.com



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- | | |
|---|---|
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10 Caledonia Avenue, Kingston S |
| M | Gibraltar All Age & Infant School, Gibraltar, St. Ann |
| N | Madras Primary School, Madras, St. Ann |
| O | Discovery Bay Police Station, Discovery Bay, St. Ann |
| P | Uster Spring Police Station, Uster Spring, Treasury |
| Q | Albert Town Post Office, Albert Town, Treasury |
| R | Savayers Post Office, Savayers, Treasury |
| S | National Environment and Planning Agency Website www.nepa.gov.gi |
| T | Stewart Town Police Station, Stewart Town |
| U | Conrad Douglas & Associates Limited Website www.cdacsltd.com |

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at 876-929-0023 & 876-929-8824 or info@cdadash.com

12/8/2020

Jamaica Observer | Monday, December 07, 2020 | News | 17

Jamaica submits Revivalism for UNESCO inscription

REVIVALISM, a religious practice in Jamaica, has been submitted to the United Nations Educational, Scientific and Cultural Organisation (UNESCO) for inscription on its Representative List of the Intangible Cultural Heritage of Humanity.

The announcement was made on the weekend by Culture Minister Olivia Grange.

"Since the Inscription of Reggae in 2018, I instructed my technical committee that going forward, Jamaica should submit one or more of its cultural practices for inscription by UNESCO. Everyone would remember the worldwide celebrations after reggae was inscribed at the meeting in Mauritius. We are hoping for the same result with our file on revivalism," Grange said.

Inscription is a much sought after designation and States Parties to the 2003 UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage need to demonstrate that they have put in place strategies to document and store their cultural elements. State Parties also need to ensure that safeguarding initiatives are undertaken with the full and prior consent of communities associated with the cultural practices.

Notable inscriptions include rumba in Cuba and

"Jamaica's dossier on revivalism is currently under review for an announcement in 2021 at the 16th Session of the Intergovernmental Committee for the Convention for the Safeguarding of the Intangible Cultural Heritage.

"I am encouraging Jamaicans at home and in the diaspora to learn more about the process," said Grange, a protégé of late former Prime Minister Edward Seaga, whose extensive research in the area of revivalism and Afro-Jamaican traditional religious forms is well known.

Grange has invited members of the public and members of the revivalism community to view a 10-minute video and high-quality photographs of revivalism online.

"I believe this is also a good resource for students doing their SBA's, as well as theologians, and is a useful way to create more awareness of revivalism," she said.

The announcement comes ahead of the virtual staging of the 15th Session of the Intergovernmental Committee for the Safeguarding of the Intangible Cultural Heritage of Humanity from December 14 to 19, 2020.

Grange has the distinction of being only the fourth woman to be selected to chair the Inter-governmental Committee, which first met in November 2006.



A Jamaica Observer file photo of revivalists at a meeting.

NOTIFICATION OF PUBLIC MEETING

Conrad Douglas & Associates Limited, as consultant with responsibility for the Environmental Impact Assessment for Proposed Bauxite Mining Operations, by Noranda Jamaica Bauxite Partners II, in the Special Mining Lease 173 (SML 173) area, located in the Parishes of St. Ann and Trevaun, hereby, invites you to the Public Participation on the said Environmental Impact Assessment, to be held on December 8, 2020 at 5pm (Bogota or Local Time).

Due to COVID 19 concerns and protocols, the Public Participation will be an interactive "Mixed-Virtual Public Meeting" that will be

- Broadcasted live on Jamaica News Network (JNN)
- Broadcasted live on Power 106 FM
- Streamed live on Jamaica News Network's YouTube Page
- Streamed live on Television Jamaica's YouTube Page
- Streamed live on Zoom
- Streamed live to the following Satellite Locations
 - St. James' Anglican Church, Endeavour, St. Ann
 - Retreat Community Centre, Retreat, St. Ann and
 - Uster Spring Baptist Church, Uster Spring, Trevaux

ALL COVID 19 PROTOCOLS, INCLUDING NUMBER OF ATTENDEES, WILL BE OBSERVED AT THE SATELLITE LOCATIONS.

