



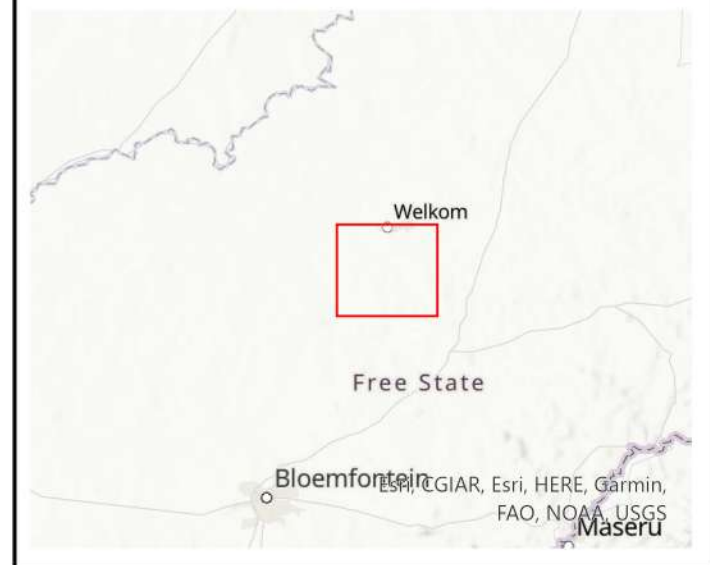


### Locality Map

1595 Tetra4 Seismic EA Amendment

#### Legend

-  Cluster 2 Boundary Study Area
-  NFEPA Rivers
-  Railway
-  Roads



Data Sources:  
 CSG; ESRI  
 Coord System: GCS WGS 1984  
 Datum: WGS 1984  
 Units: Degree  
 Ref: 1595\_Locality






Date: 2023/11/17  
 EIMS Ref: 1595  
 Compiled: JW  
 Reviewed: BW  
 Approved: LW

