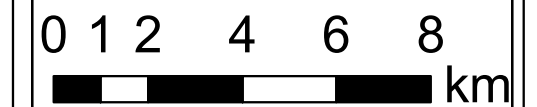


Highest Modeled Annual PM10 Concentrations from Operations at the Mine Site

Legend

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

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



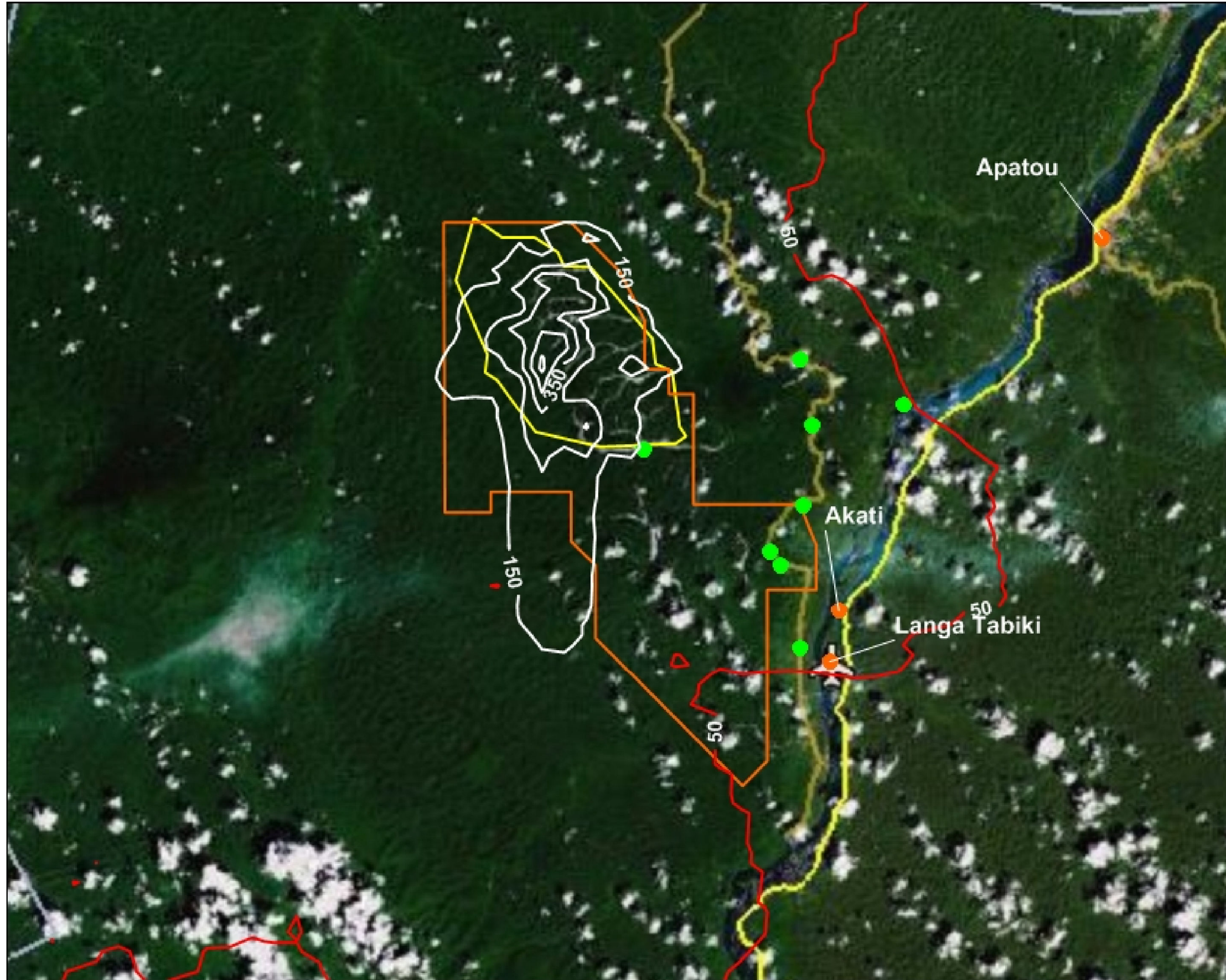
Project:
MERIAN

Sub-Project:
 Environmental & Social Impact Assessment

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



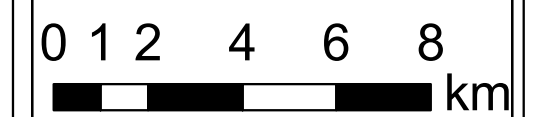
Figure 16-1



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



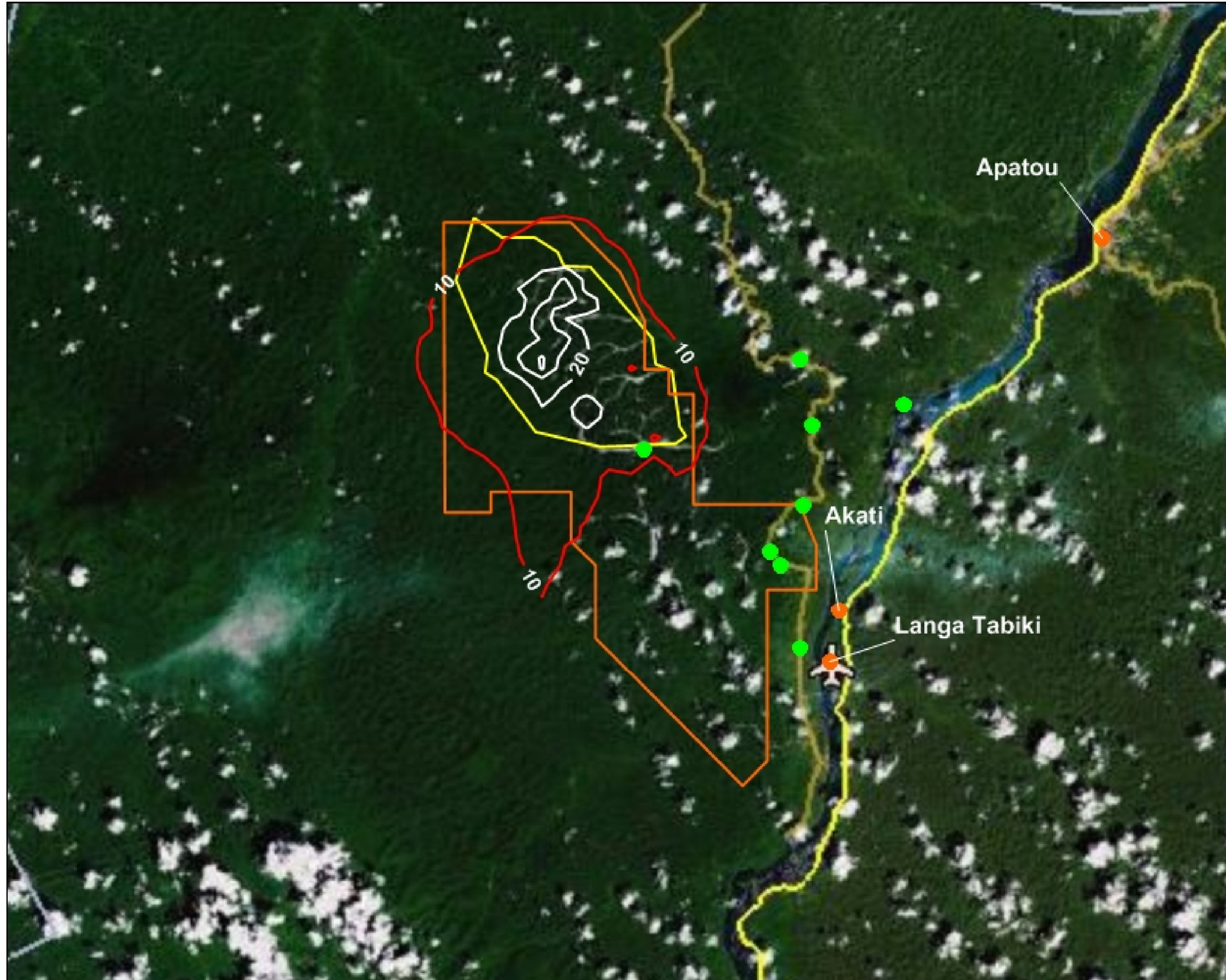
Project:
MERIAN

Sub-Project:
 Environmental & Social Impact Assessment

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



Figure 16-2

