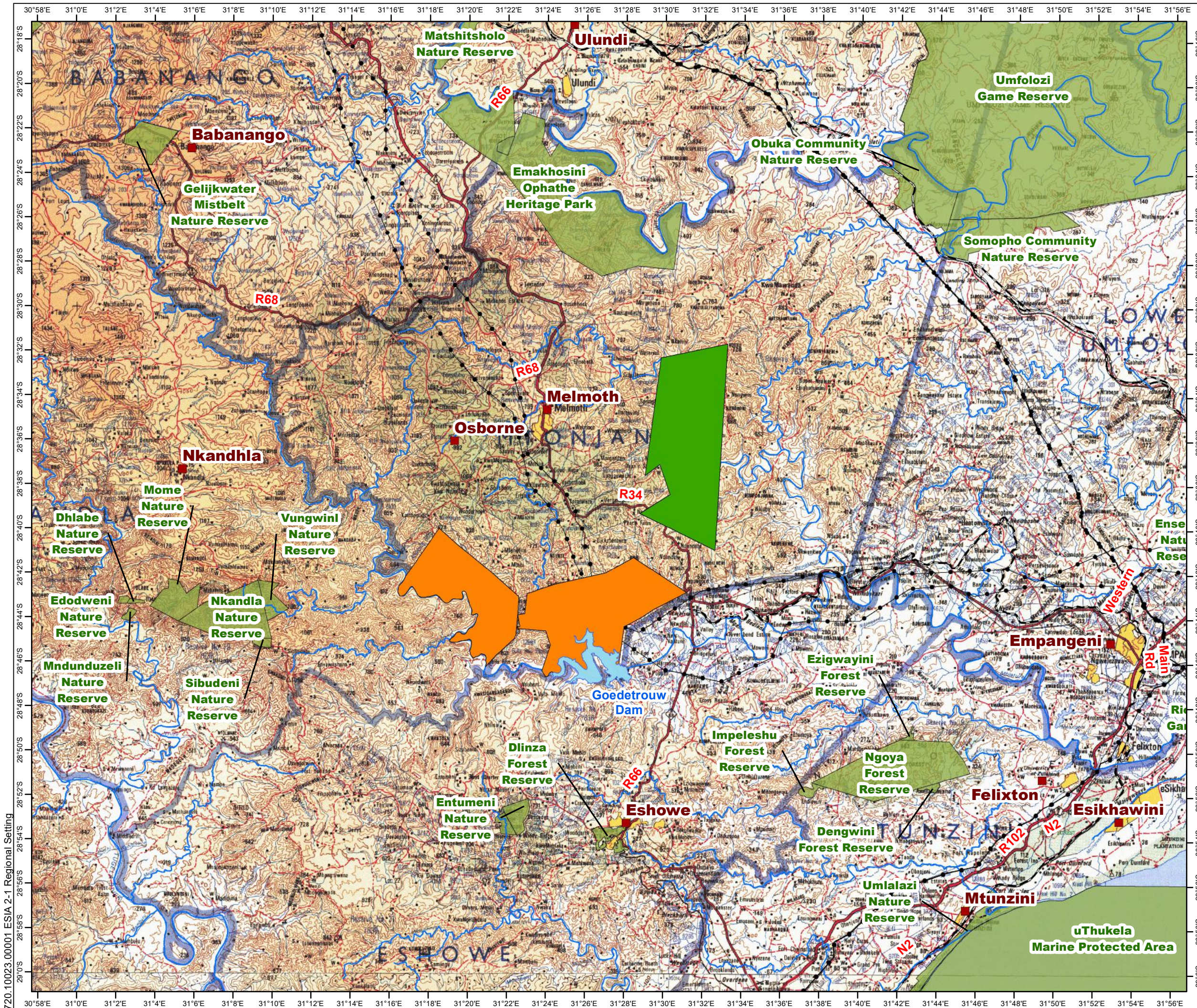
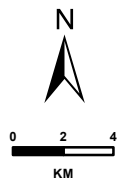


APPENDIX W: A3 MAPS



- Legend**
- Towns / Villages
 - Roads
 - Railway Lines
 - Power Lines
 - Rivers
 - Dams
 - South African Protected Areas
 - Proposed North Block Mining Right Area
 - Proposed South Block Mining Right Area



Scale: 1:300 000 @ A3
 Coordinate System: TM WG31
 Projection: Transverse Mercator
 Datum: Hartbeesthoek 1994

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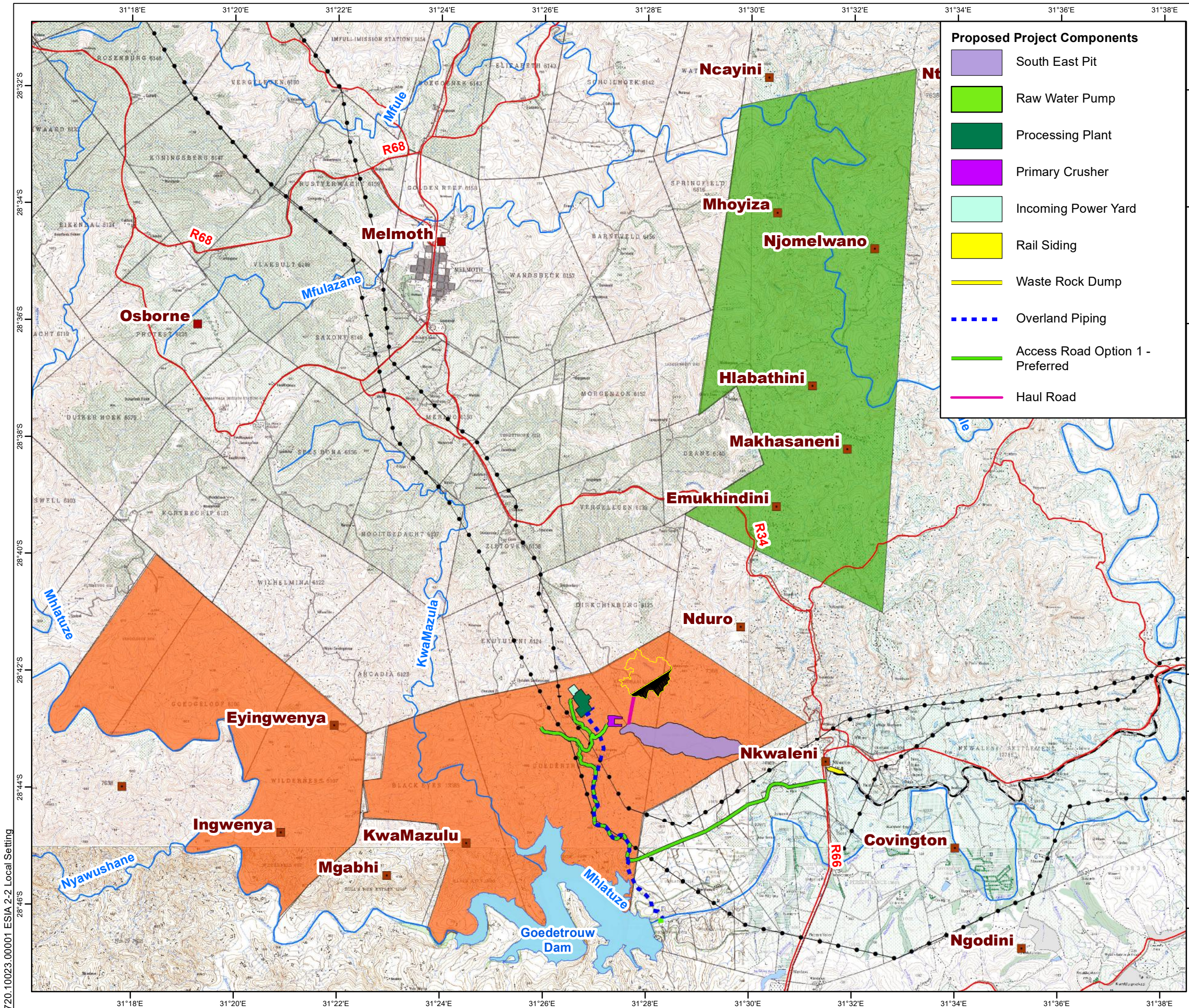
**FIGURE 2-1
 REGIONAL SETTING**



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Project No: 720.10023.00001	Prepared By: BG
Map Ref No: ESIA 2-1	Date: 17/06/2023

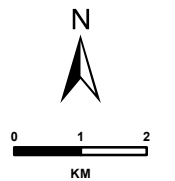
720.10023.00001 ESIA 2-1 Regional Setting



- Proposed Project Components**
- South East Pit
 - Raw Water Pump
 - Processing Plant
 - Primary Crusher
 - Incoming Power Yard
 - Rail Siding
 - Waste Rock Dump
 - Overland Piping
 - Access Road Option 1 - Preferred
 - Haul Road



- Legend**
- Towns / Villages
 - Roads
 - Railway Lines
 - Power Lines
 - Rivers
 - Dams
 - Proposed North Block Mining Right Area
 - Proposed South Block Mining Right Area



Scale: 1:114 000 @ A3
 Coordinate System: TM WG31
 Projection: Transverse Mercator
 Datum: Hartbeesthoek 1994

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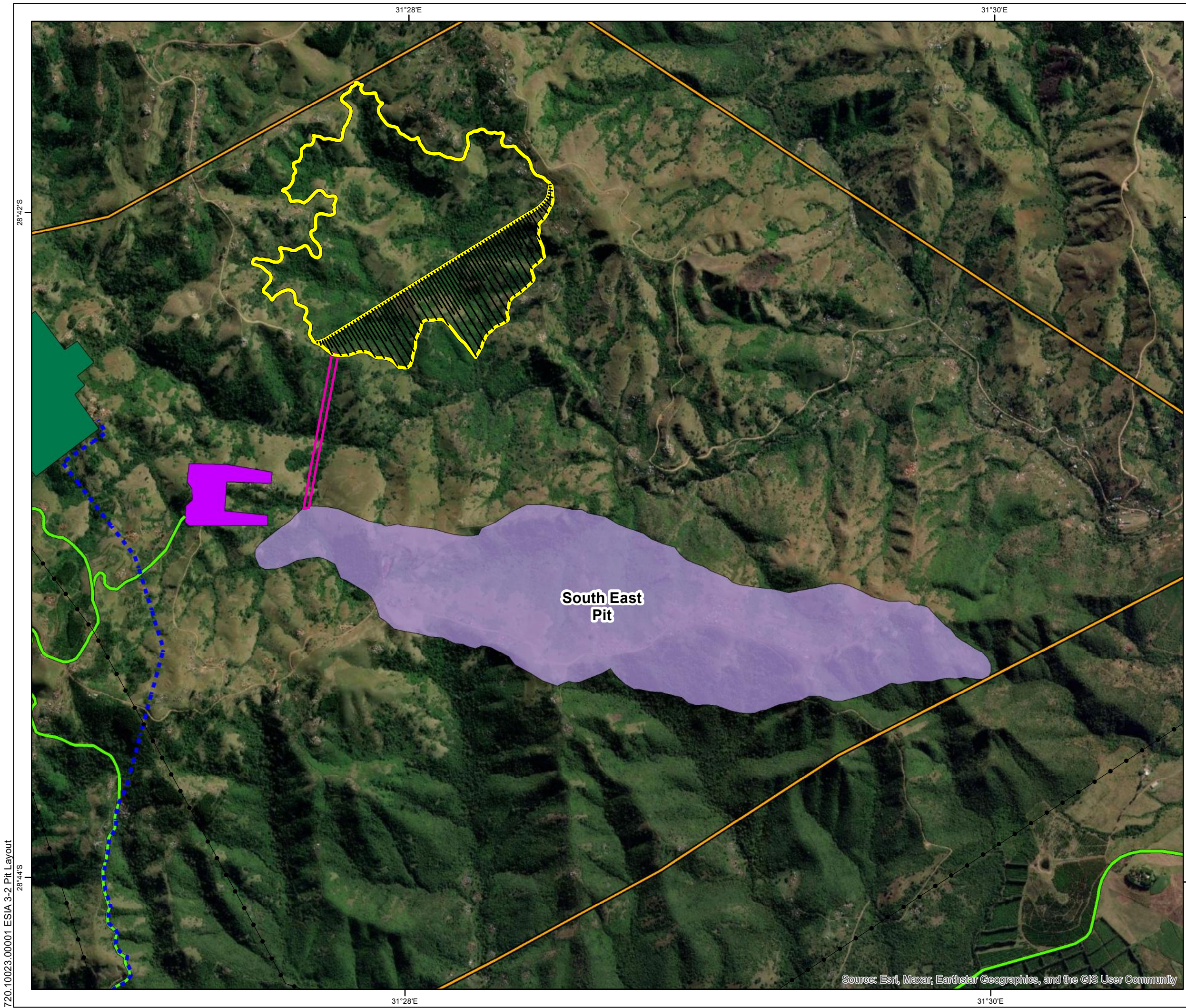
**FIGURE 2-2
 LOCAL SETTING**



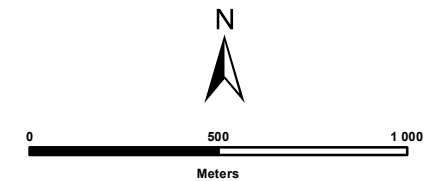
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Project No: 720.10023.00001	Prepared By: BG
Map Ref No: ESIA 2-2	Date: 04/07/2023

720.10023.00001 ESIA 2-2 Local Setting



- Legend**
- Power Lines
 - Rivers
- Proposed Project Components**
- South Block Mining Right Area
 - South East Pit
 - Processing Plant
 - Primary Crusher
 - Haul Road
 - Access Road Option 1 - Preferred
 - Overland Piping
 - Waste Rock Dump



Scale: 1:20 000 @ A3
 Coordinate System: TM WG31
 Projection: Transverse Mercator
 Datum: Hartebeesthoek 1994

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**FIGURE 3-2
 PROPOSED PIT LAYOUT**

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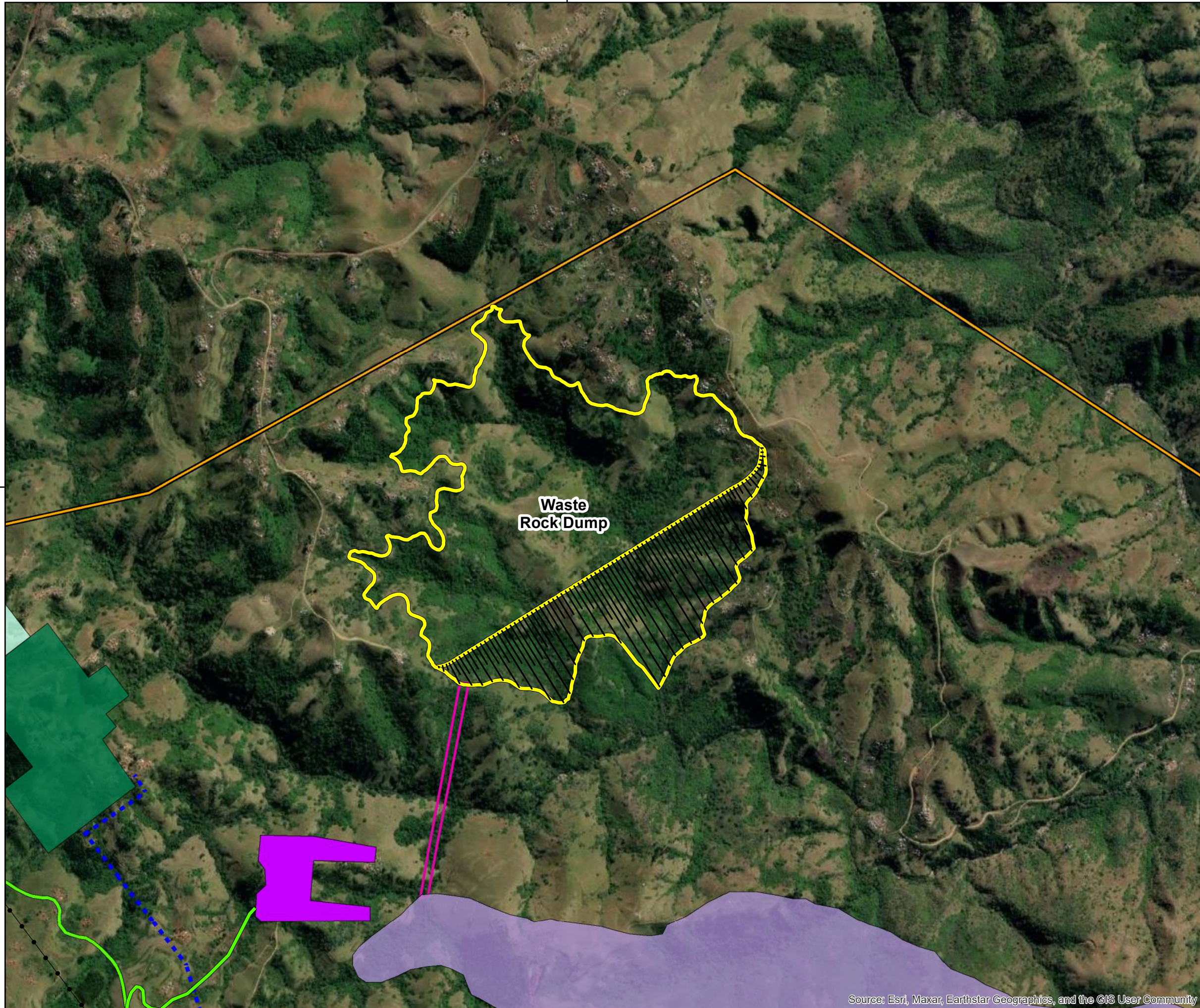
Project No: 720.10023.00001	Prepared By: BG
Map Ref No: ESIA 3-2	Date: 04/07/2023

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

720.10023.00001 ESIA 3-2 Pit Layout

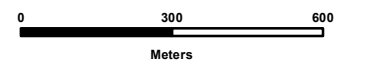
31°28'E

28°42'S



Legend

- Power Lines
- Proposed Project Components**
- South Block Mining Right Area
- South East Pit
- Primary Crusher
- Processing Plant
- Incoming Power Yard
- Haul Road
- Access Road Option 1 - Preferred
- Overland Piping
- Waste Rock Dump



Scale: 1:15 000 @ A3
 Coordinate System: TM WG31
 Projection: Transverse Mercator
 Datum: Hartebeesthoek 1994

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**FIGURE 3-3
 PROPOSED WRD FOOTPRINT**



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Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

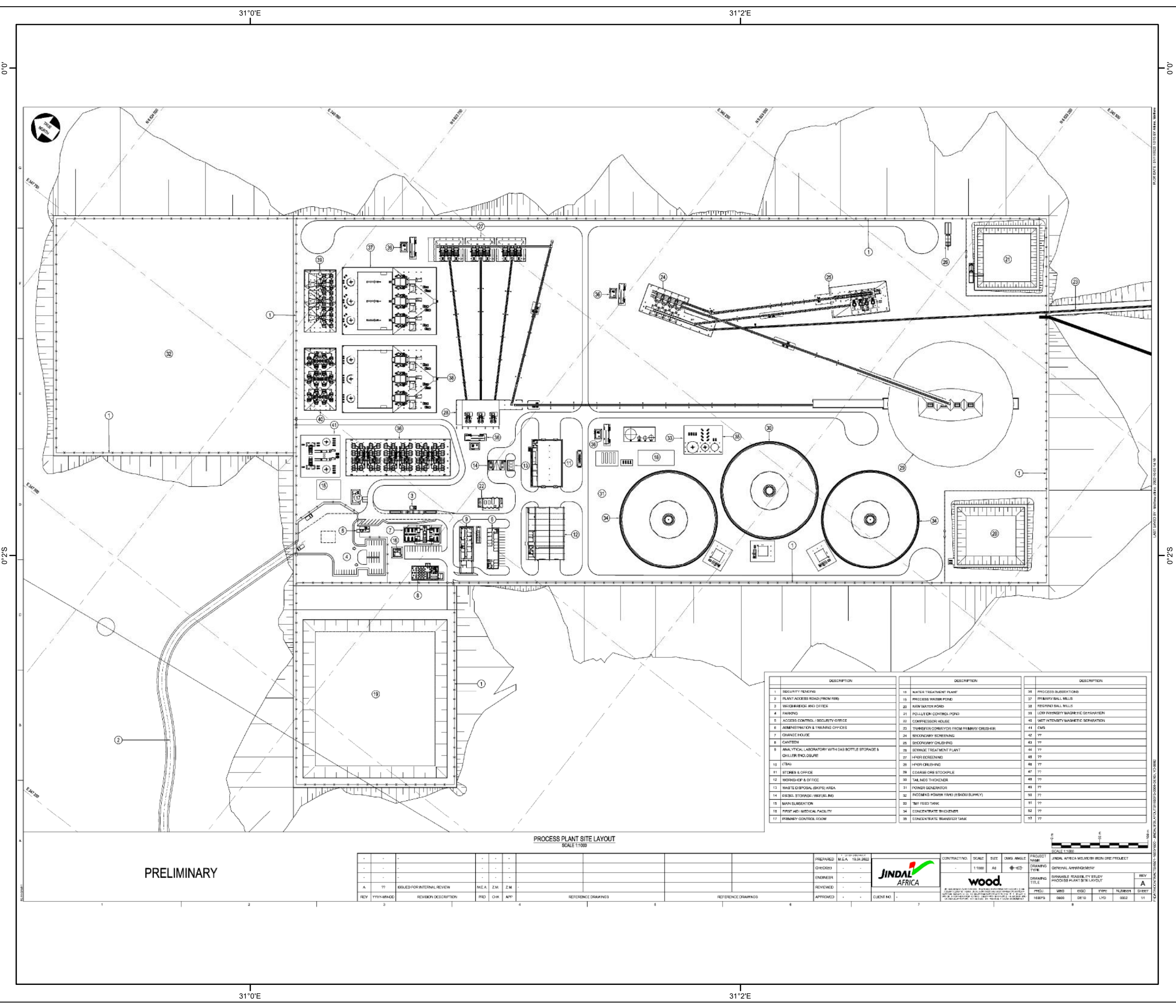
31°28'E

28°42'S

720.10023.00001 ESIA 3-3 WRD Footprint

Project No: 720.10023.00001	Prepared By: BG
Map Ref No: ESIA 3-3	Date: 04/07/2023