The public is invited to participate in the meeting at the Satellite Locations or through Zoom, WhatsApp, and Telephone using the following information:

- WhatsApp – 078 078 1358
- Telephone – 078-733-2461-6
- Zoom: <https://zoom.us/j/98990273584?pwd=VFpRd0pXODdUdUJ2eHhSc0pYVWVhVWVhQW95>
Meeting ID: 989 9027 3584 Password: 200843

A copy of the Environmental Impact Assessment Report may be consulted at:

- | | |
|-------|---|
| | National Environment and Planning Agency Documentation Centre, |
| | 10 Caledonia Avenue, Kingston 5 |
| iii. | Gibraltar All Age & Infant School, Gibraltar, St. Ann |
| iv. | Madras Primary School, Madras, St. Ann |
| v. | Discovery Bay Police Station, Discovery Bay, St. Ann |
| vi. | Uster Spring Police Station, Uster Spring, Treasure |
| vii. | Albert Town Post Office, Albert Town, Treasury |
| viii. | Saunders Post Office, Saunders, Treasury |
| ix. | National Environment and Planning Agency Website www.nepa.gov.gi |
| x. | Stewart Town Police Station, Stewart Town |
| | Conrad Douglas & Associates Limited Website www.cda-josh.com |

All responses/comments should be sent to NEPA's Applications Secretariat Branch via email at applications@nepa.gov.im or by mail to 10 Caledonia Avenue, Kingston S.

For further information on the meeting, please contact the offices of
Conrad Douglas & Associates Limited
at 576-629-0023 & 576-629-8824 or info@cdadtech.com

Appendix VI: NEPA Approved Agenda

AGENDA

Noranda Jamaica Bauxite Partners II



Mandatory “Mixed-Virtual” Public Meeting for the Environmental Impact Assessment for the Proposed Bauxite Mining Operations by Noranda Jamaica Bauxite Partners II, in the Special Mining Lease 173 located in the parishes of Trelawny & St. Ann

Chairperson: Ms. Fae Ellington

1. Call to Order & Introduction – Chairperson
2. Prayers
3. Welcome & Introduction of Panel – Chairperson
4. Statement by the National Environment & Planning Agency (NEPA)
5. Presentation
 - Introduction of NJBP II
Video Presentation
 - Report on EIA for Proposed Bauxite Mining Operations by NJBP II in the Special Mining Lease 173 located in the parishes of Trelawny & St. Ann

Dr. Conrad Douglas
Executive Chairman & Principal Consultant
Conrad Douglas & Associates Limited
6. Questions & Answers
7. Adjournment

ENVIRONMENTAL MANAGEMENT CONSULTANTS



CONRAD DOUGLAS & ASSOCIATES LIMITED

Telephone: (876) 929-0025/0023/8824/8823

Email: cdaestech@hotmail.com | conraddouglasnassociatesltd@gmail.com

Appendix VII: Flyer (Invitation)



INVITATION



NORANDA JAMAICA BAUXITE PARTNERS II

INVITES YOU TO THE
MANDATORY PUBLIC CONSULTATION MEETING
ON THE
ENVIRONMENTAL IMPACT ASSESSMENT
FOR

THE PROPOSED MINING OF BAUXITE IN THE SPECIAL MINING LEASE 173 AREA IN ST. ANN AND TRELAWNY

Due to COVID-19 concerns and protocols, the Public Participation will be an interactive “Mixed-Virtual Public Meeting” that will be:

Broadcasted live on: (1) Jamaica News Network (JNN) and (2) Power 106 FM

Streamed live on: (1) Jamaica News Network’s YouTube Page (2) Television Jamaica’s YouTube Page and (3) Zoom

From Locations: (1) St. James Anglican Church, Endeavor, St. Ann, (2) Retreat Community Centre, Retreat, St. Ann and (3) Ulster Spring Baptist Church, Ulster Spring, Trelawny

Because of COVID-19 community spread only a limited number of residents will be accommodated at the above locations. Please participate by

Zoom: (<https://zoom.us/j/96990273594?pwd=aVRoVXBEdTMzL2poNSsxYVllbVVhQT09>) ID: 969 9027 3594 | Password: 203943), WhatsApp (876-878-1356) or Telephone (876-733-2461-6)

DATE: TUESDAY, DECEMBER 8, 2020 | **TIME:** 5:00 P.M.

The objective of the meeting is to inform and educate members of the public, in particular residents of the surrounding communities, about the proposed project and, most importantly, for community members to voice their concerns, views and recommendations. The presentation of the meeting will be done by Noranda Jamaica Bauxite Partners II Environmental Management Consultants, Conrad Douglas & Associates Limited, and they will provide information on the following:

What is the project about?