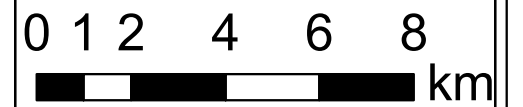


Highest Modeled Annual PM 2.5 Concentrations from Operations at the Mine Site

Legend

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

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



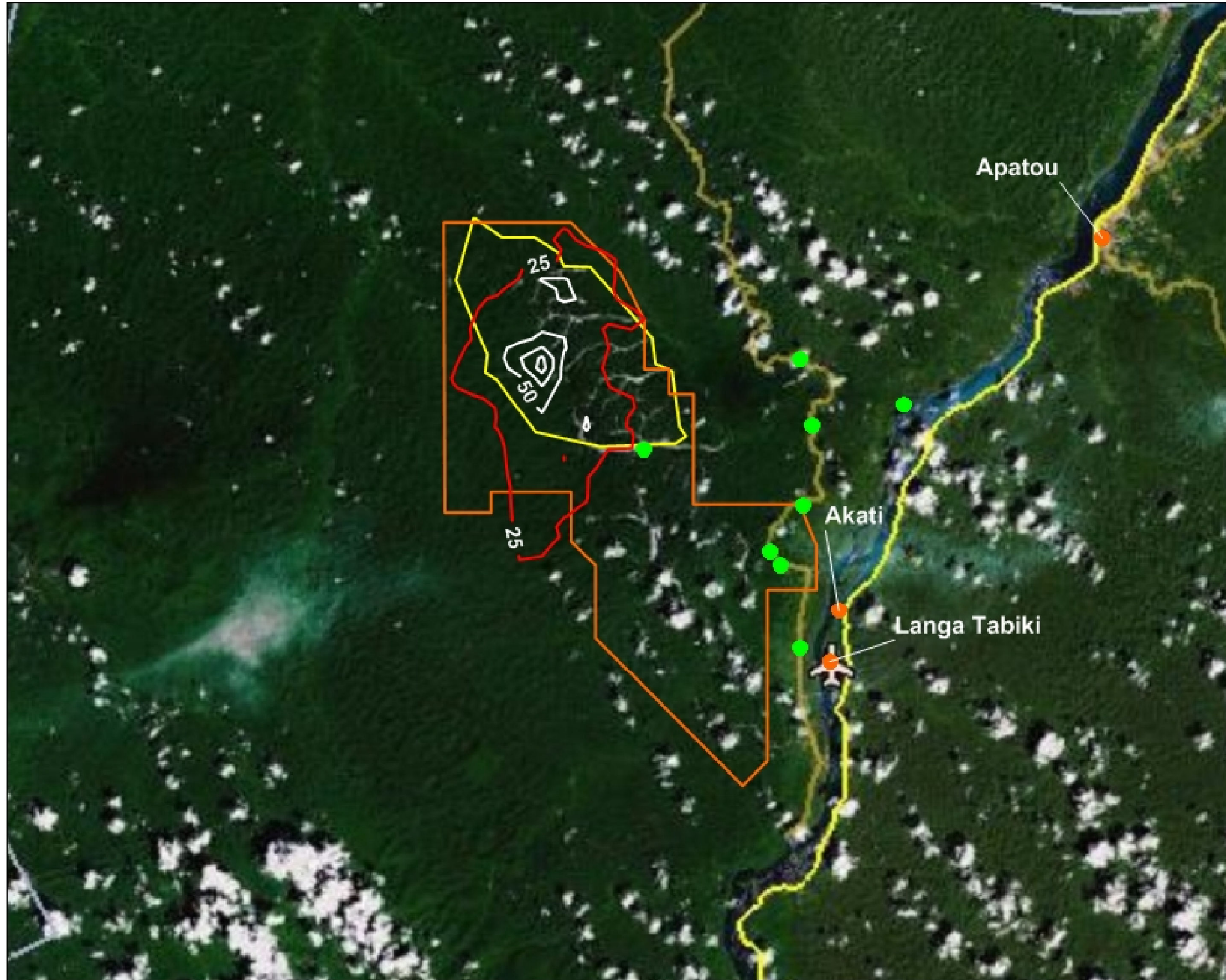
Project:
MERIAN

Sub-Project:
 Environmental & Social
 Impact Assessment

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



Figure 16-3



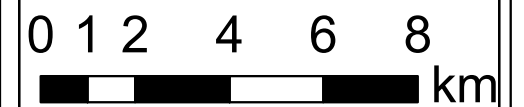
Highest Modeled 24 Hour PM 2.5 Concentrations from Operations at the Mine Site

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



Project:

MERIAN

Sub-Project:

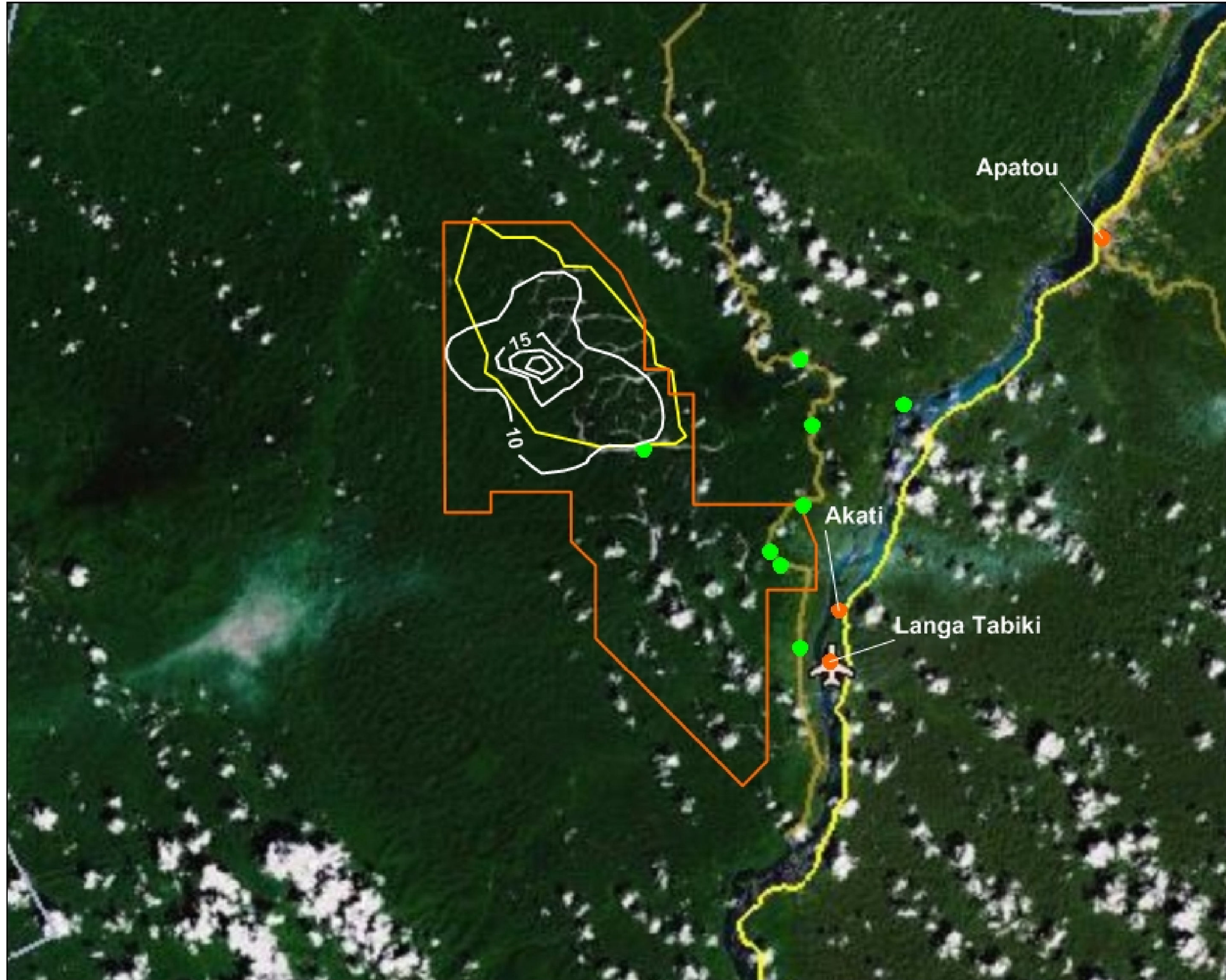
Environmental & Social Impact Assessment