720.10023.00001 ESIA 3-7 Processing Plant Layout



DESCRIPTION	DESCRIPTION	DESCRIPTION
1 SECURITY FENCING	10 WATER TREATMENT PLANT	35 PROCESS SUBSTATIONS
2 PLANT ACCESS ROAD (FROM FIB)	15 PROCESS WATER POND	37 PRIMARY BALL MILLS
3 WINDBREAKER AND OFFICE	20 RAW WATER POND	38 SECONDARY BALL MILLS
4 TRAINING	21 PULVERIZER CONTROL POND	39 LOW INTENSITY MAGNETIC SEPARATION
5 ACCESS CONTROL / SECURITY OFFICE	22 COMPRESSOR HOUSE	40 HIGH INTENSITY MAGNETIC SEPARATION
6 ADMINISTRATION & TRAINING OFFICES	23 TRANSMISSION CONTROL FROM PRIMARY CRUSHER	41 CMS
7 CHANGE HOUSE	24 SECONDARY SCREENING	42 99
8 CANTEN	25 SECONDARY CRUSHER	43 99
9 ANALYTICAL LABORATORY WITH GAS BOTTLE STORAGE & CHILLER INC. CLIMATE	26 SEWAGE TREATMENT PLANT	44 99
10 (TRAI)	27 1-HOUR SCREENING	45 99
11 STORES & OFFICE	28 1-HOUR CRUSHING	46 99
12 WORKSHOP & OFFICE	29 COARSE ORE STOCKPILE	47 99
13 WASTE DISPOSAL (BRIQUETS) AREA	30 TAILINGS THICKENER	48 99
14 DIESEL STORAGE / REPAIRING	31 POWER GENERATOR	49 99
15 MAIN ELIMINATION	32 FROTHING POWER YARD (BANK SUPPLY)	50 99
16 FIRST AID / MEDICAL FACILITY	33 TMF FEED TANK	51 99
17 PRIMARY CONTROL ROOM	34 CONCENTRATE THICKENER	52 99
	35 CONCENTRATE TRANSFER TANK	53 99

PROCESS PLANT SITE LAYOUT
SCALE 1:1000

PRELIMINARY

REV	YYYYMMDD	REVISION DESCRIPTION	PREP	CHK	APP	REFERENCE DRAWINGS
-	-	-	-	-	-	-
A	??	ISSUED FOR INTERNAL REVIEW	ME	ZM	ZM	

PREPARED	17/06/2023	M.E.A. 19/04/2022
CHECKED	-	-
ENGINEER	-	-
REVIEWED	-	-
APPROVED	-	-



CONTRACT NO.	SCALE	SIZE	DWG. ANGLE	PROJECT NAME
	1:1000	A3	45°	JINDAL AFRICA MELDENBURG IRON ORE PROJECT
DRAWING TYPE				GENERAL ARRANGEMENT
DRAWING TITLE				DAMABALE FEASIBILITY STUDY PROCESS PLANT SITE LAYOUT
PROJ.	000	000	000	000
NO.	000	000	000	000
REV.	000	000	000	000
DATE	000	000	000	000

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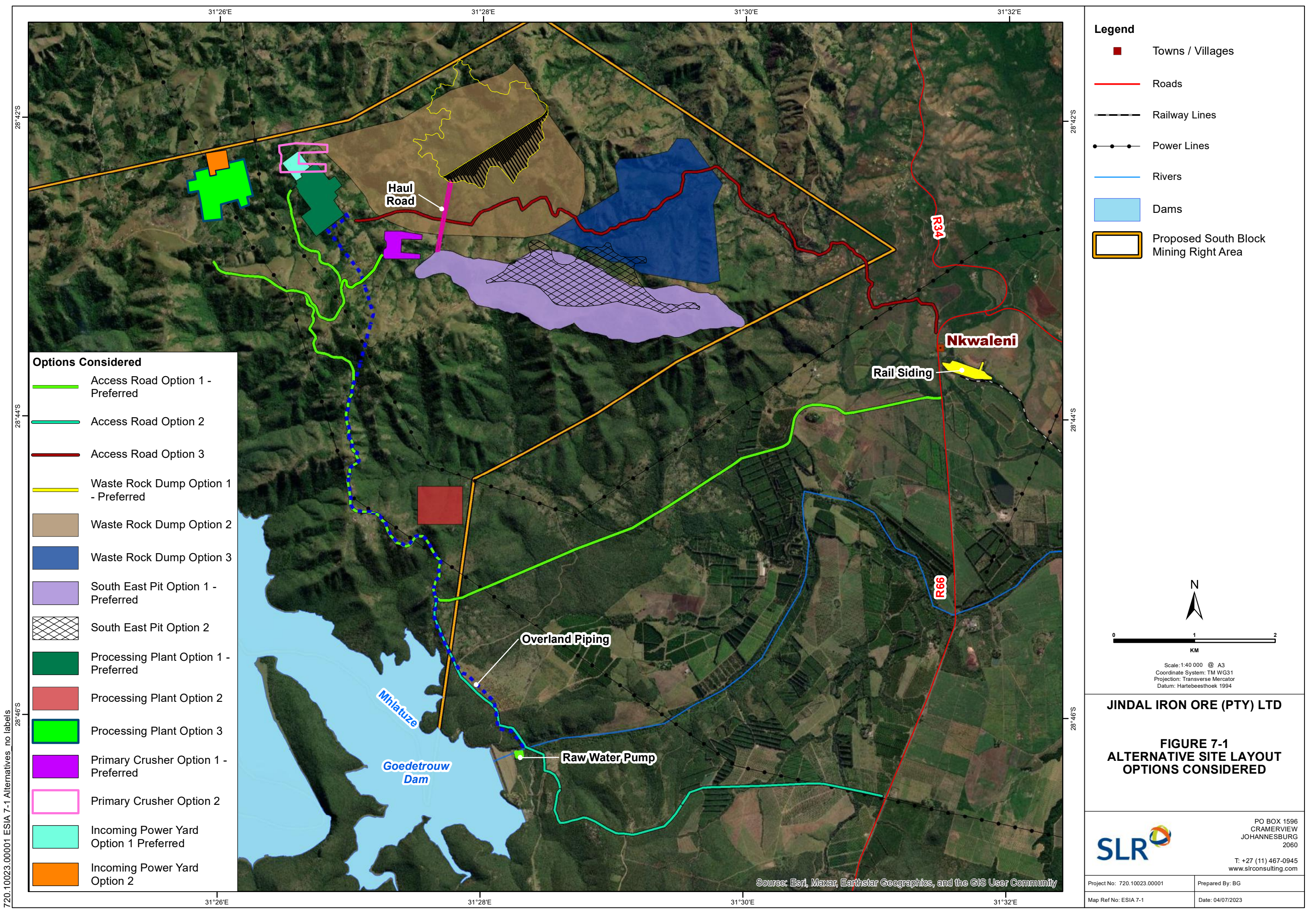
FIGURE 3-7
PROCESSING PLANT LAYOUT



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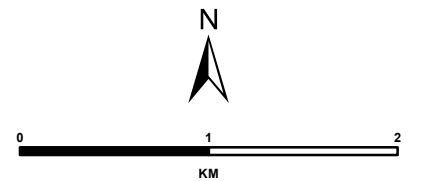
T: +27 (11) 467-0945
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Project No: 720.10023.00001	Prepared By: BG
Map Ref No: ESIA 3-7	Date: 17/06/2023



- Legend**
- Towns / Villages
 - Roads
 - Railway Lines
 - Power Lines
 - Rivers
 - Dams
 - ▭ Proposed South Block Mining Right Area

- Options Considered**
- Access Road Option 1 - Preferred
 - Access Road Option 2
 - Access Road Option 3
 - Waste Rock Dump Option 1 - Preferred
 - Waste Rock Dump Option 2
 - Waste Rock Dump Option 3
 - South East Pit Option 1 - Preferred
 - South East Pit Option 2
 - Processing Plant Option 1 - Preferred
 - Processing Plant Option 2
 - Processing Plant Option 3
 - Primary Crusher Option 1 - Preferred
 - Primary Crusher Option 2
 - Incoming Power Yard Option 1 Preferred
 - Incoming Power Yard Option 2



Scale: 1:40 000 @ A3
 Coordinate System: TM WG31
 Projection: Transverse Mercator
 Datum: Hartbeesthoek 1994

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**FIGURE 7-1
 ALTERNATIVE SITE LAYOUT
 OPTIONS CONSIDERED**

SLR

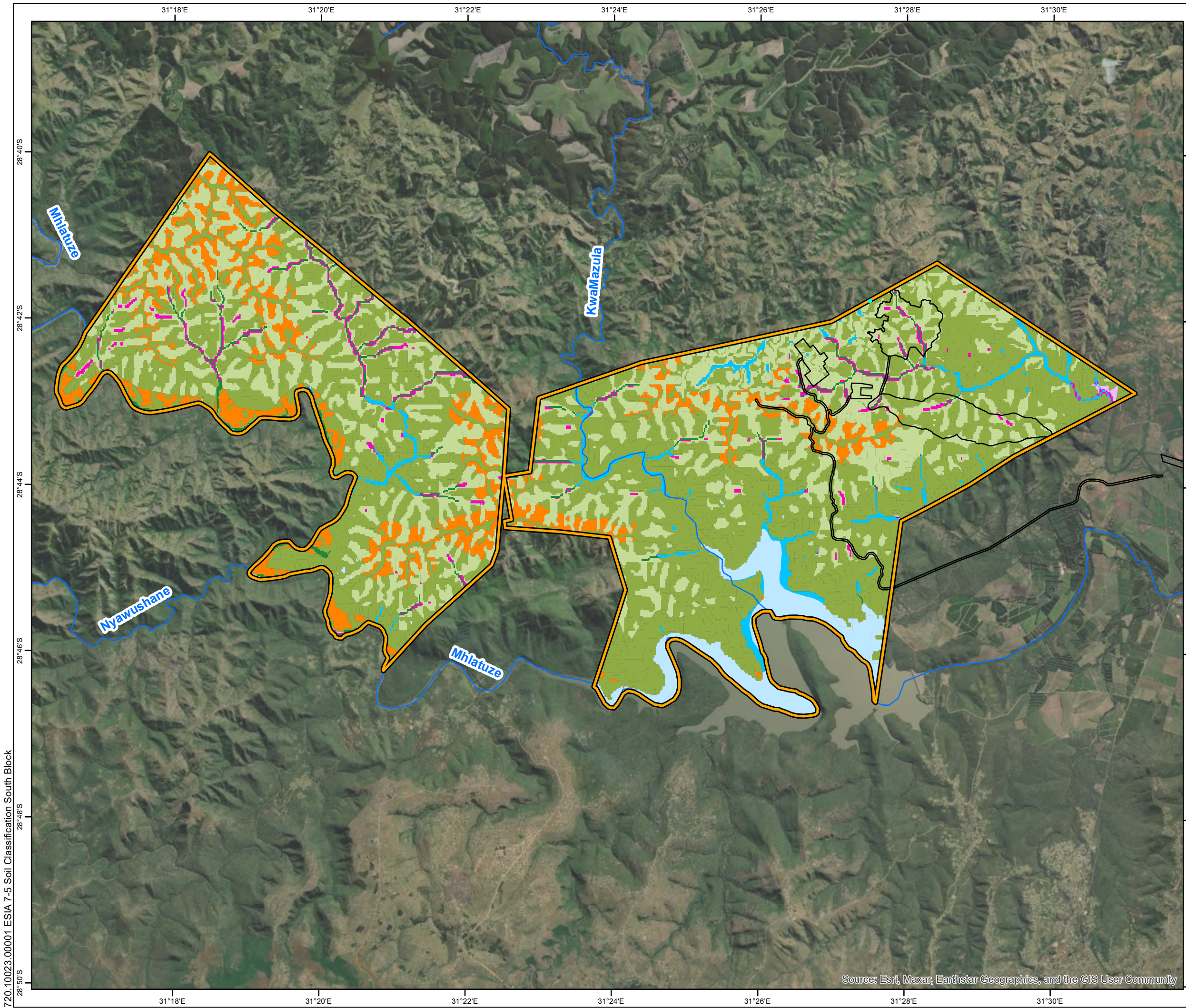
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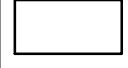









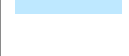
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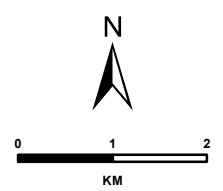
Project No: 720.10023.00001 Prepared By: BG
 Map Ref No: ESIA 7-1 Date: 04/07/2023

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

720.10023.00001 ESIA 7-1 Alternatives_no labels



- Legend**
-  Proposed South Block Mining Right Area
 -  Proposed Mine Layout
 -  Rivers
- Soil Types (Terra Africa, 2023)
-  Dundee
 -  Glenrosa
 -  Hutton
 -  Katspruit
 -  Mispah
 -  Oakleaf
 -  Swartland
 -  Valsrivier
 -  Water



Scale: 1:80 000 @ A3
 Coordinate System: TM WG31
 Projection: Transverse Mercator
 Datum: Hartbeesthoek 1994

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**FIGURE 7-5
 SOIL CLASSIFICATION
 MAP OF THE SOUTH BLOCK**

SLR 

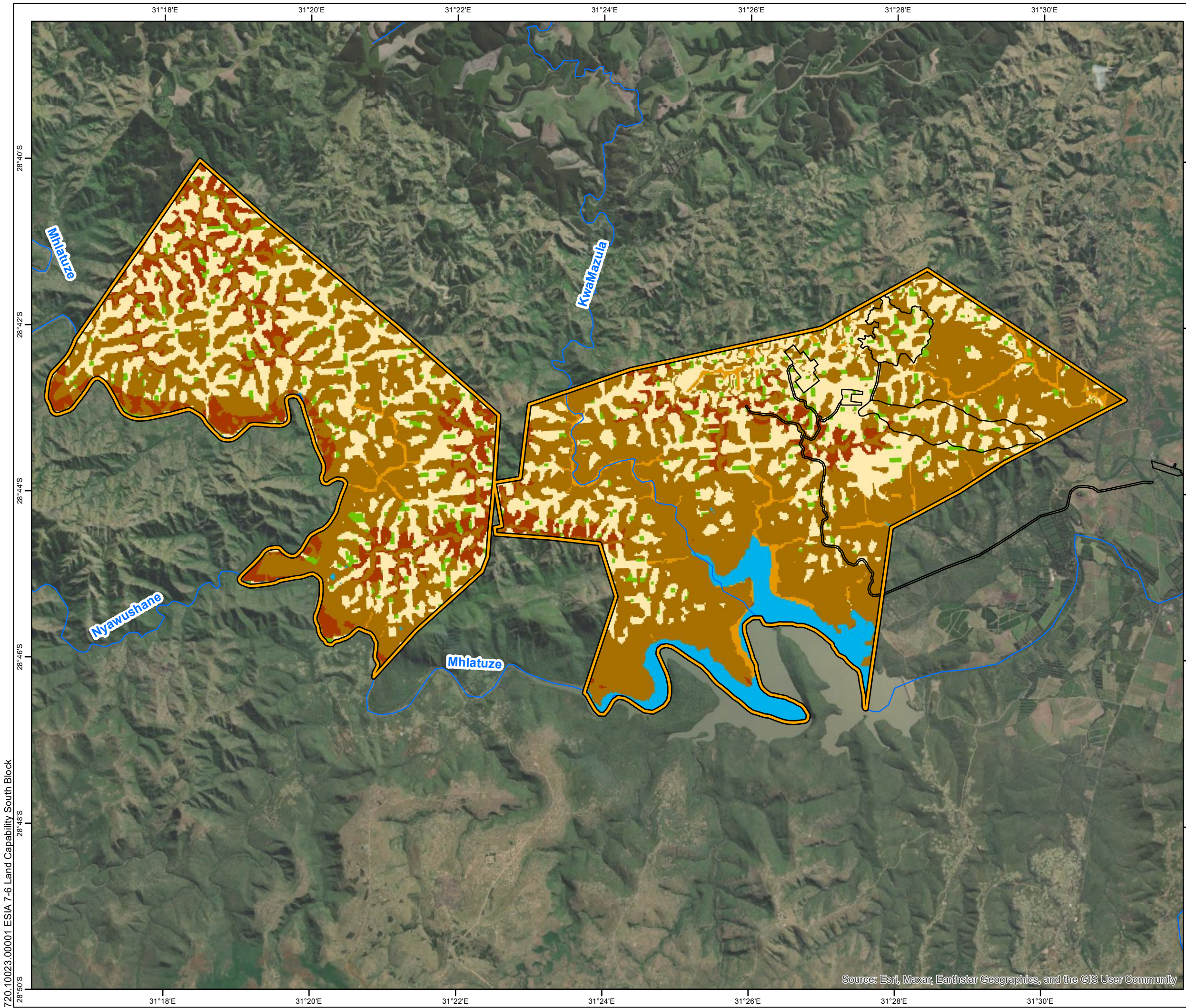
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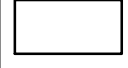

Project No: 720.10023.00001	Prepared By: BG
Map Ref No: ESIA 7-5	Date: 17/06/2023

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community







720.10023.00001 ESIA 7-5 Soil Classification South Block

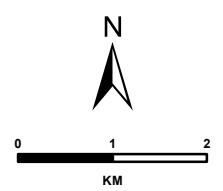


Legend

-  Proposed South Block Mining Right Area
-  Proposed Mine Layout
-  Rivers

Land Capability (Terra Africa, 2023)

-  Water
-  04. Low-Very Low
-  5. Low
-  6. Low-Moderate
-  8. Moderate
-  10. Moderate-High



Scale: 1:80 000 @ A3
 Coordinate System: TM WG31
 Projection: Transverse Mercator
 Datum: Hartbeesthoek 1994

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**FIGURE 7-6
 LAND CAPABILITY
 OF THE SOUTH BLOCK**

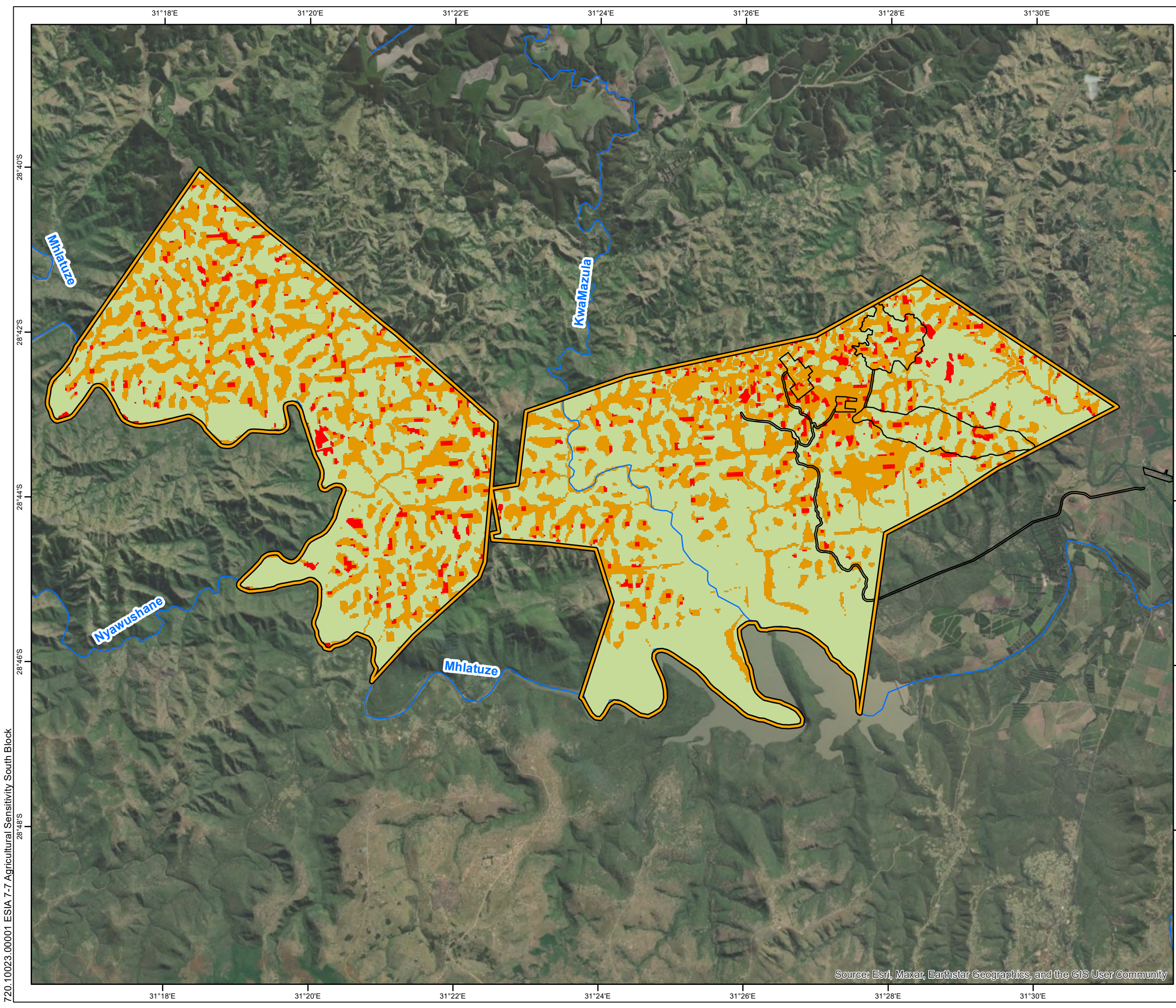


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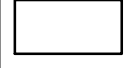

Project No: 720.10023.00001	Prepared By: BG
Map Ref No: ESIA 7-6	Date: 17/06/2023

