













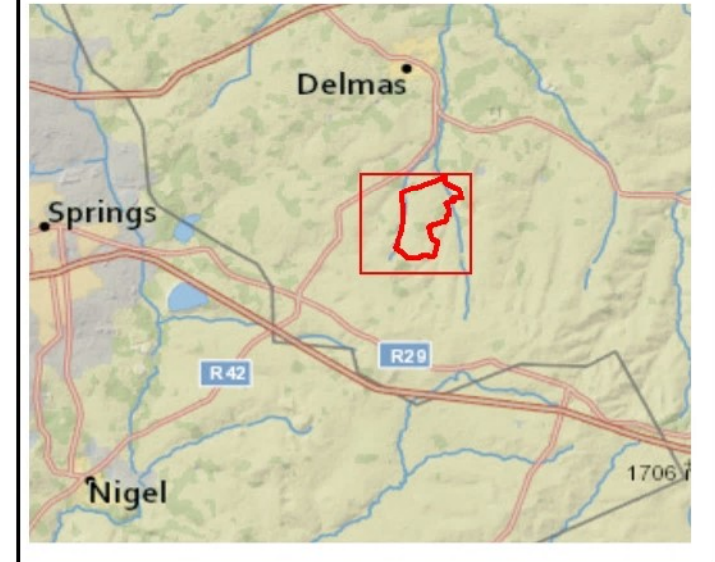


- Infrastructure**
-  Underground Adits
 -  Dirty Water Channels
 -  ROM
 -  Coal Processing Plant
 -  Workshop Area
 -  Air Vents
 -  PCDs
 -  Potable Water Tanks
 -  Service Water Dams
 -  Stockpiles
 -  Wash Bay
 -  Waste Water Treatment Facilities

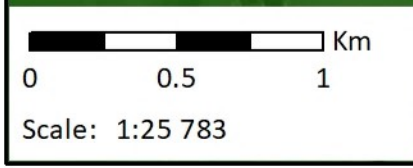


Manungu Consolidated Sensitivity Map
 1177 GSW Manungu New Processing Facility
 EIA and WUL

- Legend**
-  Application Area
- Sensitivity**
-  Least Concern
 -  Low
 -  High
 -  Very High
-  Underground Mining
-  Open Cast Mining

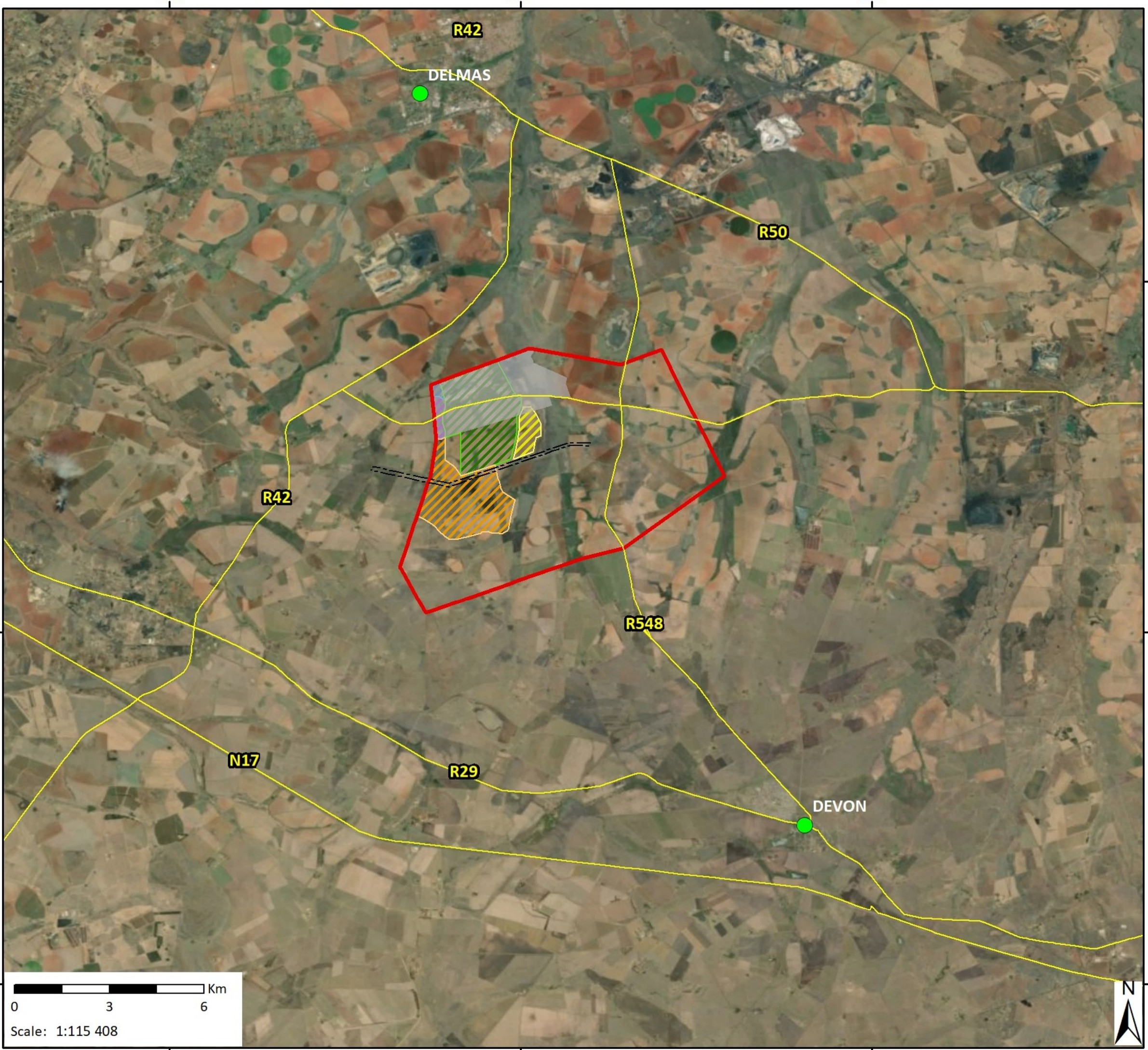


Data Sources:
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 Coord System: GCS WGS 1984
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 Units: Degree
 Ref: Sensitivities



Date: 2020/01/09
 EIMS Ref: 1177
 Compiled: PH
 Reviewed: BW
 Approved: LW



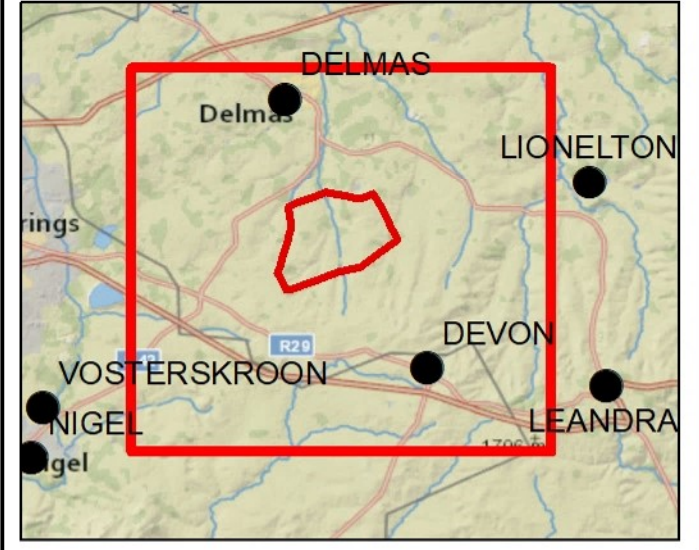


Manungu Locality Map

Manungu EIA and WUL

Legend

- Towns
- Roads
- - - Powerlines
- ⬡ Mining Right (MP 30/5/1/2/2/297/MR)
- ⬢ Existing Mine Footprint
- Mining Boundaries**
- ▨ Open Cast East
- ▨ Open Cast Pit
- ▨ Underground North West
- ▨ Underground South West
- ▨ Underground West