Date: 5/18/12

Created By: J. Huston

Coordinate System: N/A

Figure 16-4

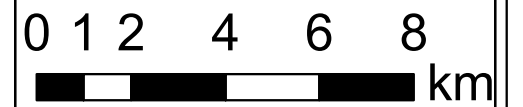


Highest Modeled Annual NO2 Concentrations from Operations at the Mine Site

Legend

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

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

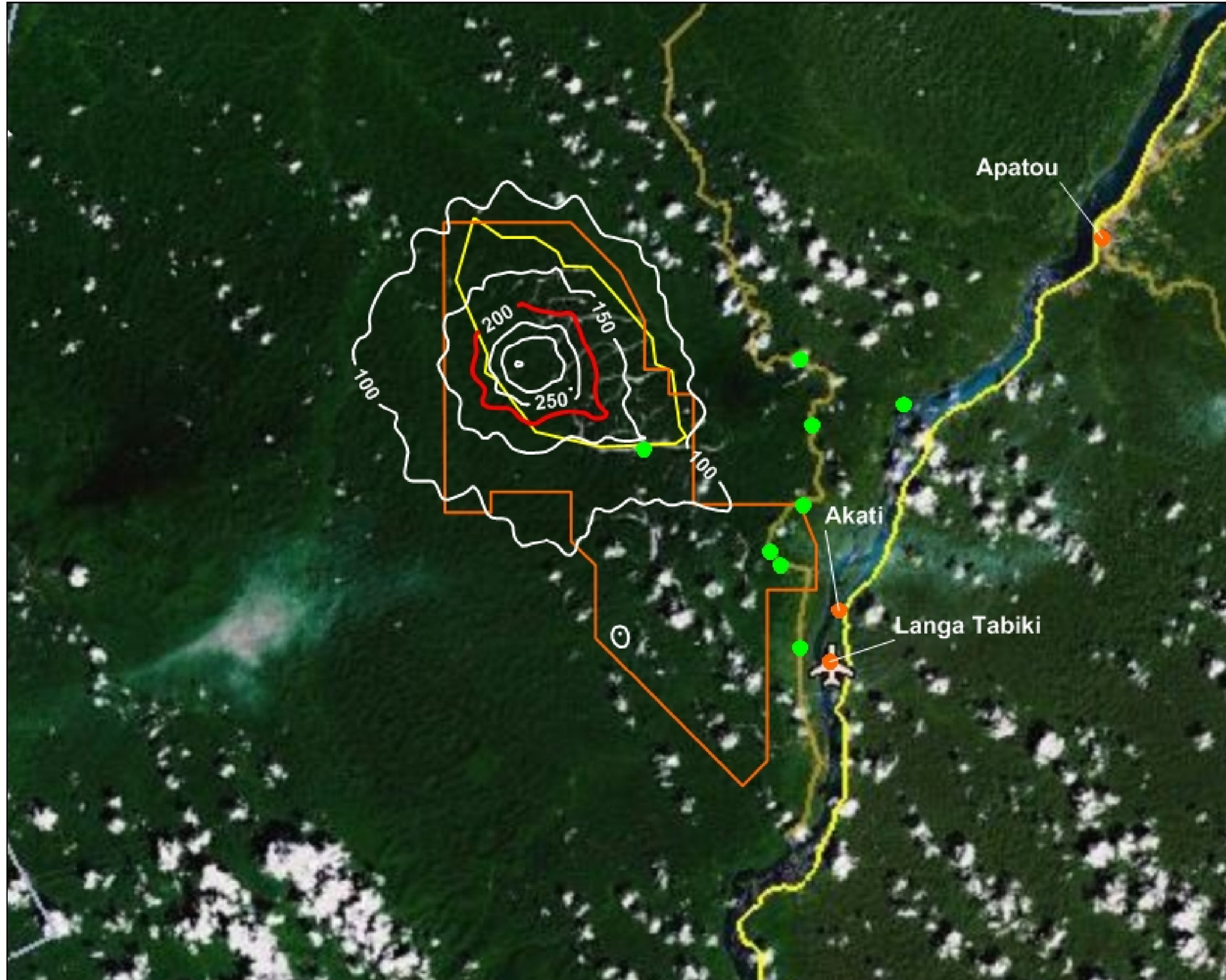


Project:
MERIAN

Sub-Project:
 Environmental & Social Impact Assessment

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

Figure 16-5

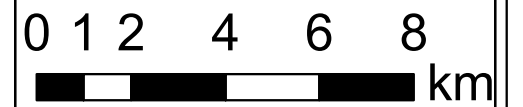


Highest Modeled 1 Hour NO2 Concentrations from Operations at the Mine Site

Legend

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

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



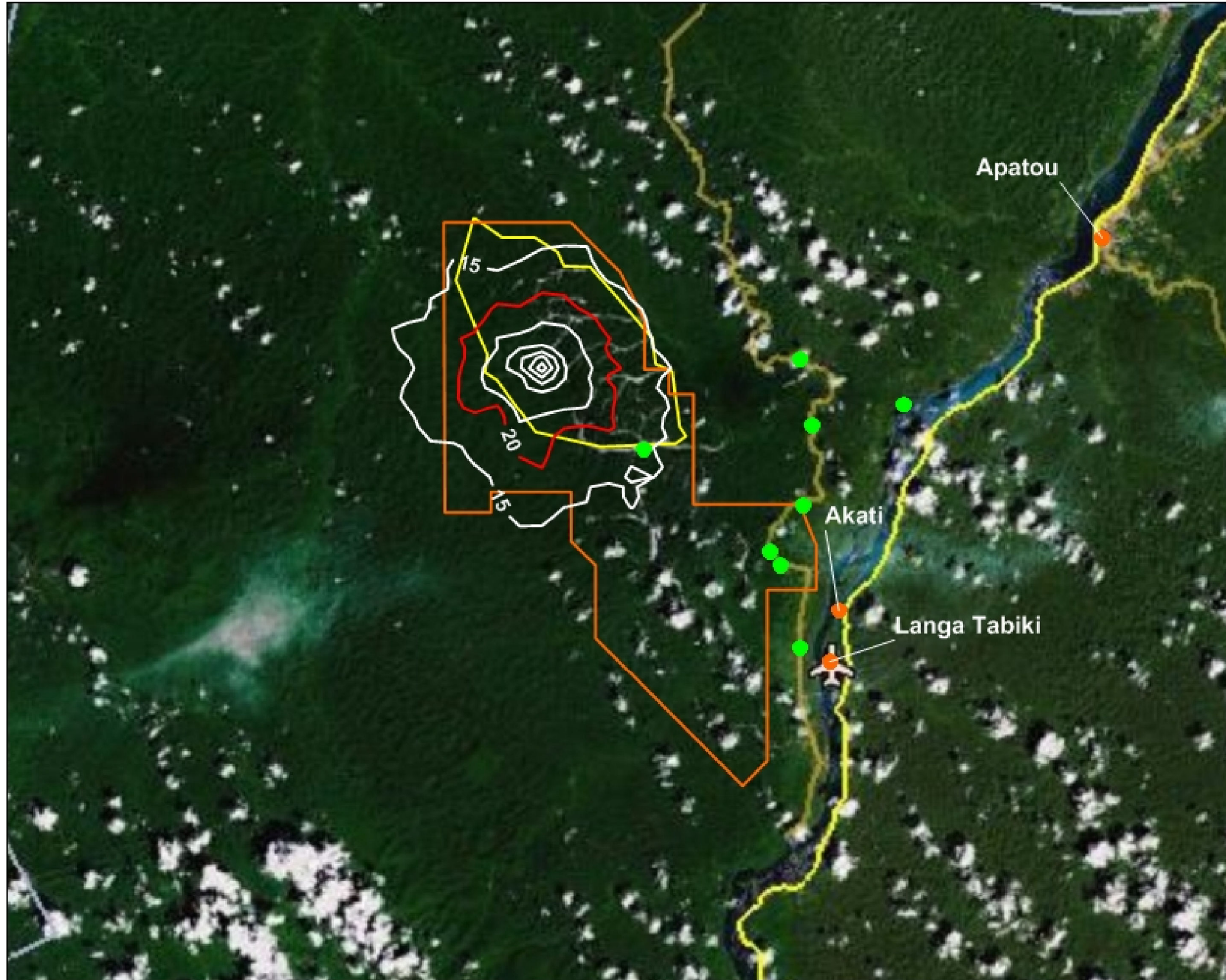
Project:
MERIAN

Sub-Project:
 Environmental & Social
 Impact Assessment

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



Figure 16-6

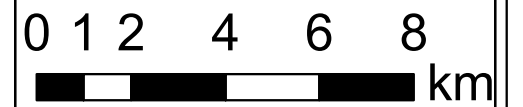


Highest Modeled 24 Hour SO2 Concentrations from Operations at the Mine Site

Legend

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

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



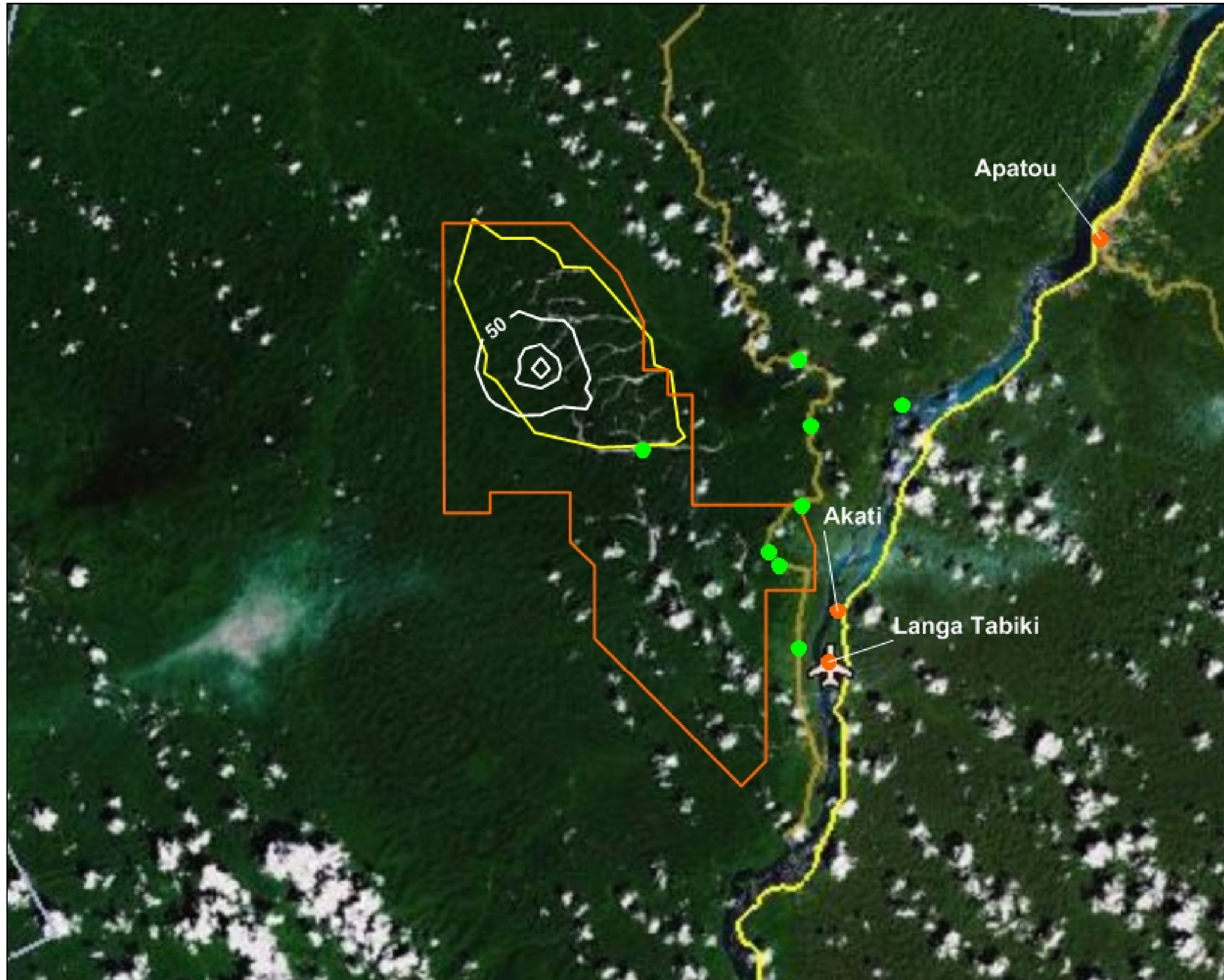
Project:
MERIAN

Sub-Project:
 Environmental & Social
 Impact Assessment

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



Figure 16-7



Highest Modeled 10 Minute SO2 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: 13.9 ug/m3
 Minimum Contour: 50 ug/m3
 Interval: 20
 No values greater than IFC Standard 500 ug/m3