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community




720.10023.00001 ESIA 7-6 Land Capability South Block

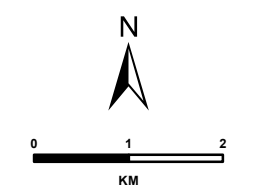


Legend

-  Proposed South Block Mining Right Area
-  Proposed Mine Layout
-  Rivers

Sensitivity (Terra Africa, 2023)

-  High (456 ha)
-  Medium (3716 ha)
-  Low (7542 ha)



Scale: 1:80 000 @ A3
 Coordinate System: TM WG31
 Projection: Transverse Mercator
 Datum: Hartebeesthoek 1994

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**FIGURE 7-7
 AGRICULTURAL SENSITIVITY
 OF THE SOUTH BLOCK**

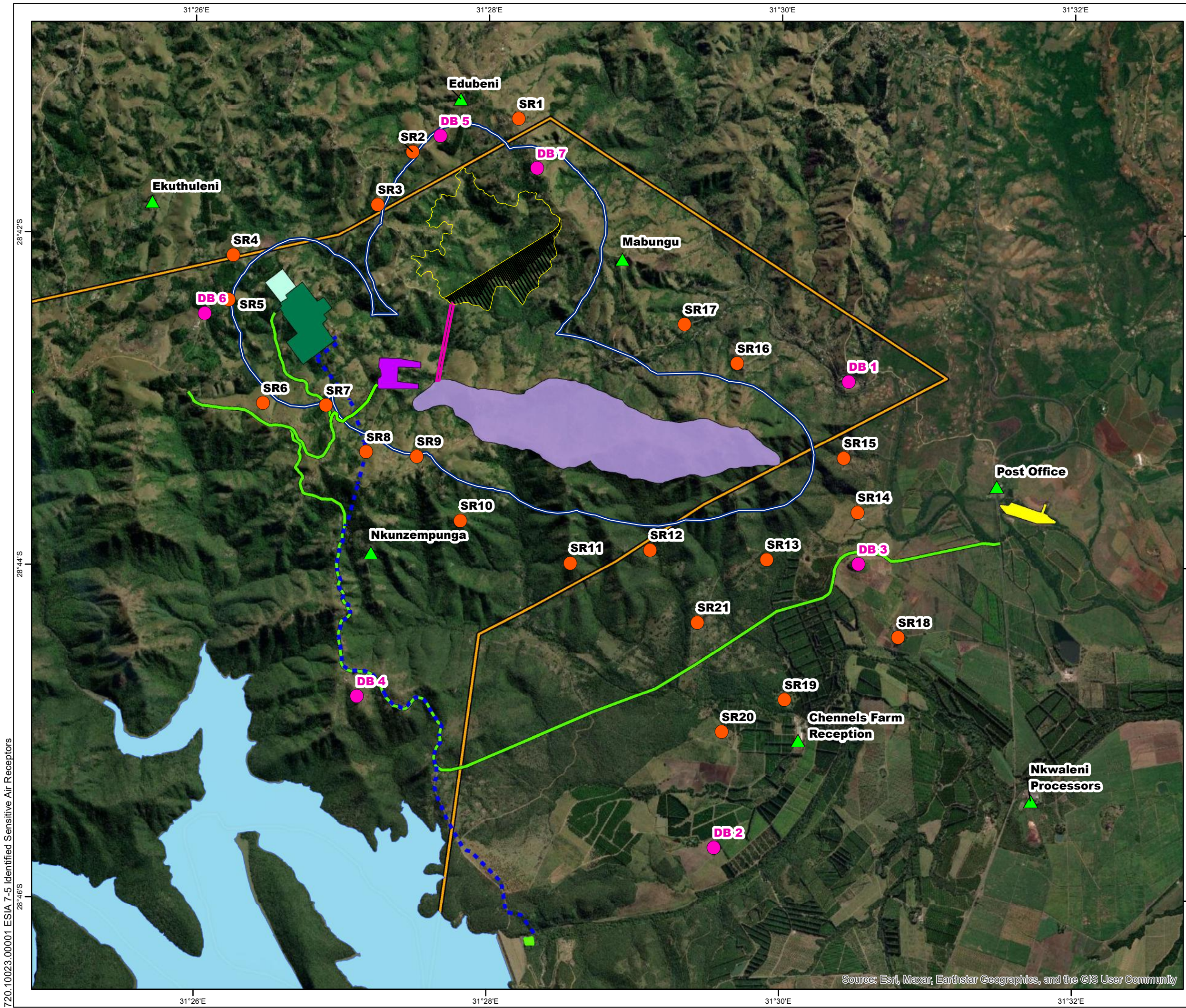
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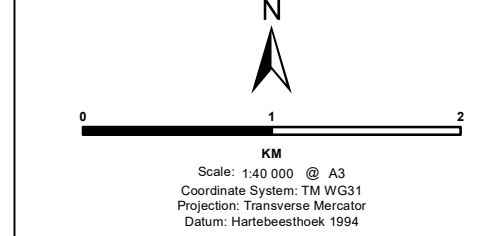
Project No: 720.10023.00001	Prepared By: BG
Map Ref No: ESIA 7-7	Date: 17/06/2023

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



- Legend**
- Goedetrouw Dam
 - 500m Buffer
 - Sensitive Receptors
 - Places of Interest
 - Dust Fallout Monitoring Stations

- Proposed Project Components**
- South Block Mining Right Area
 - South East Pit
 - Raw Water Pump
 - Processing Plant
 - Primary Crusher
 - Incoming Power Yard
 - Rail Siding
 - Haul Road
 - Access Road Option 1 - Preferred
 - Overland Piping
 - Waste Rock Dump



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**FIGURE 7-8
IDENTIFIED SENSITIVE
AIR QUALITY RECEPTORS**

SLR

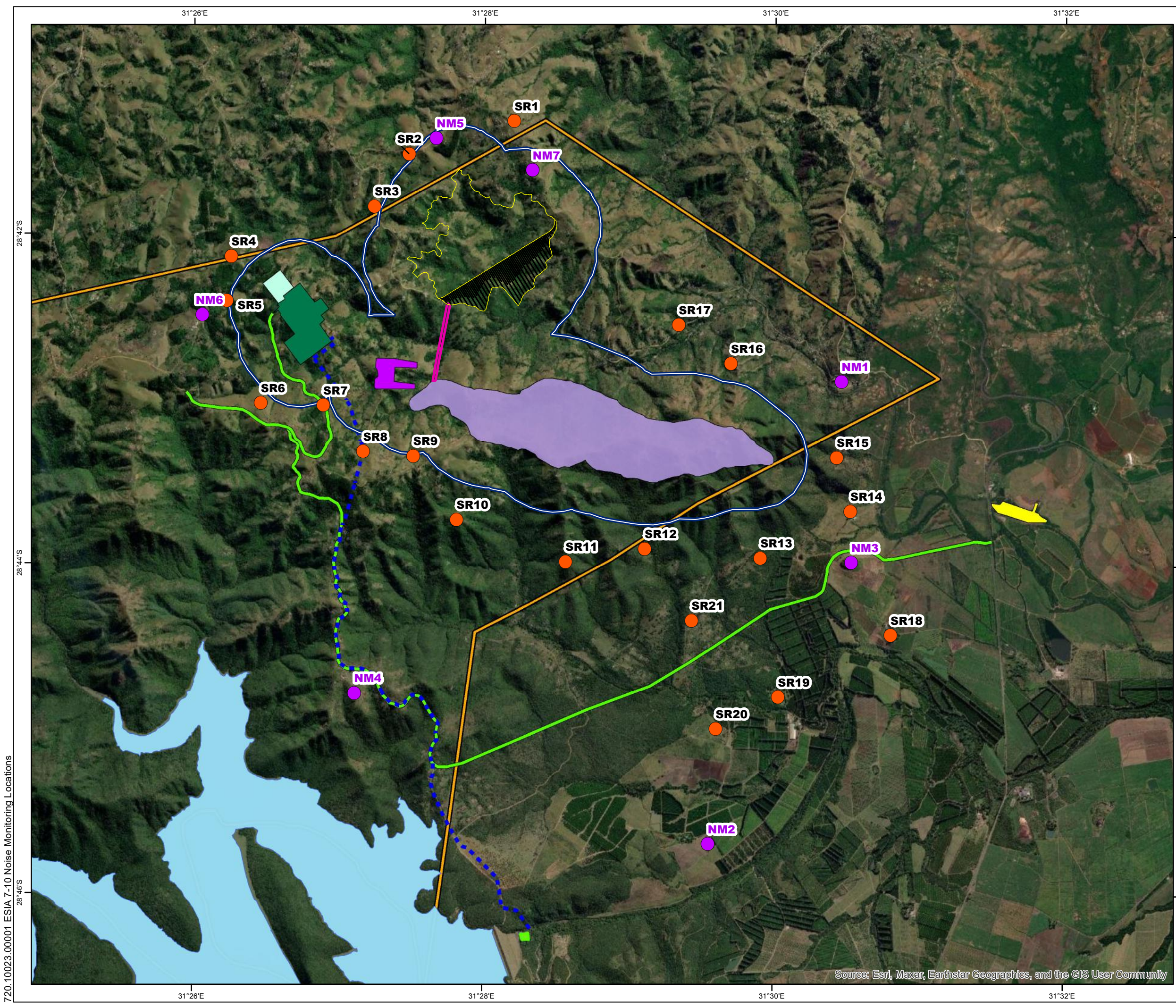
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Map Ref No: ESIA 7-5	Date: 04/07/2023

720.10023.00001 ESIA 7-5 Identified Sensitive Air Receptors

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



Legend

- Goedetrouw Dam
- 500m Buffer
- Noise Monitoring Locations
- Sensitive Receptors

Proposed Project Components

- South Block Mining Right Area
- South East Pit
- Raw Water Pump
- Processing Plant
- Primary Crusher
- Incoming Power Yard
- Rail Siding
- Haul Road
- Access Road Option 1 - Preferred
- Overland Piping
- Waste Rock Dump

N

0 1 2
KM

Scale: 1:40 000 @ A3
Coordinate System: TM WG31
Projection: Transverse Mercator
Datum: Hartbeesthoek 1994

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**FIGURE 7-13
NOISE MONITORING
LOCATIONS**

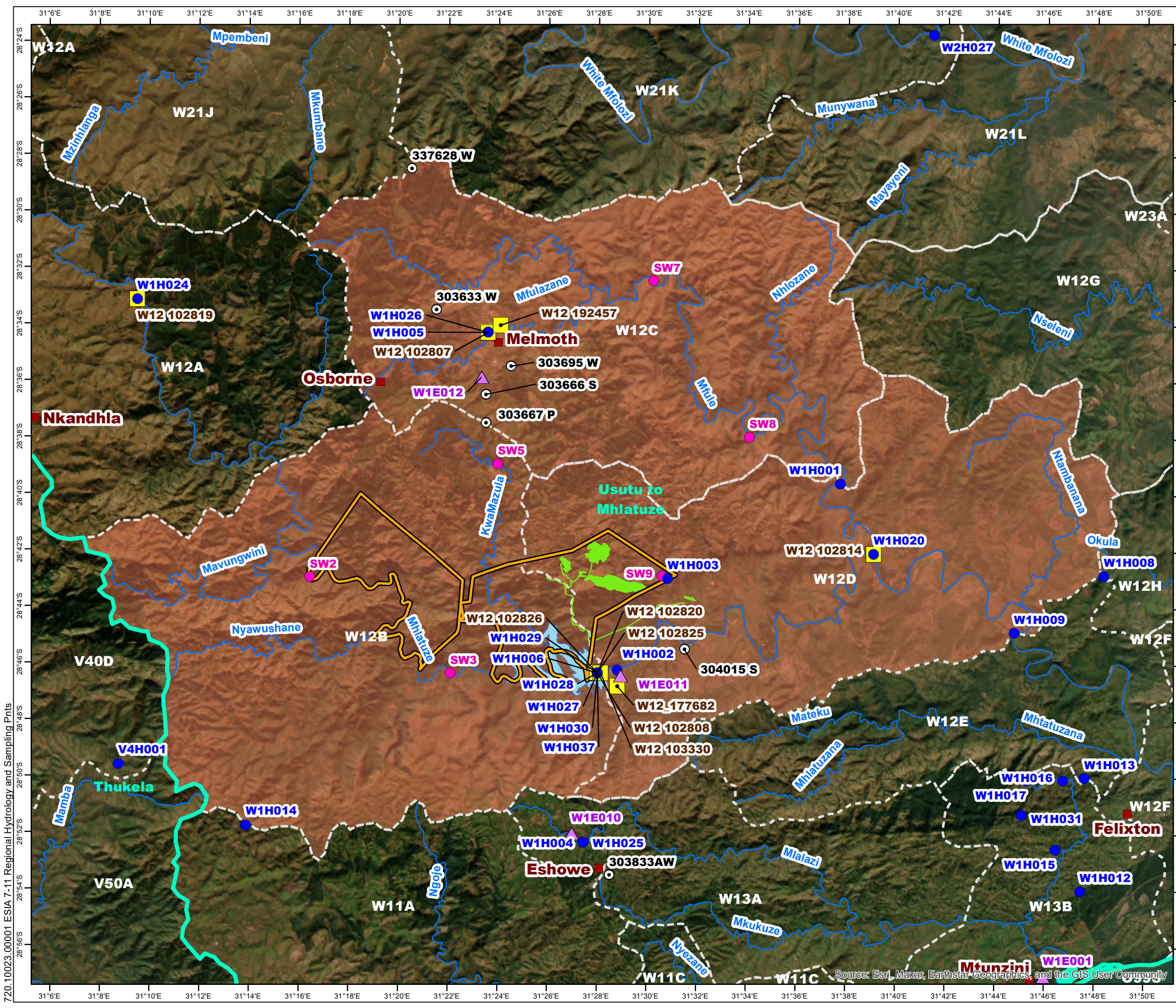
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Project No: 720.10023.00001	Prepared By: BG
Map Ref No: ESIA 7-10	Date: 04/07/2023

720.10023.00001 ESIA 7-10 Noise Monitoring Locations

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



Legend

- Towns / Villages
- Goedetrouw Dam
- Quaternary Catchment Boundaries
- Quaternary Catchments
- Water Management Areas
- ▲ Evaporation Stations
- Flow Gauging Stations
- Rain Gauges
- DWS Water Quality Sampling Points
- SLR Water Quality Sampling Points

Proposed Project Components

- South Block Mining Right Area
- Mine Layout

N

0 2 4
KM

Scale: 1:233 303 @ A3
Coordinate System: TM WG31
Projection: Transverse Mercator
Datum: Hartbeesthoek 1994

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**FIGURE 7-14
REGIONAL HYDROLOGY
AND SAMPLING POINTS**

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Project No: 720.10023.00001 Prepared By: BG

Map Ref No: EIA 7-11 Date: 04/07/2023

720.10023.00001 ESIA 7-11 Regional Hydrology and Sampling Pnts

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

31°28'E

31°30'E

28°42'S



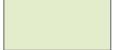




28°42'S

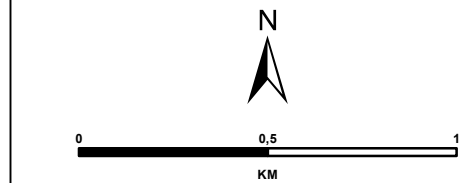
720.10023.00001 ESIA 7-12 Floodlines

31°28'E

31°30'E

Legend

-  Rivers
-  1:100 Year Floodlines
-  100m River Buffer
-  South Block Mining Right Area
-  South East Pit
-  Processing Plant
-  Primary Crusher
-  Incoming Power Yard
-  Waste Rock Dump
-  Haul Road
-  Access Road Option 1 - Preferred
-  Overland Piping



Scale: 1:20 000 @ A3
 Coordinate System: TM WG31
 Projection: Transverse Mercator
 Datum: Hartebeesthoek 1994

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FIGURE 7-15
1:100 YEAR FLOODLINES
AROUND THE MINE
INFRASTRUCTURE



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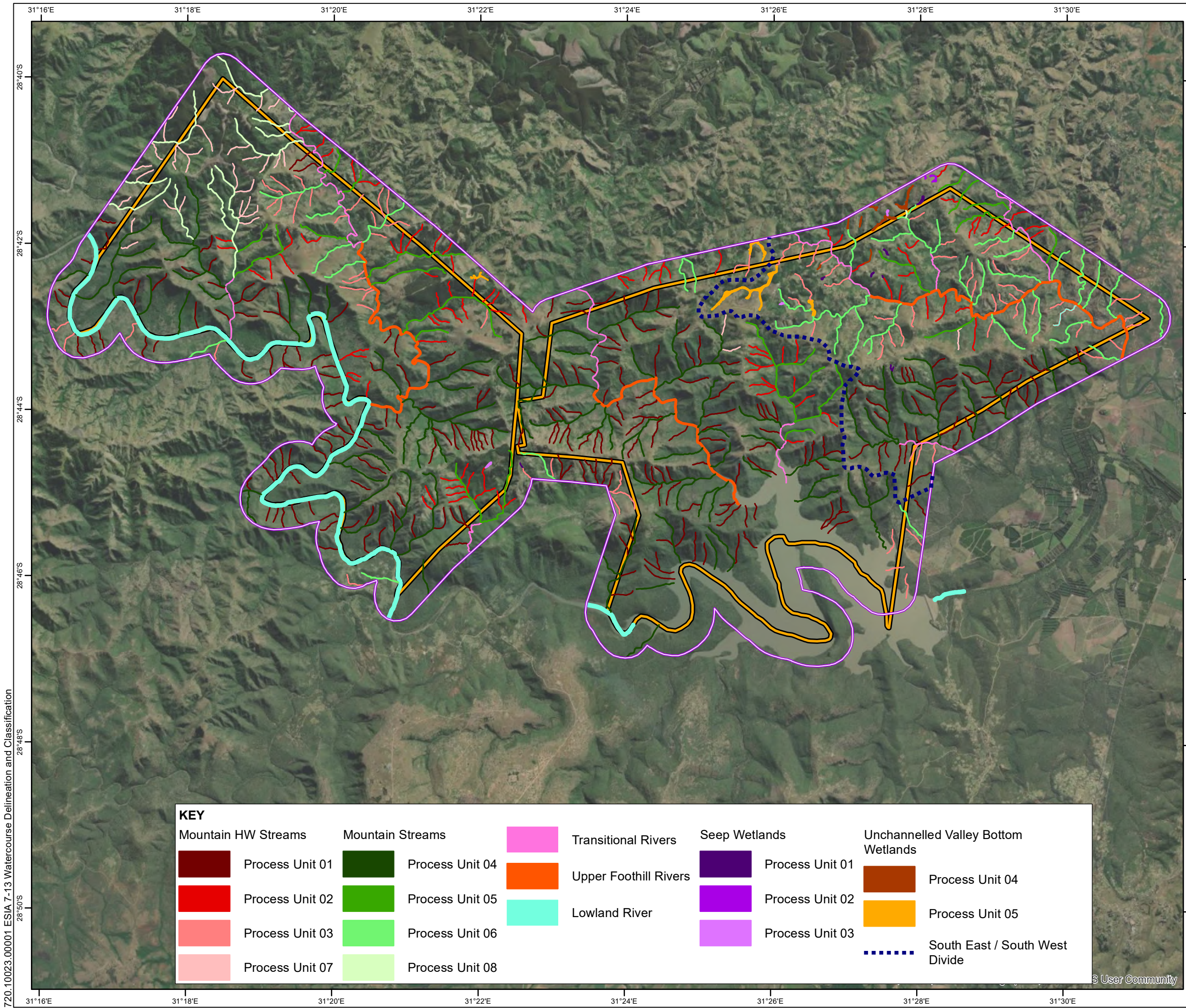
Project No: 720.10023.00001

Prepared By: BG

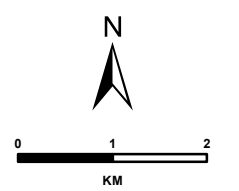
Map Ref No: ESIA 7-12

Date: 04/07/2023

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



- Legend**
- Proposed South Block Mining Right Area
 - South Block 500m Buffer



Scale: 1:80 000 @ A3
 Coordinate System: TM WG31
 Projection: Transverse Mercator
 Datum: Hartbeesthoek 1994

KEY							
 Mountain HW Streams	 Mountain Streams	 Transitional Rivers	 Seep Wetlands	 Unchannelled Valley Bottom Wetlands			
 Process Unit 01	 Process Unit 04	 Upper Foothill Rivers	 Process Unit 01	 Process Unit 04			
 Process Unit 02	 Process Unit 05	 Lowland River	 Process Unit 02	 Process Unit 05			
 Process Unit 03	 Process Unit 06		 Process Unit 03	 South East / South West Divide			
 Process Unit 07	 Process Unit 08						