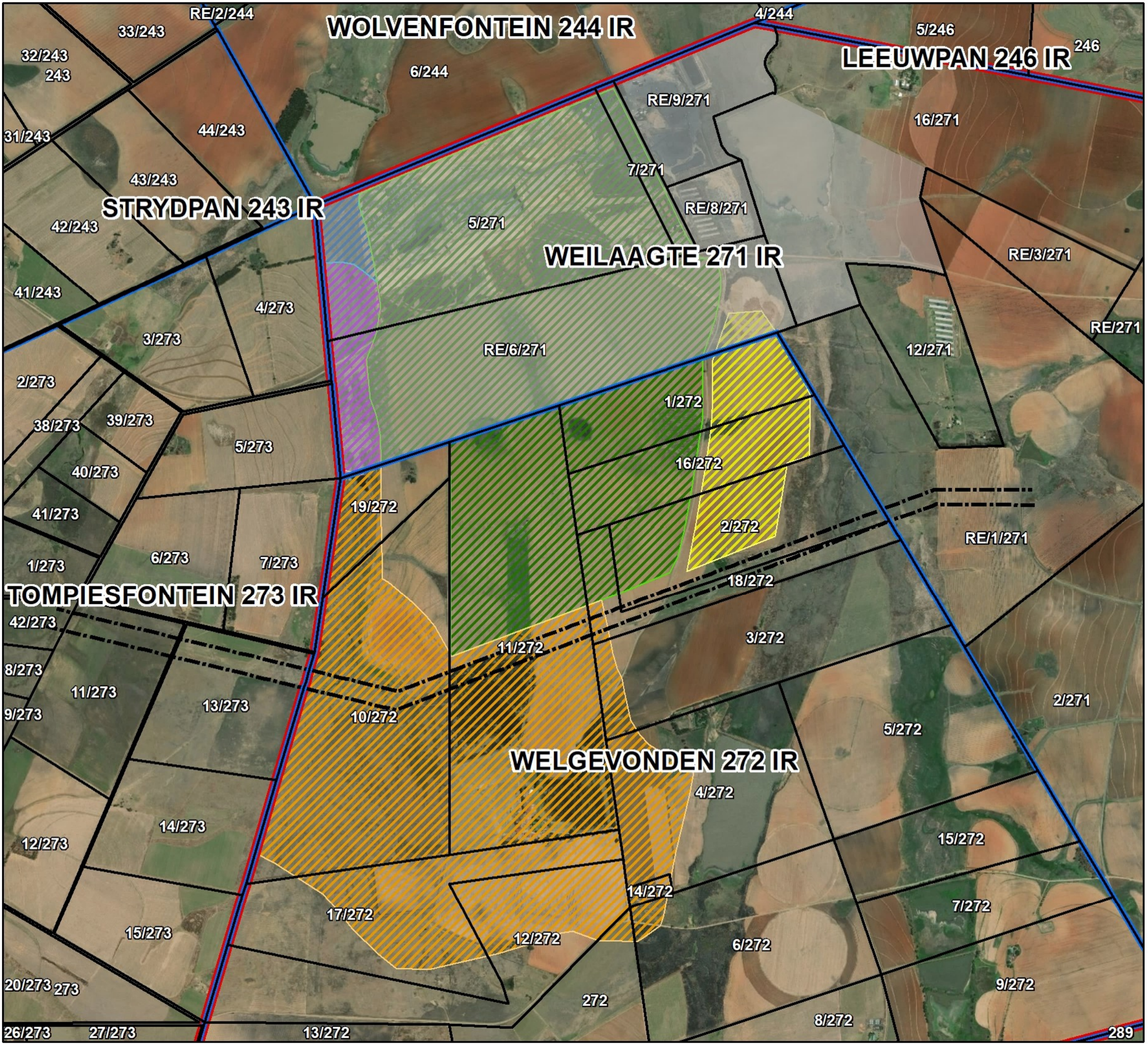


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 Ref: 1177_Manungu_Locality_190820

Date: 2019/08/20

Compiled: PH
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 Approved: LW

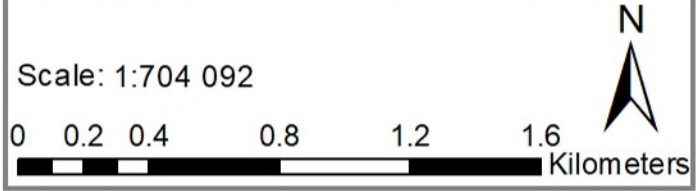
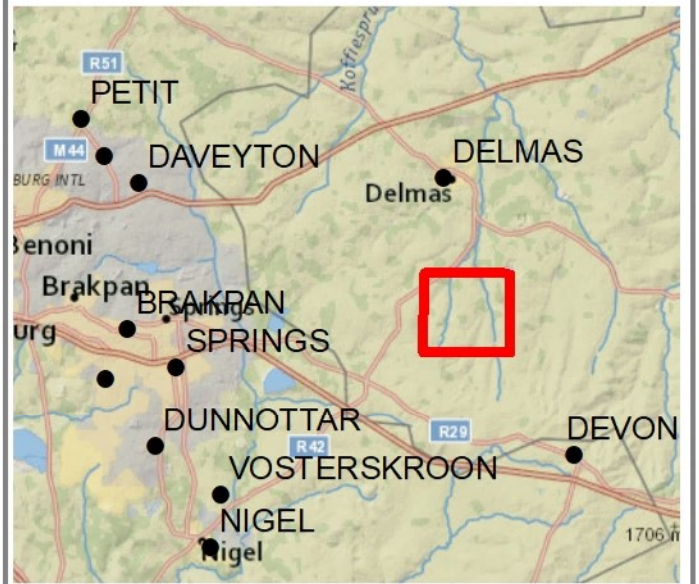




Manungu Layout Map

1177 Manungu Mine

- Legend**
- Parent Farms
 - Farm Portion
 - Powerlines
 - Mining Right (MP 30/5/1/2/2/297/MR)
 - Existing Mine Footprint
 - Open Cast East
 - Open Cast Pit
 - Underground North West
 - Underground South West
 - Underground West



Data Sources:
 CSG, ESRI, Manungu July 2018
 Coord System: LO29
 Projection: Transverse Mercator
 Ref: 1177_Manungu_Layout Map

28.6

28.7

28.8

Mucina & Rutherford Vegetation

- AZf 3 Eastern Temperate Freshwater Wetlands
- Gm 11 Rand Highveld Grassland
- Gm 12 Eastern Highveld Grassland
- Gm 8 Soweto Highveld Grassland
- Gm 9 Tsakane Clay Grassland
- SVcb 11 Andesite Mountain Bushveld

Vegetation Map

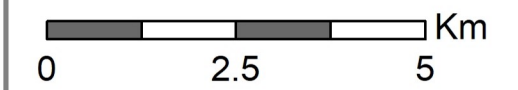
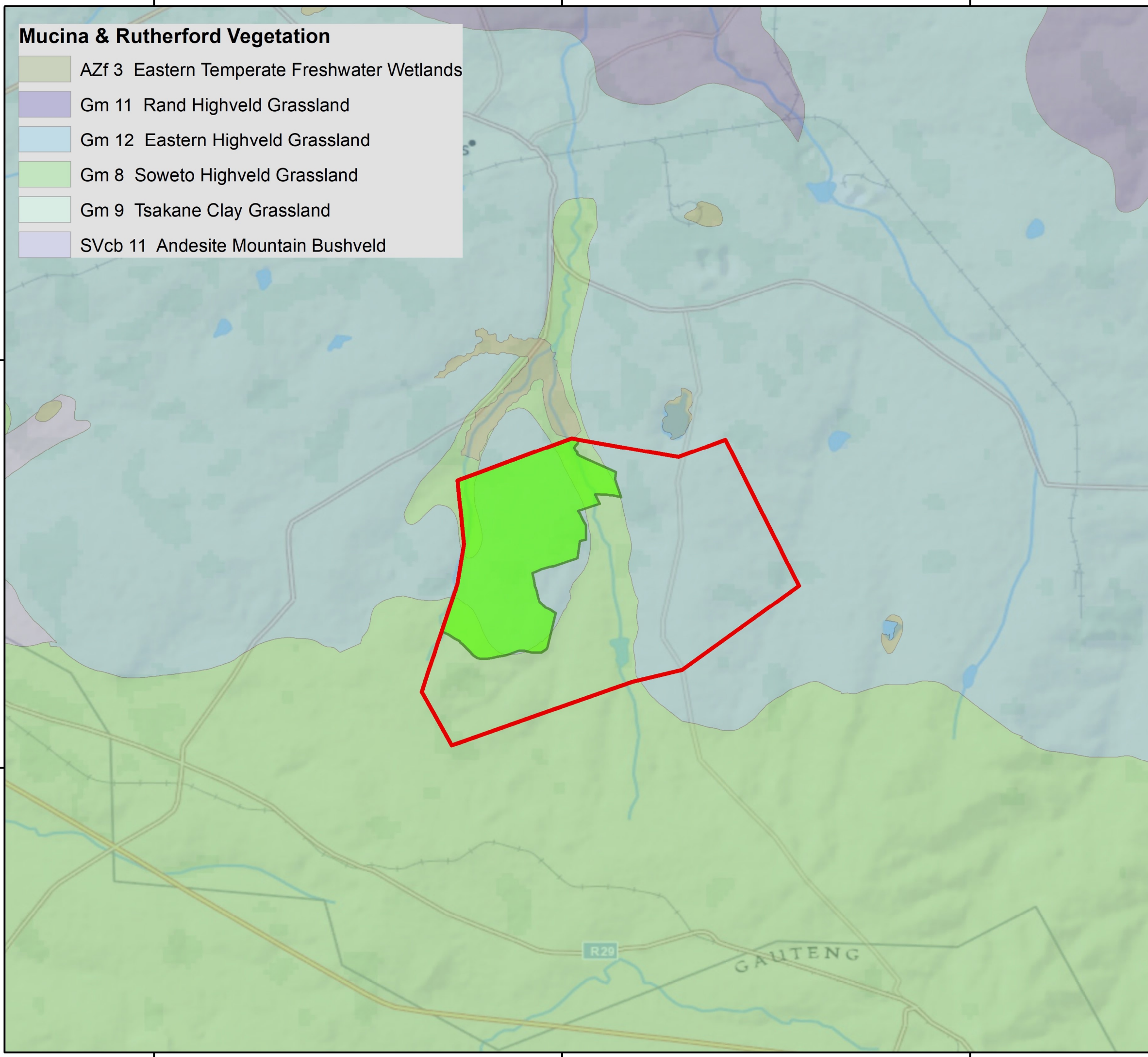
1177 Manungu Mine