Noranda Jamaica Bauxite Partners II (NJBP II) proposes to mine bauxite distributed in orebodies on lands in the Special Mining Lease 173 Area (SML 173) over the next 25 years. The activities include establishment of haulage roads and excavation of bauxite bearing soil in the valleys between the hillocks in the 8,335 hectares that form the Special Mining Lease 173 (SML 173). Only 15% of the total hectares will be mined. There will not be any mining in the hillocks or forested areas of SML 173.

Where and when the project will be undertaken?

The proposed mining activity will start in the St Ann portion of the SML and progress towards the Trelawny section, over the years. The areas where mining is completed will be rehabilitated as required by the Mining Act by Commissioner of Mines, the National Environment and Planning Agency (NEPA) and Jamaica Bauxite Institute (JBI). The project is being detailed in 5-year Mining Plans, as required by the Regulatory Agencies under the Mining Act. The first five years will occur in the Madras to Gibraltar Area.

The implementation of the project will commence upon the granting of an Environmental Permit by NEPA.

Why is this project being undertaken?

NJBP II has been a part of the economic sustainability for St. Ann and neighbouring parishes for the past 50 years and is a leading local employer which provides hundreds of direct and indirect jobs. Its operations also provide numerous economic and social benefits to communities and residents within its areas of operations. NJBP II is also a major earner of foreign exchange for Jamaica. The bauxite to be accessed under the project is absolutely necessary for the continuing viability of NJBP II. Without this bauxite the survival of the company is severely threatened and would likely lead to the loss of hundreds of jobs and severe economic fallout for Jamaica, in particular, the Parishes of St. Ann and Trelawny. The project will also enhance local economic growth and development while lessening the dependence of St. Ann and Trelawny on tourism as the main engine of growth, thereby, offering additional cushion against disruption in the tourism sector. The bauxite industry is one of the main drivers of Jamaica’s economy for more than 60 years and is a major contributor to GDP growth in the last two (2) years.

How will the project be implemented?

The project will be implemented using cutting-edge, state-of-the-art best mining and rehabilitation practices. Haulage trucks will transport excavated bauxite on haul roads to existing loading stations for delivery to Discovery Bay by train. NJBP II will continue to comply with all applicable laws and regulations and will fully observe the terms and conditions of SML 173 and any environmental Permit or Permits that may be issued by NEPA. The company implements measures to reduce environmental impacts, including but not limited to dust mitigation, the protection of caves and sinkholes as well as important heritage resources.



CONRAD DOUGLAS & ASSOCIATES LIMITED

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Email: cdastech@hotmail.com | info@cdastech.com | conraddouglasassociatesltd@gmail.com



Appendix VIII: Sample Invitation Letters



CONRAD DOUGLAS & ASSOCIATES LTD.

PROJECT PLANNING, DEVELOPMENT MANAGEMENT, ENVIRONMENTAL MANAGEMENT,
ENGINEERING & TECHNICAL CONSULTANTS

14 Carvalho Drive, Kingston 10, Jamaica, W.I.

Telephone: (876) 929-8824, 929-0023/25 Fax: (876) 960-2014.

E-mail: info@cdaestech.com, cdaestech@hotmail.com, conraddouglasassociatesltd@gmail.com.

Website: www.cdaestech.com

December 2, 2020

The Honourable Robert Montague, MP
Minister
Ministry of Transport and Mining
138H Maxfield Avenue
Kingston 10
Jamaica, W.I.

Dear The Honourable Montague:

Re: Mandatory Public Meeting - Environmental Impact Assessment for the Noranda Jamaica Bauxite Partners II's Proposed Mining of Bauxite in the Special Mining Lease 173 Area in St. Ann and Trelawny

On behalf of our client, Noranda Jamaica Bauxite Partners II, we take pleasure in inviting you to a Mandatory Public Meeting on Tuesday, December 8, 2020 commencing at 5:00pm on the Environmental Impact Assessment for the proposed mining of bauxite in the Special Mining Lease 173 Area in St. Ann and Trelawny.