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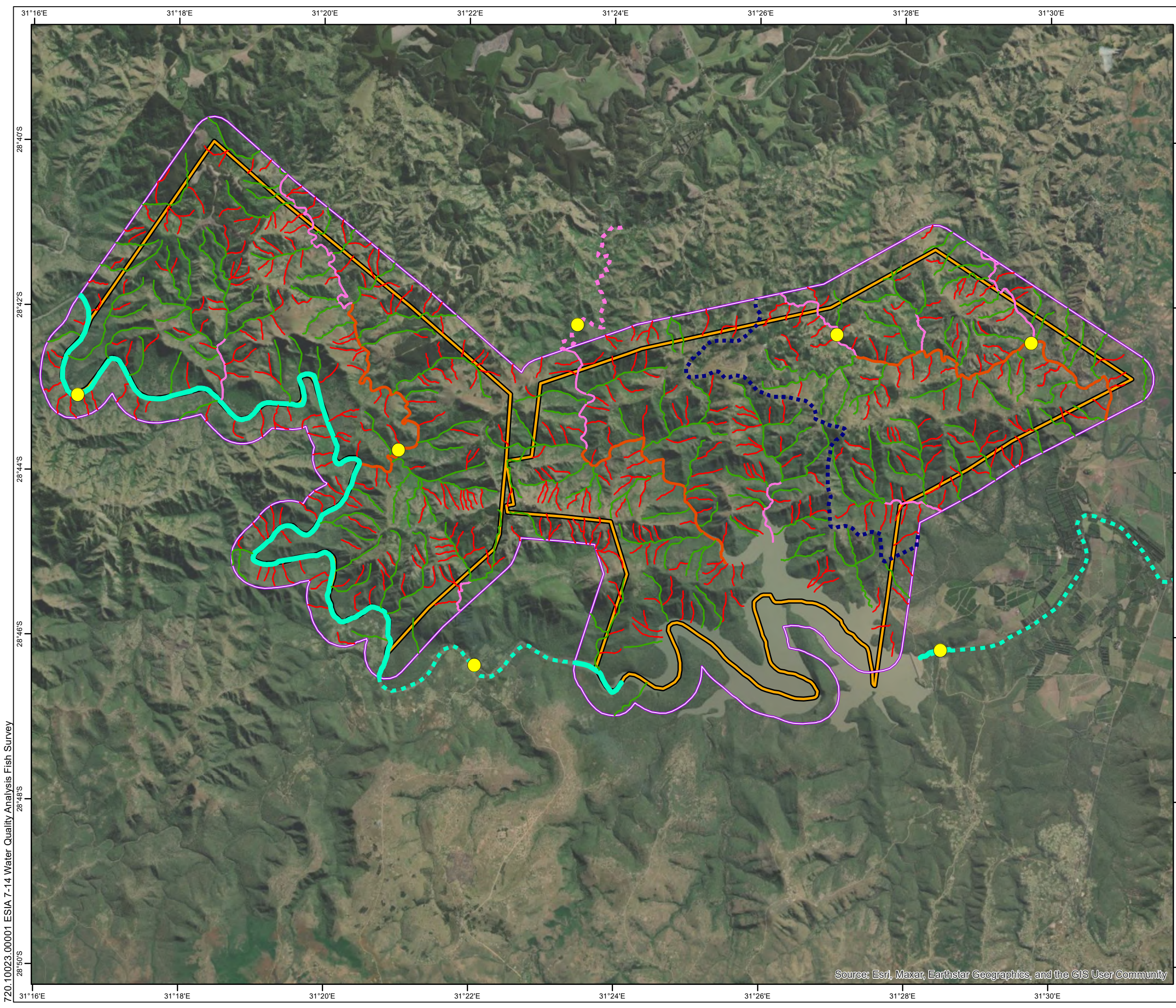
**FIGURE 7-16
 WATER COURSE DELINEATION
 AND CLASSIFICATION MAP FOR
 THE SOUTH BLOCK
 (ECO-PULSE CONSULTING, 2023)**

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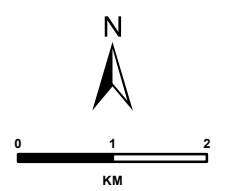
Project No: 720.10023.00001	Prepared By: BG
Map Ref No: ESIA 7-13	Date: 17/06/2023

720.10023.00001 ESIA 7-13 Watercourse Delineation and Classification

SLR User Community



- Legend**
- Proposed South Block Mining Right Area
 - South Block 500m Buffer
- Eco-Pulse South Block Rivers**
- Mountain HW Stream
 - Mountain Stream
 - Transitional River
 - Upper Foothill River
 - Lowland River
- Transitional River - Outside South Block
 - Lowland River - Outside South Block
 - South East / South West Divide
- WQ, SASS5 and Fish Survey Sites



Scale: 1:80 000 @ A3
 Coordinate System: TM WG31
 Projection: Transverse Mercator
 Datum: Hartebeesthoek 1994

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FIGURE 7-17
LOCATION OF THE WATER
QUALITY ANALYSIS, SASS5
AND FISH SURVEY SITES
(ECO-PULSE CONSULTING, 2023)

SLR

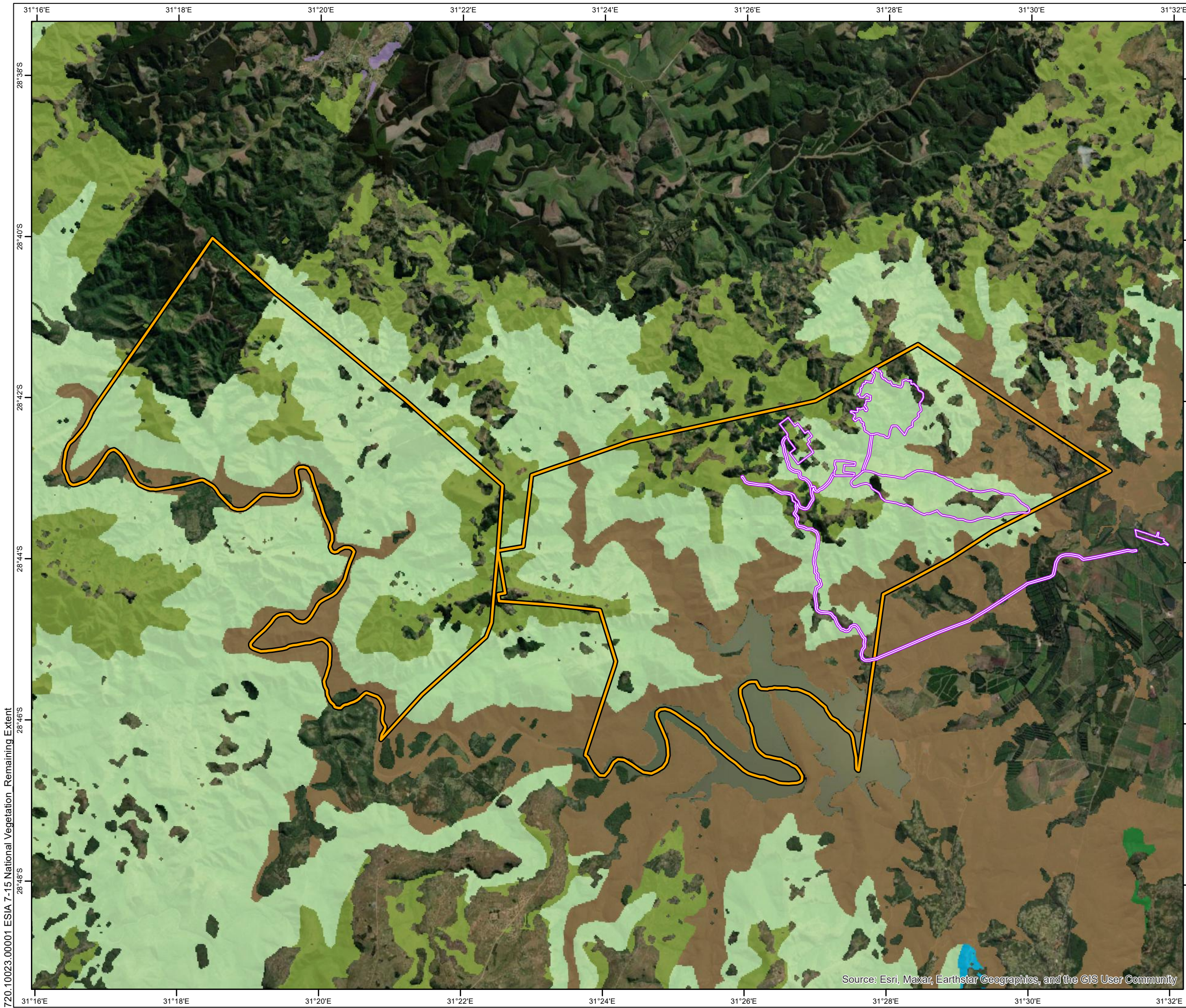
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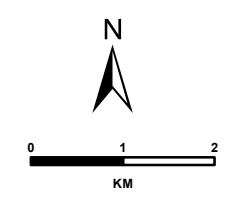
Project No: 720.10023.00001	Prepared By: BG
Map Ref No: ESIA 7-14	Date: 17/06/2023

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

720.10023.00001 ESIA 7-14 Water Quality Analysis Fish Survey



- Legend**
- Proposed South Block Mining Right Area
 - Proposed Mine Layout
- Vegetation Remnants (SANBI, 2022)
- Dry Coast Hinterland Grassland
 - Eastern Valley Bushveld
 - KwaZulu-Natal Coastal Belt Grassland
 - Midlands Mistbelt Grassland
 - Moist Coast Hinterland Grassland
 - Zululand Lowveld



Scale: 1:82 500 @ A3
 Coordinate System: TM WG31
 Projection: Transverse Mercator
 Datum: Hartbeesthoek 1994

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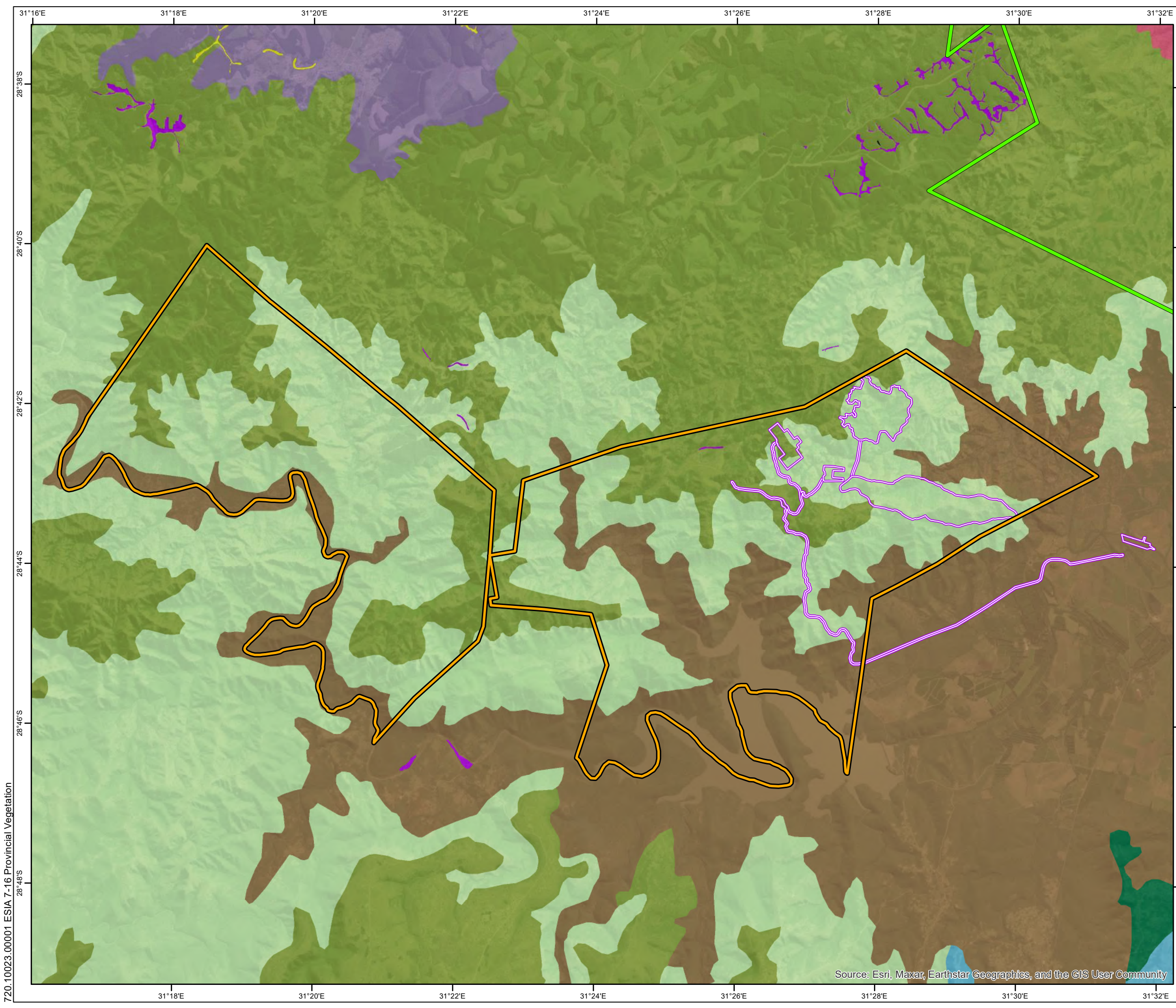
**FIGURE 7-18
 LOCATION AND REMAINING
 EXTENT OF NATIONAL
 VEGETATION TYPES IN THE
 SOUTH BLOCK**









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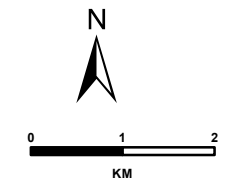
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

720.10023.00001 ESIA 7-15 National Vegetation Remaining Extent

Project No: 720.10023.00001	Prepared By: BG
Map Ref No: ESIA 7-15	Date: 04/07/2023



- Legend**
-  Proposed South Block Mining Right Area
 -  Proposed North Block Mining Right Area
 -  Proposed Mine Layout
- Provincial Vegetation Types (SANBI 2011)
-  Alluvial Wetlands : Subtropical Alluvial Vegetation
 -  Alluvial Wetlands : Temperate Alluvial Vegetation
 -  Dry Coast Hinterland Grassland
 -  Eastern Valley Bushveld
 -  KwaZulu-Natal Coastal Belt Grassland
 -  Midlands Mistbelt Grassland
 -  Moist Coast Hinterland Grassland
 -  Northern Zululand Sourveld
 -  Zululand Lowveld



Scale: 1:82 500 @ A3
 Coordinate System: TM WG31
 Projection: Transverse Mercator
 Datum: Hartebeesthoek 1994

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**FIGURE 7-19
 LOCATION AND EXTENT OF
 PROVINCIAL VEGETATION
 TYPES**

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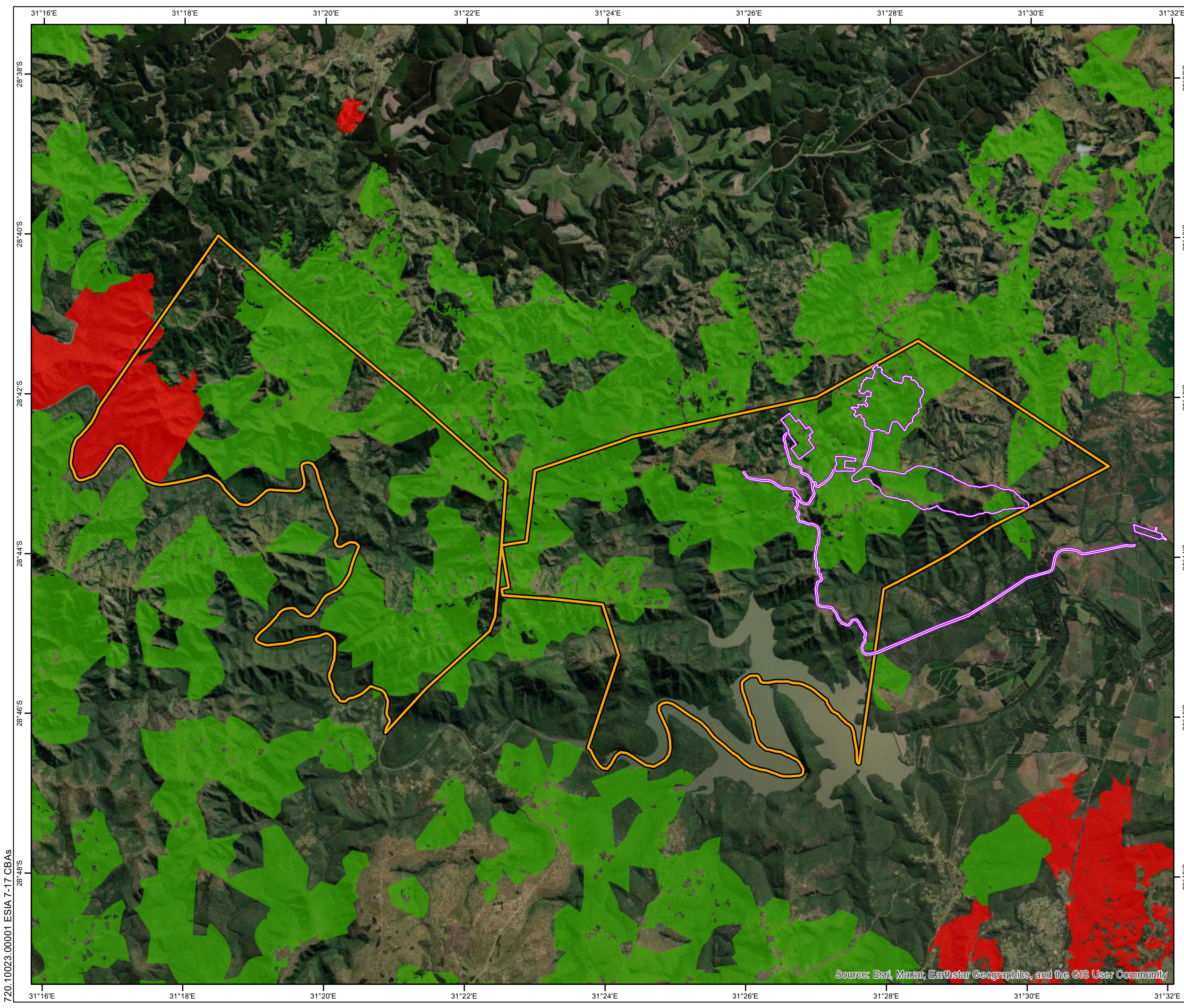
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Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

720.10023.00001 ESIA 7-16 Provincial Vegetation

Project No: 720.10023.00001	Prepared By: BG
Map Ref No: ESIA 7-16	Date: 04/07/2023

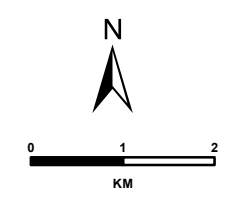


Legend

- Proposed South Block Mining Right Area
- Proposed Mine Layout

KZN Systematic Conservation Assessment (EKZN, 2016)

- Critical Biodiversity Area : Irreplaceable
- Critical Biodiversity Area : Optimal



Scale: 1:82 500 @ A3
 Coordinate System: TM WG31
 Projection: Transverse Mercator
 Datum: Hartebeesthoek 1994

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**FIGURE 7-20
 LOCATION AND EXTENT OF THE
 CBAS ACCORDING TO EKZNW
 (2016)**

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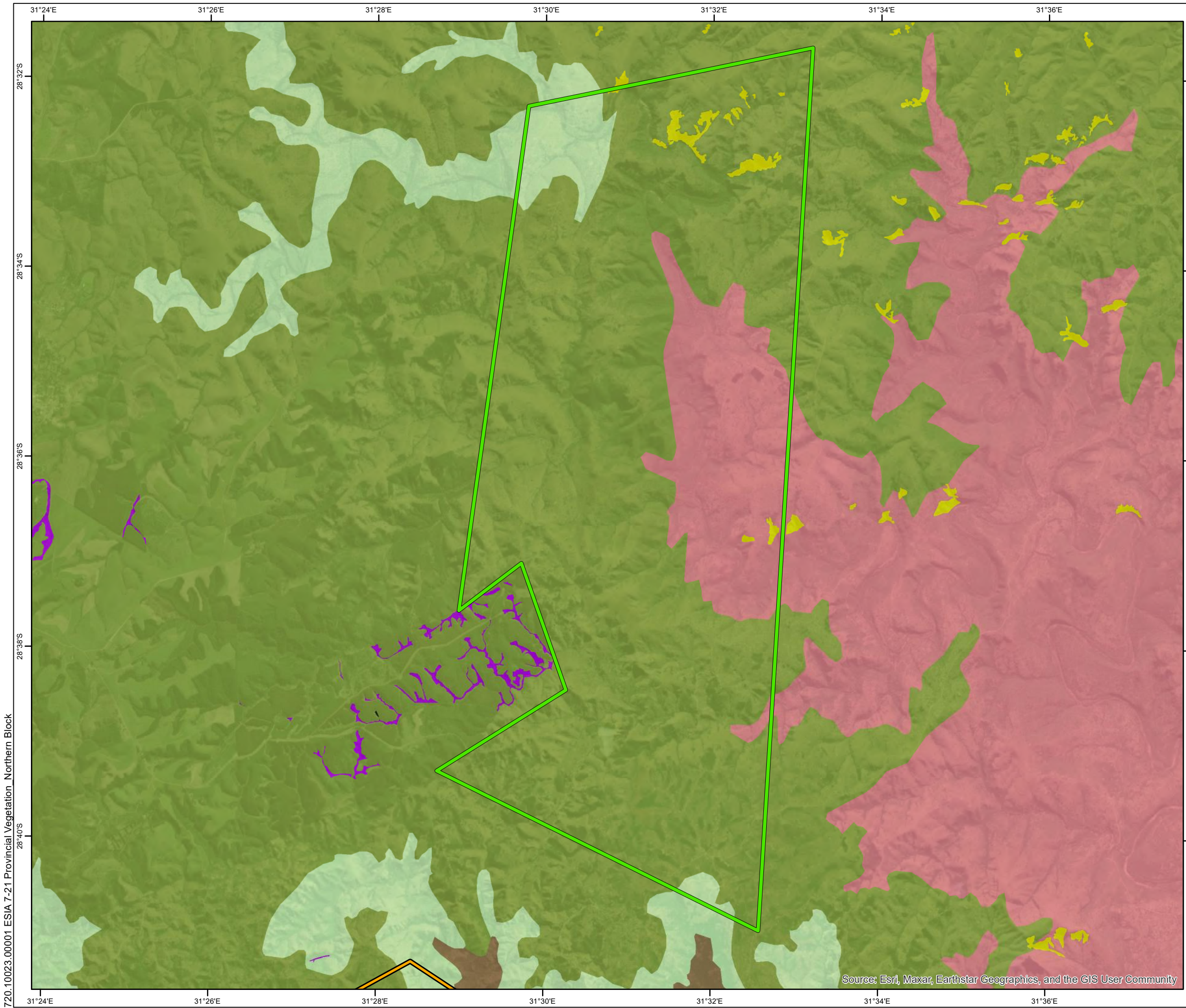
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Project No: 720.10023.00001	Prepared By: BG
Map Ref No: ESIA 7-17	Date: 04/07/2023