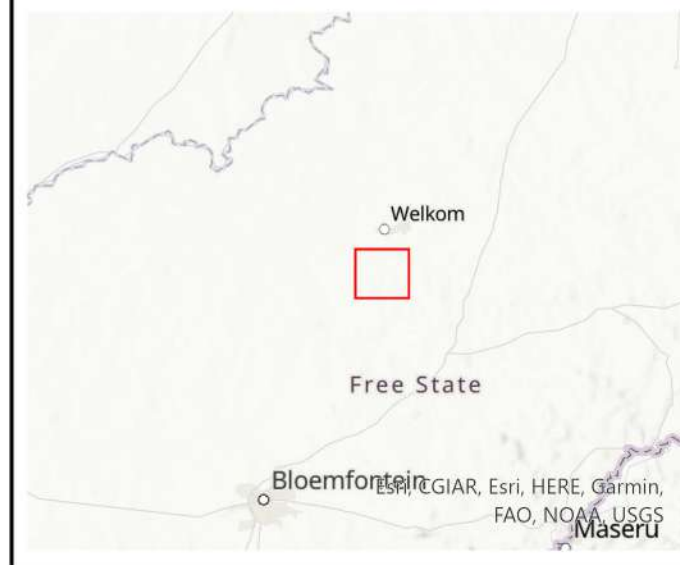


# Seismic Source and Receiver Lines Map

1595 Tetra4 Seismic EA Amendment

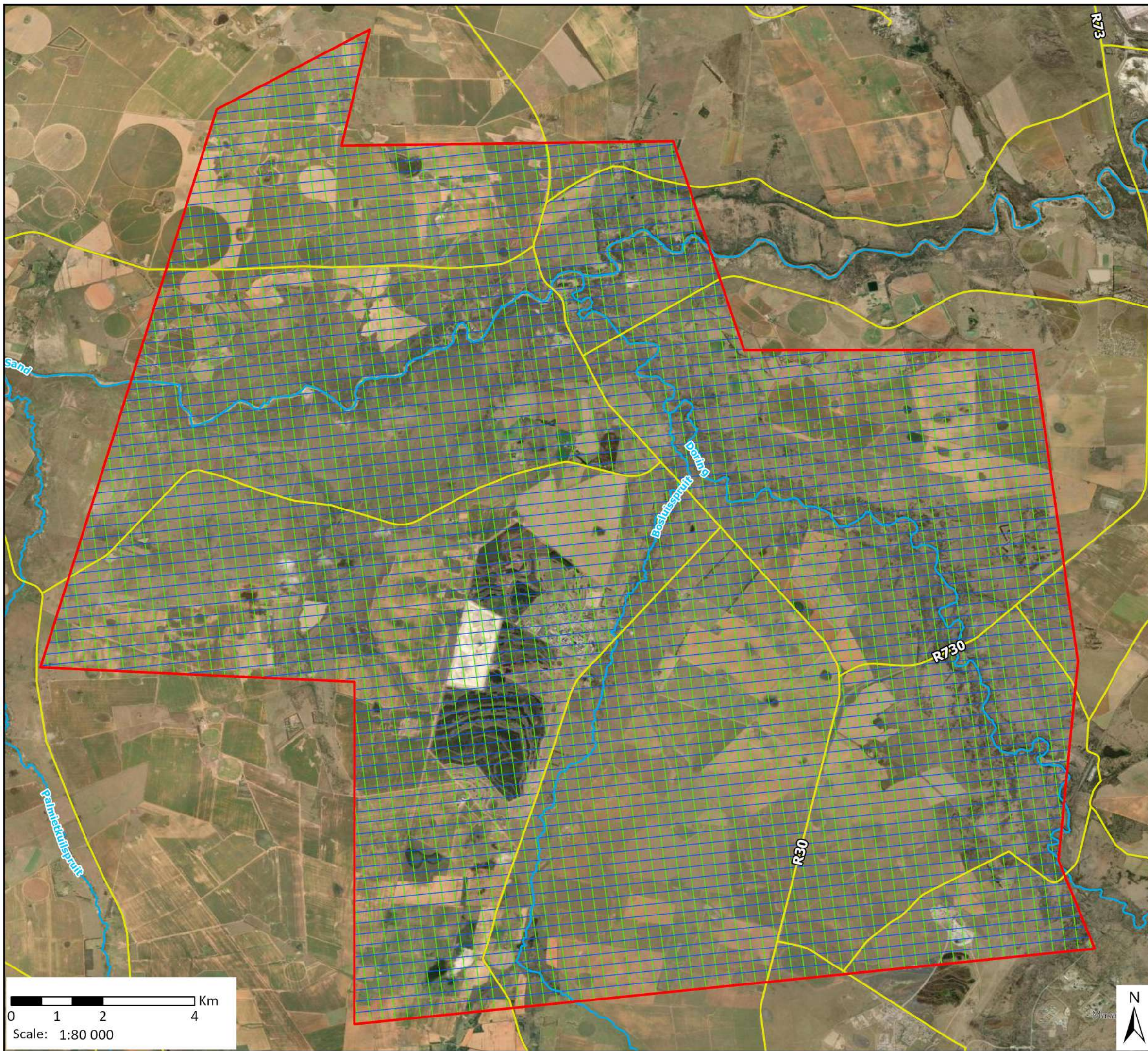
## Legend

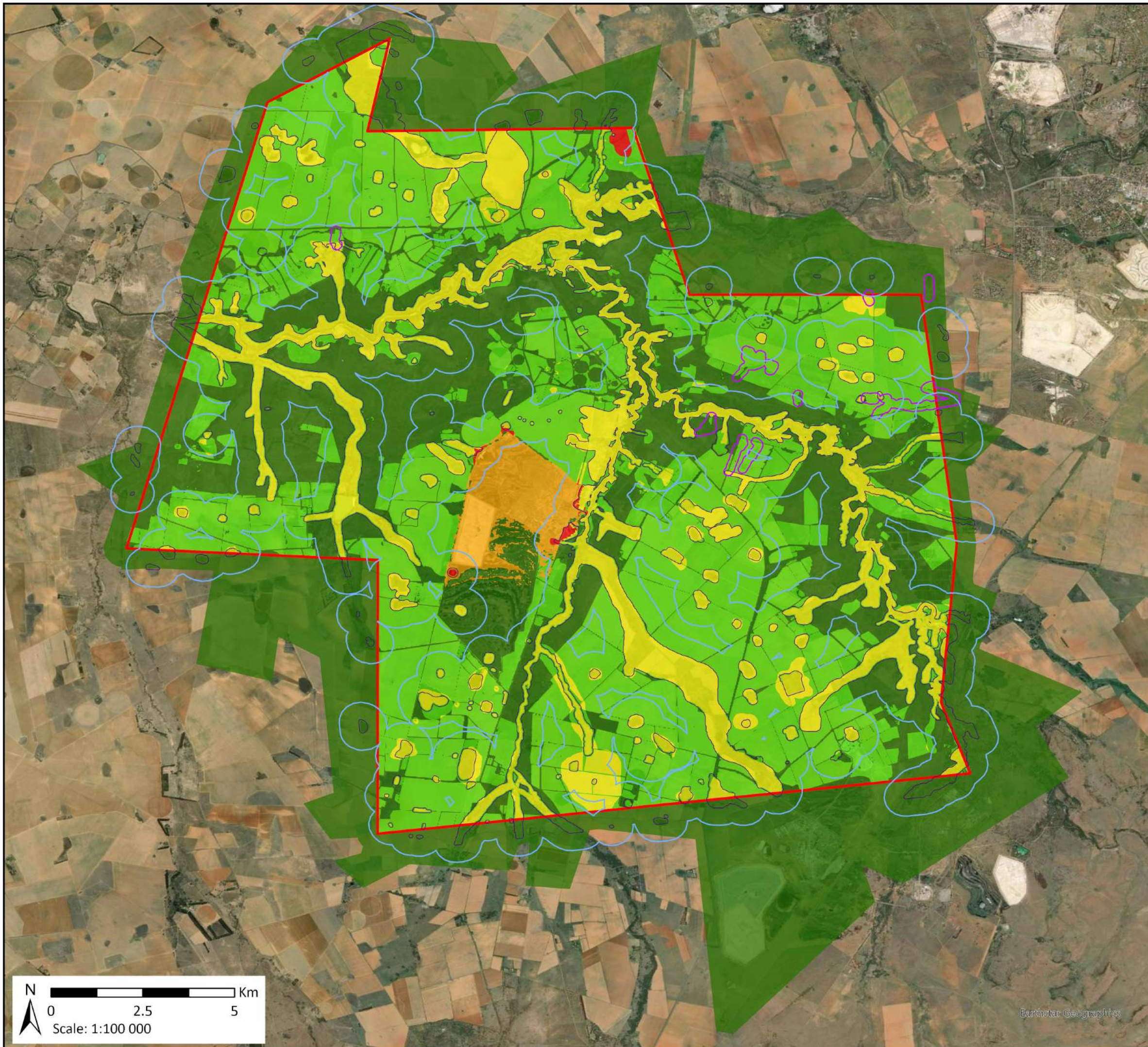
-  Cluster 2 Boundary Study Area
-  NFEPA Rivers
-  Seismic Source Lines
-  Seismic Receiver Lines
-  Roads



Data Sources:  
 CSG; ESRI  
 Coord System: GCS WGS 1984  
 Datum: WGS 1984  
 Units: Degree  
 Ref: 1595\_SeismicLines

Date: 2023/11/17  
 EIMS Ref: 1595  
 Compiled: JW  
 Reviewed: BW  
 Approved: LW

