



WATER RESOURCES AUTHORITY

ESTABLISHED BY THE WATER RESOURCES ACT, 1995

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REF: DR 8-26

March 12, 2018

Chief Executive Officer
National Environment and Planning Agency
10 Caledonia Avenue
Kingston.

Attention: Mr. Peter Knight

Dear Sir,

Re: Proposal by Noranda to Apply for an Environmental Permit for New Day Area, Trelawny/St. Ann.

We are in receipt of your email dated February 16, 2018 regarding the captioned proposal. The email stated that Noranda is proposing to conduct an environmental impact assessment (EIA) report and is working towards completing the entire approval cycle by May 1, 2018. The NEPA has taken the decision that prior to developing any terms of reference for the EIA, each of the agencies who received the email would be required to review the proposal against the recent boundary declaration of the cockpit country and the clear policy and administrative agreements stipulated; some of which are outside the declared boundary. The email did not state the purposes for which the EP would be applied for, but the WRA assumes that the permit is to allow bauxite mining in that region.

The WRA requested and received from Noranda Jamaica the relevant shapefiles for the site of interest. Based on the information received, the area of the New Day site is 6981.44 hectares, and is located in the Rio Bueno sub-WMU of the Dry Harbour Mountains Hydrologic Basin. The Quashie River sinks approximately 3 km southwest of the site's western corner, and the Rio Bueno rises at Dornoch Head approximately 1.1 km north of the site's northern boundary, Figure 1 presents the area's location, Figure 2 presents the area's hydrostratigraphy, and Figure 3 presents the bauxite areas of interest as presented by Noranda.

The WRA comments are as follows:

- The WRA is a party to the boundary that has been declared by the government as the Cockpit Country Protected Area, in which no mining will be allowed. Outside this boundary, limited mining will be allowed. Buffer zones are to be defined around all caves and sinkholes in the reach between Dornoch Head (rise of the Rio Bueno) and Quashie River Sink.
- The site is located less than 200 metres from the Cabinet-approved Cockpit Country border. Any mining activity within such a close proximity to the official boundary would need to be properly monitored to avoid any impact on the Cockpit Country, as well as any impact on the buffer zones mentioned above.

Jamaica's Hydrologic Agency

Board: Dr. Parris Lyew-Ayee Jr. (Chairman), Prof. Michael Taylor, Mr. Michael Brown,
Miss Nadine Spence, Mr. George Grant, Ms. Stephanie Abrahams,
Ms. Georgia Hamilton, Ms. Novelette Howell

- There is a mapped fault which roughly coincides with the site's eastern boundary and trends north-south along the boundary, which may provide an avenue for conduit flow towards the Rio Bueno. Water quality should be monitored if any mining activities take place in this region.

Based on these observations, the WRA makes the following statements:

- The WRA recommends that a water quality monitoring regime be established on the Rio Bueno at Dornock Head to check for potential impacts if mining activities are allowed in the region.
- All caves and sinkholes in the reach between Dornock Head rise of Rio Bueno and the sink at Quashies River are to be identified and an agreed buffer zone be defined around each within which no mining is to occur.