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

720.10023.00001 ESIA 7-17 CBAs

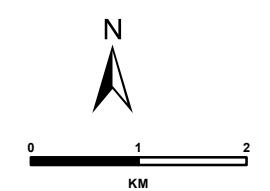


Legend

- Proposed North Block Mining Right Area
- Proposed South Block Mining Right Area

Provincial Vegetation Types (SANBI 2011)

- Alluvial Wetlands :
Temperate Alluvial Vegetation
- Dry Coast Hinterland Grassland
- Eastern Scarp Forests :
Northern Coastal Scarp Forest
- Eastern Valley Bushveld
- Moist Coast Hinterland Grassland
- Northern Zululand Sourveld



Scale: 1:70 000 @ A3
 Coordinate System: TM WG31
 Projection: Transverse Mercator
 Datum: Hartbeesthoek 1994

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**FIGURE 7-24
 LOCATION AND EXTENT OF
 PROVINCIAL VEGETATION
 TYPES- NORTH BLOCK**



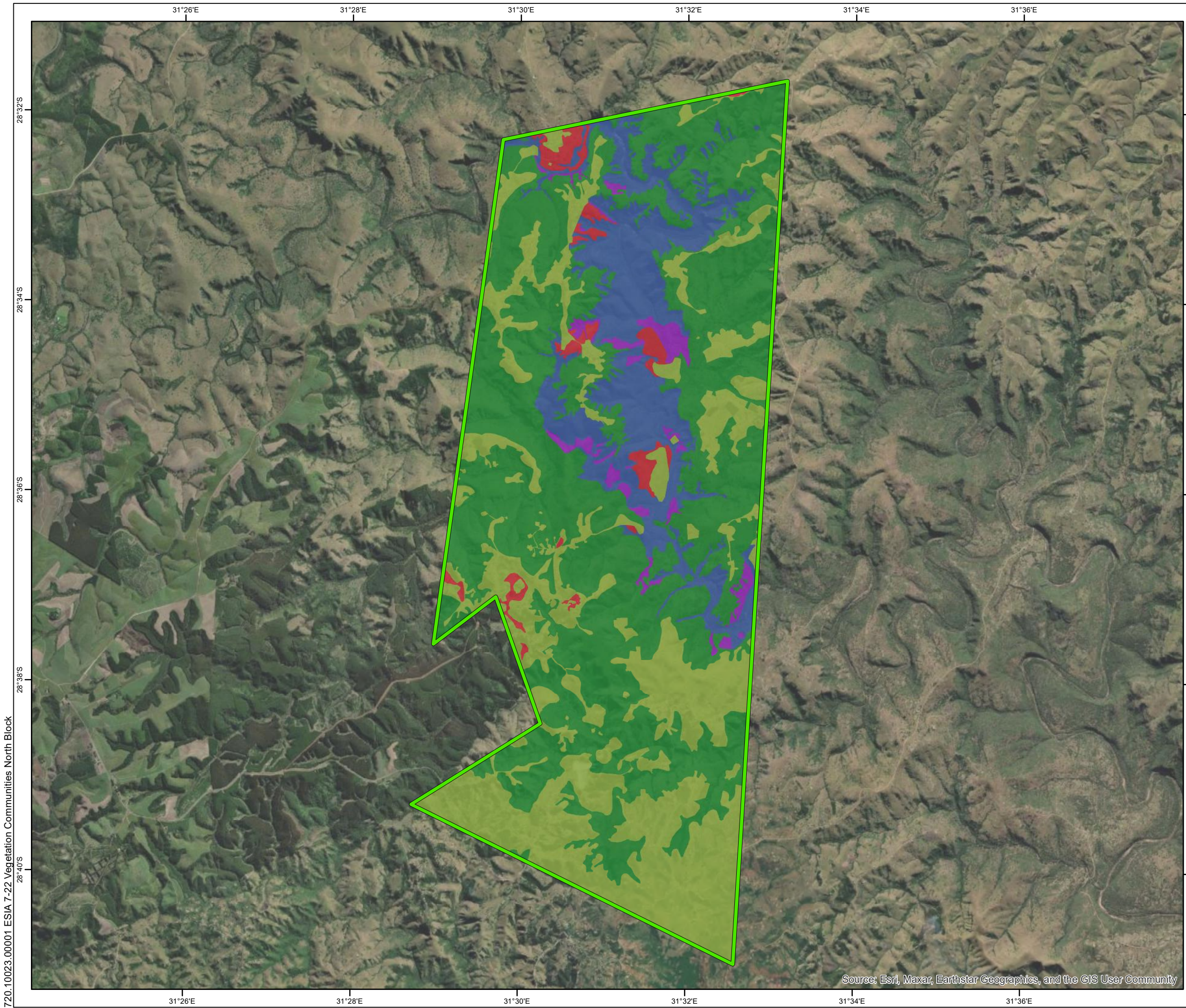
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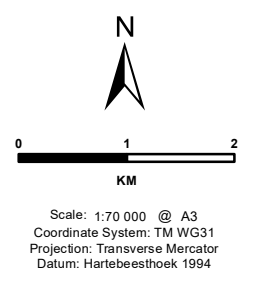
Project No: 720.10023.00001	Prepared By: BG
Map Ref No: ESIA 7-21	Date: 04/07/2023

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

720.10023.00001 ESIA 7-21 Provincial Vegetation Northern Block



- Legend**
-  Proposed North Block Mining Right Area
 - Vegetation Communities (Eco-Pulse, 2022)**
 -  6. Ngongoni Veld/Northern Zululand Sourveld Open Savannah
 -  7. Scarp Forest /Northern Zululand Sourveld Thicket/Ngongoni Veld Closed Woodland
 -  8. Degraded Ngongoni Veld Closed Woodland/Northern Zululand Sourveld Thicket
 -  9. Degraded Ngongoni Veld/Northern Zululand Sourveld Open Savannah
 -  10. Secondary Open Savannah/Thicket/Closed Woodland



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**FIGURE 7-25
SPATIAL DISTRIBUTION OF
IDENTIFIED VEGETATION
COMMUNITIES - NORTH BLOCK**

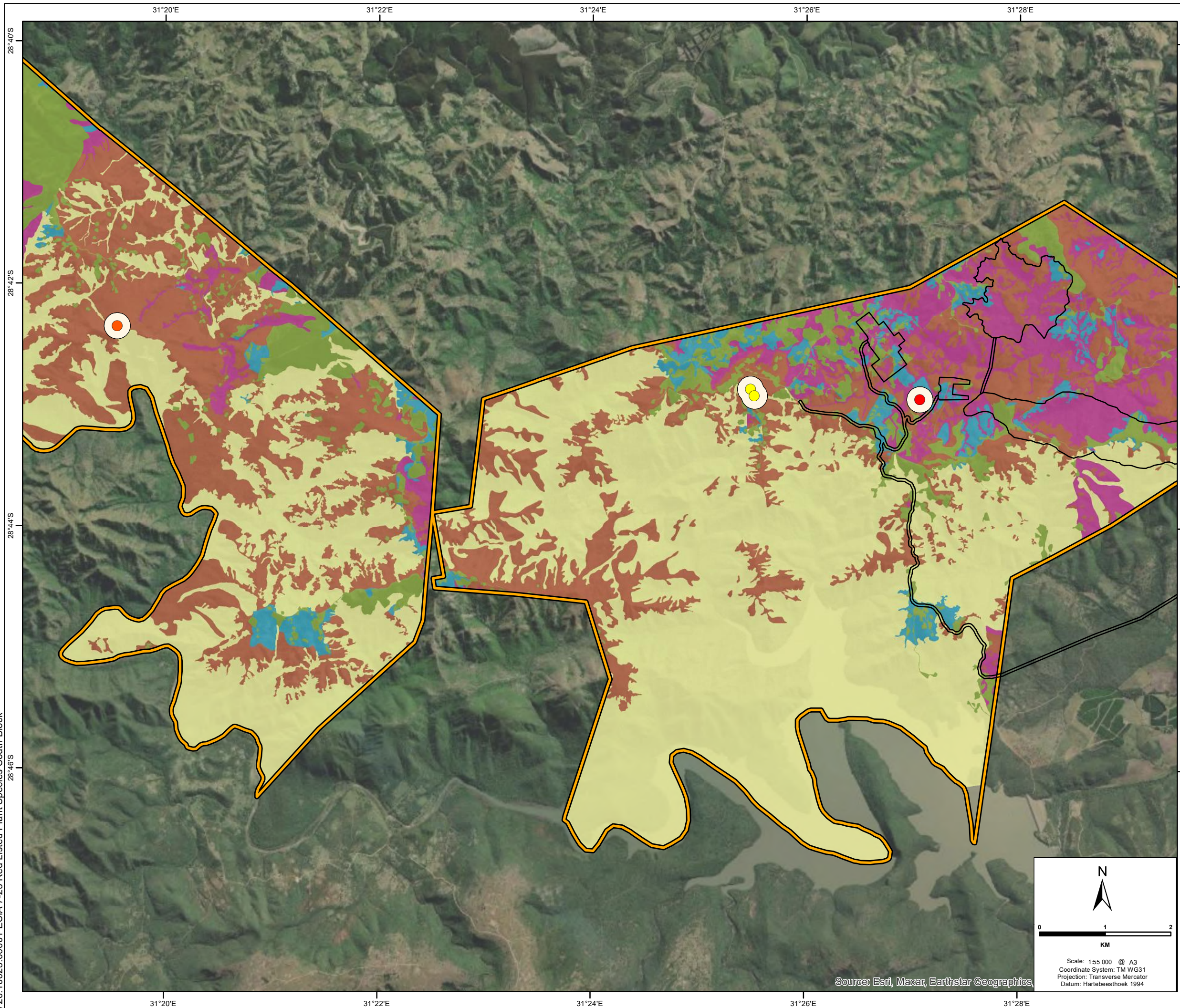
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Project No: 720.10023.00001	Prepared By: BG
Map Ref No: ESIA 7-22	Date: 04/07/2023

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



Legend

- Proposed South Block Mining Right Area
- Proposed North Block Mining Right Area
- Proposed Mine Layout
- 200m Buffer for Threatened Plants

Vegetation Communities (Eco-Pulse, 2022)

- 1. Ngongoni Veld/Eastern Valley Bushveld Open Savannah
- 2. Eastern Valley Bushveld Thicket/Ngongoni Veld Closed Woodland
- 3. Degraded Ngongoni Veld/Eastern Valley Bushveld Open Savannah
- 4. Degraded Eastern Valley Bushveld Thicket/Ngongoni Veld Closed Woodland
- 5. Secondary Open Savannah/Thicket/Closed Woodland
- 6. Ngongoni Veld/Northern Zululand Sourveld Open Savannah

Threatened Plant Species (Eco-Pulse, 2022)

- Helichrysum pannosum (Endangered)
- Sensitive Species 191
- Moreaea graminicola subsp. graminicola (Near Threatened)

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**FIGURE 7-26
THE DISTRIBUTION OF
RED-LISTED PLANT SPECIES
CONFIRMED TO BE ON SITE
SANBI (200) SPECIES GUIDELINES**

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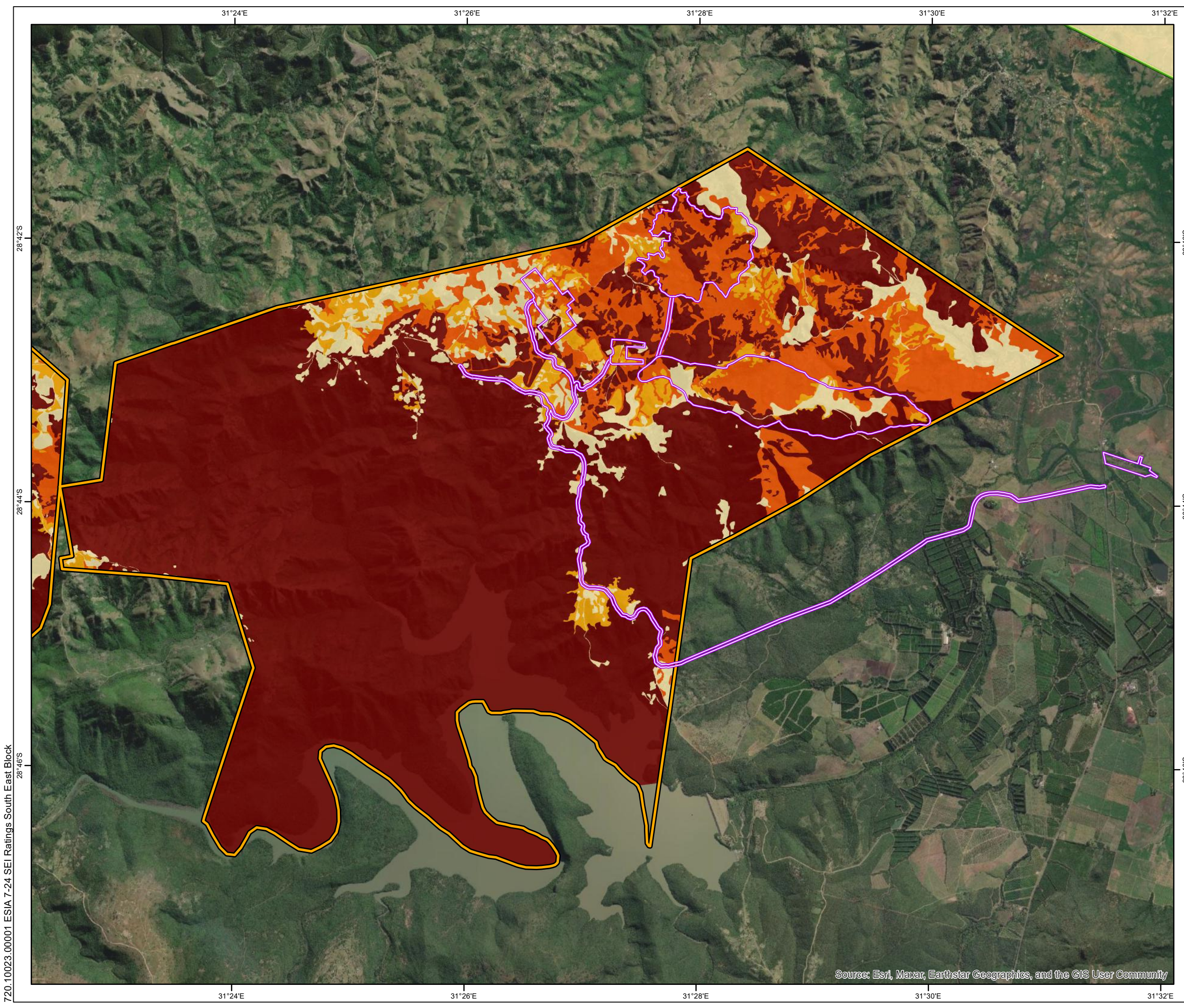
Project No: 720.10023.00001	Prepared By: BG
Map Ref No: ESIA 7-23	Date: 04/07/2023

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0 1 2
KM

Scale: 1:55 000 @ A3
Coordinate System: TM WGS31
Projection: Transverse Mercator
Datum: Hartbeesthoek 1994

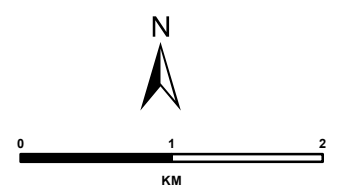
Source: Esri, Maxar, Earthstar Geographics



- Legend**
- Proposed South Block Mining Right Area
 - Proposed North Block Mining Right Area
 - Proposed Mine Layout

SEI Ratings (Eco-Pulse, 2022)

- Very High
- Medium
- Low
- Very Low



Scale: 1:50 000 @ A3
 Coordinate System: TM WG31
 Projection: Transverse Mercator
 Datum: Hartbeesthoek 1994

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**FIGURE 7-27
 SEI RATINGS FOR THE
 VEGETATION COMMUNITIES
 - SOUTH CENTRAL AND
 EASTERN BLOCK**

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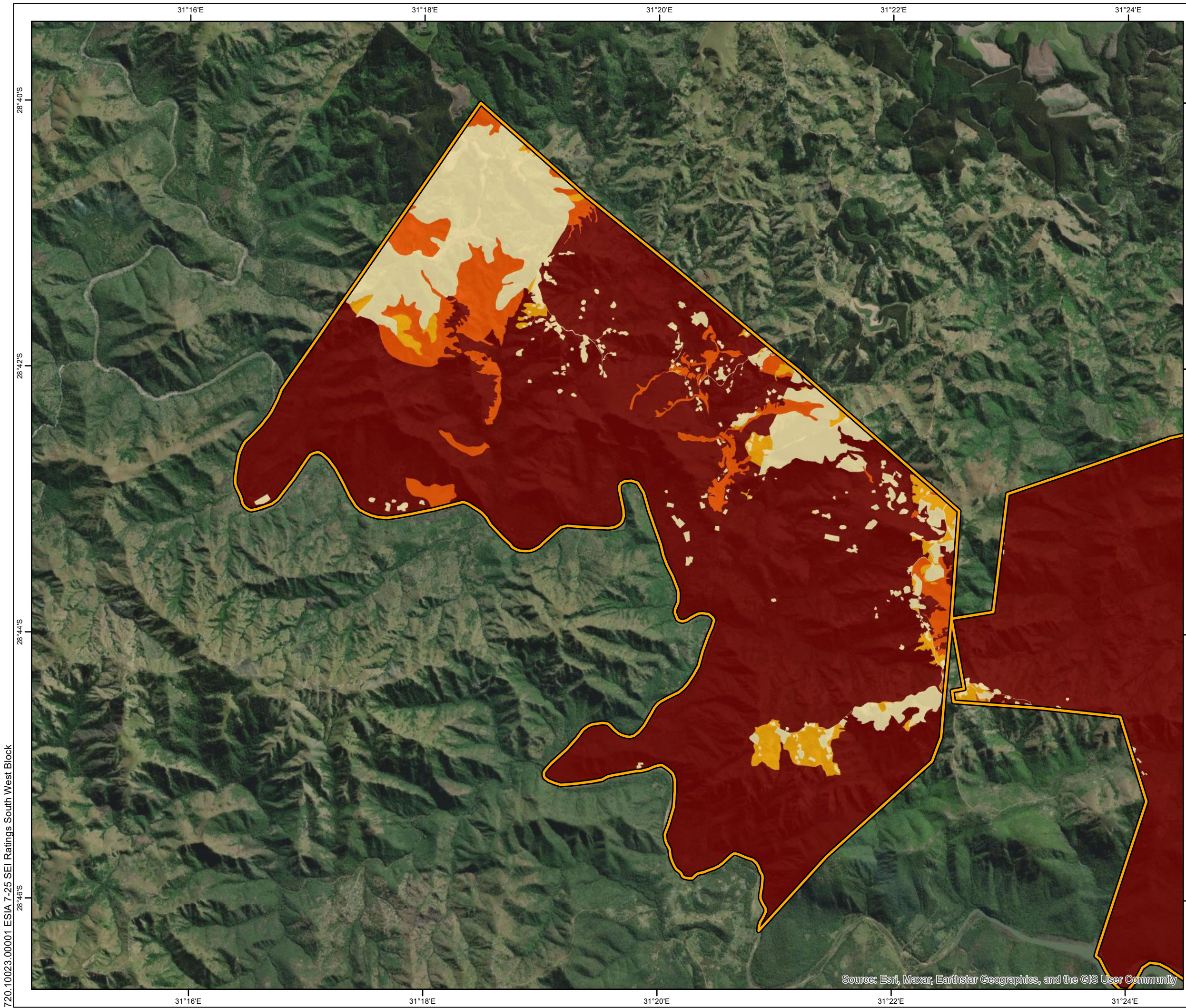
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Project No: 720.10023.00001	Prepared By: BG
Map Ref No: ESIA 7-24	Date: 04/07/2023

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community





720.10023.00001 ESIA 7-24 SEI Ratings South East Block

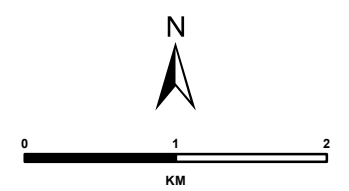


Legend

 Proposed South Block Mining Right Area

SEI Ratings (Eco-Pulse, 2022)

-  Very High
-  Medium
-  Low
-  Very Low



Scale: 1:50 000 @ A3
 Coordinate System: TM WG31
 Projection: Transverse Mercator
 Datum: Hartebeesthoek 1994

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**FIGURE 7-28
 SEI RATINGS FOR THE
 VEGETATION COMMUNITIES
 - SOUTH WESTERN BLOCK**