Legend

- Mining Right Boundary
- Application Area

-26.2

-26.3



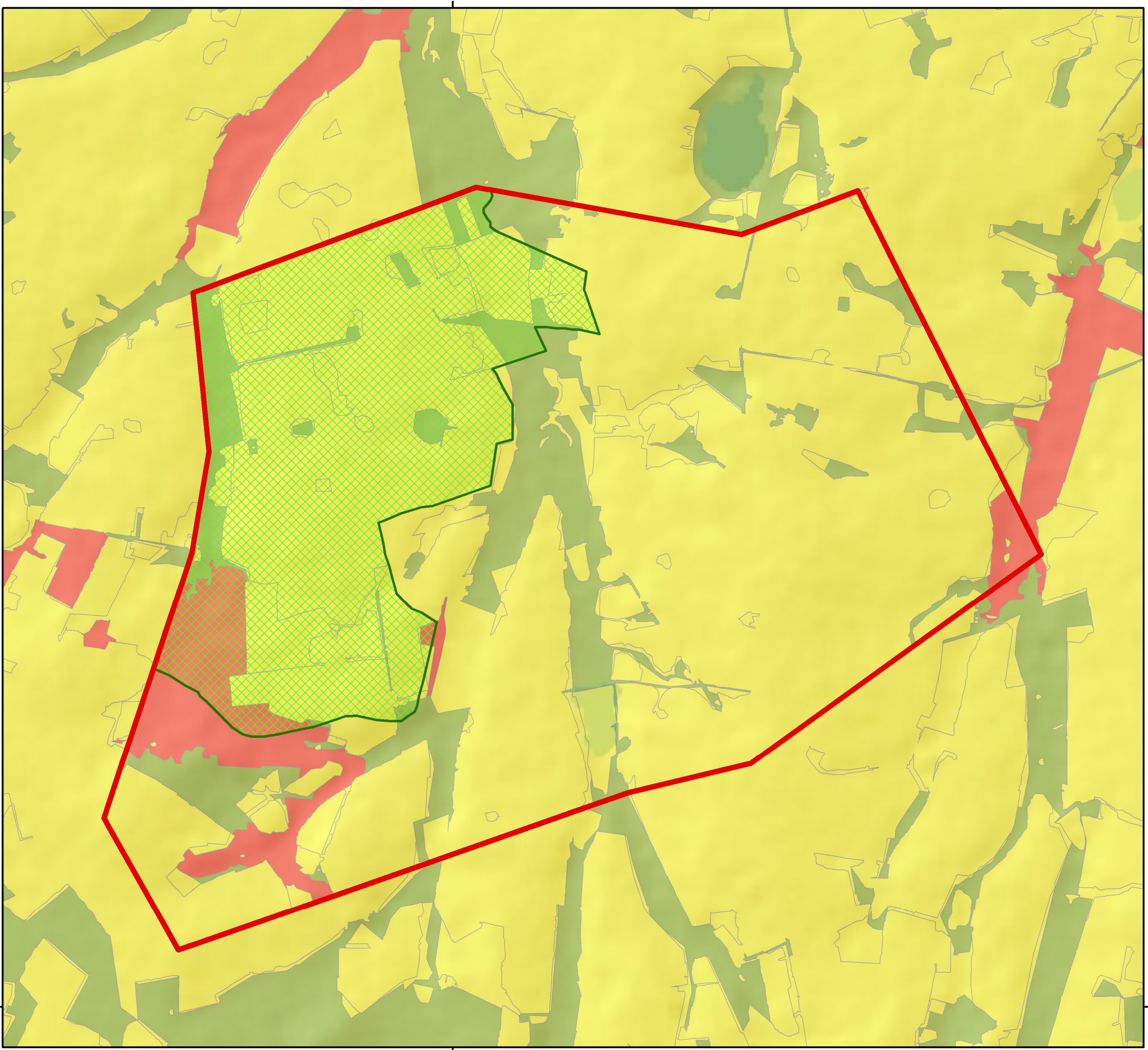
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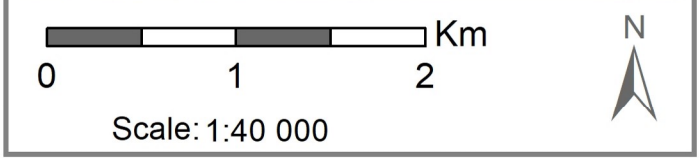




Terrestrial Critical Biodiversity Areas (CBAs)

1177 Manungu Mine

- Legend**
- Mining right boundary
 - Application Area
- Critical Biodiversity Areas**
- Protected Areas
 - Other Natural Areas
 - Modified
 - Ecological Support Area
 - Critical Biodiversity Area



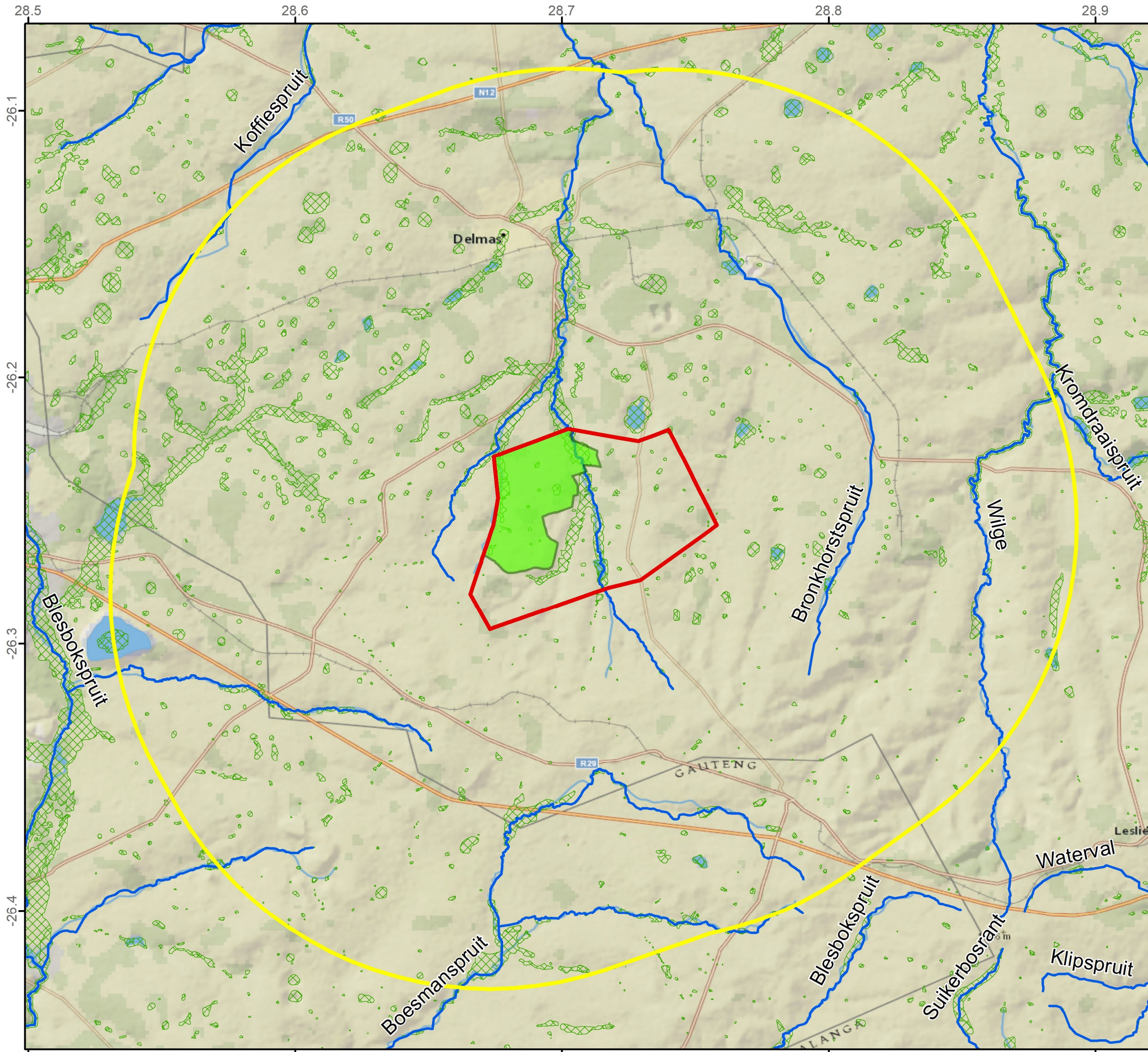
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 Ref: 1177_Terrestrial CBA_20180815

Date: 2018/08/15
 EIMS Ref: 1177
 Compiled: PH
 Reviewed: BW
 Approved: LW



-26.3

28.7



Surface Water Features

1177 Manungu Mine

Legend

-  15km Buffer
-  Mining right boundary
-  Application Area
-  NFEPA Rivers
-  NFEPA Wetlands