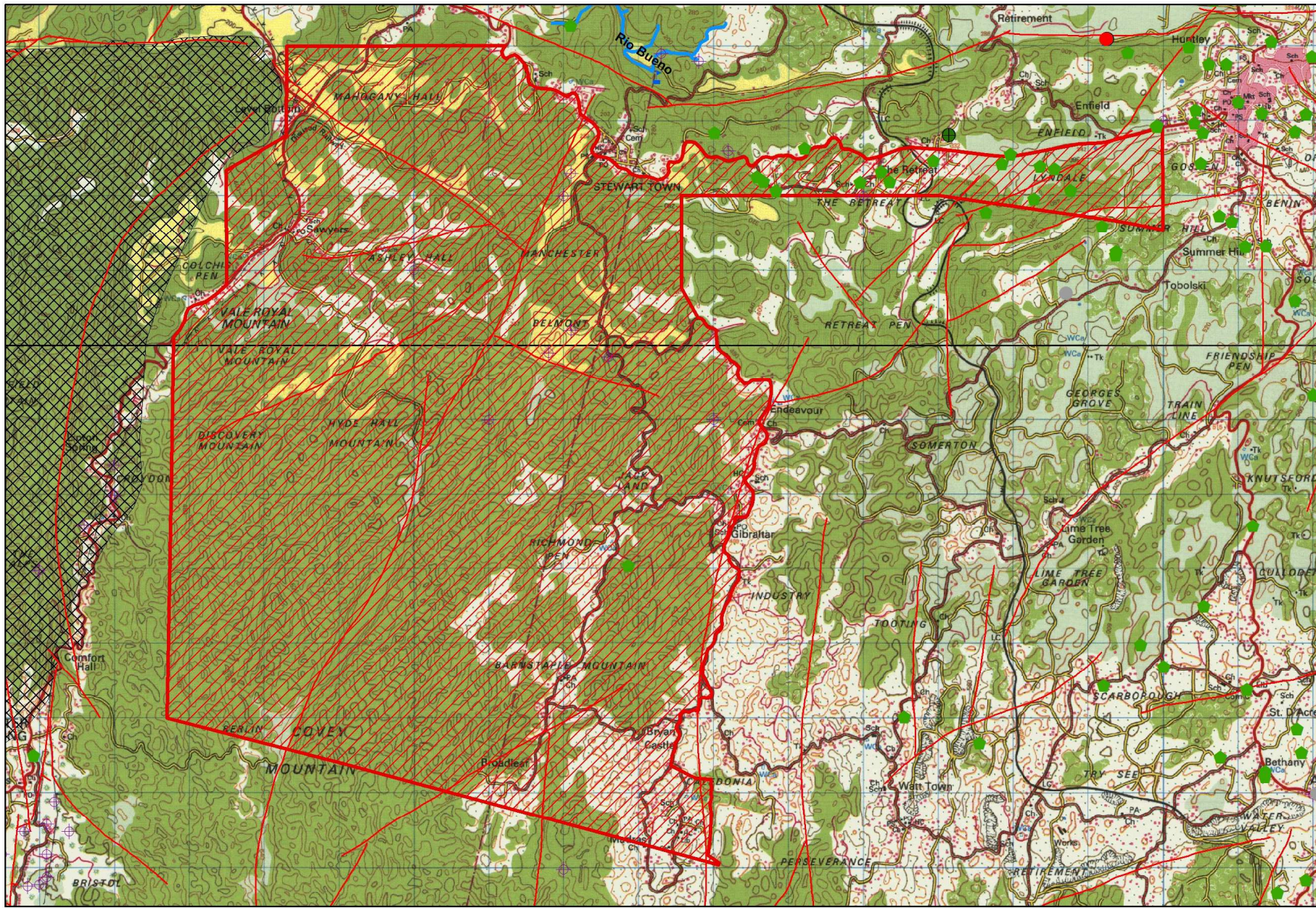
Sincerely,

Water Resources Authority



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Geoffrey Marshall (Mr.)
Chief Hydrologist
For Managing Director

Location Map for New Day SML, St. Ann/Trelawny



- Abandoned/Destroyed Well
- Pumping Well
- Non Pumping Well
- ◆ Developments Reviewed by WRA
- ★ Flood
- 🏠 NWC Sources
- 🌊 Spring
- ♻️ Sewage Treatment Plant
- ⊕ Caves
- Faults
- Rivers
- ▨ Cockpit Core Boundary
- ▨ SML New Day Area

