Figure 16-1

Legend

- Settlement
- Artisanal and Small Scale Mining Transient Camp
- Merian Right of Exploitation (proposed)
- Industrial Zone Boundary
- IFC Standard: 20 ug/m3

Notes
Background Levels: 15.4 ug/m3
Minimum Contour: 20 ug/m3
Interval: 50

Project: MERIAN
Sub-Project: Environmental & Social Impact Assessment

Date: 5/18/12
Created By: J. Huston
Coordinate System: N/A

Highest Modeled Annual PM10 Concentrations from Operations at the Mine Site
Highest Modeled 24 Hour PM10 Concentrations from Operations at the Mine Site

Legend
- Settlement
- Artisanal and Small Scale Mining Transient Camp
- Merian Right of Exploitation (proposed)
- Industrial Zone Boundary
  IFC Standard: 50 ug/m3

Notes
Background Levels: 21.1 ug/m3
Minimum Contour: 50 ug/m3
Interval: 100

Figure 16-2
Figure 16-3

Legend
- Settlement
- Artisanal and Small Scale Mining Transient Camp
- Merian Right of Exploitation (proposed)
- Industrial Zone Boundary
- IFC Standard: 10 ug/m³

Notes
- Background Levels: 5.4 ug/m³
- Minimum Contour: 10 ug/m³
- Interval: 10

Project: MERIAN
Sub-Project: Environmental & Social Impact Assessment
Date: 5/18/12
Created By: J. Huston
Coordinate System: N/A
Highest Modeled 24 Hour PM 2.5 Concentrations from Operations at the Mine Site

Legend
- Settlement
- Artisanal and Small Scale Mining Transient Camp
- Merian Right of Exploitation (proposed)
- Industrial Zone Boundary
- IFC Standard: 25 ug/m³

Notes
- Background Levels: 7 ug/m³
- Minimum Contour: 25 ug/m³
- Interval: 25

Figure 16-4

Project:
MERIAN

Sub-Project:
Environmental & Social Impact Assessment

Date: 5/18/12
Created By: J. Huston
Coordinate System: N/A

Coordinate System: N/A
Figure 16-5

Legend
- Settlement
- Artisanal and Small Scale Mining Transient Camp
- Merian Right of Exploitation (proposed)
- Industrial Zone Boundary

Notes
- Background Levels: 6 ug/m³
- Minimum Contour: 10 ug/m³
- Interval: 5
- No values greater than IFC Standard 40 ug/m³
Figure 16-6

Legend
- Settlement
- Artisanal and Small Scale Mining Transient Camp
- Merian Right of Exploitation (proposed)
- Industrial Zone Boundary
- IFC Standard: 200 ug/m³

Notes
- Background Levels: 16.7 ug/m³
- Minimum Contour: 100 ug/m³
- Interval: 50 ug/m³

Highest Modeled 1 Hour NO₂ Concentrations from Operations at the Mine Site

Date: 5/18/12
Created By: J. Huston
Coordinate System: N/A
Figure 16-7

Legend
- Settlement
- Artisanal and Small Scale Mining Transient Camp
- Merian Right of Exploitation (proposed)
- Industrial Zone Boundary
- IFC Standard: 20 µg/m³

Notes
Background Levels: 5 µg/m³
Minimum Contour: 15 µg/m³
Interval: 10

Highest Modeled 24 Hour SO2 Concentrations from Operations at the Mine Site

Date: 5/18/12
Created By: J. Huston
Coordinate System: N/A

Project:
MERIAN

Sub-Project:
Environmental & Social Impact Assessment
Figure 16-8

Legend
- Settlement
- Artisanal and Small Scale Mining Transient Camp
- Merian Right of Exploitation (proposed)
- Industrial Zone Boundary

Notes
- Background Levels: 13.9 ug/m³
- Minimum Contour: 50 ug/m³
- Interval: 20
- No values greater than IFC Standard 500 ug/m³
Highest Modeled 8 Hour CO Concentrations from Operations at the Mine Site

Legend
- Settlement
- Artisanal and Small Scale Mining Transient Camp
- Merian Right of Exploitation (proposed)
- Industrial Zone Boundary

Notes
- Background Levels: 4466.3 ug/m³
- Minimum Contour: 4500 ug/m³
- Interval: 5
- No values greater than IFC Standard 10000 ug/m³

Figure 16-9
Highest Modeled 1 Hour CO Concentrations from Operations at the Mine Site

Legend
- Settlement
- Artisanal and Small Scale Mining Transient Camp
- Merian Right of Exploitation (proposed)
- Industrial Zone Boundary