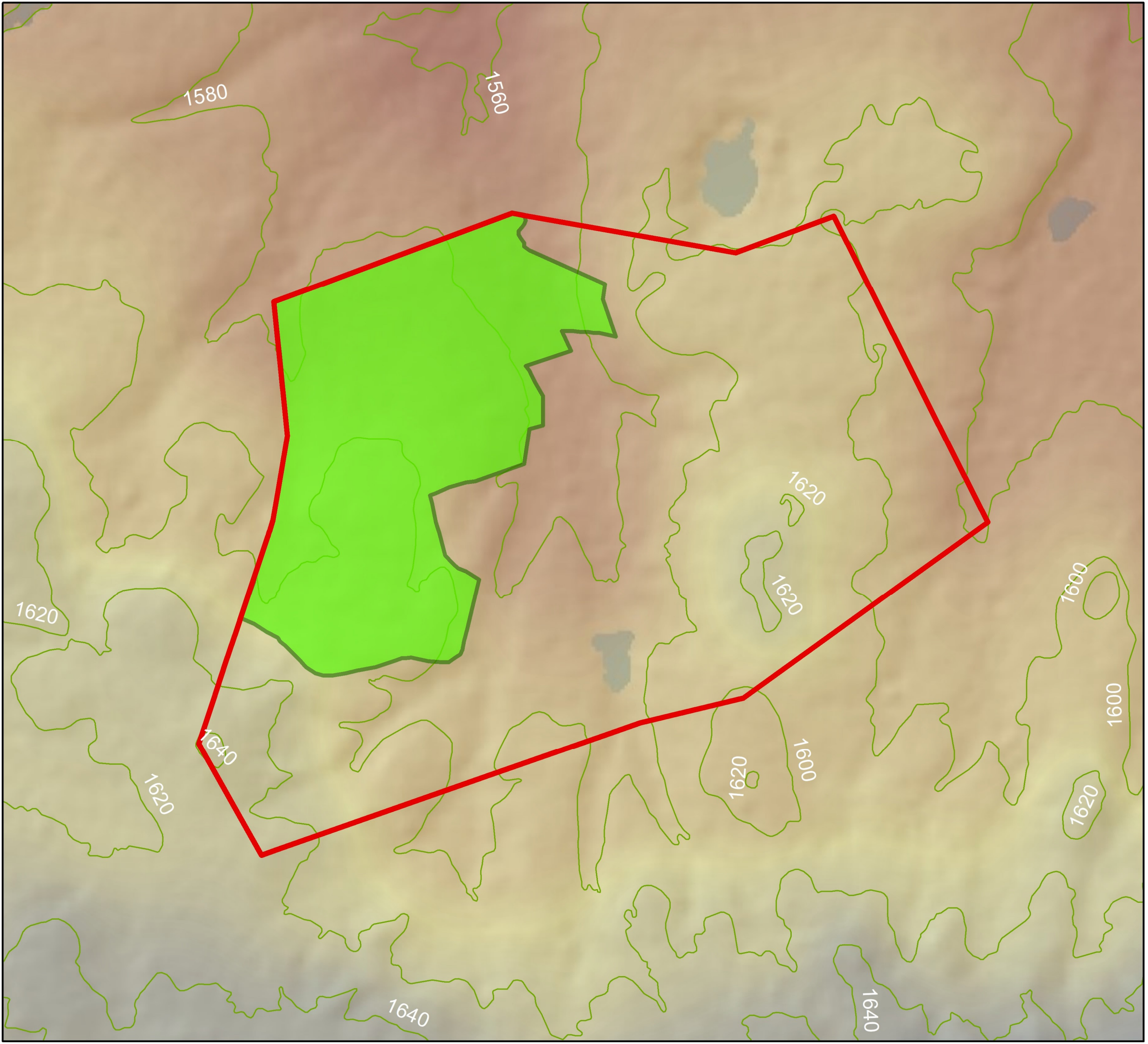
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Date: 2018/08/15
 EIMS Ref: 1177
 Compiled: PH
 Reviewed: BW
 Approved: LW









Digital Elevation Model

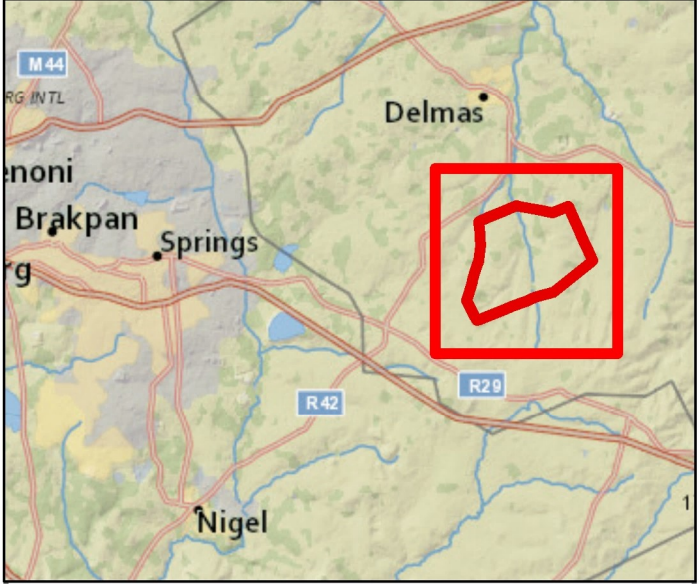
1177 Manungu Mine

Legend

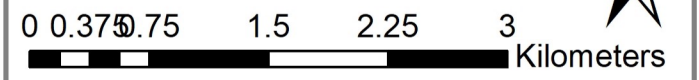
-  Mining Right (MP 30/5/1/2/2/297/MR)
-  Application Area
-  Contours

Digital Elevation Model

High : 1675 masl

 Low : 1546 masl



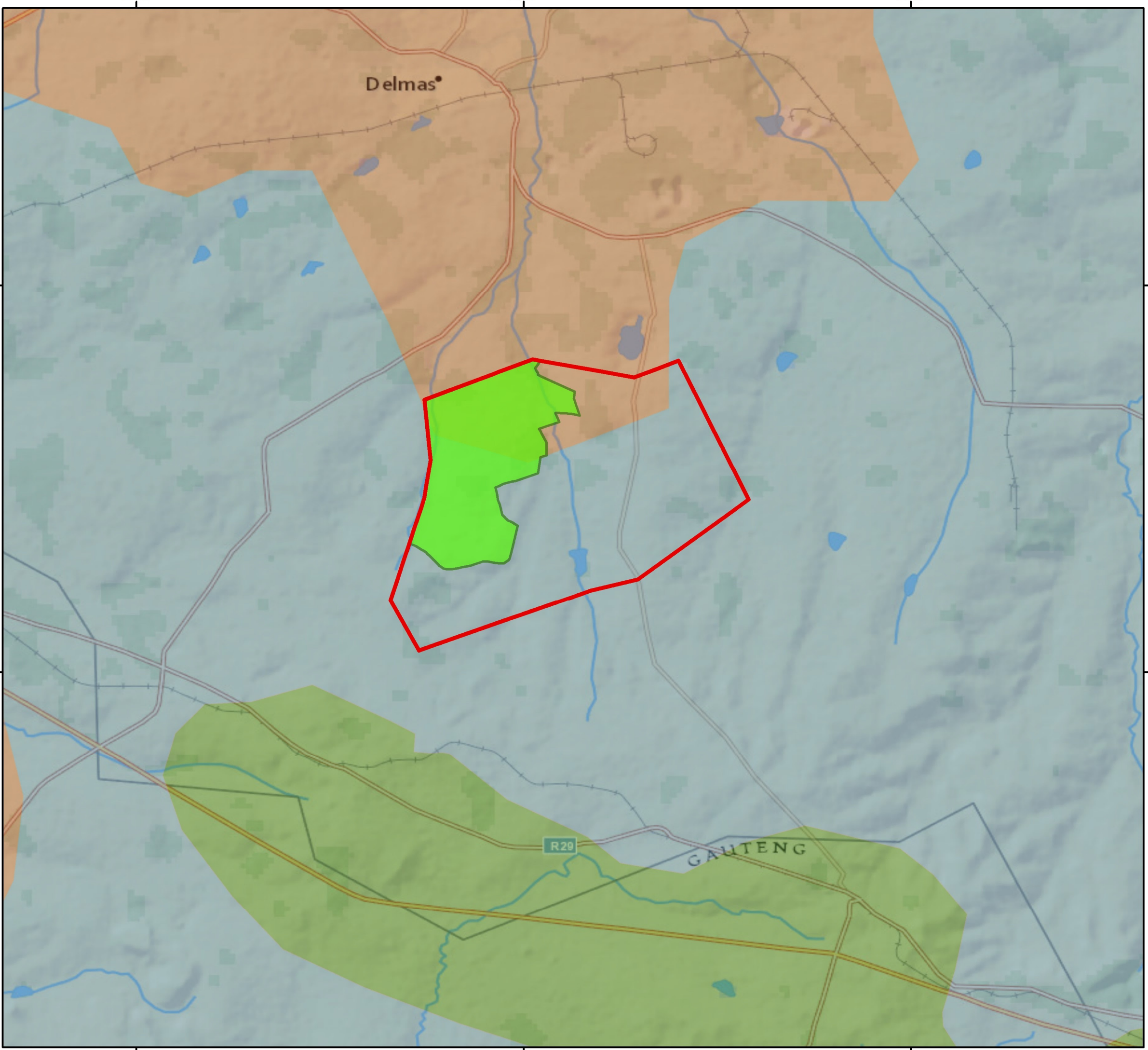
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 Coord System: GCS WGS 1984
 Datum: WGS 1984
 Units: Degree
 Ref: 1177_Digital Elevation Model_20180815