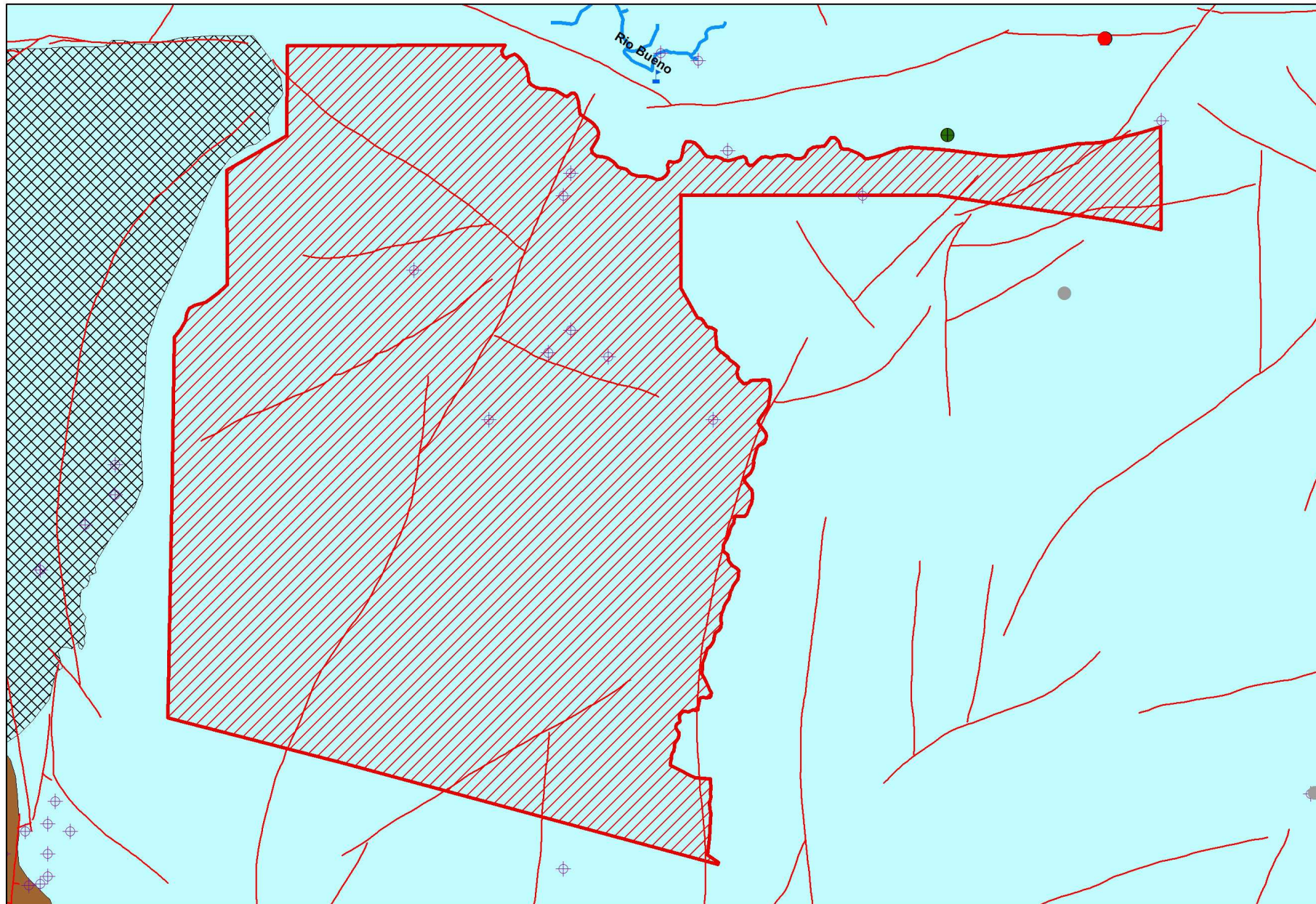


Prepared by the
Water Resources Authority
March 2018



Figure 1

Hydrostratigraphy Map for New Day SML, St. Ann/Trelawny



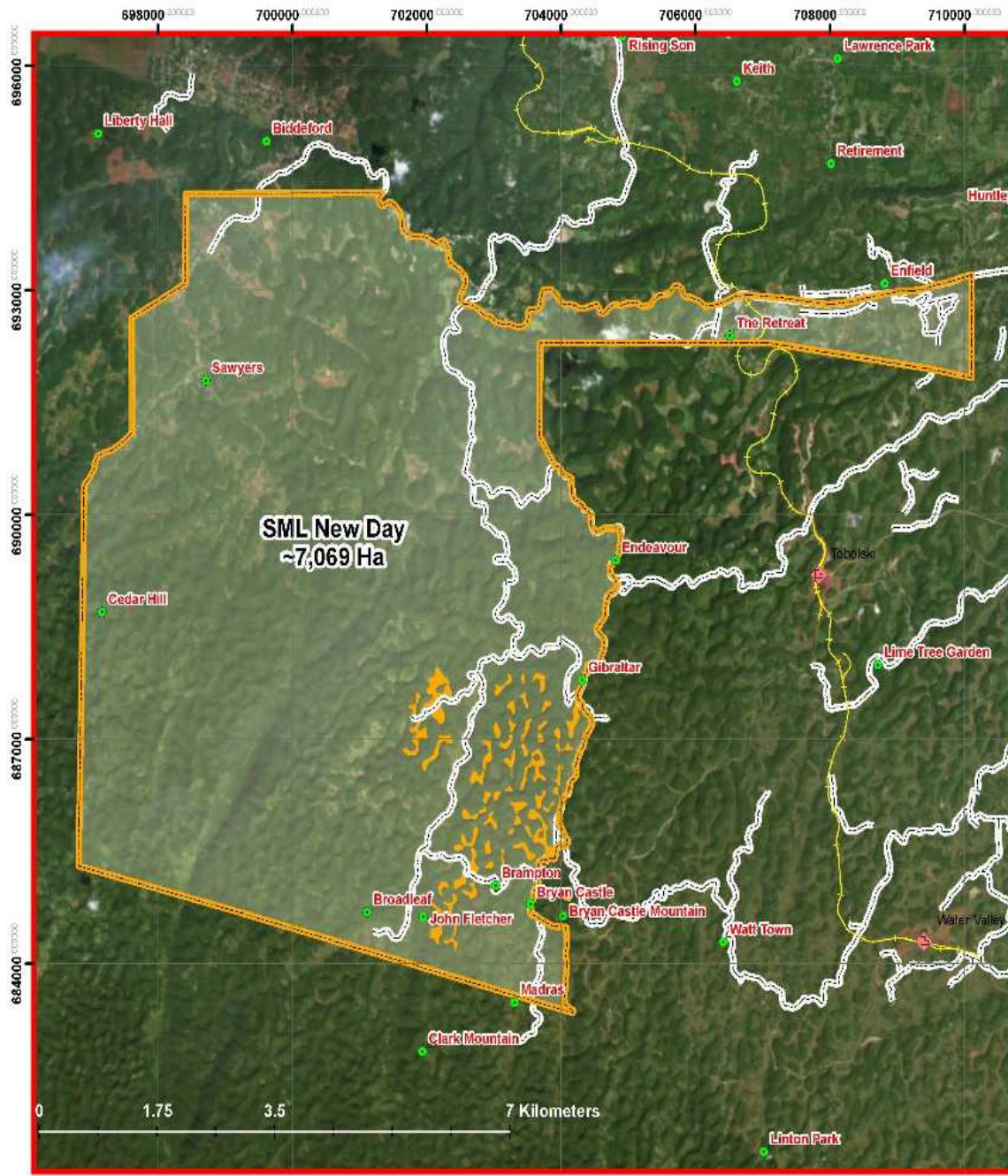
- Abandoned/Destroyed Well
- Pumping Well
- Non Pumping Well
- ★ Flood
- ⊕ NWC Sources
- ⊕ Spring
- ▲ Sewage Treatment Plant
- ⊕ Caves
- Faults
- Rivers
- ⊗ Cockpit Core Boundary
- ▨ SML New Day Area
- Alluvium Aquiclude
- Alluvium Aquifer
- Basal Aquiclude
- Coastal Aquiclude
- Coastal Aquifer
- Limestone Aquiclude
- Limestone Aquifer

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0 0.75 1.5 3 4.5 6 7.5 Kilometers

Figure 2



Legend

- Settlements, Villages, Districts etc
- ◆ Load Stations
- Rail Track
- Public Road
- SML New Day Boundary Line
- SML New Day Ore Bodies for Permitting




Figure 3