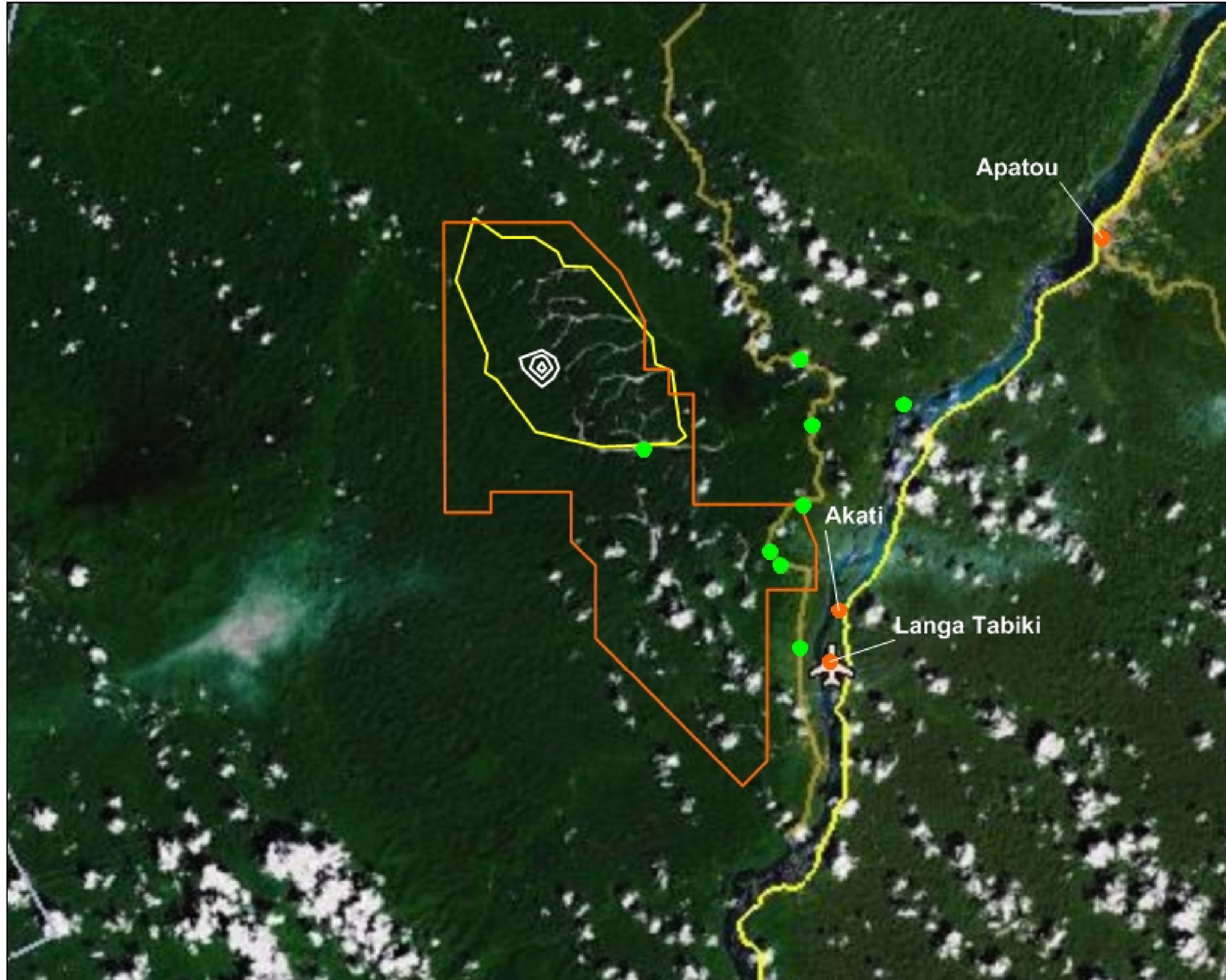
Project:
MERIAN

Sub-Project:
 Environmental & Social
 Impact Assessment

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



Figure 16-8

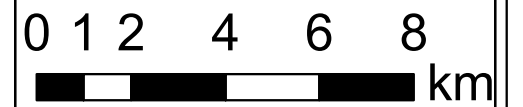


Highest Modeled 8 Hour CO Concentrations from Operations at the Mine Site

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



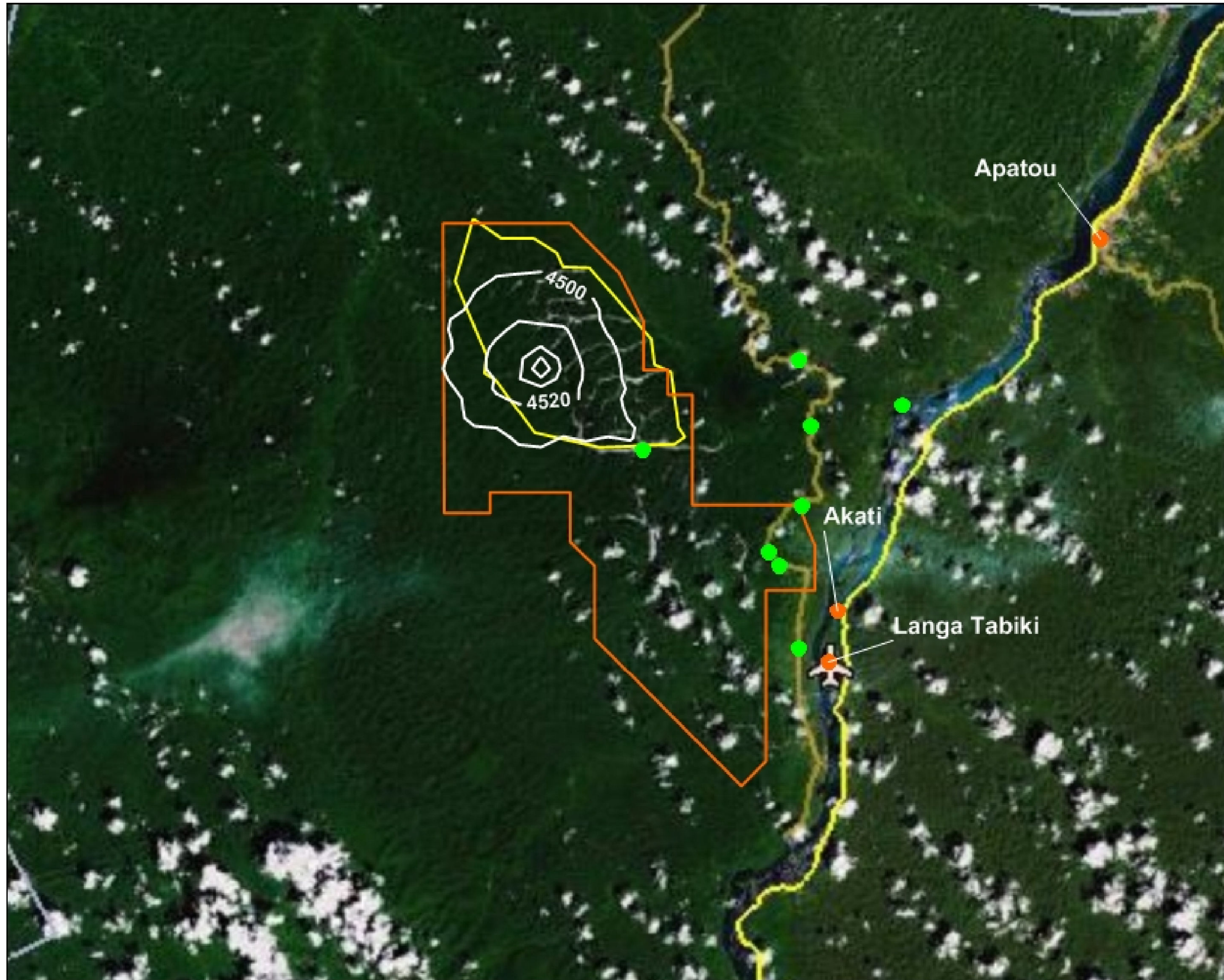
Project:
MERIAN

Sub-Project:
 Environmental & Social
 Impact Assessment

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



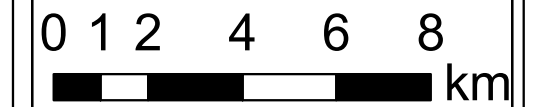
Figure 16-9



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

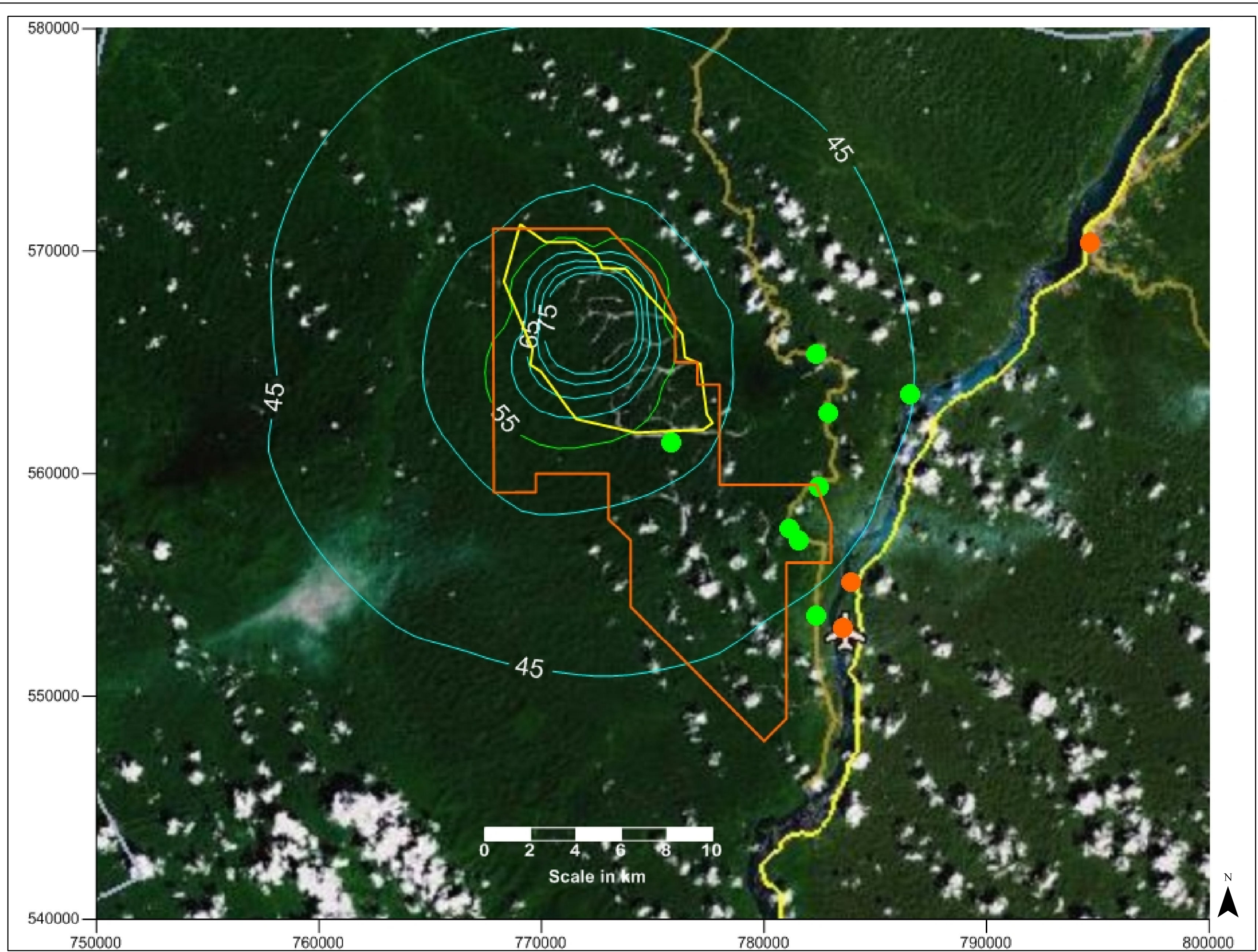


Project:
MERIAN

Sub-Project:
 Environmental & Social
 Impact Assessment

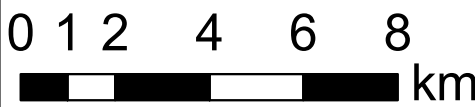
Date: 5/18/12
 Created By: J. Huston
 Coordinate System: N/A

Figure 16-10



Daytime 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 Daytime Leq Noise Standard = 55 dBa