Date: 2018/08/15
 EIMS Ref: 1177
 Compiled: PH
 Reviewed: LW
 Approved: LW





Geology

1177 Manungu Mine

Legend

Mining right boundary

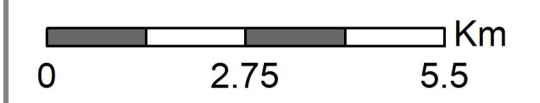
Application Area

Geology

Ecca

Suurberg, Drakensberg and Lebombo

Transvaal, Rooiberg and Griqualand-West

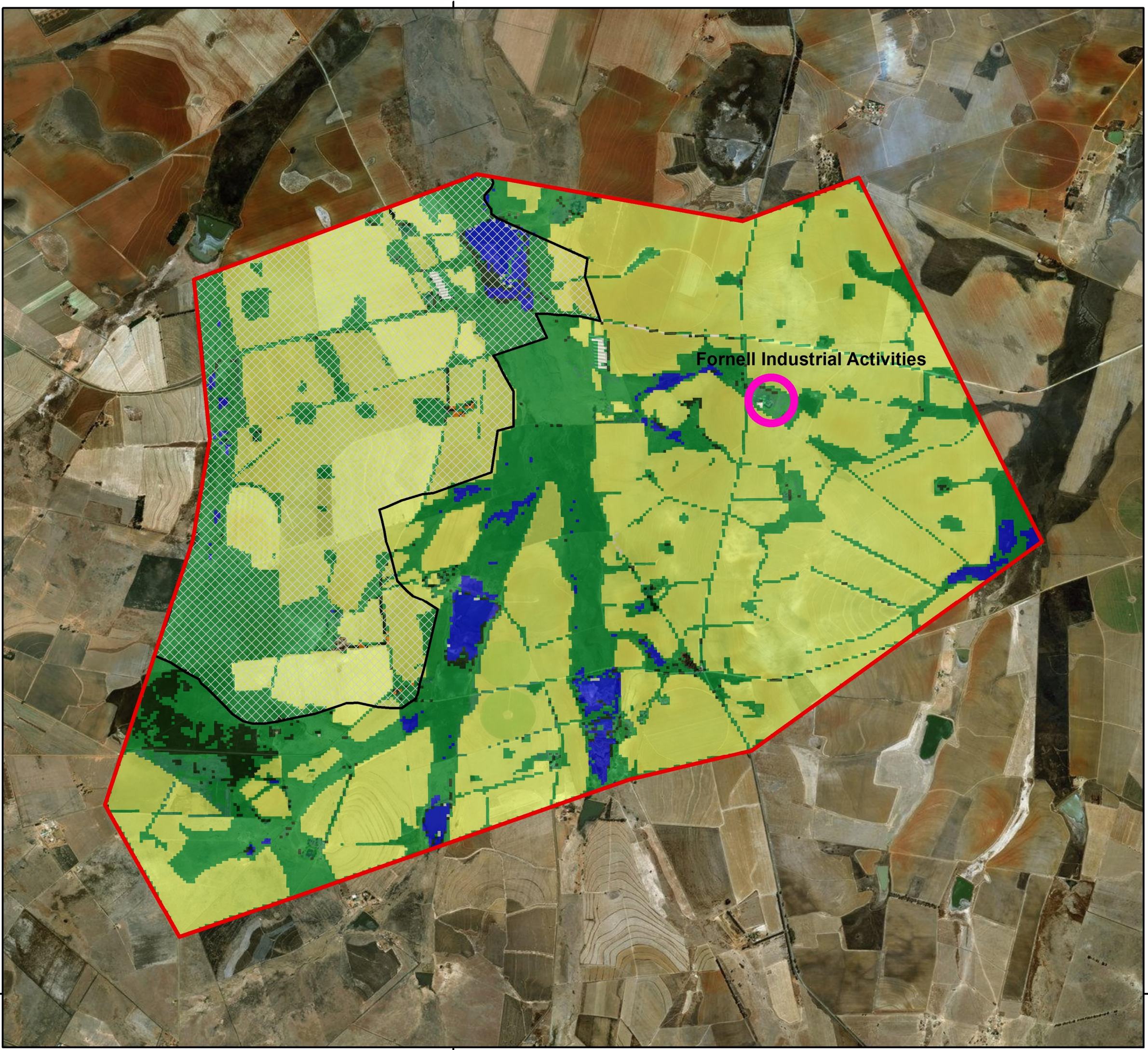


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 Approved: LW








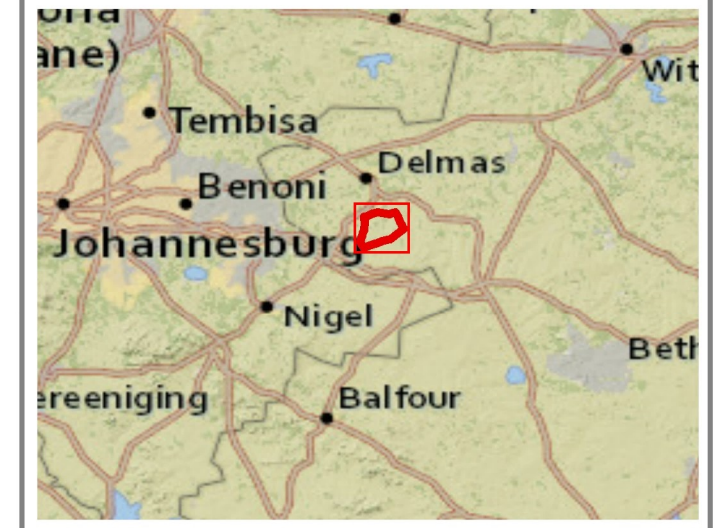
Landcover

1177 Manungu Mine

Legend

-  Mining right boundary
-  Application Area
- Land Cover**
-  Woodlan/Open bush
-  Permanent water/Wetlands
-  Thicket /Dense bush
-  Plantation / Woodlots young
-  Grassland
-  Cultivated comm pivots (med)
-  Bare none vegetated

Fornell Industrial Activities



Scale: 1:40 000

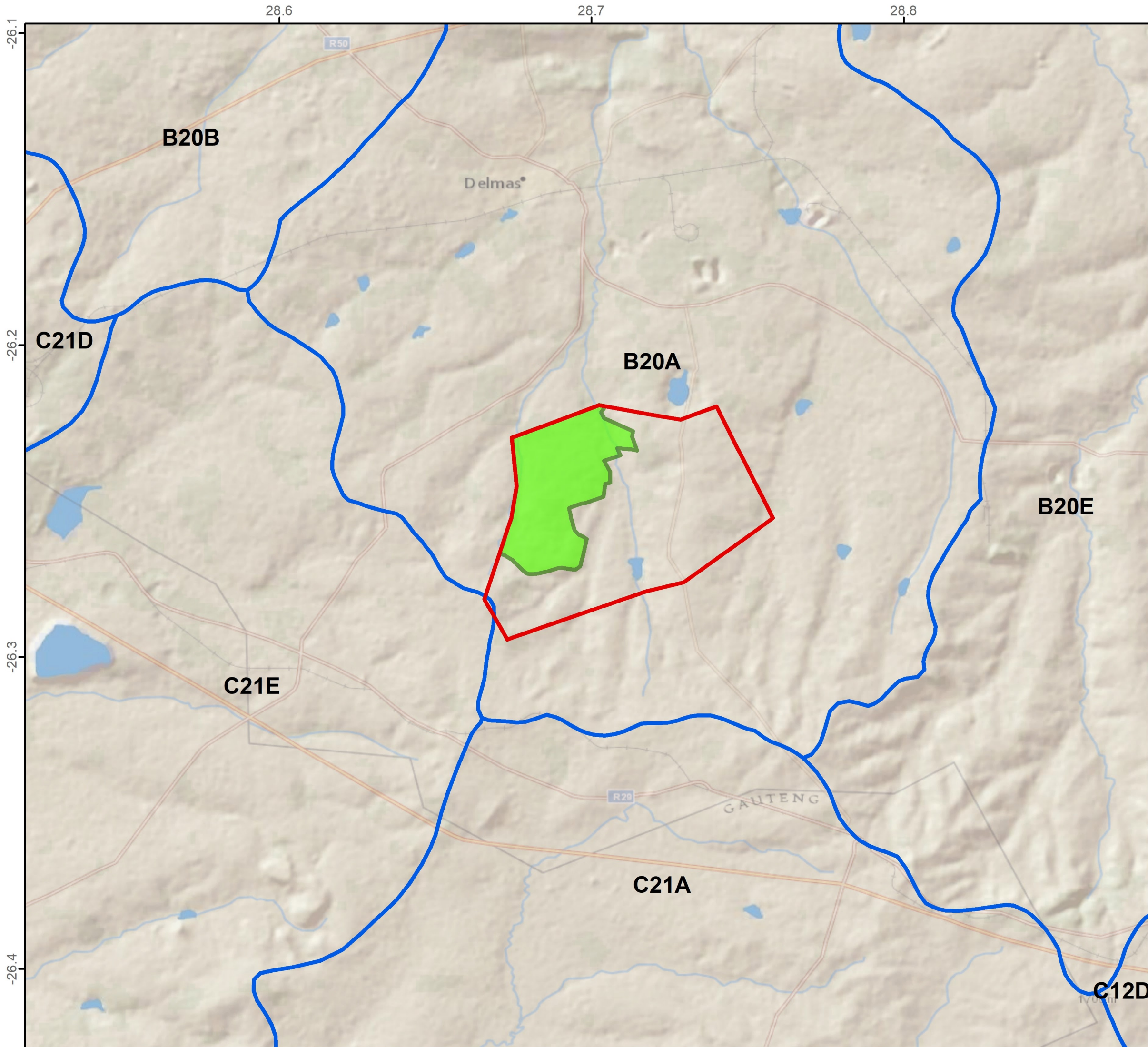
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 Approved: LW



-26.3




28.7

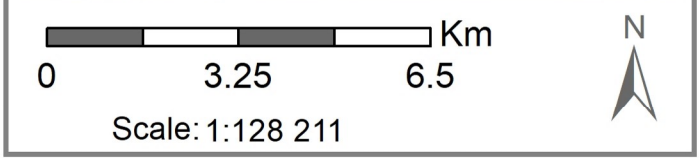
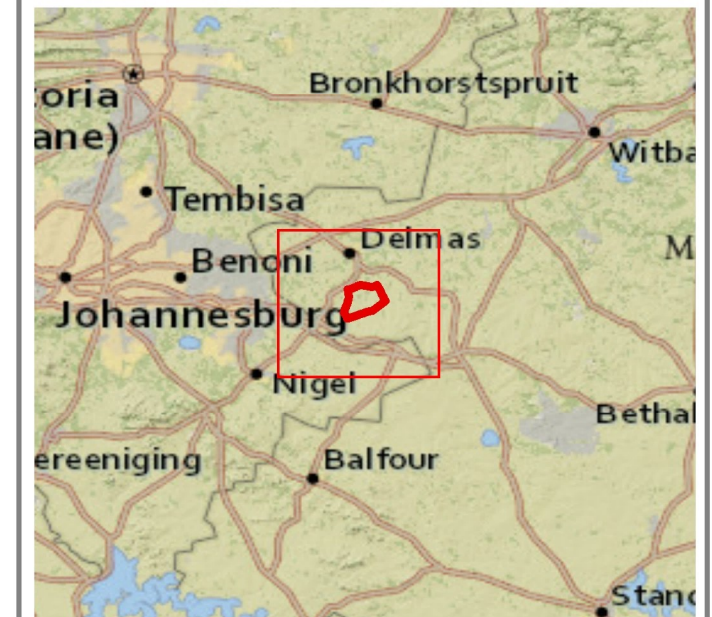