Due to COVID-19 concerns and protocols, the Public Participation will be an interactive "Mixed-Virtual Public Meeting" that will be:

- Broadcasted live on: (1) Jamaica News Network (JNN) and (2) Power 106 FM
- Streamed live on: (1) Jamaica News Network's YouTube Page (2) Television Jamaica's YouTube Page and (3) Zoom
- From Satellite Locations: (1) St. Paul's Anglican Church, Endeavor, St. Ann, (2) Retreat Community Centre, Retreat, St. Ann and (3) Ulster Spring Baptist Church, Ulster Spring, Trelawny

Because of COVID-19 community spread only a limited number of stakeholders will be accommodated at the above satellite locations. Please participate by Zoom ID: 969 9027 3594 | Password: 203943, WhatsApp (876-878-1356) or Telephone (876-733-2461-6).

This meeting is to inform, educate and more importantly, to obtain the views of the immediate communities on the proposed project.

We look forward to your attendance.

With kind regards.

Yours sincerely,

CONRAD DOUGLAS & ASSOCIATES LIMITED

Conrad Douglas, CD, PhD
Executive Chairman & Principal Consultant

Quality Service at its Best

www.cdaestech.com

DIRECTORS: DR. CONRAD G.C. DOUGLAS, CD, B.Sc., Ph.D., M.J.I.M., M.J.I.E., Executive Chairman & Principal Consultant • LYNDEN NUGENT, B.Sc. Chem. Eng. (Hons), MBA (Finance), Dip. Man. Studies, M.J.I.M.
MELISSA M. DOUGLAS, B.A. (UWI), LL.B. (LOND.) A.K.C. (LOND.) A.K.C. (LOND.), LEG • DORAN BECKFORD, B.Eng. (Chemical), MBA (Banking & Finance), Dip. Bus. Admin.

Appendix IX: Non-Technical Document

NON-TECHNICAL SUMMARY



Noranda Jamaica Bauxite Partners II

&

Conrad Douglas & Associates Limited



Mandatory “Mixed-Virtual” Public Meeting for the Environmental Impact Assessment for the Proposed Bauxite Mining Operations by Noranda Jamaica Bauxite Partners II, in the Special Mining Lease 173 located in the parishes of Trelawny & St. Ann

Project Description

New Day Aluminum (Jamaica) Limited (NDAJL) is a limited liability company engaged in the business of the mining and exporting of bauxite pursuant to a suite of agreements with the Government of Jamaica (GoJ). Noranda Jamaica Bauxite Partners II (NJBP II) performs mining operations on behalf of New Day. NJBP II is a partnership between NDAJL, holding 49%, with Jamaica Bauxite Mining Limited (JBML) holding 51% on behalf of the GoJ.

The project proposes to exploit bauxite reserves over a twenty-five (25) year period in Special Mining Lease 173 (SML 173) Area (see Figure 1 below), which is in proximity to the area proposed as the Cockpit Country Protected Area (CCPA) by the Most Honourable Prime Minister Andrew Holness in Parliament on November 21, 2017. The project will result in the mining of orebodies and transportation of high-quality bauxite to existing loading areas for stockpiling, riling, drying and shipping. The mined-out areas will be rehabilitated in keeping with the requirements of the Mining Act.

SML 173 has an area of 8,335 hectares, of which 15% are orebodies proposed for bauxite mining, inclusive of the haul roads to gain access to and transport the bauxite.

The mining activities proposed for 15% of the total area of SML 173, represents a temporary change in land use from predominantly agriculture and a few residential structures to bauxite extraction. This will be followed by activities to rehabilitate the mined-out areas and dedicate them to uses such as grassland (its natural state), housing, agriculture, greenhouses and water storage.

In essence, the objective of the scientific investigations carried out in conducting this EIA is to inform a major decision concerning the critical balance, which exists between the management of a finite non-renewable mineral resource of major economic importance (bauxite) and potential impacts on



important renewable resources. Both the finite non-renewable and renewable resources are important in supporting and sustaining the local and regional bio-physical and socio-economic future of Jamaica.

The rate of dry bauxite production may be as high as 6 million dry metric tonnes of bauxite per annum. This has the potential to earn about US\$150,000,000 per year which is a major and critically important contribution to the Jamaican economy. NJBP II will continue to use standard international best practices in compliance with its internal corporate responsibility policies and Jamaica's regulatory framework. Also, NJBP II directly and indirectly employs 3,300 persons.