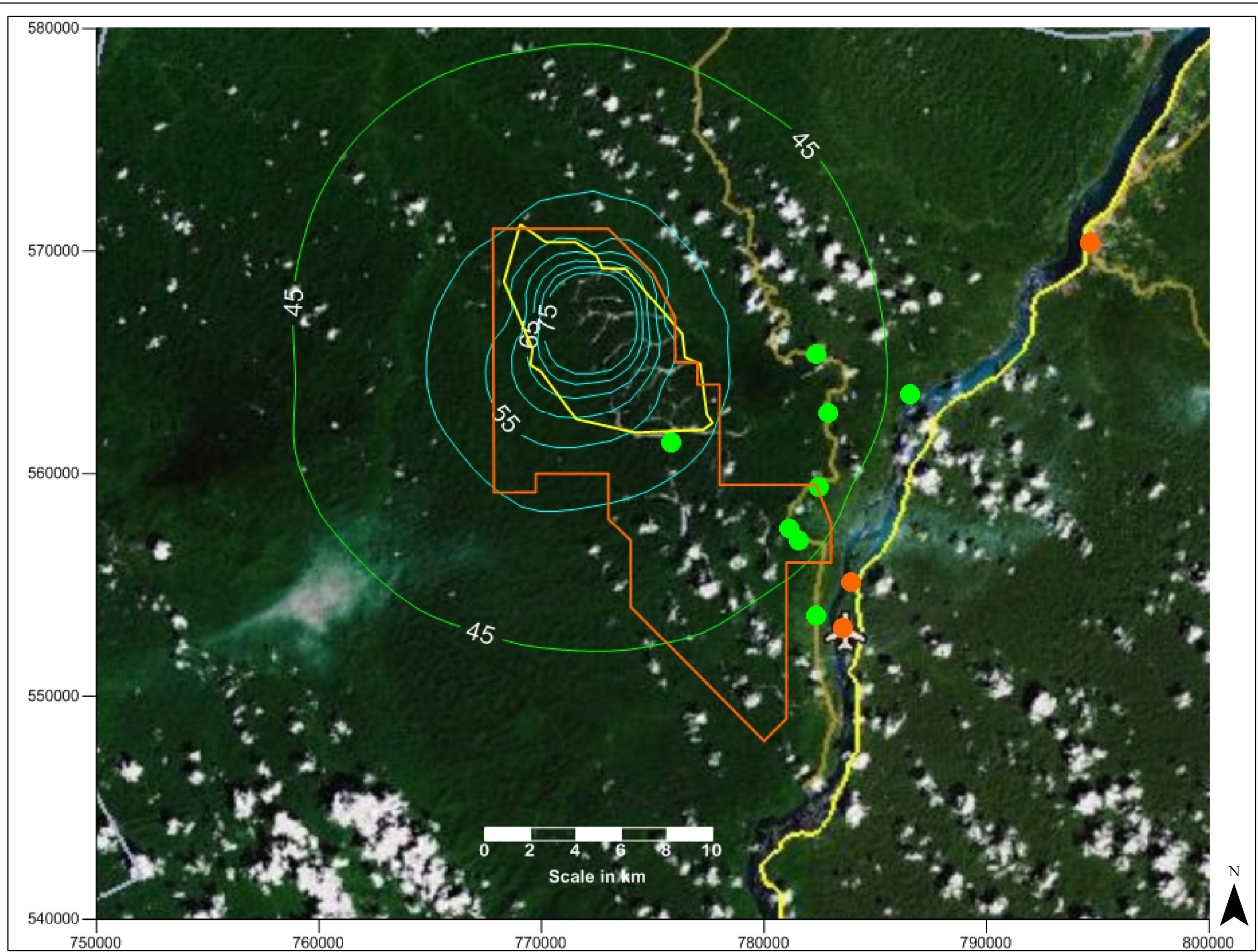


Project:
MERIAN

Sub-Project:
Environmental & Social Impact Assessment

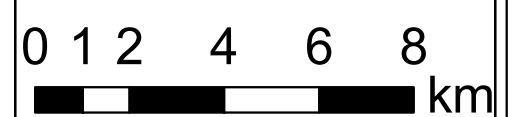
Date: 5/9/12
Created By: M. Cawley
Coordinate System: N/A

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

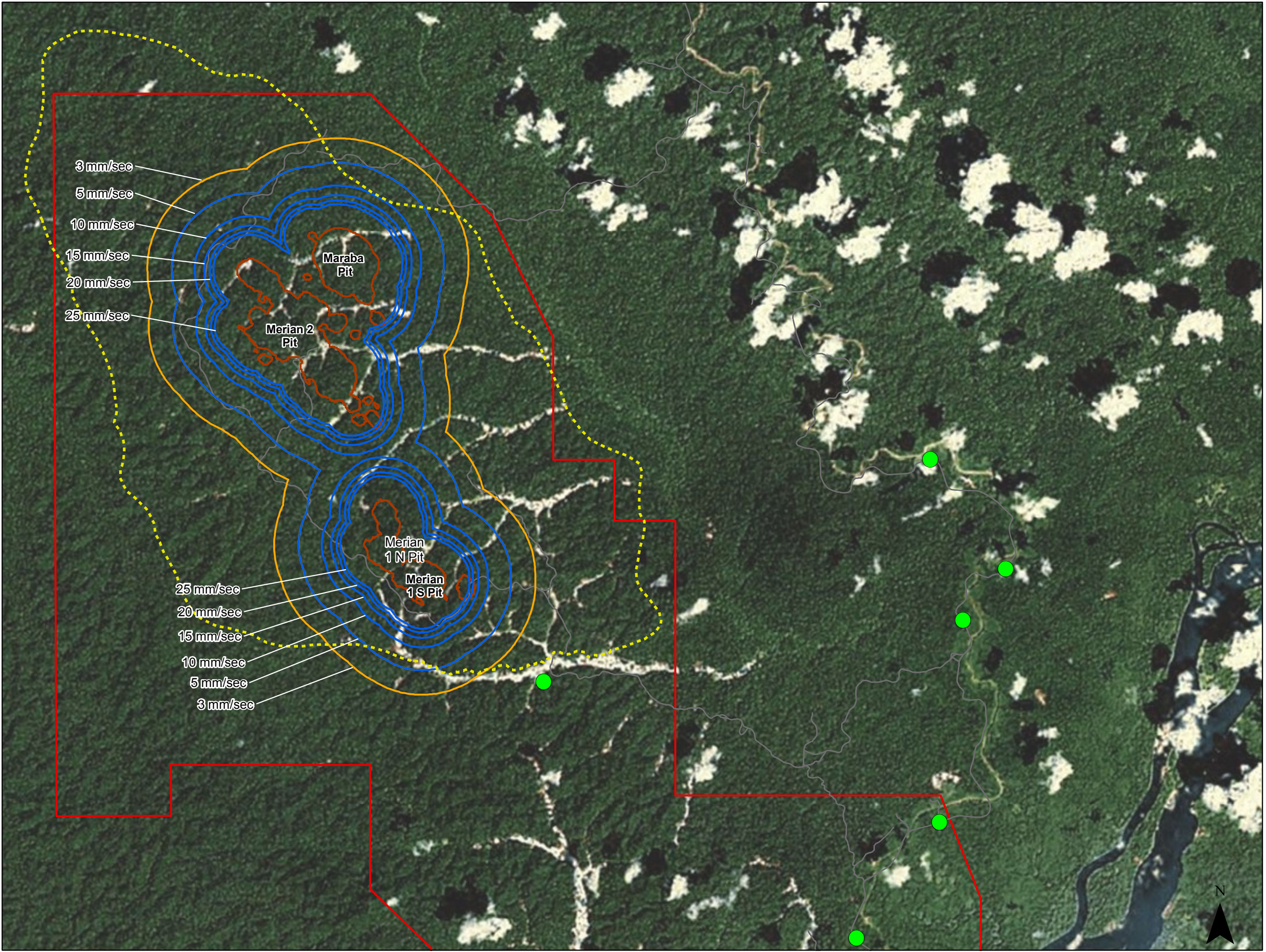


Project:
MERIAN

Sub-Project:
Environmental & Social Impact Assessment

Date: 5/9/12
Created By: M. Cawley
Coordinate System: N/A

Figure 17-2



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

0 1,000 2,000

Meters

1 inch = 1,524 meters

Project:

MERIAN

Sub-Project:

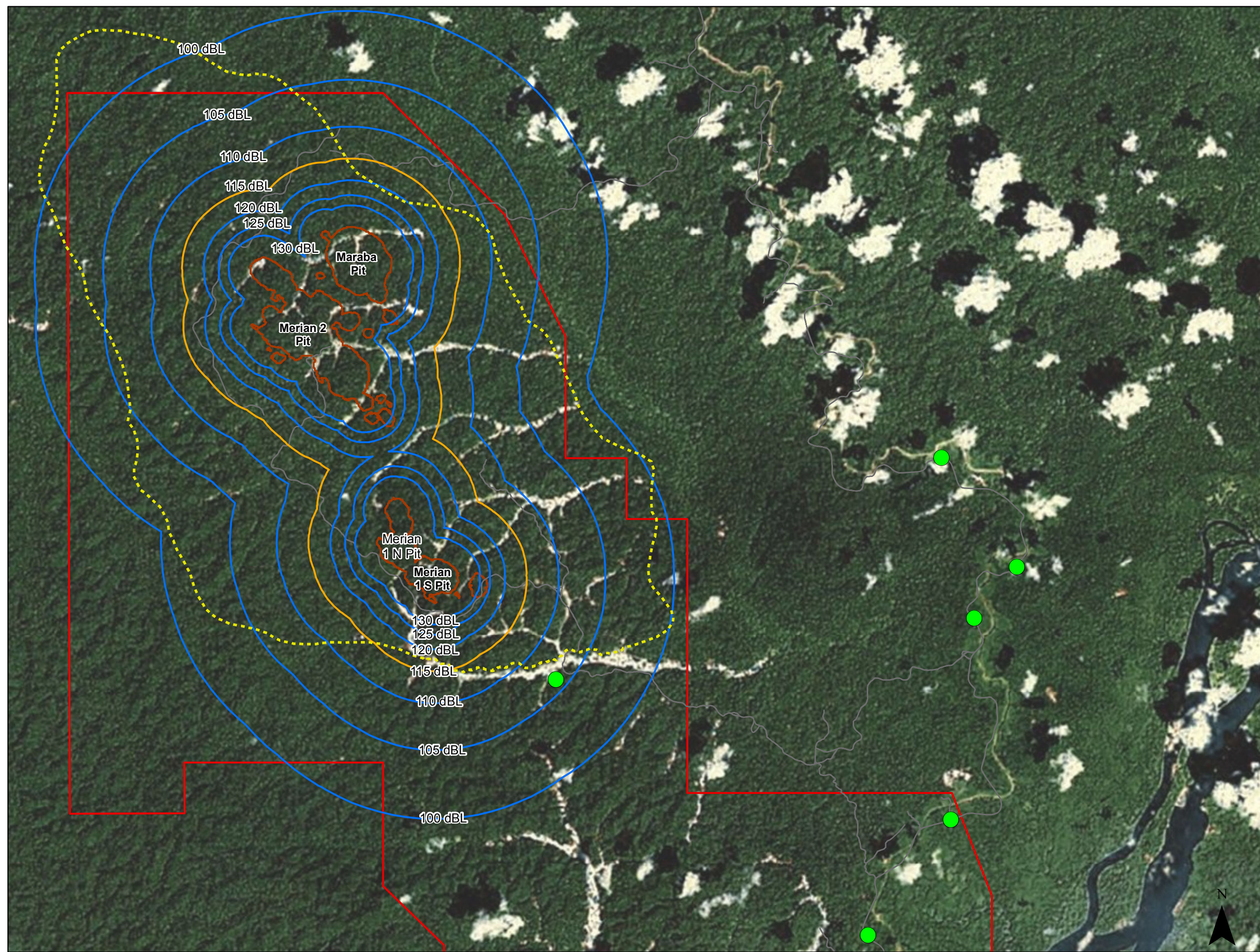
Environmental & Social Impact Assessment