Quaternary Catchments

1177 Manungu Mine

Legend

-  Mining right boundary
-  Application Area
-  Quaternary Catchment Boundaries



Data Sources:
 DWS; CSG; ESRI
 Coord System: GCS WGS 1984
 Datum: WGS 1984
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 Ref: Quaternary catchments 20180815



Date: 2018/08/15
 EIMS Ref: 1177
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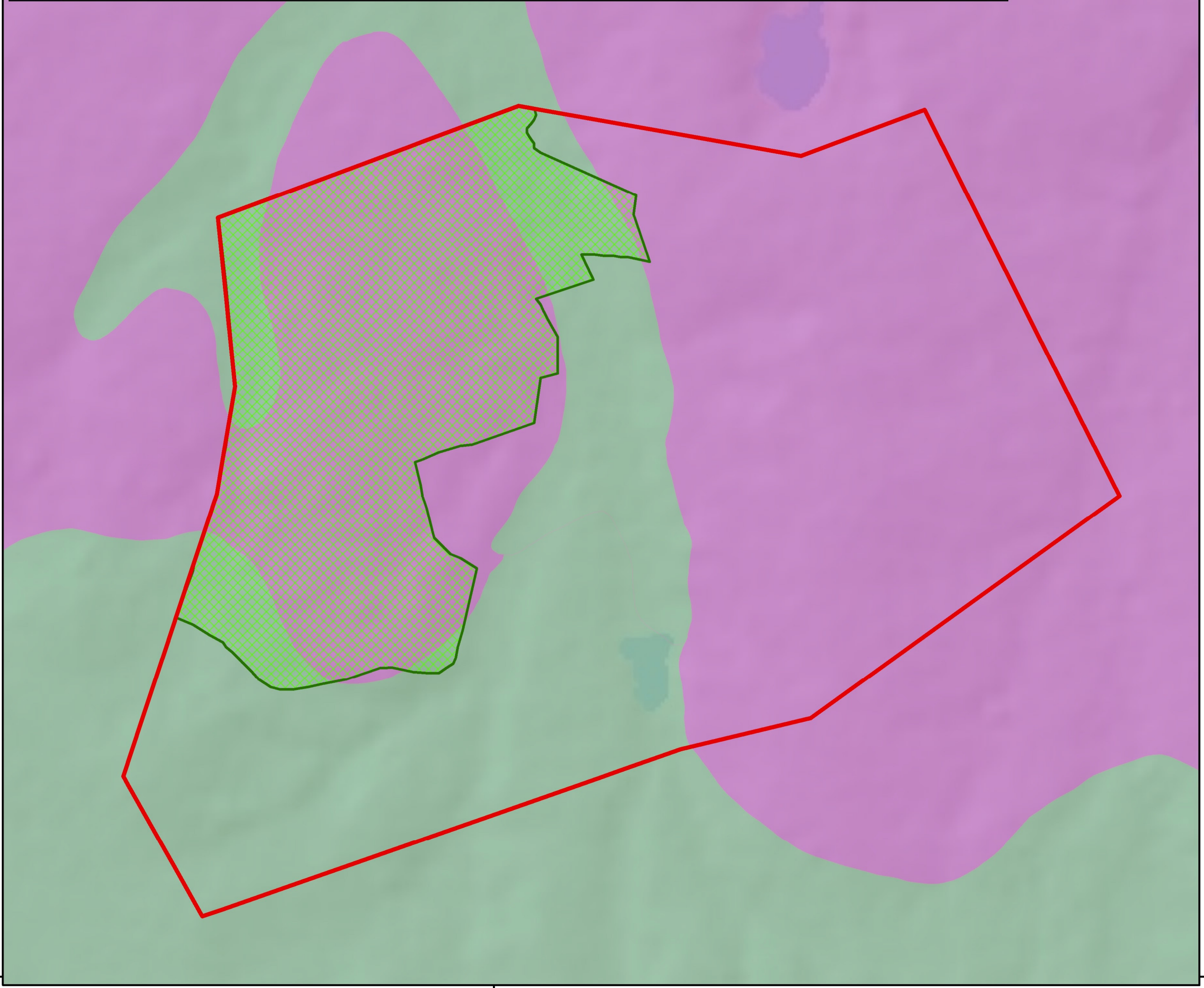


-26.2

28.7

Soil Description



-  One or more of: vertic, melanic, red structured diagnostic horizons, undifferentiated
-  Plinthic catena: dystrophic and/or mesotrophic; red soils not widespread, upland duplex and marginalitic soils rare

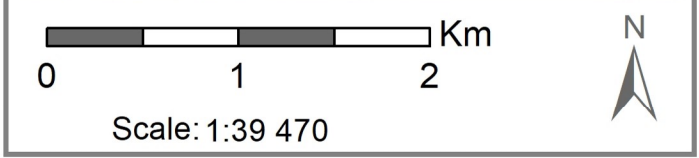


Soils

1177 Manungu Mine

Legend

-  Mining right boundary
-  Application Area

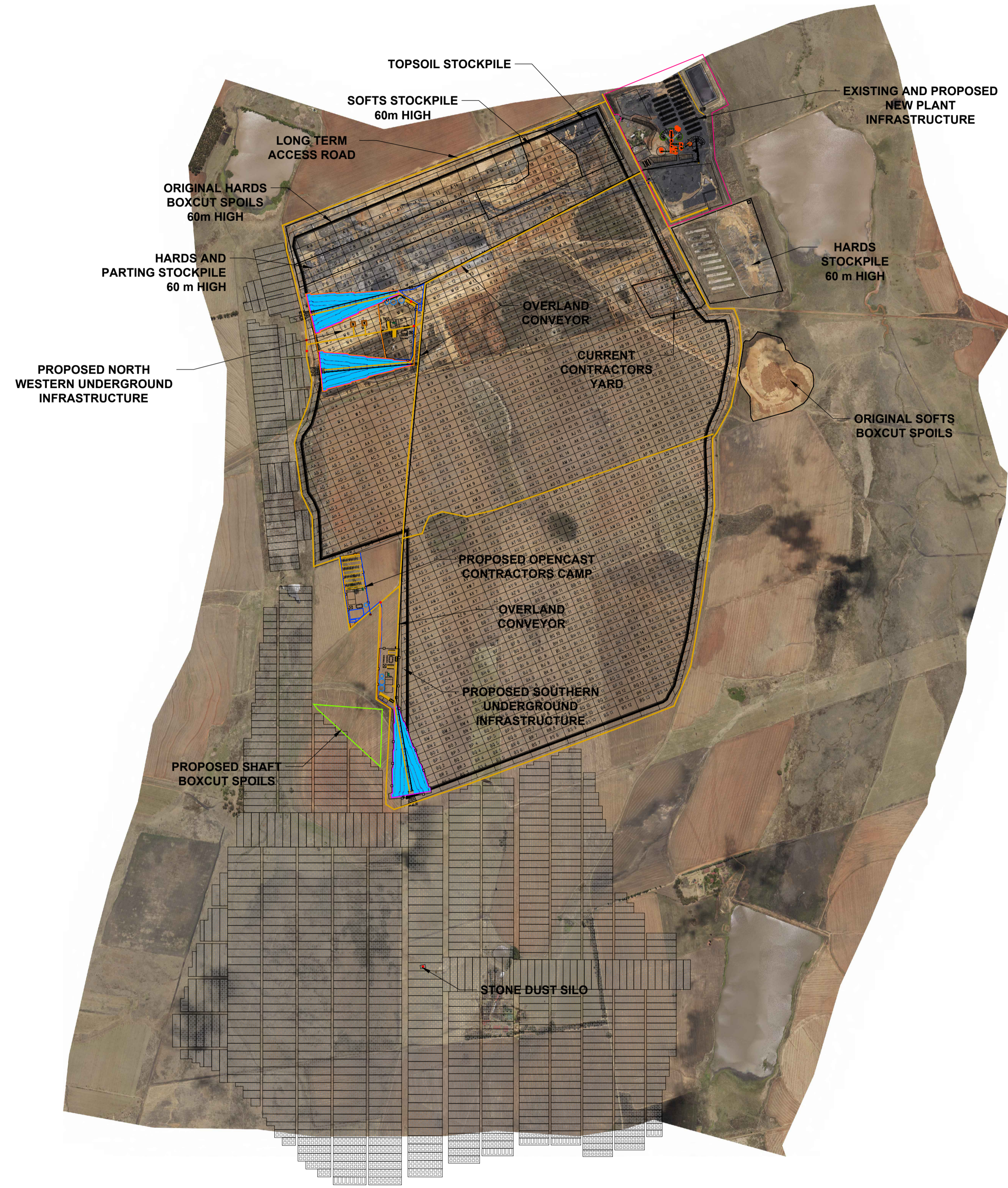
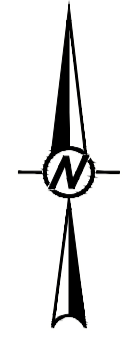