General Approach & Methodology

Research and consultations for this EIA commenced in June 2018 and continued up to December 2019. The general approach and methodology involved a combination of literature reviews, consultations, remote sensing and scientific field investigations, inclusive of ground truthing using state-of-the-art approaches and methodologies covering all aspects of the agreed draft TOR for the EIA

Legislation and Regulatory Consideration

The regulatory framework has been exhaustively and critically reviewed. This is reported on in detail in section 3.0 of the EIA report. It covers international treaties, protocols and conventions to which Jamaica is signatory, as well as, all relevant Jamaican laws and standards concerning bauxite mining and environmental management.

The SML 173 area is contiguous to the eastern boundary of the proposed Cockpit Country Protected Area (CCPA). The environmental management study and EIA report focuses on the mineral, bio-physical, socio-cultural, economic and archaeological heritage resources within the SML 173 area.

It has been clearly stated by the Most Honourable Prime Minister that no mining will be permitted within the boundaries of the proposed Cockpit Country Protected Area (CCPA). Other restrictions and activities that cannot take place in the proposed CCPA have also been identified.

Bauxite (non-renewable resource) mining will only commence in SML 173 upon issuance of regulatory approvals and permits.

Although this EIA study takes into account sub-regional, regional and national matters of relevance, the specific environmental setting and baseline is essentially confined to the SML 173 area.



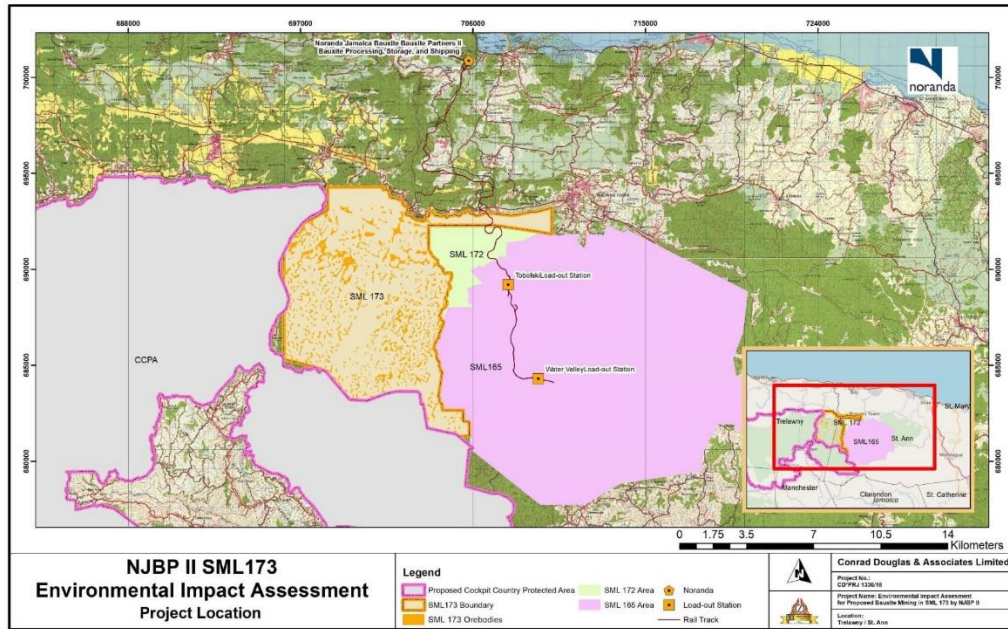


Figure 1: Project Location Map

Description of the Environment

Geology and Geomorphology

The SML 173 area displays karstic features typical of the high purity White Limestone formations which host bauxite deposits. Areas of high vegetation cover and biodiversity are located on the elevated hillocks. This type of karstic geomorphology is not uncommon in Jamaica and the most significant work was first carried out on the formations in Llundas Vale, St. Catherine¹. There are ten (10) known caves identified within the boundaries of SML 173. There are thirty (30) additional caves within 5km of the boundaries of SML 173.

Hydrology

There are no surface water features within the SML 173 area and that ground water resources are at significant depths (more than 100m) below the surface of SML 173 area.

Biological Environment

The biological environment contains important floral and faunal resources which constitute high levels of biodiversity. In general, the area is characterized by a series of forested hillocks and depressions that have secondary growth, which results from human activity within these depressions. Thirty-five (35) species of trees were identified within SML 173 of which five (5) are endemic. Six (6) species of Bromeliads were identified of which two (2) are endemic. Three (3) species of aroids and three (3) species of orchid were identified with one (1) species of orchid being endemic. Four (4) species of ferns were identified as well as fourteen (14) species of herbs and sixteen (16) species of vines. Four (4) of the species of vines are endemic. Twenty-one (21) species of shrubs were observed within SML 173 with five (5) being endemic. Three (3) species of grasses were observed. In addition, thirteen (13) species of plants were observed to be cultivated within SML 173.