Date: 5/8/12

Created By: Joan Huston

Coordinate System:
Zanderij_1972_UTM_Zone_21N

Figure 17-3




Predicted Airblast Overpressure Contours from Blasting at the Mine Site


Legend

- Artisanal and Small Scale Mining Transient Camp
- Airblast Contours
- Airblast Limit (115 dBL)
- Roads
- Pit
- Merian Right of Exploitation (proposed)
- - - Industrial Zone Boundary

Source: Bing Maps Aerial

0 1,000 2,000
 Meters
 1 inch = 1,524 meters





Project:
MERIAN

Sub-Project:
 Environmental & Social Impact Assessment

Date: 5/8/12

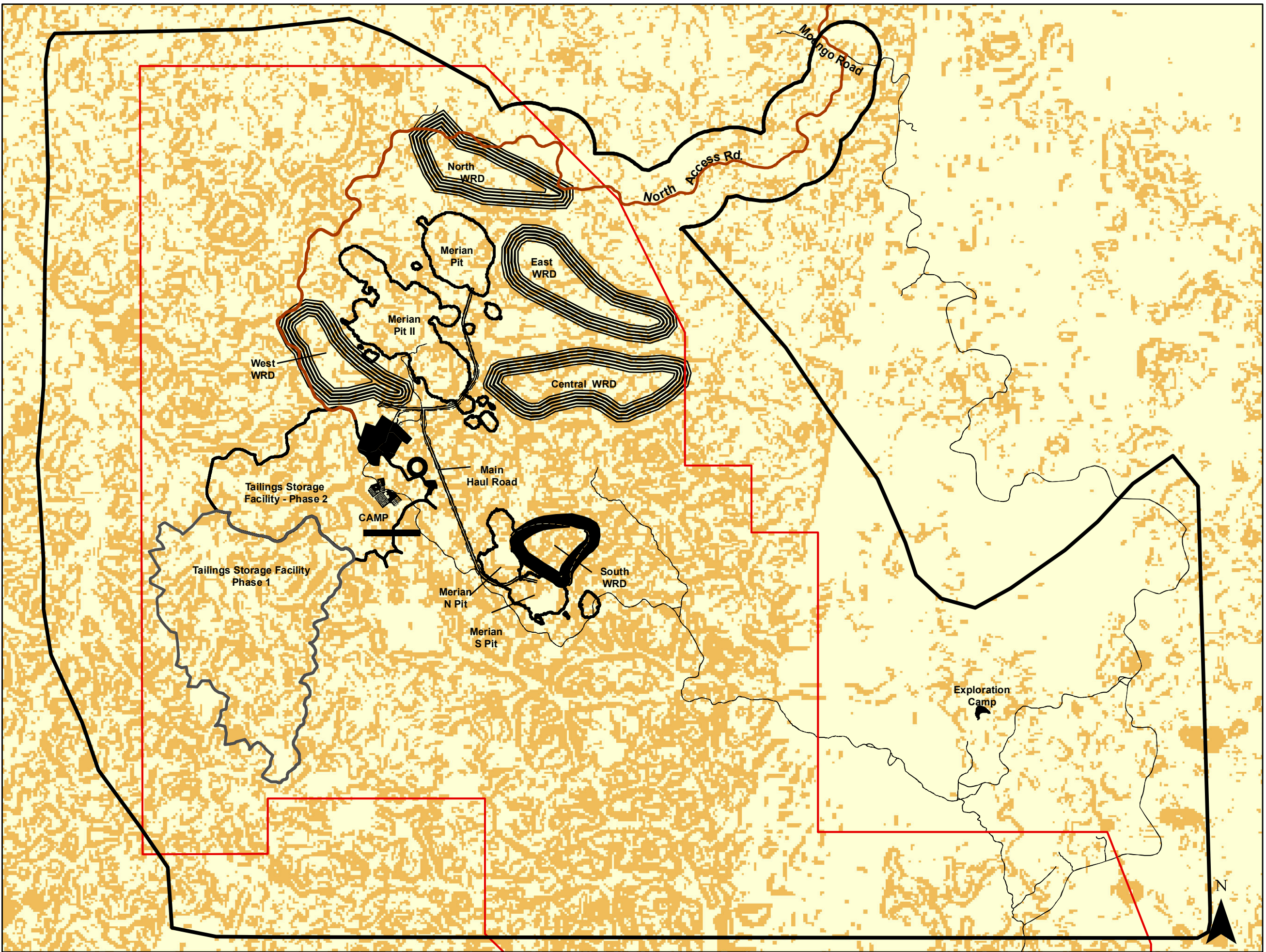
Created By: Joan Huston

Coordinate System:
 Zanderij_1972_UTM_Zone_21N

Figure 17-4







I:\Public\Environmental Services\PROJECTS\Newmont - Merian\GIS\MXD





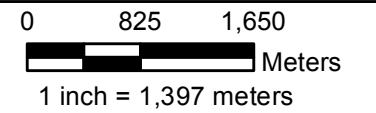
Slope Analysis

Legend

-  Environmental Study Area
-  Transportation Corridor
-  Merian Right of Exploitation (proposed)
-  Project Infrastructure

SLOPE

-  0% - 20%
-  > 20%



Project:

MERIAN

Sub-Project:

**Environmental & Social
Impact Assessment**

Date: 5/24/12

Created By: Maggie Cawley

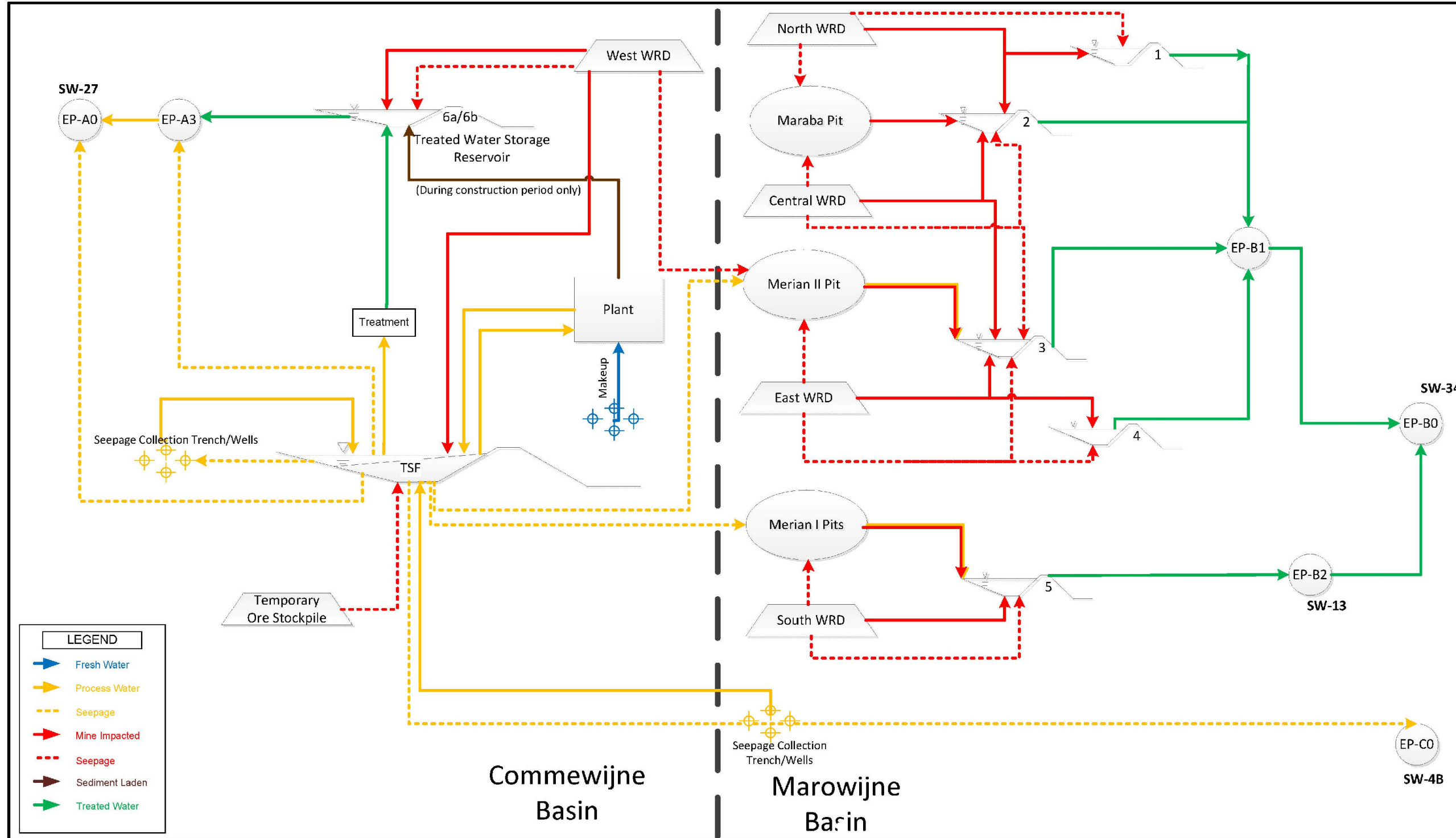
Coordinate System:
Zanderij_1972_UTM_Zone_21N