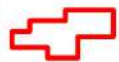




## Sensitivity Intensity Map

1595 Tetra4 Seismic EA Amendment

### Legend


 Cluster 2 Boundary  
Study Area

### Sensitivity Intensity

 0.00 - 3.00


 3.01 - 5.00

 5.01 - 10.00

 10.01 - 102.00

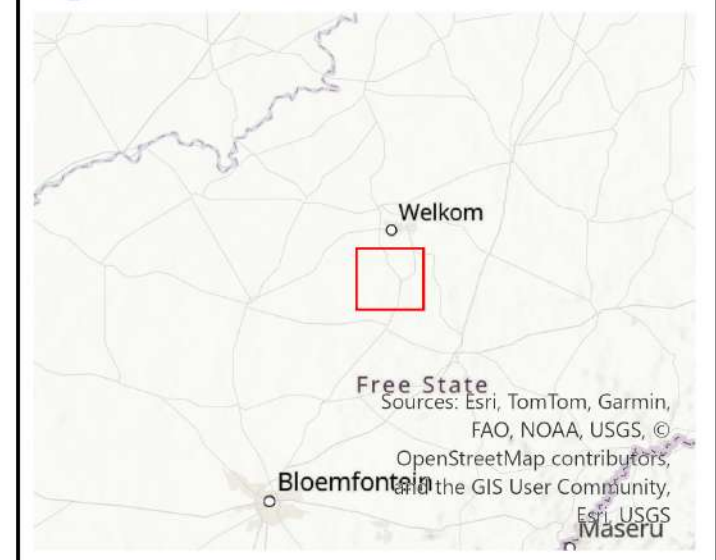
 102.01 - 107.00

### Freshwater Buffers

 32 m ZoR NEMA

 100 m ZoR NWA

 500 m ZoR NWA



### Data Sources:

CSG; ESRI

Coord System: GCS WGS 1984

Datum: WGS 1984

Units: Degree

Ref: 1595\_Sensitivity