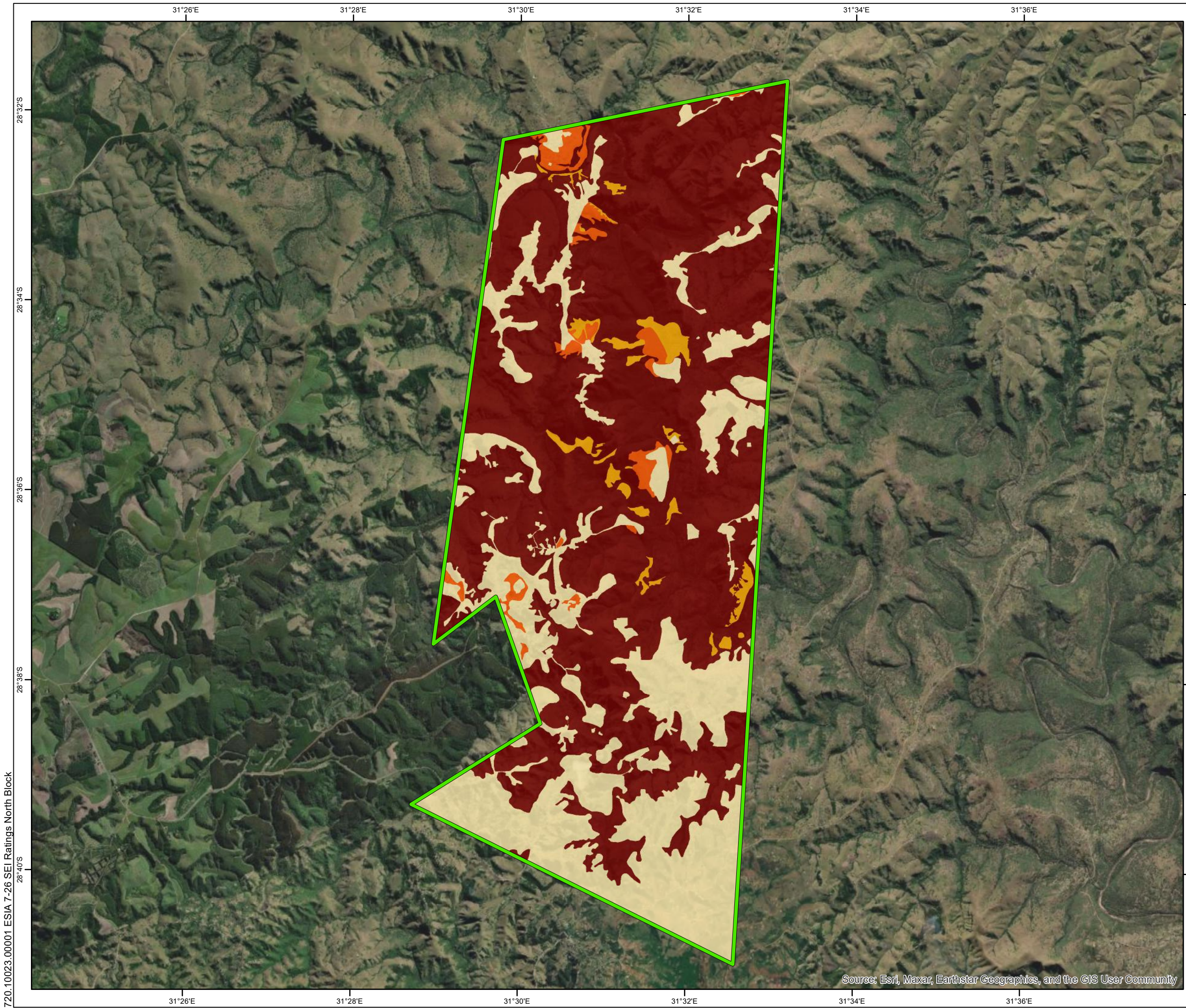
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Project No: 720.10023.00001	Prepared By: BG
Map Ref No: ESIA 7-25	Date: 04/07/2023

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community





720.10023.00001 ESIA 7-25 SEI Ratings South West Block

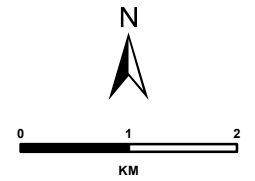


Legend

 Proposed North Block Mining Right Area

SEI Ratings (Eco-Pulse, 2022)

-  Very High
-  Medium
-  Low
-  Very Low



Scale: 1:70 000 @ A3
 Coordinate System: TM WG31
 Projection: Transverse Mercator
 Datum: Hartbeesthoek 1994

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**FIGURE 7-29
 SEI RATINGS FOR THE
 VEGETATION COMMUNITIES
 - NORTHERN BLOCK**



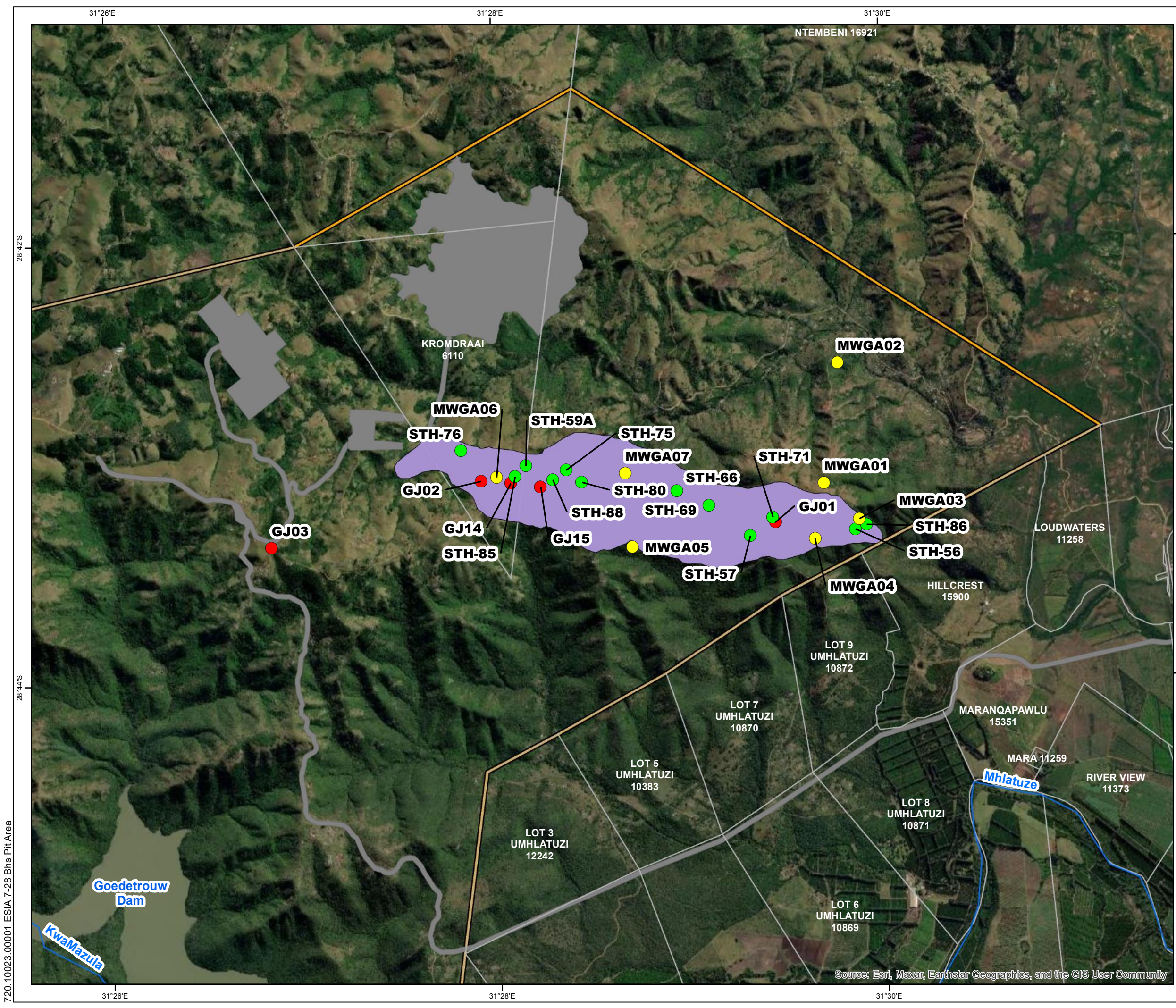
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Project No: 720.10023.00001	Prepared By: BG
Map Ref No: ESIA 7-26	Date: 04/07/2023

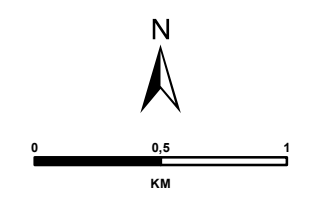
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

720.10023.00001 ESIA 7-26 SEI Ratings Northern Block



- Legend**
- Proposed South Block Mining Right Area
 - Proposed Mine Layout
 - Proposed South East Pit
 - Farm Boundaries
 - Rivers

- Borehole Type**
- Exploration Hole
 - Hydrocensus Borehole
 - Hydrogeology Drilled Borehole



Scale: 1:30 000 @ A3
 Coordinate System: WGS 1984 UTM Zone 36S
 Projection: Transverse Mercator
 Datum: WGS 1984

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**FIGURE 7-31
 BOREHOLES LOCATED
 IN THE PIT AREA**

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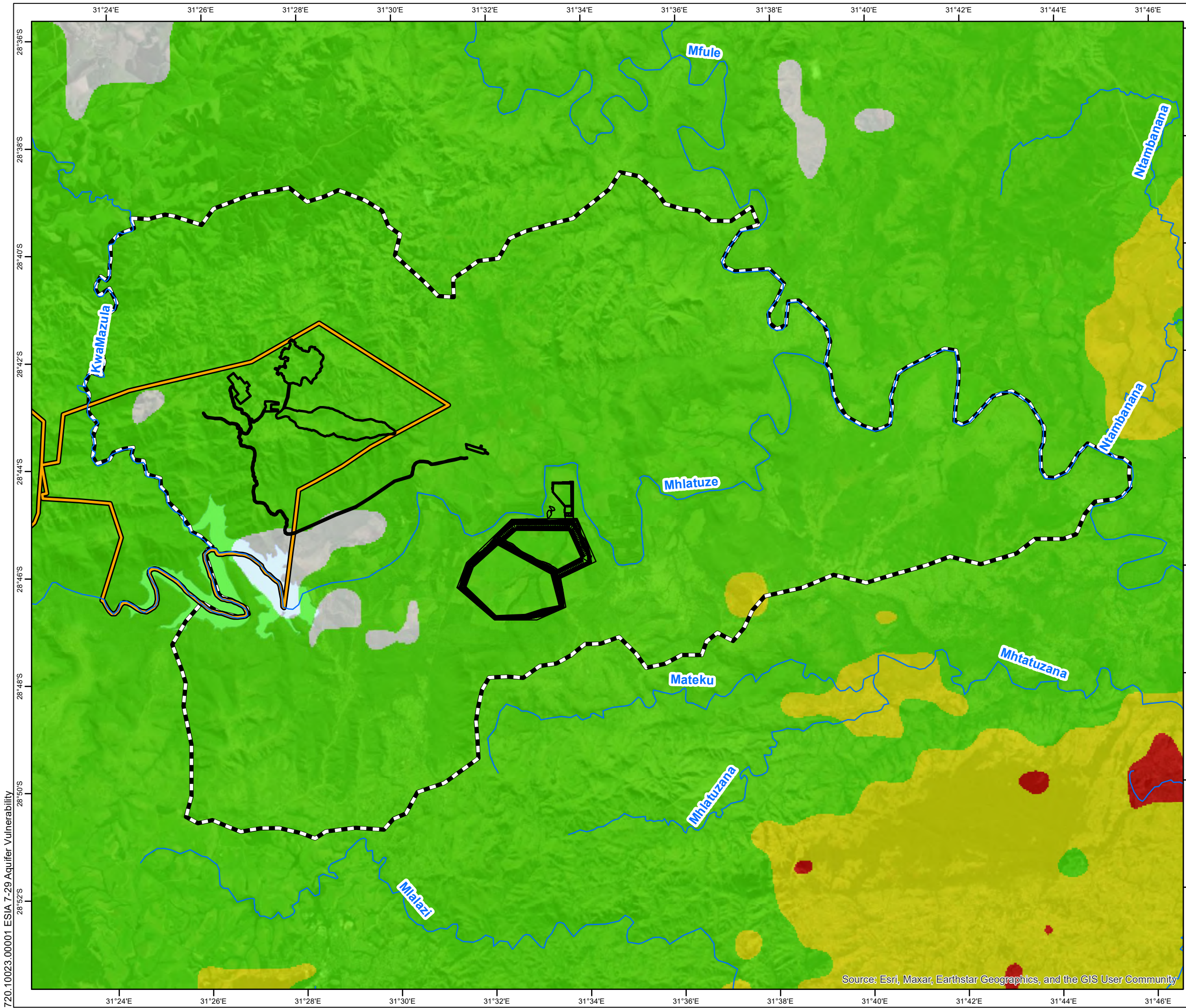
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Project No: 720.10023.00001	Prepared By: BG
Map Ref No: ESIA 7-28	Date: 17/06/2023

720.10023.00001 ESIA 7-28 Bhs Pit Area

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

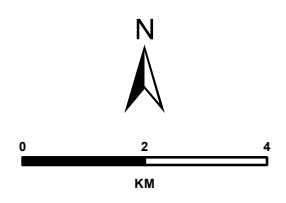


Legend

- Rivers
- Proposed South Block Mining Right Area
- Proposed Mine Layout
- Model Boundary

Groundwater Vulnerability to Pollution (Drastic)

- 0 - 50
- 50 - 87
- 87 - 109
- 109 - 183



Scale: 1:123 788 @ A3
 Coordinate System: WGS 1984 UTM Zone 36S
 Projection: Transverse Mercator
 Datum: WGS 1984

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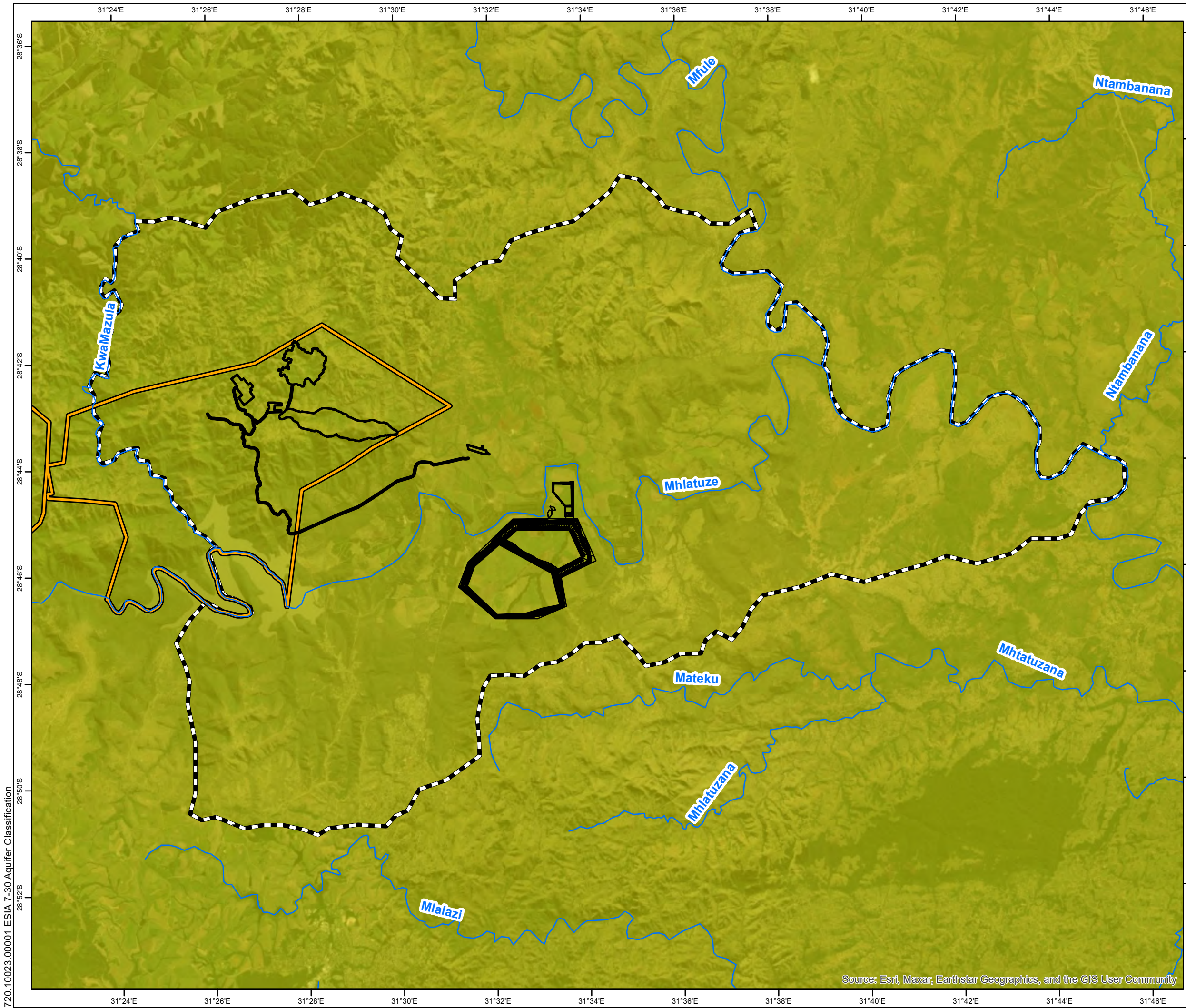
**FIGURE 7-32
 AQUIFER VULNERABILITY
 MAP OF THE STUDY AREA**






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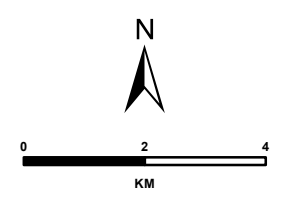
Project No: 720.10023.00001	Prepared By: BG
Map Ref No: ESIA 7-29	Date: 04/07/2023

720.10023.00001 ESIA 7-29 Aquifer Vulnerability

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



- Legend**
-  Proposed South Block Mining Right Area
 -  Proposed Mine Layout
 -  Model Boundary
 -  Rivers
- Aquifer Classification**
-  Minor



Scale: 1:125 000 @ A3
 Coordinate System: WGS 1984 UTM Zone 36S
 Projection: Transverse Mercator
 Datum: WGS 1984

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**FIGURE 7-33
 AQUIFER CLASSIFICATION
 MAP OF THE STUDY AREA**

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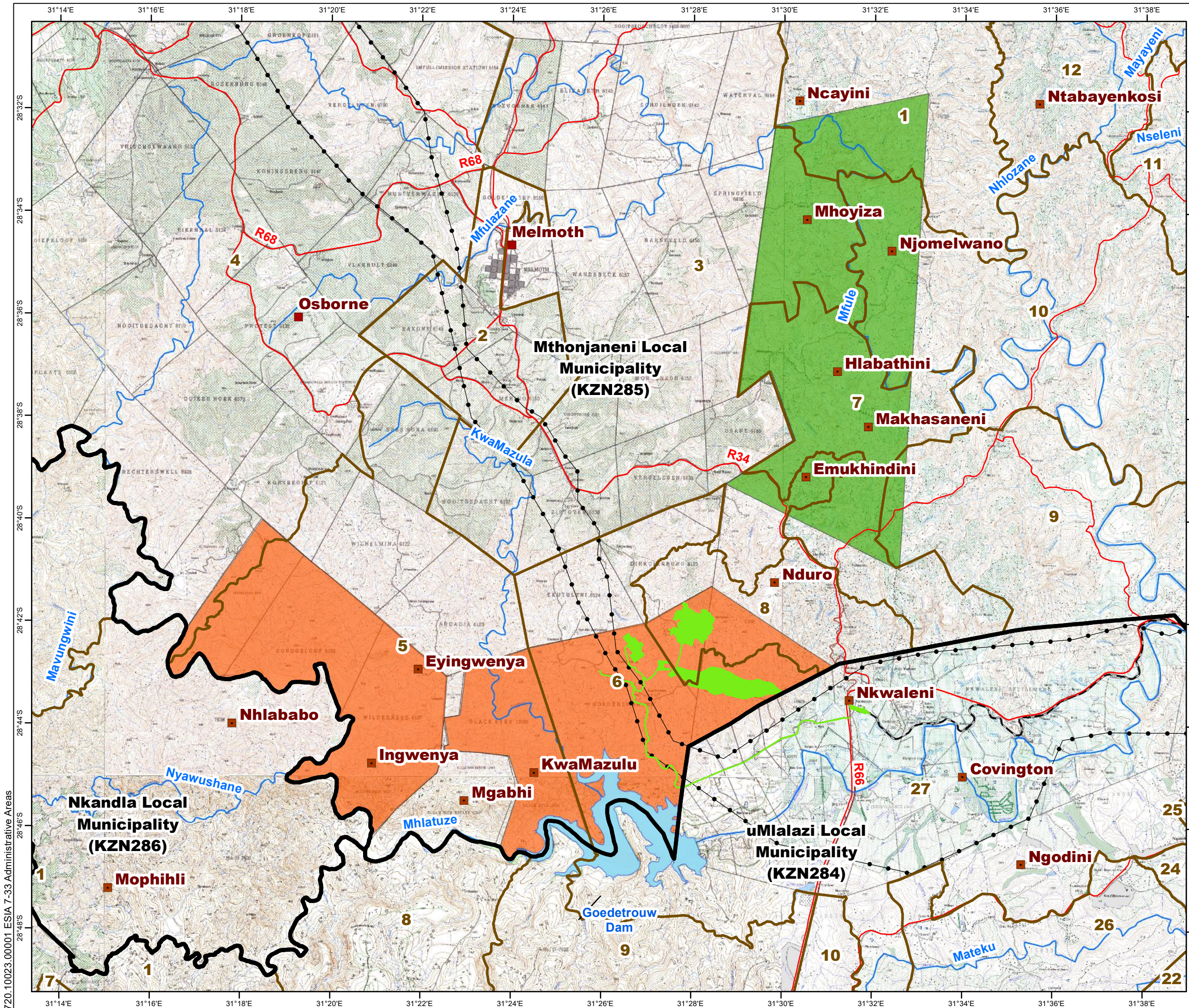
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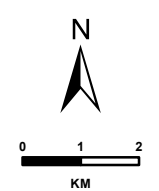
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Map Ref No: ESIA 7-30	Date: 04/07/2023

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

720.10023.00001 ESIA 7-30 Aquifer Classification



- Legend**
- Towns / Villages
 - Roads
 - Railway Lines
 - Power Lines
 - Rivers
 - Dams
 - Local Municipalities
 - Wards
 - Proposed North Block Mining Right Area
 - Proposed South Block Mining Right Area
 - Proposed Mine Layout



Scale: 1:130 000 @ A3
 Coordinate System: TM WG31
 Projection: Transverse Mercator
 Datum: Hartbeesthoek 1994

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**FIGURE 7-36
 ADMINISTRATIVE AREAS**