Figure 18-1

Water Management Plan Conceptual Flow Diagram

Legend

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



LEGEND

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



Project:
MERIAN

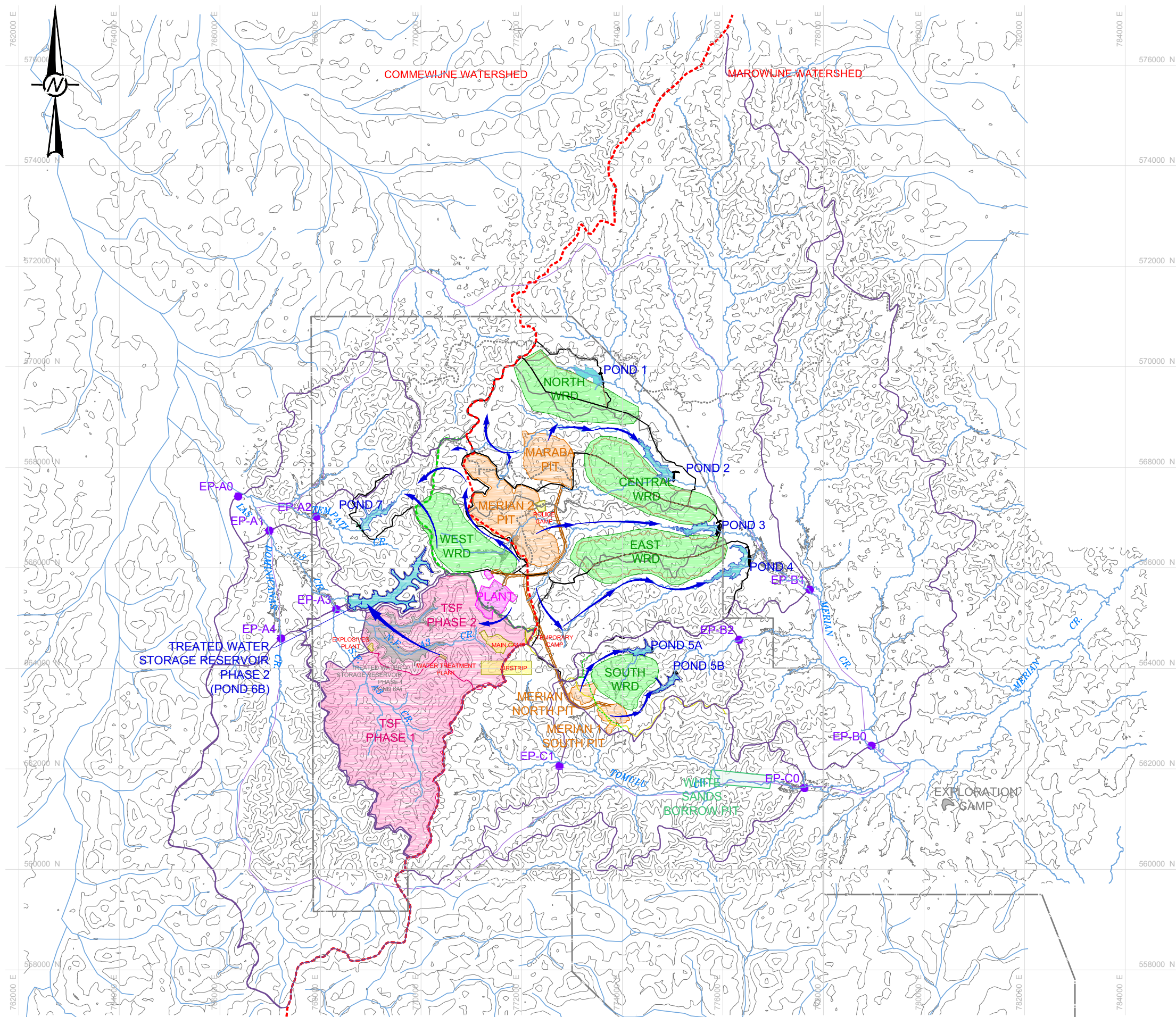
Sub-Project:
Environmental & Social
Impact Assessment

Date: 11/14/12
Created By: Joan Huston
Coordinate System: NA

Figure 19-1



K:\CAD\Projects\201113\3245\66\Hydrology\Baseline\13-3245_961_Plan_Site_Dev.dwg | Layout: 2-1 Planned Site Development | Modified: 11/06/2012 2:37 PM | Plotted: 11/06/2012



LEGEND

- CONTOUR (25m INTERVAL)
- WATERSHED DIVIDE (MAROWIJNE-COMMEWIJNE)
- SURFACE WATER DIVIDE
- GROUNDWATER DIVIDE
- RIGHT OF EXPLOITATION
- CREEK (APPROXIMATE)
- PLANT
- PIT
- WASTE ROCK DISPOSAL AREA (WRD)
- TAILINGS STORAGE FACILITY (TSF)
- SEDIMENTATION POND
- EP-A0
- FLOW DIVERSION

NOTES

1. LOCATION 6A OF THE TREATED WATER STORAGE RESERVOIR WILL BE IN SERVICE DURING PHASE 1 OF THE TAILINGS STORAGE FACILITY AND WILL ACT AS A STARTER DAM FOR THE PHASE 2 TAILINGS STORAGE FACILITY.
2. LOCATION 6B OF THE TREATED WATER STORAGE RESERVOIR WILL BE IN SERVICE DURING PHASE 2 OF THE TAILINGS STORAGE FACILITY AND WILL ACT AS A STARTER DAM FOR THE PHASE 3 TAILINGS STORAGE FACILITY (ANNEX).



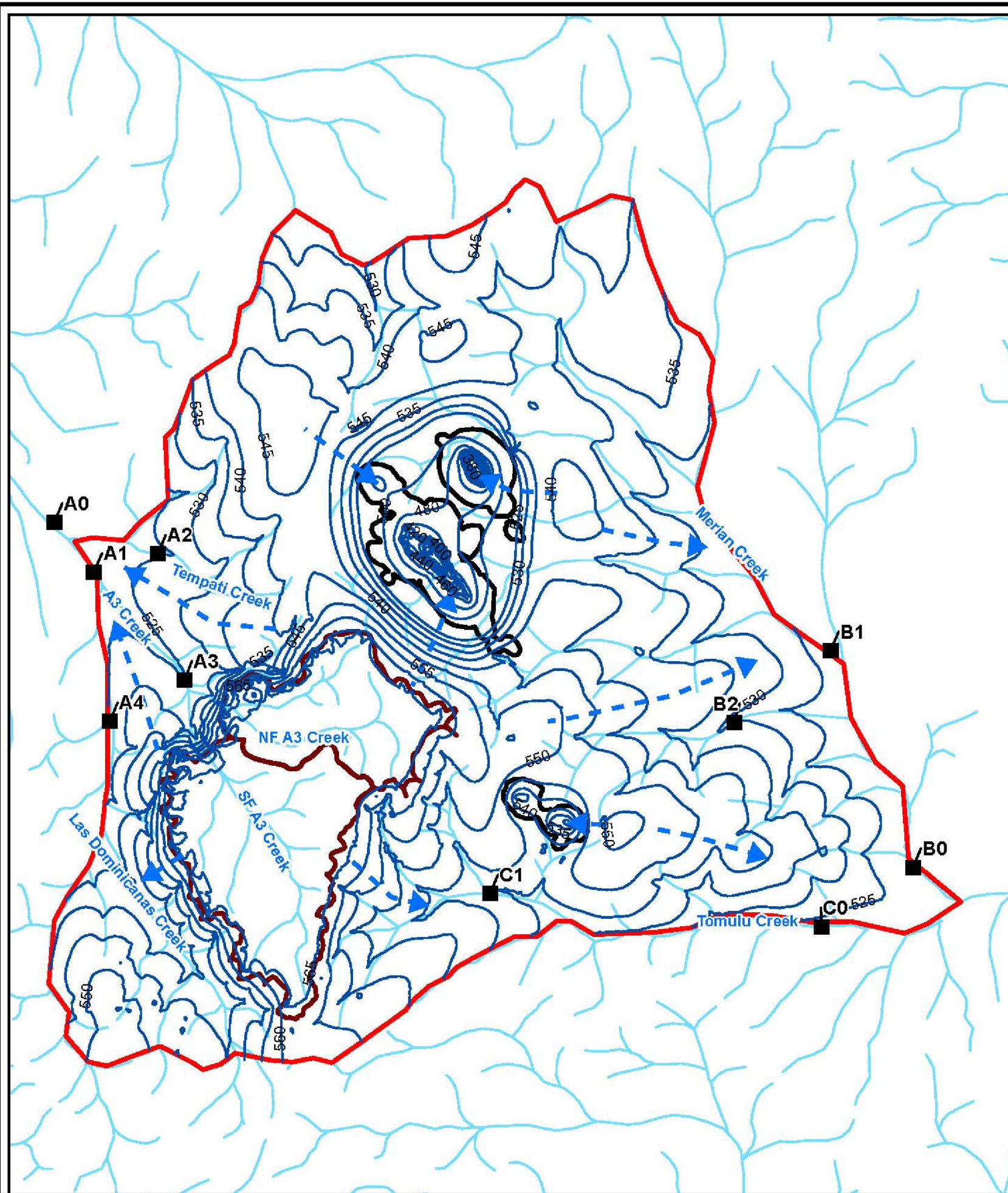
Figure 19-2



PROJECT			
MERIAN GOLD PROJECT			
TITLE			
Mine Site Water Management			
PROJECT No.	113-93245	FILE No.113-93245_961_Plan_Site_Dev	
DESIGN	--	--	SCALE AS SHOWN
CADD	ACF	06-11-2012	FIGURE
CHECK	--	--	19-2
REVIEW	--	--	



NOTE: WGS 84 DATUM - UTM ZONE 21N - GEOID EGM2008 - CONTOUR INTERVAL - 1m. CONTOURS FROM LIDAR SURVEY (MAY 2011)
CONTOUR LINES ARE NOT THEIR ACTUAL ELEVATIONS, THEY HAVE BEEN INCREASED 500m



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:

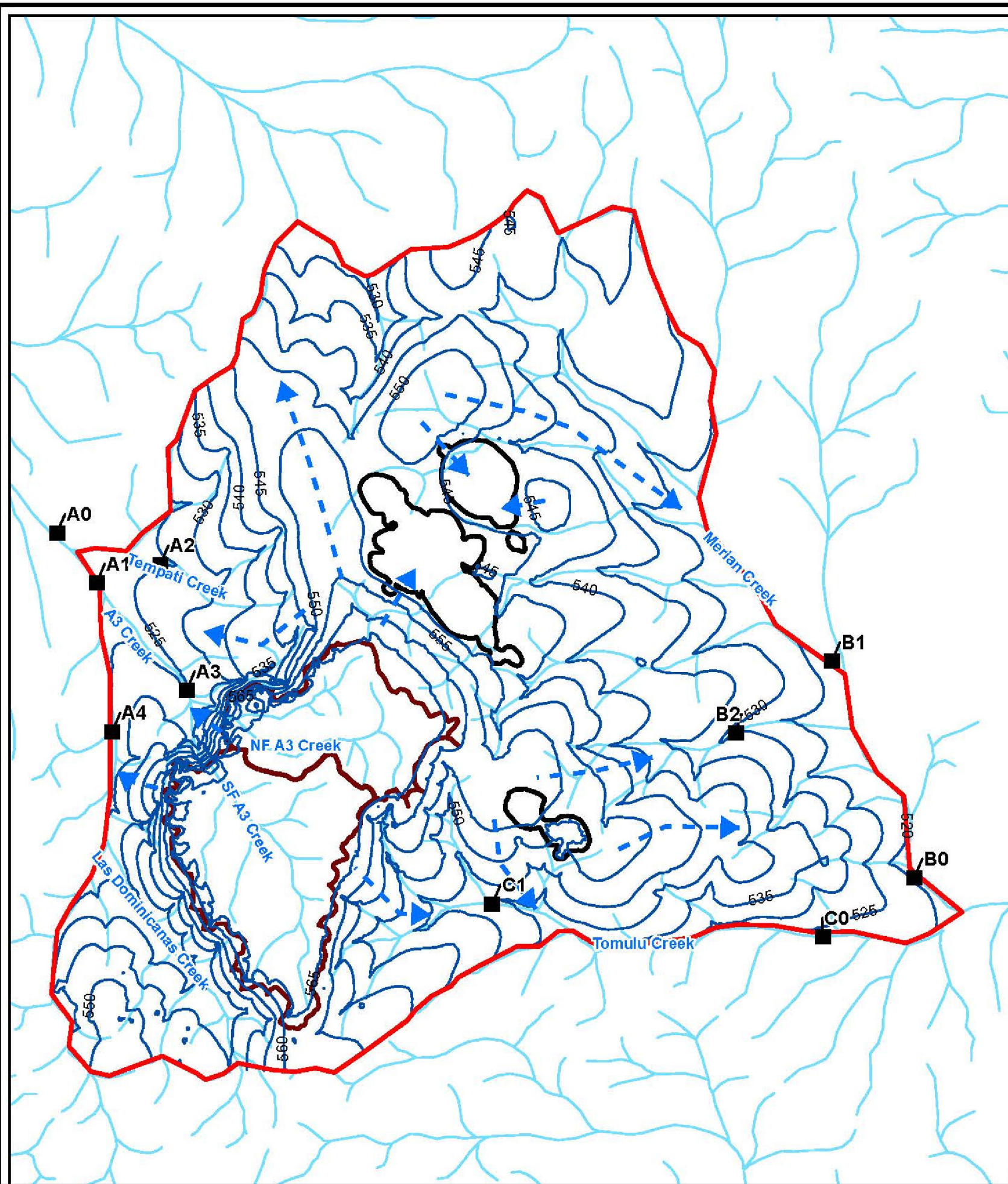
Environmental & Social
Impact Assessment