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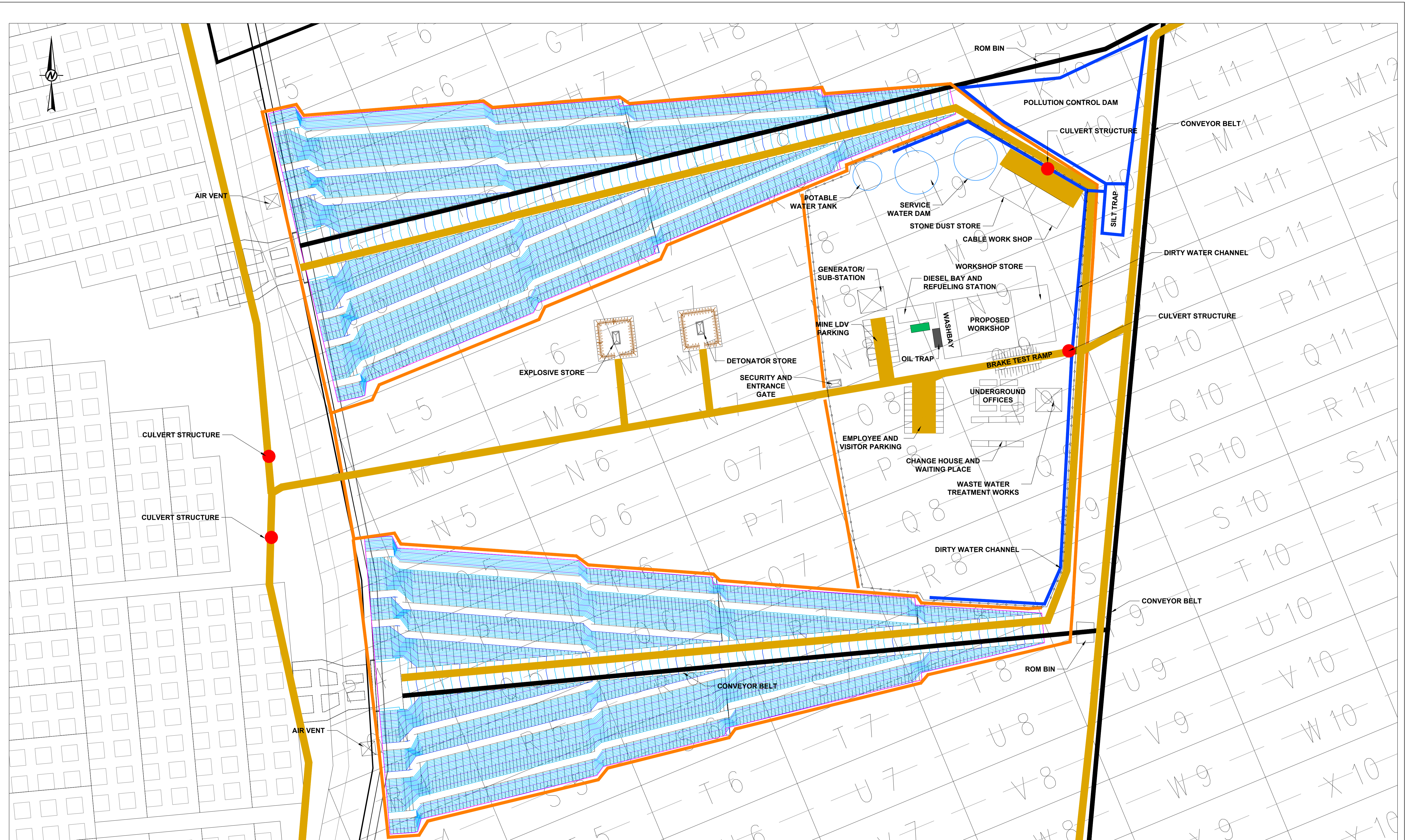
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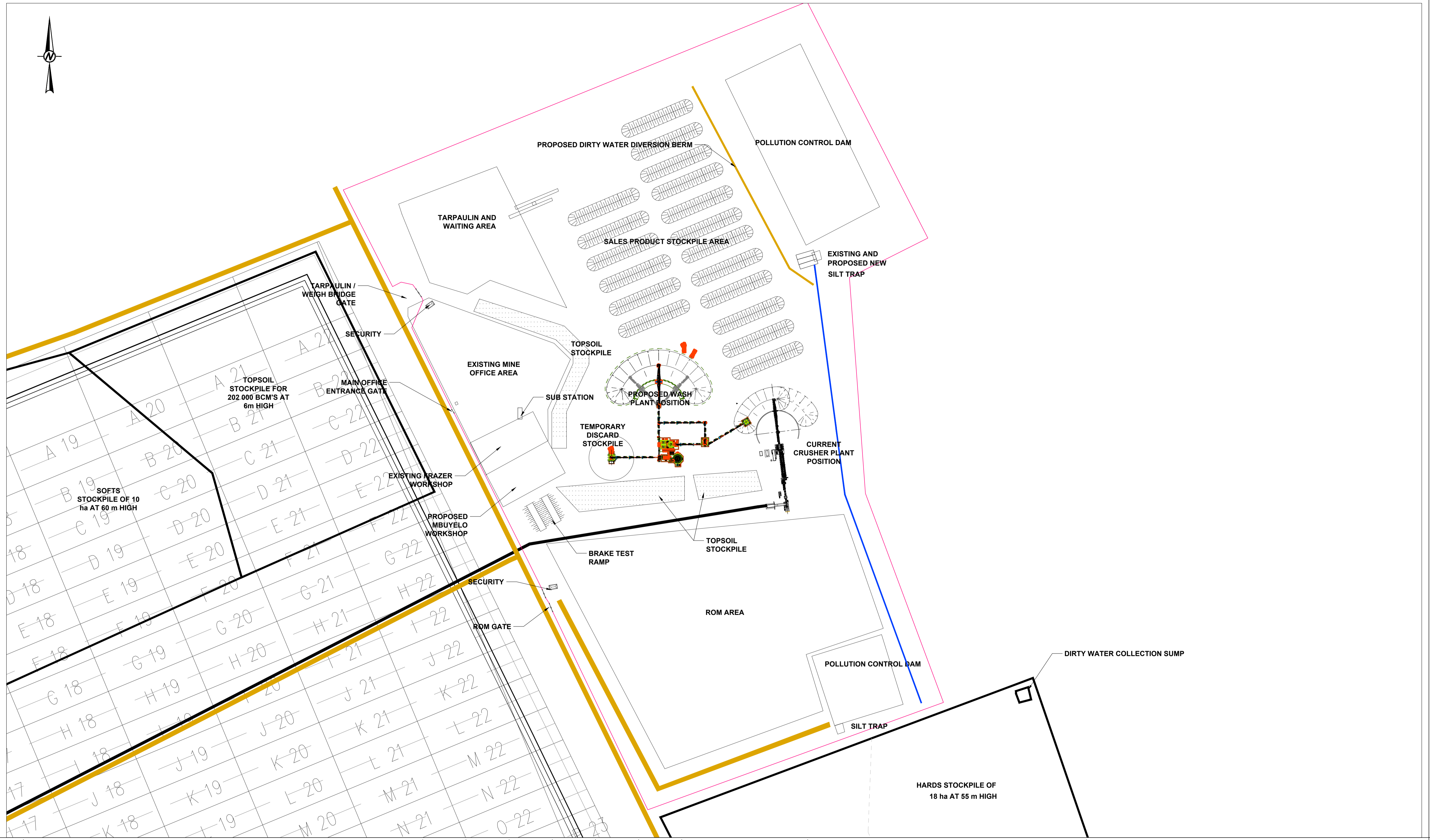
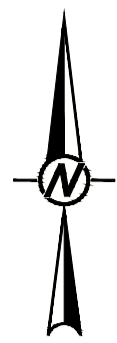
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																DOC TYPE CON	
																DRAWING No 001	
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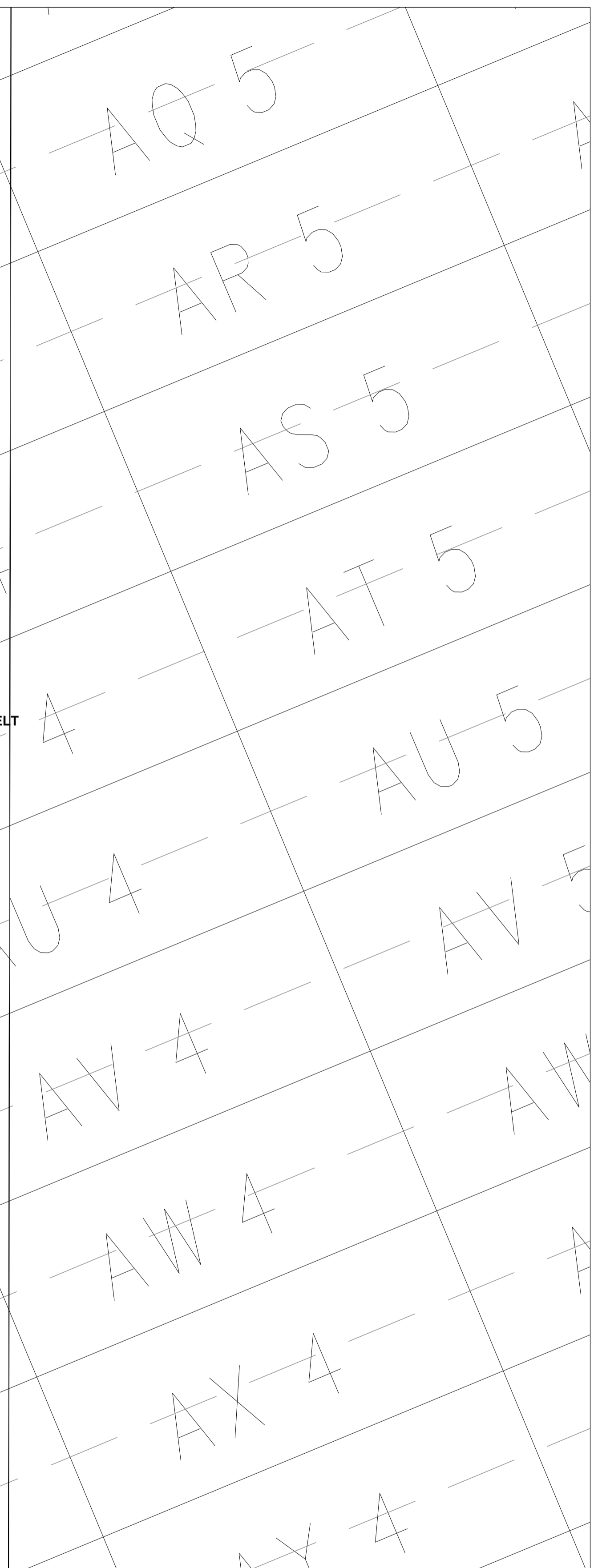
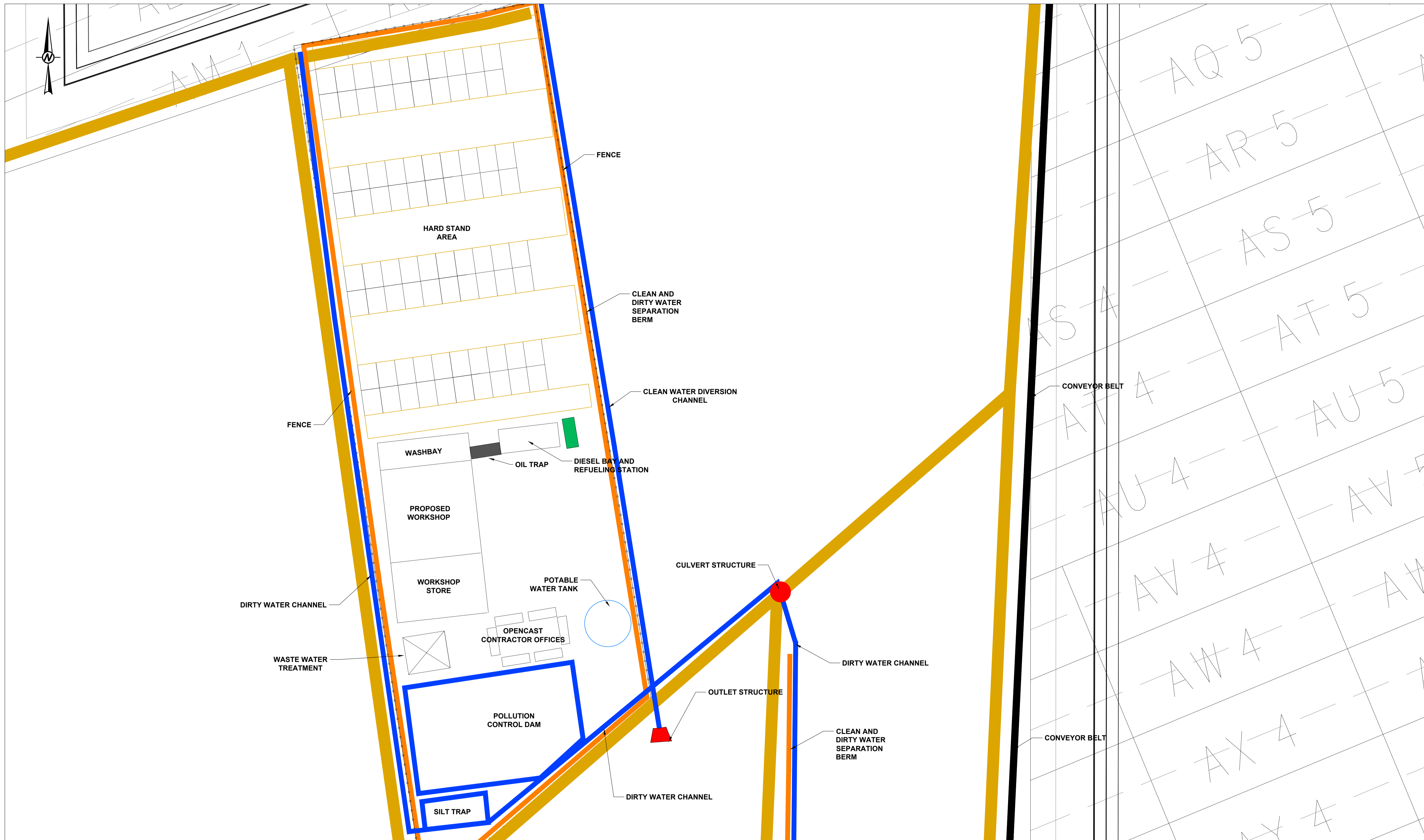
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PROJECT MANAGER: JLR