Notes
- Background Levels: 4466.3 ug/m³
- Minimum Contour: 4500 ug/m³
- Interval: 20
- No values greater than IFC Standard 40000 ug/m³

Background Levels: 4466.3 ug/m³
Minimum Contour: 4500 ug/m³
Interval: 20
No values greater than IFC Standard 40000 ug/m³

Figure 16-10
Daytime Noise Contours at Closest Receptors from Operations at the Mine Site

Legend:
- Orange: Settlement
- Green: Artisanal and Small Scale Mining Transient Camp
- Merian Right of Exploitation (proposed)
- Industrial Zone Boundary
- Noise Contour Line (dBA)
- IFC Daytime Leq Noise Standard = 55 dBA

Scale in km

Figure 17-1
Nighttime Noise Contours at Closest Receptors from Operations at the Mine Site

Legend
- Settlement
- Artisanal and Small Scale Mining Transient Camp
- Merian Right of Exploitation (proposed)
- Industrial Zone Boundary
- Noise Contour Line (dBA)
- IFC Nighttime Leq Noise Standard = 45 dBA

Figure 17-2

Date: 5/9/12
Created By: M. Cawley
Coordinate System: N/A
Predicted Ground Vibration Contours from Blasting at the Mine Site

Legend
- Artisanal and Small Scale Mining Transient Camp
- Vibration Contours
- Vibration Limit (3mm/sec)
- Roads
- Pit
- Merian Right of Exploitation (proposed)
- Industrial Zone Boundary

Source: Bing Maps Aerial

1 inch = 1,524 meters

Project: MERIAN

Sub-Project: Environmental & Social Impact Assessment

Date: 5/8/12
Created By: Joan Huston
Coordinate System: Zanderij_1972_UTM_Zone_21N

Figure 17-3
Water Management Plan Conceptual Flow Diagram

Legend
- Fresh Water
- Process Water
- Seepage
- Mine Impacted
- Seepage
- Sediment Laden
- Treated Water

Figure 19-1

Water Management Plan Conceptual Flow Diagram

Legend
- Fresh Water
- Process Water
- Seepage
- Mine Impacted
- Seepage
- Sediment Laden
- Treated Water

Project:
MERIAN

Sub-Project:
Environmental & Social Impact Assessment

Date: 11/14/12

Created By: Joan Huston

Coordinate System: NA

Figure 19-1
Predicted Groundwater Elevations in Saprolite - End of Operations

Legend
- Evaluation Point
- Model Boundary
- GW Elevation Contours (5m Interval)
- GW Flow Direction
- TSF
- Pit Area 1400 USD
- Streams

Source: Golder Associates Inc.

Project: MERIAN
Sub-Project: Environmental & Social Impact Assessment
Date: 5/7/12
Created By: Btheriault
Coordinate System: WGS_1984_UTM_Zone_21N

Figure 19-3
Figure 19-4

Groundwater Elevations Post Closure

Legend
- Evaluation Point
- Model Boundary
- GW Elevation Contours (5m Interval)
- GW Flow Direction
- TSF
- Pit Area 1400 USD
- Streams

Source: Golder Associates Inc.

Project:
MERIAN

Sub-Project:
Environmental & Social Impact Assessment

Date: 11/9/12
Created By: BTHERIAULT
Coordinate System:
WGS_1984_UTM_Zone_21N
Forested Areas in Northeastern Suriname

Legend
- Merian Environmental Study Area
- Road
- Brokopondo Lake
- Commewijne River
- Marowijne River
- Unnamed Stream
- High Swamp Forest
- High Seasonal Swamp Forest
- Cultivated and Abandoned Land
- High and Low Xerophytic Forest
- High Dryland Forest
- Mountain Forest (El. >500m)
- Savanna
- French Guyana

Map derived from Suriname Plans B7
Prepared by:
National Planning Office of Suriname (SPS), Regional Development and Physical Planning Department
with the technical assistance of:
The Organization of American States (OAS), Executive Secretary for Economic and Social Affairs Department of Regional Development (DRD)
Washington, D.C. 1988

1 inch = 11,016 meters

Figure 21-2
Figure 21-3

Legend
- Environmental Study Area
- Existing Road
- Proposed Project-related Clearing
- Existing Cleared Areas

Note: Existing Cleared Areas are a combination of cleared areas for cultivation, tree logging, and Artisanal and Small Scale Mining.

Source: Bing Maps Aerial

1 inch = 2.676 meters