Forty-Six (46) species of birds were observed during the study. Nineteen (19) of the twenty-eight (28) endemic birds of Jamaica were observed within SML 173. All the birds observed were on the periphery of the grassland or within the highly vegetated hillocks. 55% are insectivorous, 17% herbivorous and 19% omnivorous. Eight (8) species of anole and three (3) species of amphibians were observed during the study. Notably, nine (9) species of bats were identified in three (3)

¹ Cockpit Country, Jamaica Boundaries, Geological Significance, and Mining Impacts: A Report to the Jamaica Bauxite Institute, Prof. Edward Robinson

caves studied within SML 173. These caves were all on elevated hillocks, removed from the orebodies to be accessed for bauxite.

There were no sightings of the endangered and protected Giant Swallowtail Butterfly (*Pterourus homerus*, formerly called *Papilio homerus*) nor the Water Mahoe (*Hernandia catalpelofia*), which is crucial for supporting its existence after intensive and extensive searches.

Socio-Economic Environment

Comprehensive socio-economic and land use surveys were undertaken in SML 173 and surrounding areas. Some of the communities surrounding and within the SML 173 area were found to have a high incidence of poverty. While there is a high level of electrification, there is poor access and reliability of piped water. There is also sub-standard sanitation. This extends to where there are established institutions.

Archaeological Heritage

The archaeological heritage of SML 173 has been investigated in detail by the Jamaica National Heritage Trust (JNHT). This was a request of NEPA. The Archaeological Impact Assessment (AIA) was submitted to NEPA and CD&A by the JNHT.

Public Participation

In keeping with international best practices, Agenda 21 and the National Environment and Planning Agency guidelines, CD&A conducted four (4) Voluntary Public Stakeholder Consultations in the townships of Madras, Retreat, Sawyers and Ulster Spring over the period May 13 – 27, 2019.

In addition, stakeholder consultations were also held with the Jamaica Environment Trust, Windsor Research Centre, Southern Trelawny Environmental Protection Agency (STEPA). The last named being inclusive of members of the Cockpit Country Warriors.

Impact Identification and Assessment and Analysis of Potential Impacts

The potential impacts identified in the study are the predicted changes in the topography and land use resulting from the proposed bauxite mining operations from the orebodies. In order to gain access and transport the mined bauxite, it will be necessary to create haul roads. There will

be at least a temporary reversible loss of habitat associated with the construction of these haul roads, as well as, changes in the landscape aesthetics.

Under very dry conditions there will be the potential for the formation of fugitive dust from re-entrainment of road dust during transportation of the mined bauxite. This can be mitigated with both local and international best practices from the planning stage, such as dust suppression through irrigation, as presently practiced by NJBP II. In most instances there are no human impact receptors for neither dust nor noise owing to the sparsely populated nature of the area.

It should be noted that the Air Dispersion Model commissioned by NJBP II (see Volume IV: Air Dispersion Modelling Report) has shown the following under an assumed worst-case scenario for the emission sources during mining and haulage:

- ✓ No receptor in ambient air showed concentrations in excess of the Jamaican AAQS for Total Suspended Particulates (TSP) or Particulate Matter of Size 10 microns and less (PM₁₀) within SML 173.
- ✓ The proposed activities at the ore body mining sites in SML 173 could cause localized high concentrations for TSP and PM₁₀ that declined by at least 80% within 100 meters, of the active orebody.
- ✓ The proposed mining and hauling activities within SML 173 would result in ambient concentrations for TSP and PM₁₀ at a maximum of 50-60% of the ambient air standards, including background concentrations, at locations outside of the ore body mining sites.

There were also concerns about the potential for the loss of biodiversity and destruction of heritage sites within the SML 173 area. The studies which were undertaken by leading experts in their respective fields, showed that the likelihood of there being an impact on these resources is low.

Impact Mitigation

Mitigation measures on the following are proposed in Section 8.0 of this EIA: Aesthetics, Geological and Geotechnical, Water Quality, Surface Water Hydrology and Groundwater, Air Quality, Climate Change, Noise, Terrestrial Wildlife Resources, Terrestrial Vegetative Resources, Employment & Worker Health & Safety, Dislocation and Compensation, Heritage Sites and Traffic.