SCALE: N.T.S

SHEET SIZE: A1

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PROJECT: MANUNGU MINE INFRASTRUCTURE EXPANSION PROJECT				
DRAWING TITLE: EXISTING AND PROPOSED NEW INFRASTRUCTURE LAYOUT DRAWING				
PROJECT No: E014	DOC No: 001	DOC TYPE: CON	DRAWING No: 003	REVISION: 00




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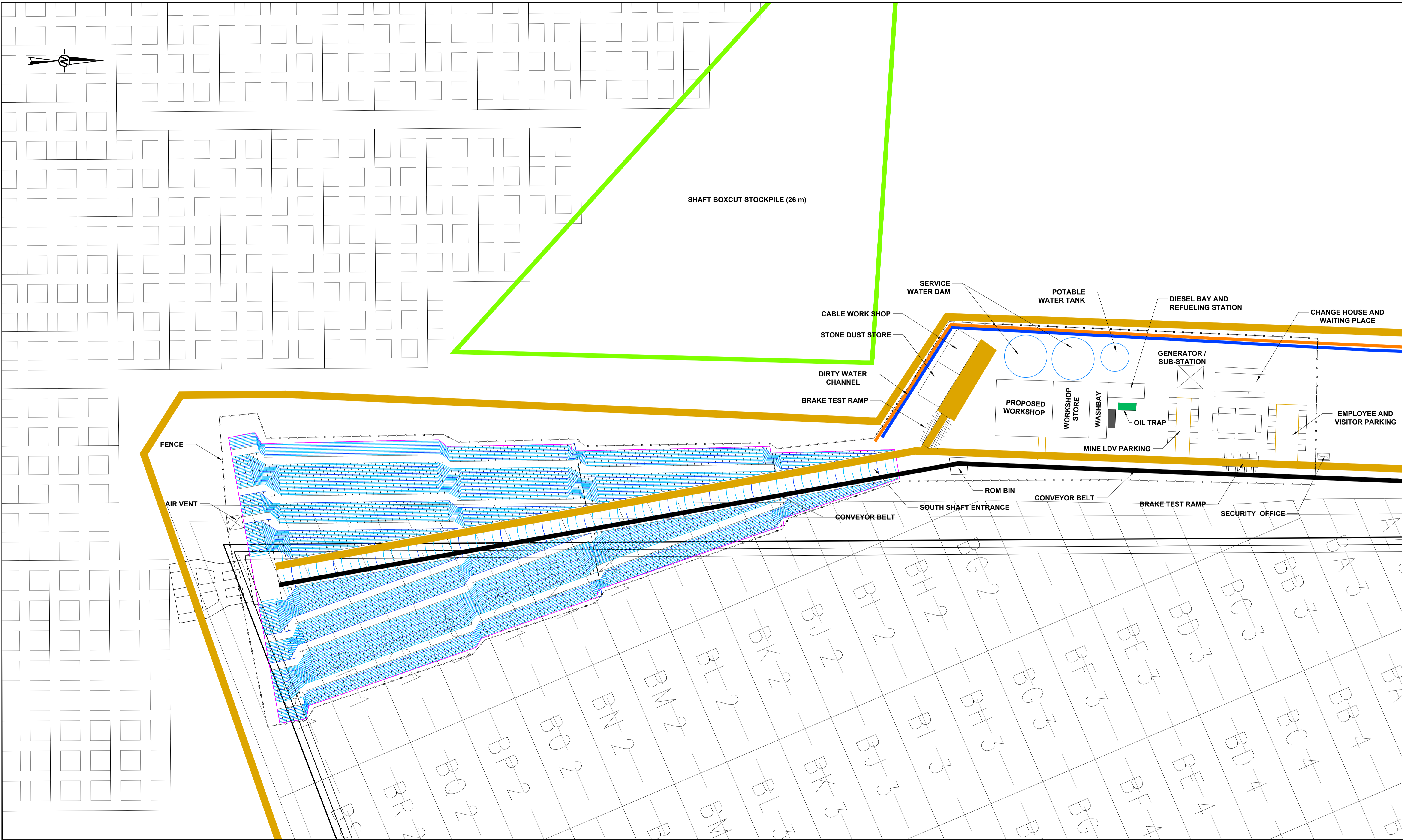
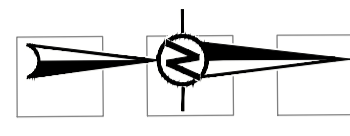
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