Date: 5/7/12

Created By: BTheriault

Coordinate System:
WGS_1984_UTM_Zone_21N

Figure 19-3



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

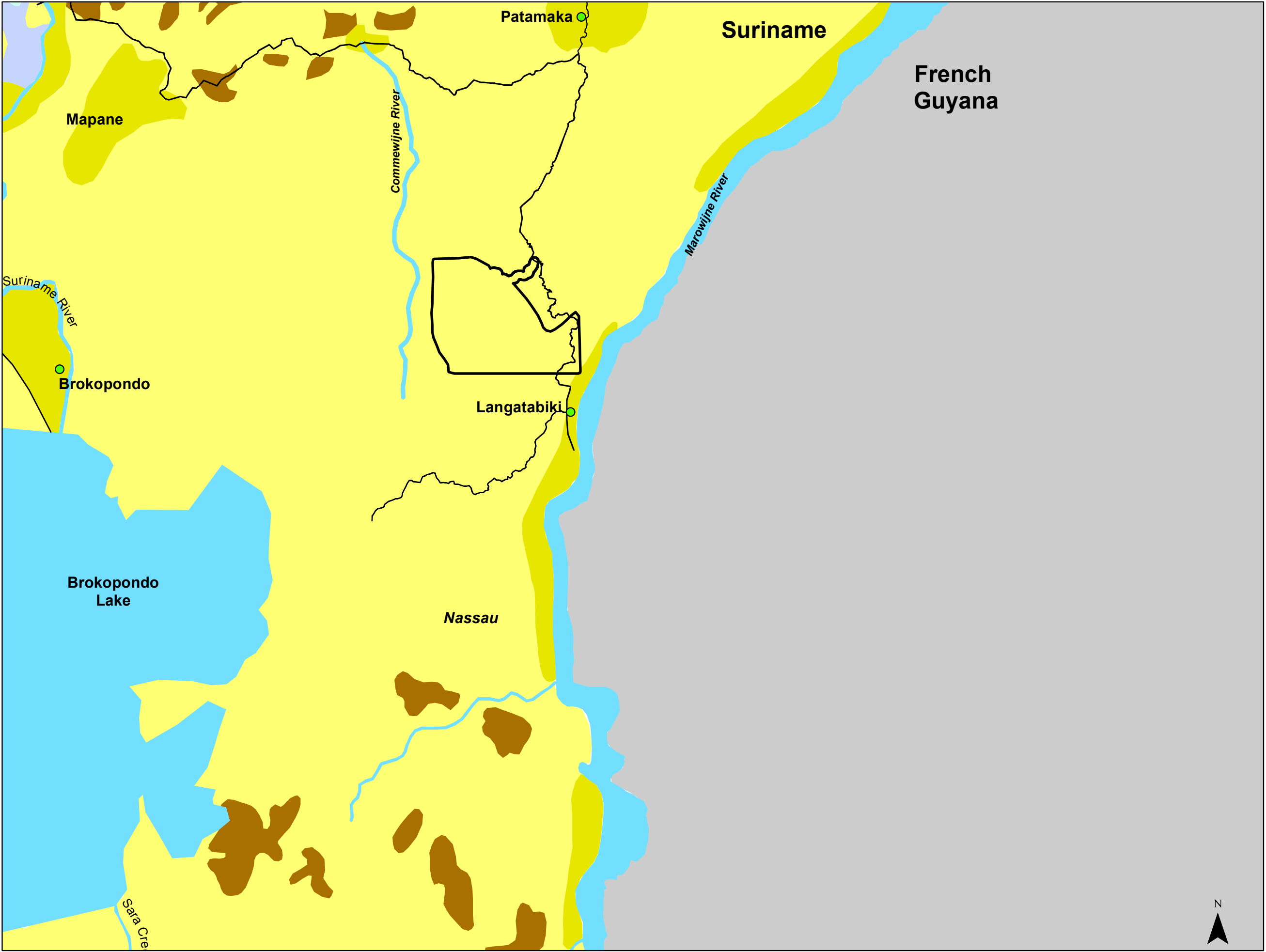
Date: 11/9/12

Created By: BTheriault

Coordinate System:
WGS_1984_UTM_Zone_21N

Figure 19-4

I:\Public\Environmental Services\PROJECTS\Newmont - Merian\GIS\MXD



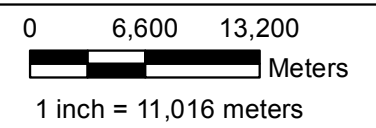
Forested Areas in Northeastern Suriname

- 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
(HARPRO)
with the technical assistance of:
The Organization of American States (OAS), Executive
Secretariat for Economic and Social Affairs Department
of Regional Development (DRD)

Washington, D.C. 1988



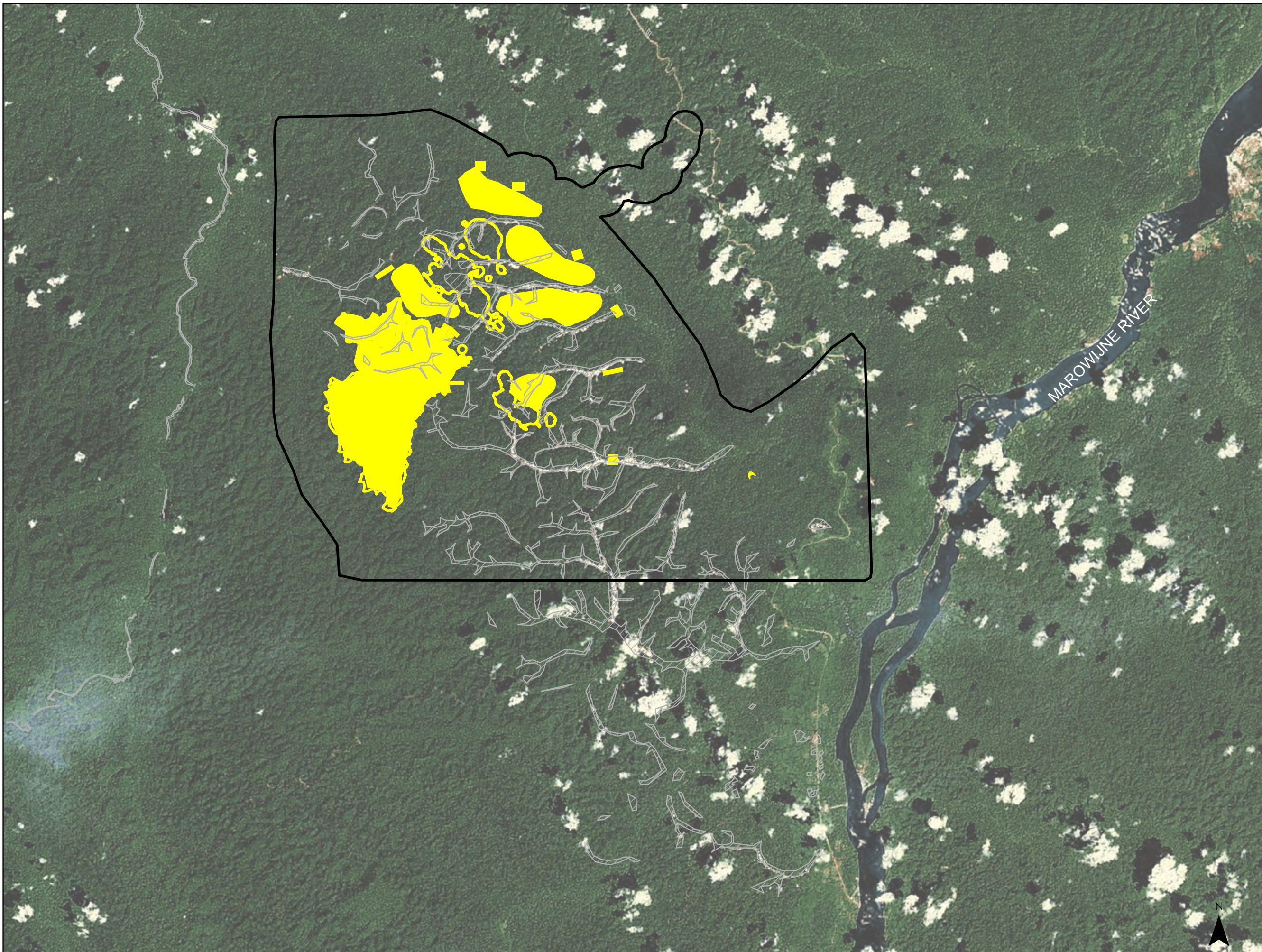
Project:
MERIAN

Sub-Project:
Environmental & Social
Impact Assessment

Date: 5/9/12
Created By: Jonathan Connelly
Coordinate System:
Zanderij_1972_UTM_Zone_21N





Figure 21-2



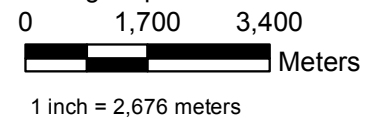


Existing and Proposed Fragmentation

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



Project:
MERIAN

Sub-Project:
 Environmental & Social
 Impact Assessment

Date: 5/10/12
 Created By: Jonathan Connelly
 Coordinate System:
 Zanderij_1972_UTM_Zone_21N

Figure 21-3