Potential negative impacts can be avoided or mitigated. These are illustrated in the impact mitigation tables and matrices in sections 7.0 and 8.0. In addition, all activities are transient. Temporary mining activities will be carried out at various locations within SML 173. The general progression is from East to West. Five-year mining plans will be developed for each zone with

mining at specified orebodies generally occurring for a period of 3-months to 6-months and a maximum of 1-year. This depends on the quality and quantity of the bauxite. Details of five-year mining plans will be submitted to the regulators at least 1 year before relocation to the new area. All required mitigation for environmental protection will therefore be effectively planned as the mining progresses to the satisfaction of the regulatory agencies.

The mitigation to be employed by NJBP II will include but not be limited to: Haul roads will be properly maintained; Special emphasis will be placed on dust suppression especially during dry periods to reduce fugitive dust formation and dispersion during bauxite transportation; Natural drainage will be maintained as far as practicable; Portable chemical toilets will be installed at the ore bodies; Silencers or mufflers on construction equipment will be properly fitted and maintained; The footprints of the operations will be strictly maintained to that which is unavoidable; Sensitive species of plants identified will be removed and relocated to areas that will not be affected by the operations or at NJBP II's greenhouses; NJBP II's Environmental Health and Safety policies and procedures will be implemented; In the event that settlements will be impacted, NJBP II will employ its relocation and/or compensation plans; In the event that there is an archaeological find, NJBP II is obliged to act in keeping with the JNHT's Act. Intersections will be actively monitored and signs installed, where necessary.

The vast majority of the hillocks within SML 173 will not be impacted from mining activities. Most haul road construction will be confined to the transition zones. Only 15 %, or less (i.e. ~1,300 hectares), of the land area within SML 173 will be impacted over the estimated 25-years life of the project.

In keeping with the policies of NJBP II, Community Councils will be established to inform communities of activities and get feedback. As customary, these Councils will assist in community development as practiced in other mining areas with the objective of minimizing negative impacts and maximizing positive potential impacts.

Most of these potential negative impacts are not high in intensity, magnitude and duration and are reversible, with the exception of the changes in topography.

With respect to any identified sinkholes, NJBP II will be guided by best practices, precedence and the directives of the relevant regulatory agency in establishing appropriate setbacks.

Analysis of Alternatives

Five (5) alternatives were analysed during the preparation of the EIA. These include: (1) No Action Alternative, (2) The Proposed Mining Activity, (3) Modified Project Proposal, (4) Location

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and (5) Technology. The proposed mining activity and the modified '*clawed back*' area are viable. However, the modified '*clawed back*' SML 173 area is the preferred option of the alternatives assessed because it affords NJBP II access to bauxite reserves while reducing the magnitude, extent and duration of the impacts of mining in SML 173. This results from protection of the natural biological resources associated with the forest reserves. In addition, the livelihood of the yam and other farmers and export agriculture arising from farming would not be impacted in the '*clawed back area*'. This would also contribute to supporting national food security.

Environmental Monitoring and Management

State-of-the-art environmental monitoring, evaluation and management methods will be used by NJBP II prior to and during the entire mining operations. The objective is to ensure that compliance is maintained within the regulatory framework and its own internal policies and standards. The internal environmental management resources of NJBP II will be augmented with the services of external consultants, and where appropriate in consultation with the Community Councils.

Creative conservation strategies will be employed using various universally accepted strategies for the protection of the area and restoration of habitats. Opportunities for water storage and agriculture will also be considered.

Conclusions and Recommendations

Based on the findings of the scientific investigations reported in this EIA using internationally accepted approaches, methodologies and best practices, the impacts identified and the mitigations proposed, we recommend that NJBP II be granted an environmental permit to implement mining operations in the SML 173 area, in compliance with all the relevant regulations, standards and guidelines and where applicable, its own internal standards. However, it is recommended that the modified '*clawed back*' area be considered as the preferred option.

Jamaica's immediate to medium social, economic and sustainable development future is highly dependent on providing NJBP II with the permits to mine these bauxite resources. There are no other feasible immediate or short-term economic alternatives that have been identified that can be considered as a substitute to bring equal or greater macro and micro-economic benefits to Jamaica, at this time.

As stated by the Most Honourable Prime Minister and recognized by NJBP II, no mining will be carried out within the proposed Cockpit Country Protected Area (CCPA).