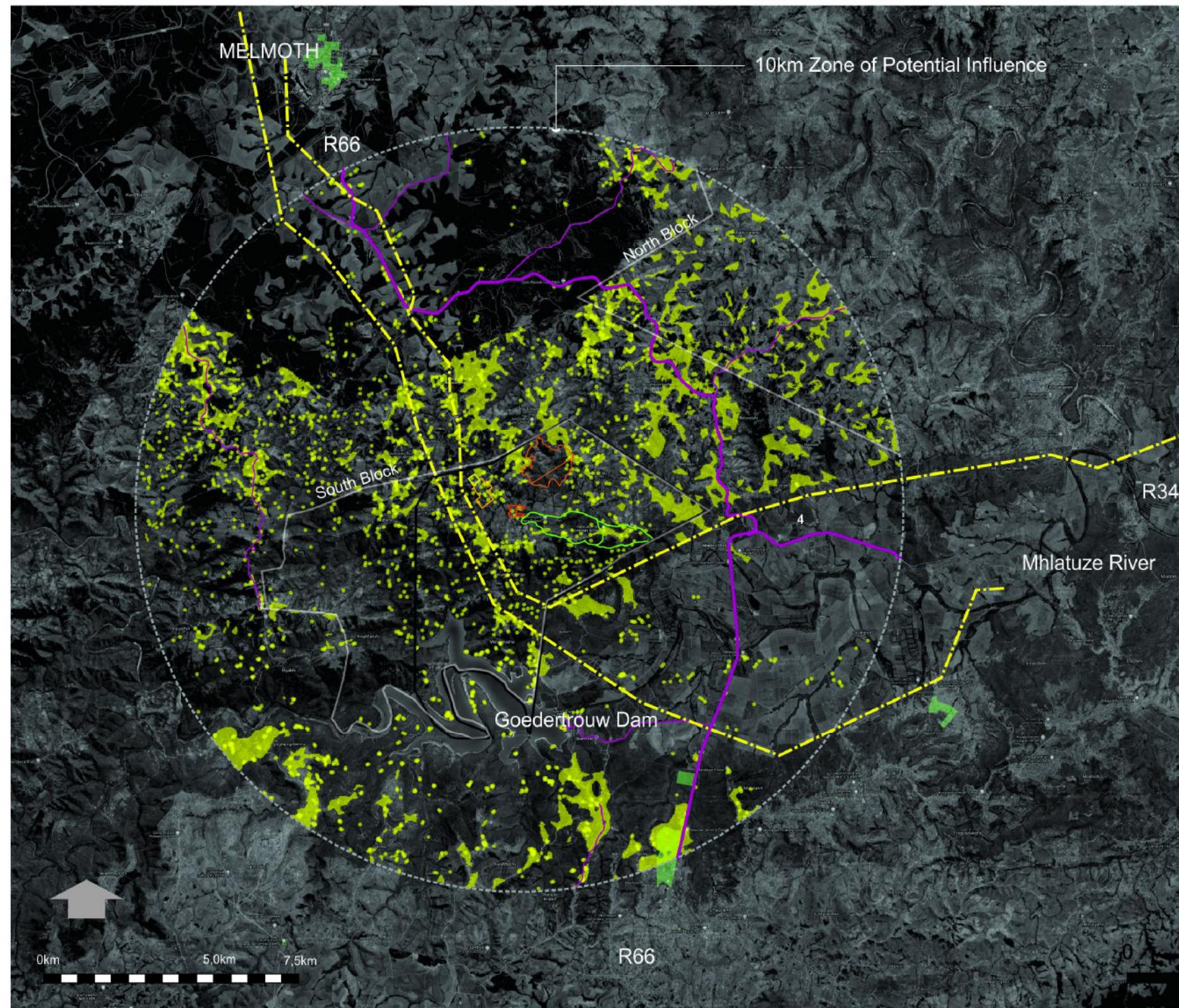


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Project No: 720.10023.00001	Prepared By: BG
Map Ref No: ESIA 7-33	Date: 17/06/2023

720.10023.00001 ESIA 7-33 Administrative Areas



LEGEND

↓ RECEPTORS

	Residential (for residents in towns and isolated properties)	HIGH	
	Visitors to tourist/recreation areas		
	Travellers along main roads/tourist roads		
	Travellers on local roads	MODERATE	
	Receptors in forestry agricultural areas	LOW	
	Receptors working for Power Utilities		

POTENTIAL CONFLICT AREAS

Conflict areas are sensitive viewing points occurring within a 10.0km radius of the proposed project site i.e. the zone of potential influence and study area.

These areas include farmstead and tourist properties / destinations as well as public roads.

Within this range the viewer would experience high (foreground view 0 - 1,0km) visual exposure, experience moderate (middle-ground view 1,0km - 6,5km) and low to negligible visual exposure beyond 6,5km when the project activities would occur in background views.

GYLA
Graham A Young
Landscape Architect
082 462 1491

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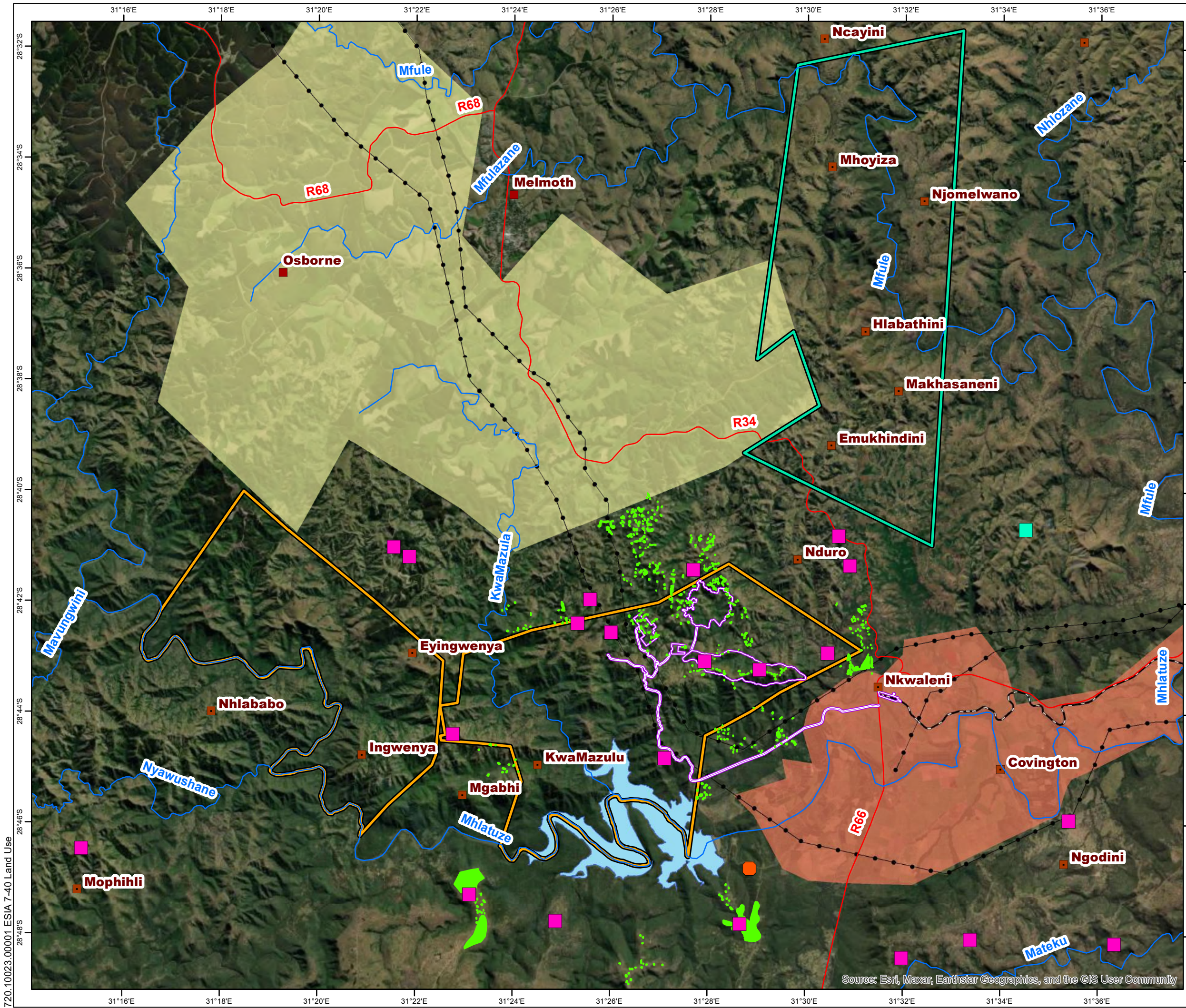
**FIGURE 7-42
SENSITIVE VISUAL
RECEPTORS**



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Project No: 720.10023.00001	Prepared By: BG
Map Ref No: ESIA 7-39	Date: 17/06/2023



- Legend**
- Towns / Villages
 - Roads
 - Railway Lines
 - Power Lines
 - Rivers
 - Goedetrouw Dam
 - Proposed North Block Mining Right Area
 - Proposed South Block Mining Right Area
 - Proposed Mine Layout
 - Homesteads
 - Commercial Cane and Timber
 - Commercial Fruit Crops
 - Schools
 - Tileem Poultry Farm
 - Shakaland Theme Park

N

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KM

Scale: 1:120 000 @ A3
 Coordinate System: TM WG31
 Projection: Transverse Mercator
 Datum: Hartbeesthoek 1994

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**FIGURE 7-43
SURROUNDING LAND USE**

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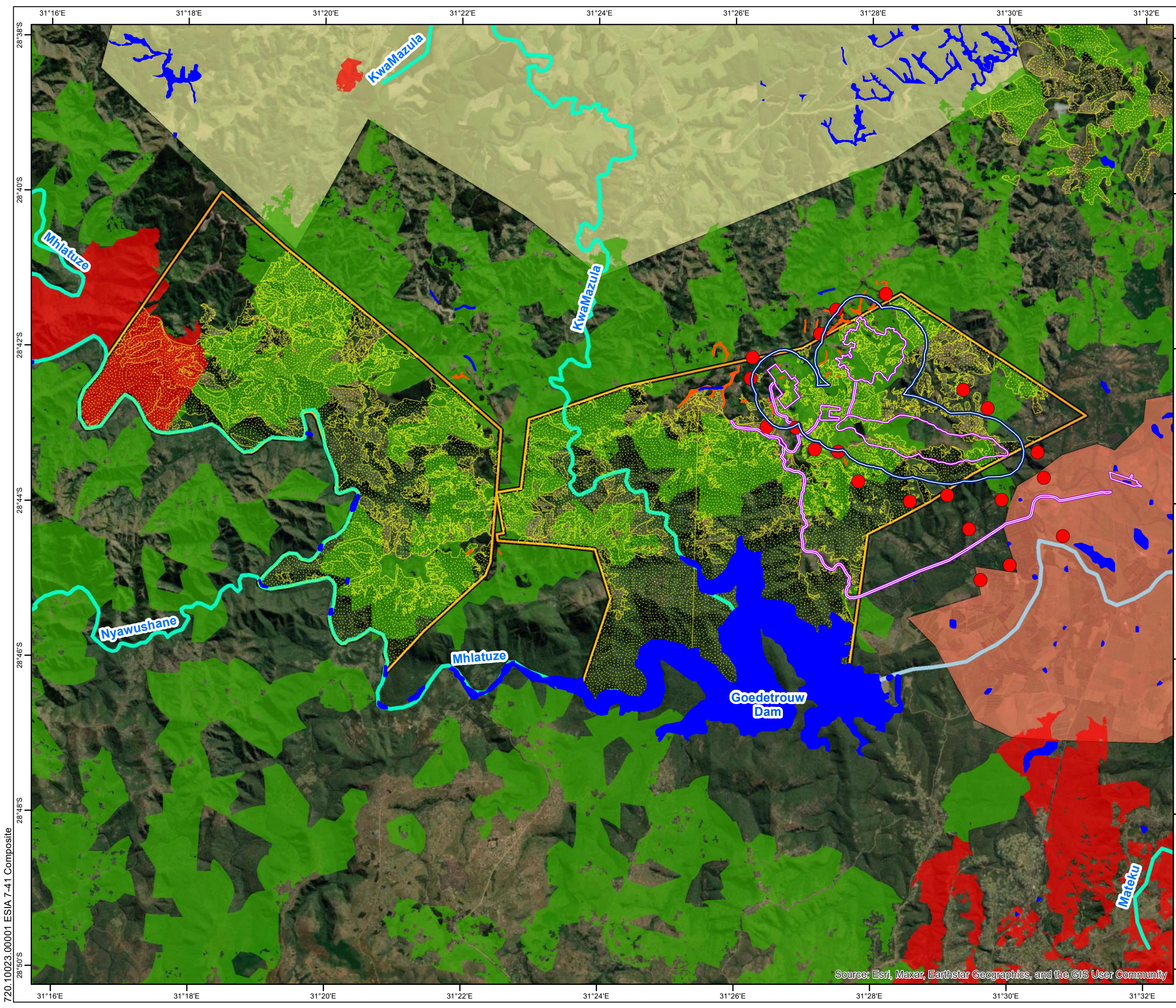
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Project No: 720.10023.00001	Prepared By: BG
Map Ref No: ESIA 7-40	Date: 04/07/2023

720.10023.00001 ESIA 7-40 Land Use

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



Legend

- Proposed South Block Mining Right Area
- Proposed Mine Layout
- 500m Buffer
- NFEPA Wetlands
- Wetlands (Eco-Pulse, 2021)
- Commercial Fruit Crops
- Commercial Cane and Timber

KZN Systematic Conservation Assessment (EKZN, 2016)

- Critical Biodiversity Area : Irreplaceable
- Critical Biodiversity Area : Optimal

SEI Ratings (Eco-Pulse, 2022)

- Very High

NFEPA Rivers

- CLASS B: Largely Natural
- CLASS C: Moderately Modified

- Identified Sensitive Receptors After Relocation

N

0 1 2
KM

Scale: 1:85 000 @ A3
Coordinate System: TM WG31
Projection: Transverse Mercator
Datum: Hartbeesthoek 1994

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**FIGURE 7-44
COMPOSITE MAP OF
KEY ENVIRONMENTAL
FEATURES**

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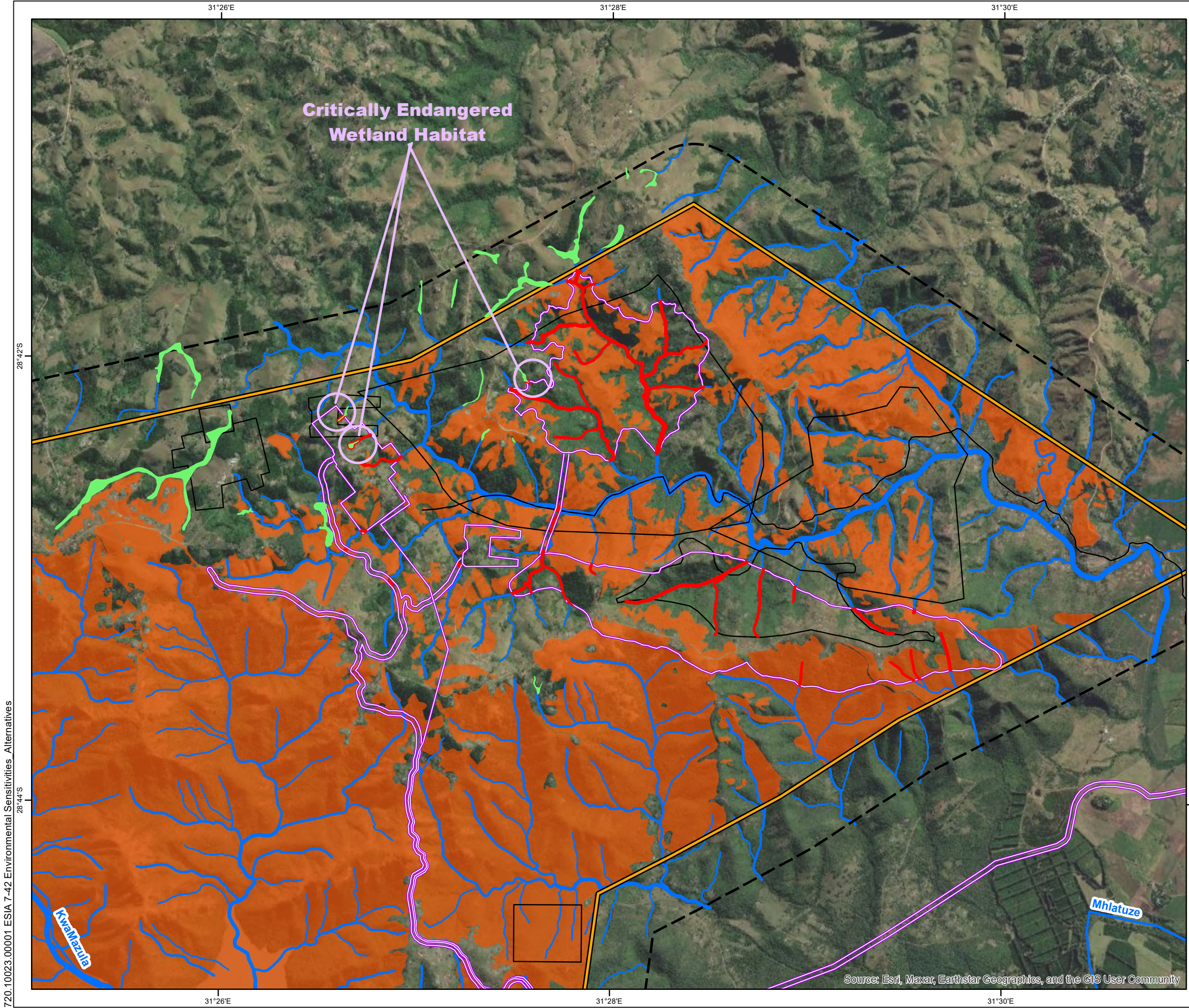
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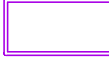

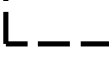




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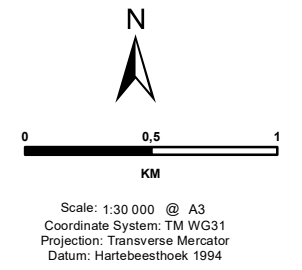
Project No: 720.10023.00001	Prepared By: BG
Map Ref No: ESIA 7-41	Date: 17/06/2023

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

720.10023.00001 ESIA 7-41 Composite



- Legend**
-  Proposed South Block Mining Right Area
 -  Infrastructure Layout - Preferred Option
 -  Infrastructure Layout - Alternative Options
 -  DWS 500m Regulated Area
 -  Delineated Watercourses
 -  Areas of Watercourse Habitat Loss
 -  Wetlands
- SEI Ratings (Eco-Pulse, 2022)
-  Very High



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**FIGURE 7-45
ENVIRONMENTAL SENSITIVITIES
ASSOCIATED WITH THE
ALTERNATIVES CONSIDERED
FOR THE JINDAL MIOP**

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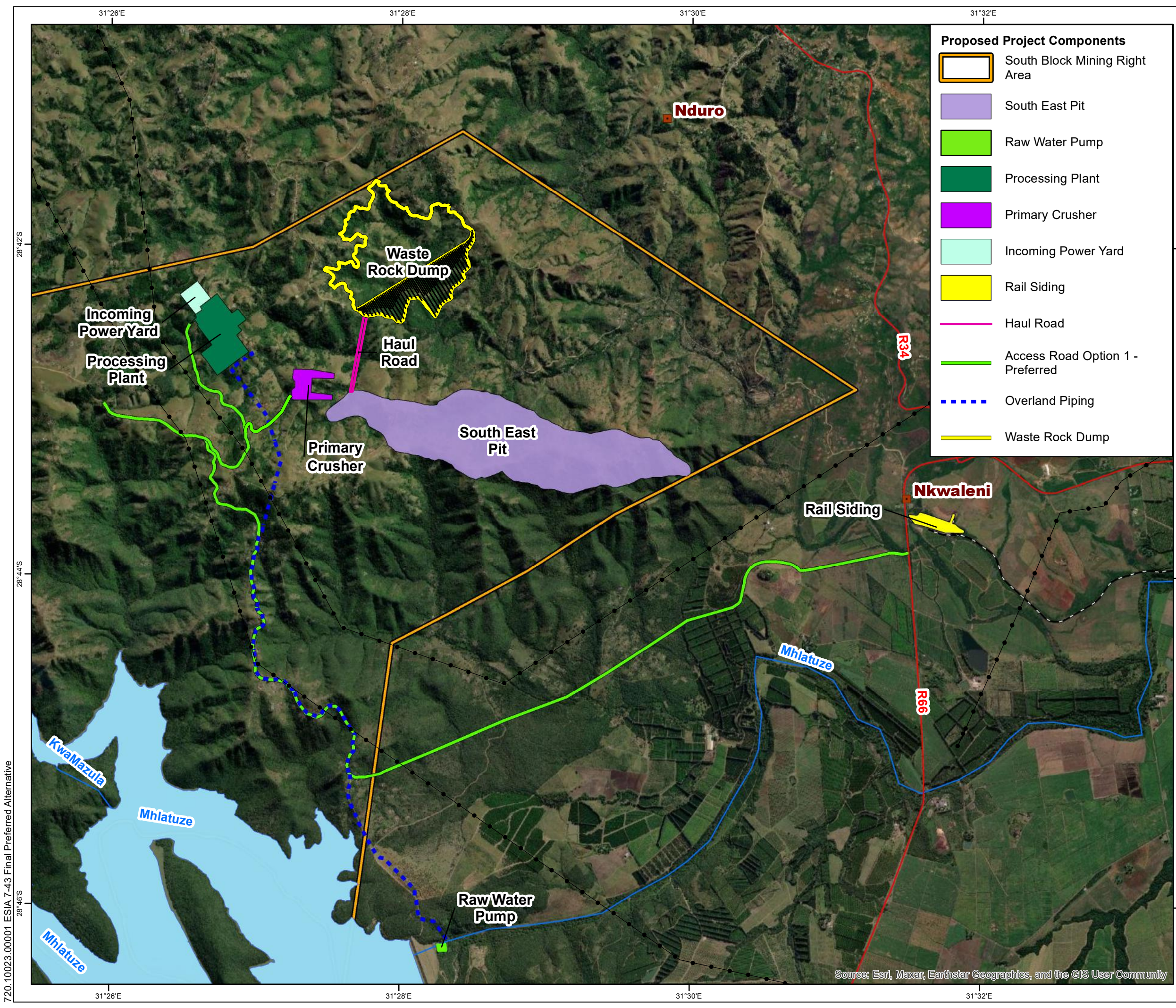
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


Project No: 720.10023.00001	Prepared By: BG
Map Ref No: ESIA 7-42	Date: 04/07/2023

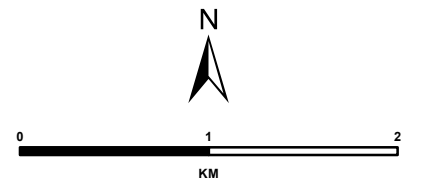
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

720.10023.00001 ESIA 7-42 Environmental Sensitivities_Alternatives



- Proposed Project Components**
-  South Block Mining Right Area
 -  South East Pit
 -  Raw Water Pump
 -  Processing Plant
 -  Primary Crusher
 -  Incoming Power Yard
 -  Rail Siding
 -  Haul Road
 -  Access Road Option 1 - Preferred
 -  Overland Piping
 -  Waste Rock Dump

- Legend**
-  Towns / Villages
 -  Roads
 -  Railway Lines
 -  Power Lines
 -  Rivers
 -  Goedetrouw Dam



Scale: 1:40 000 @ A3
 Coordinate System: TM WG31
 Projection: Transverse Mercator
 Datum: Hartbeesthoek 1994

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**FIGURE 7-46
 FINAL PREFERRED
 ALTERNATIVE**

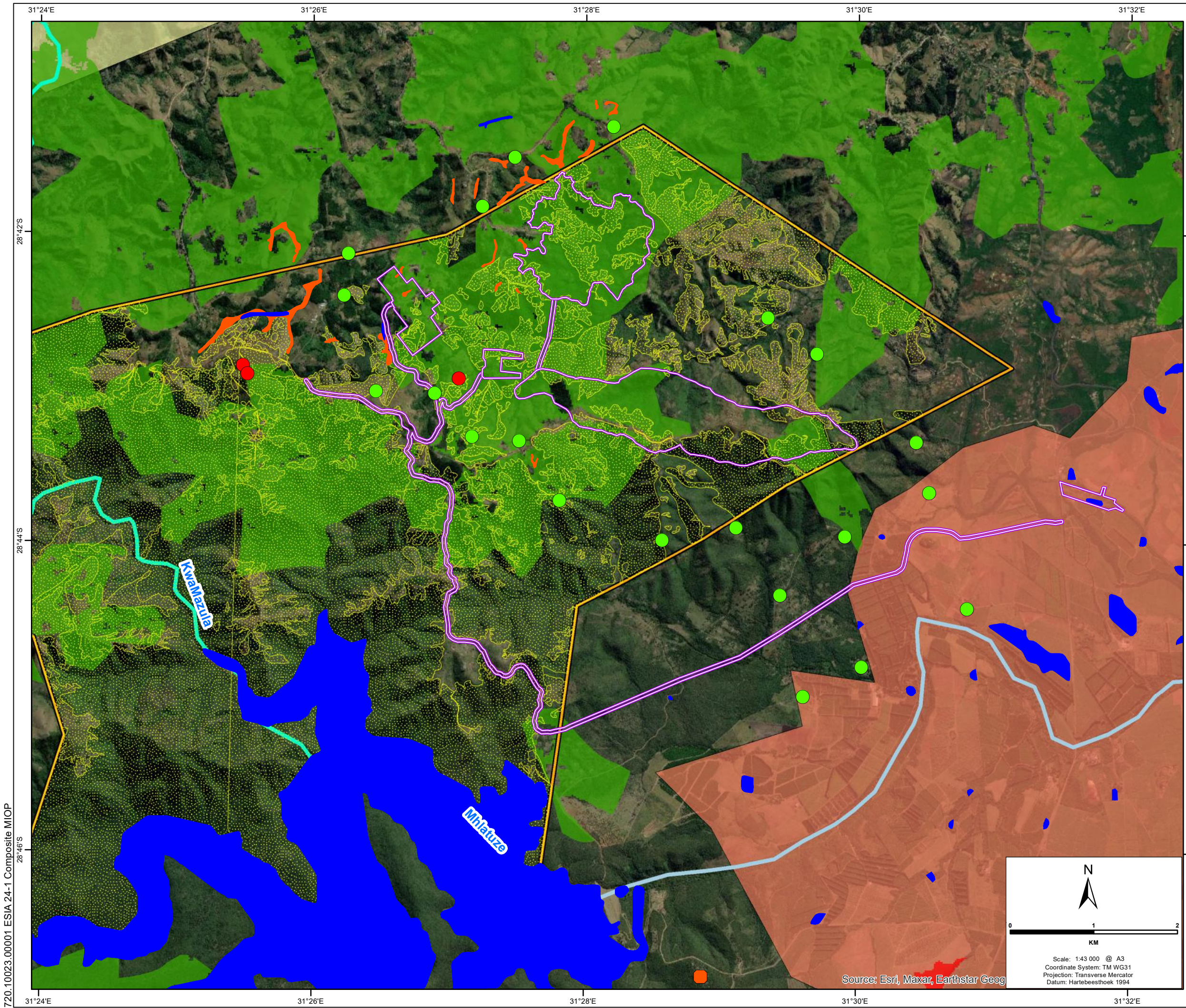


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Project No: 720.10023.00001	Prepared By: BG
Map Ref No: ESIA 7-43	Date: 04/07/2023

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

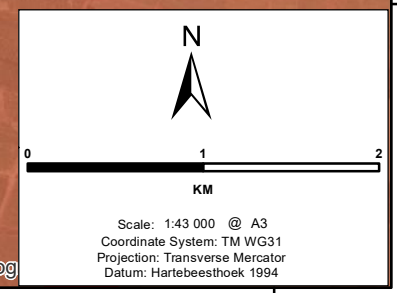
720.10023.00001 ESIA 7-43 Final Preferred Alternative



- Legend**
- Proposed South Block Mining Right Area
 - Proposed Mine Layout
 - NFEPA Wetlands
 - Wetlands (Eco-Pulse, 2021)
 - Commercial Cane and Timber
 - Commercial Fruit Crops
- SEI Ratings (Eco-Pulse, 2022)
- Very High
- KZN Systematic Conservation Assessment (EKZN, 2016)
- Critical Biodiversity Area : Irreplaceable
 - Critical Biodiversity Area : Optimal
- NFEPA Rivers
- CLASS B: Largely Natural
 - CLASS C: Moderately Modified
- Shakaland Theme Park
 - Identified Sensitive Receptors After Relocation
 - Threatened Plant Species (Eco-Pulse, 2022)

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**FIGURE 24-1
COMPOSITE MAP FOR
JINDAL MIOP**



Source: Esri, Maxar, Earthstar Geog

SLR

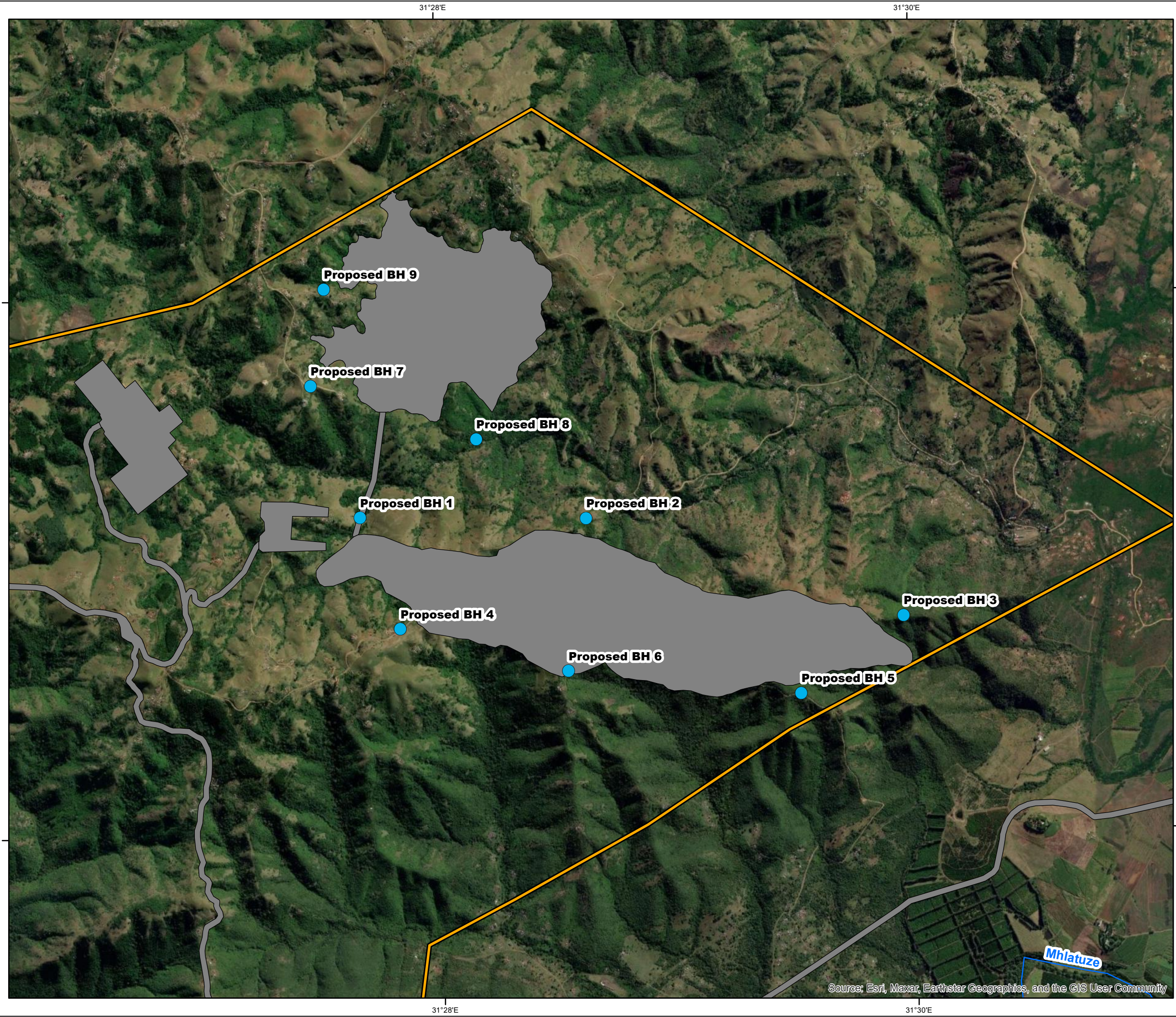
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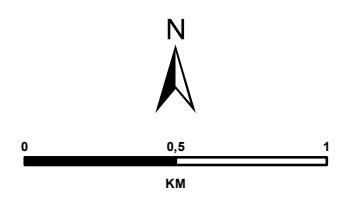
Project No: 720.10023.00001	Prepared By: BG
Map Ref No: ESIA 24-1	Date: 17/06/2023

720.10023.00001 ESIA 24-1 Composite MIOP

720.10023.00001 ESIA 30-1 GW Monitoring_MIOP



- Legend**
- Proposed South Block Mining Right Area
 - Proposed Mine Layout
 - Rivers
- Groundwater Monitoring Network
- Proposed Monitoring Points



Scale: 1:25 000 @ A3
 Coordinate System: WGS 1984 UTM Zone 36S
 Projection: Transverse Mercator
 Datum: WGS 1984

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**FIGURE 30-1
 GROUNDWATER MONITORING
 NETWORK - MIOP**





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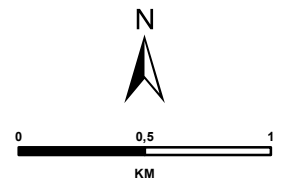
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Project No: 720.10023.00001	Prepared By: BG
Map Ref No: ESIA 7-30	Date: 04/07/2023



- Legend**
-  Proposed Mine Layout
 -  Proposed TSF and RWD
 -  Rivers
- Groundwater Monitoring Network**
-  Proposed Monitoring Points



Scale: 1:30 000 @ A3
 Coordinate System: WGS 1984 UTM Zone 36S
 Projection: Transverse Mercator
 Datum: WGS 1984

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**FIGURE 30-2
 GROUNDWATER MONITORING
 NETWORK - TSF**



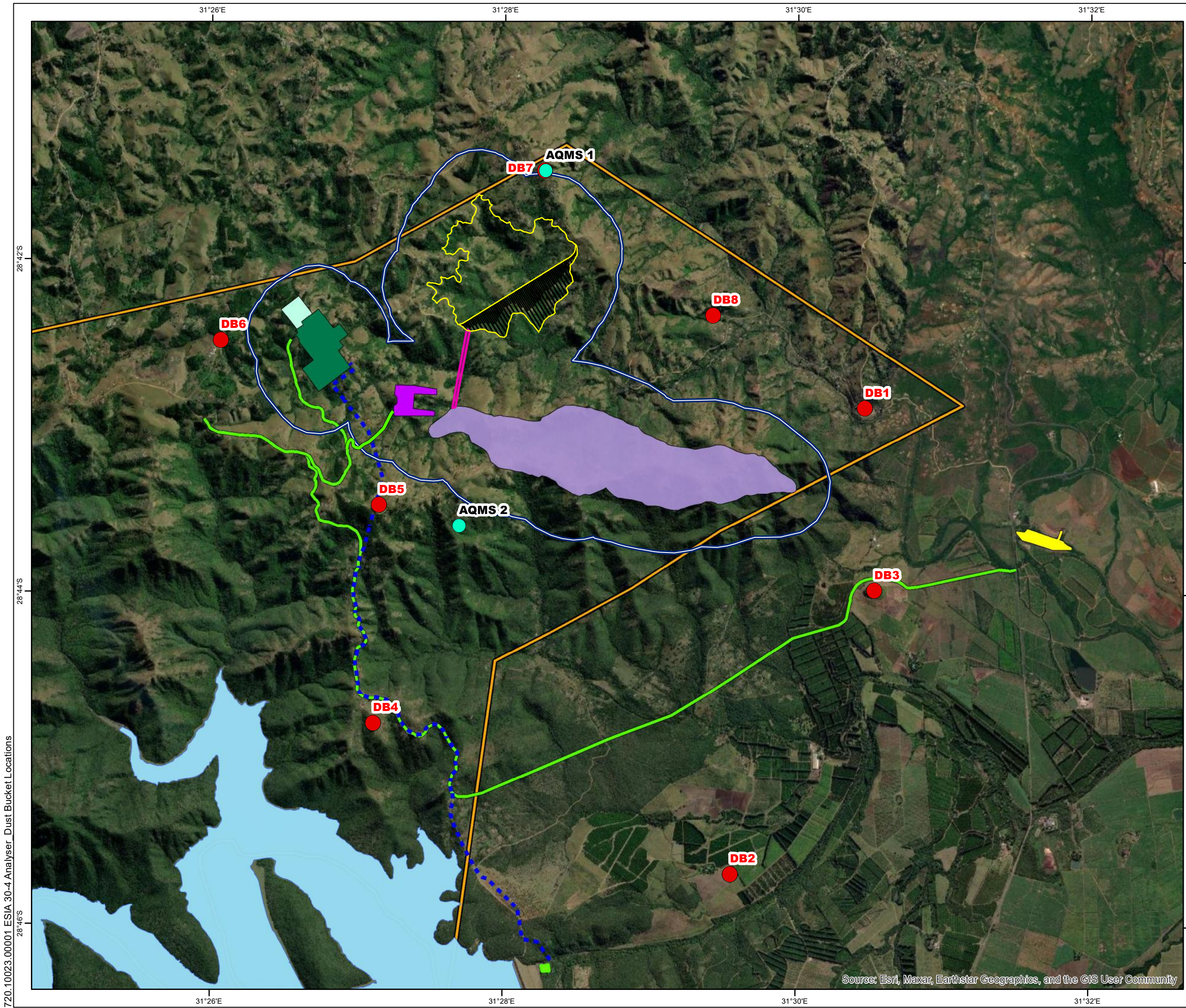
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Project No: 720.10023.00001	Prepared By: BG
Map Ref No: ESIA 30-2	Date: 04/07/2023

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

720.10023.00001 ESIA 30-2 GW Monitoring TSF



- Legend**
- Goedetrouw Dam
 - 500m Buffer
 - Proposed Continuous Analyser Locations
 - Proposed Dust Bucket Locations

- Proposed Project Components**
- South Block Mining Right Area
 - South East Pit
 - Raw Water Pump
 - Processing Plant
 - Primary Crusher
 - Incoming Power Yard
 - Rail Siding
 - Haul Road
 - Access Road Option 1 - Preferred
 - Overland Piping
 - Waste Rock Dump

N

0 1 2
KM

Scale: 1:40 000 @ A3
Coordinate System: TM WG31
Projection: Transverse Mercator
Datum: Hartbeesthoek 1994

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**FIGURE 30-4
PROPOSED CONTINUOUS
ANALYSER AND DUST
BUCKET LOCATIONS**

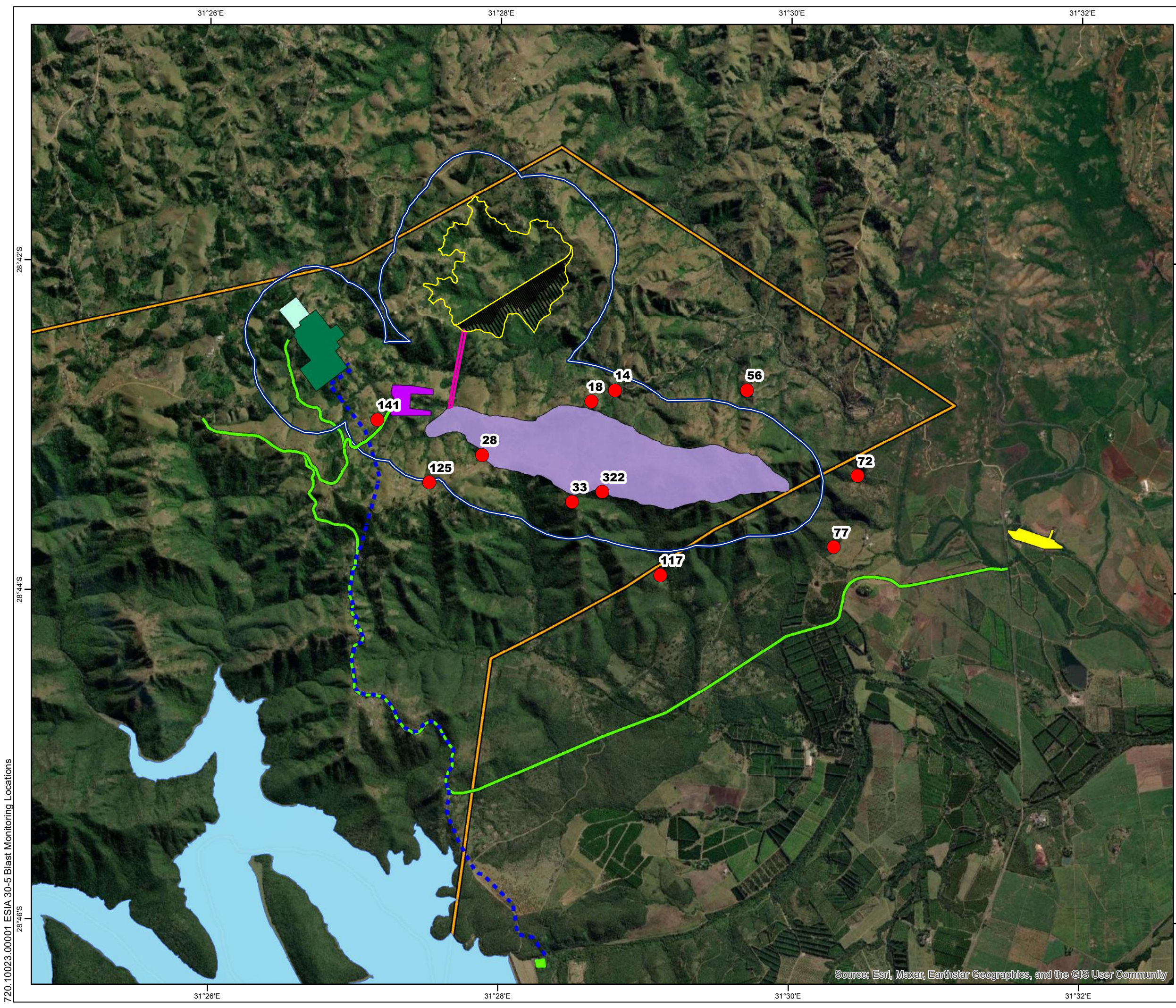
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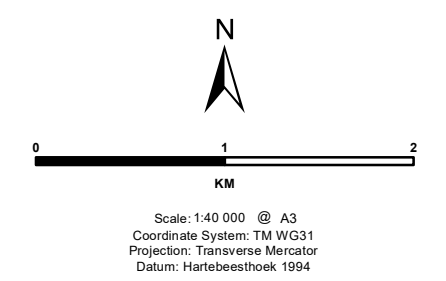
Project No: 720.10023.00001	Prepared By: BG
Map Ref No: ESIA 30-4	Date: 04/07/2023

720.10023.00001 ESIA 30-4 Analyser_Dust Bucket Locations

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



- Legend**
- Goedetrouw Dam
 - 500m Buffer
 - Blast Monitoring Points
- Proposed Project Components**
- South Block Mining Right Area
 - South East Pit
 - Raw Water Pump
 - Processing Plant
 - Primary Crusher
 - Incoming Power Yard
 - Rail Siding
 - Haul Road
 - Access Road Option 1 - Preferred
 - Overland Piping
 - Waste Rock Dump



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**FIGURE 30-5
BLAST MONITORING
LOCATIONS**

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Project No: 720.10023.00001	Prepared By: BG
Map Ref No: ESIA 30-5	Date: 04/07/2023

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

720.10023.00001 ESIA 30-5 Blast Monitoring Locations