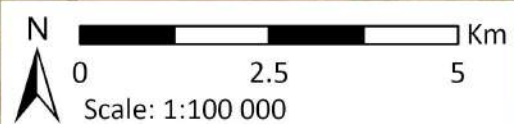
Date: 2026/04/02

EIMS Ref: 1595

Compiled: JW

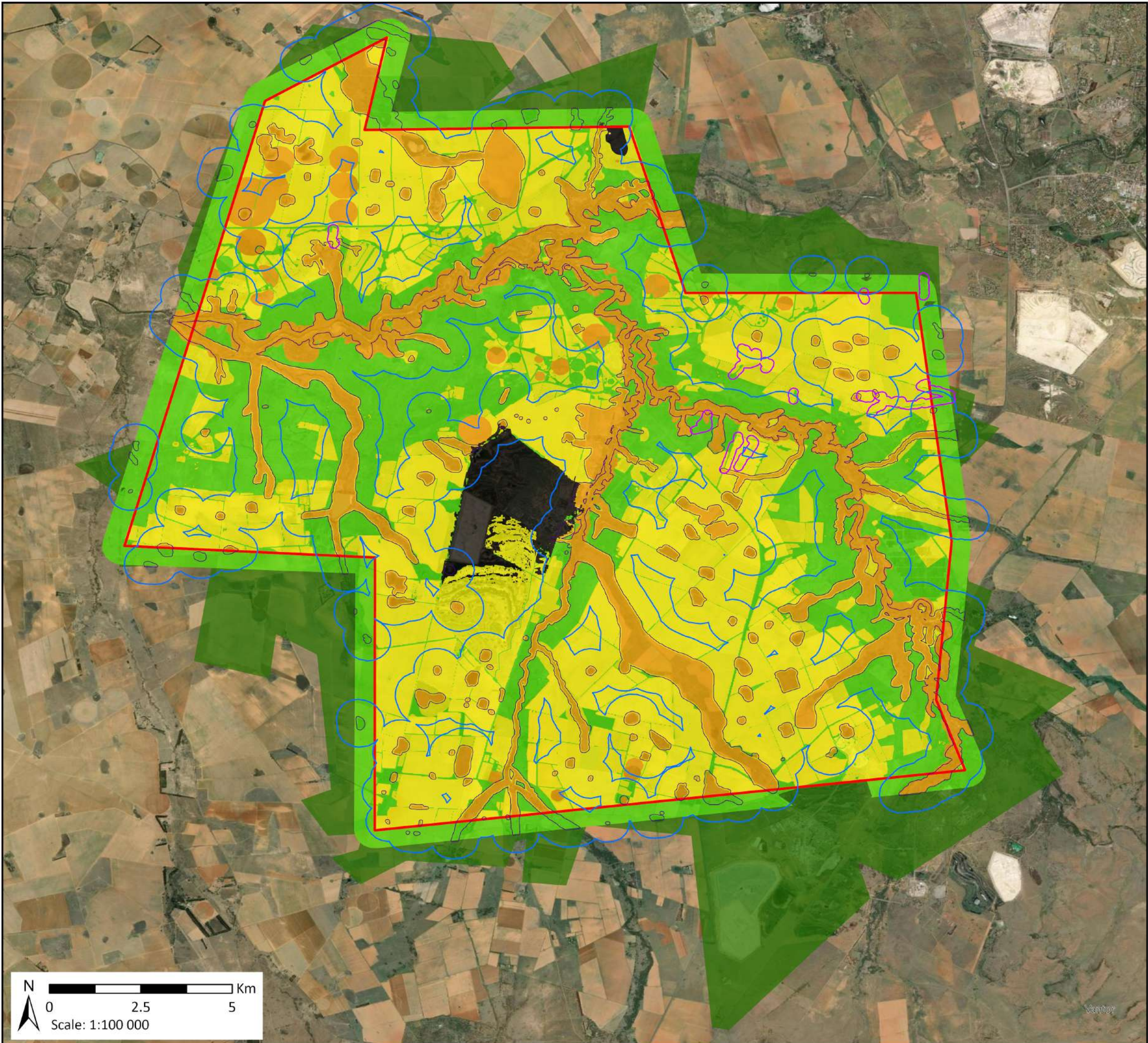
Reviewed: JJ

Approved: LW



Earthstar Geographics





### Maximum Sensitivity Map

1595 Tetra4 Seismic EA Amendment

#### Legend

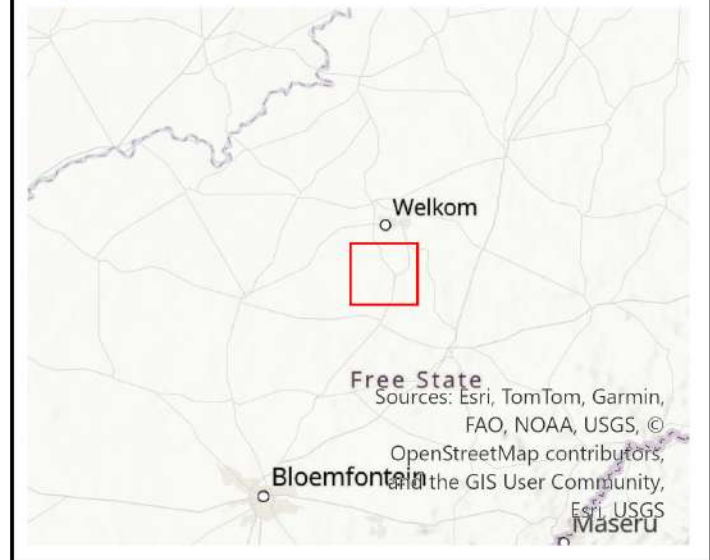
Cluster 2 Boundary  
Study Area

#### Maximum Sensitivity

- Least Concern
- Low
- Medium
- High
- No-Go

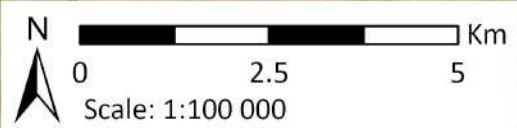
#### Freshwater Buffers

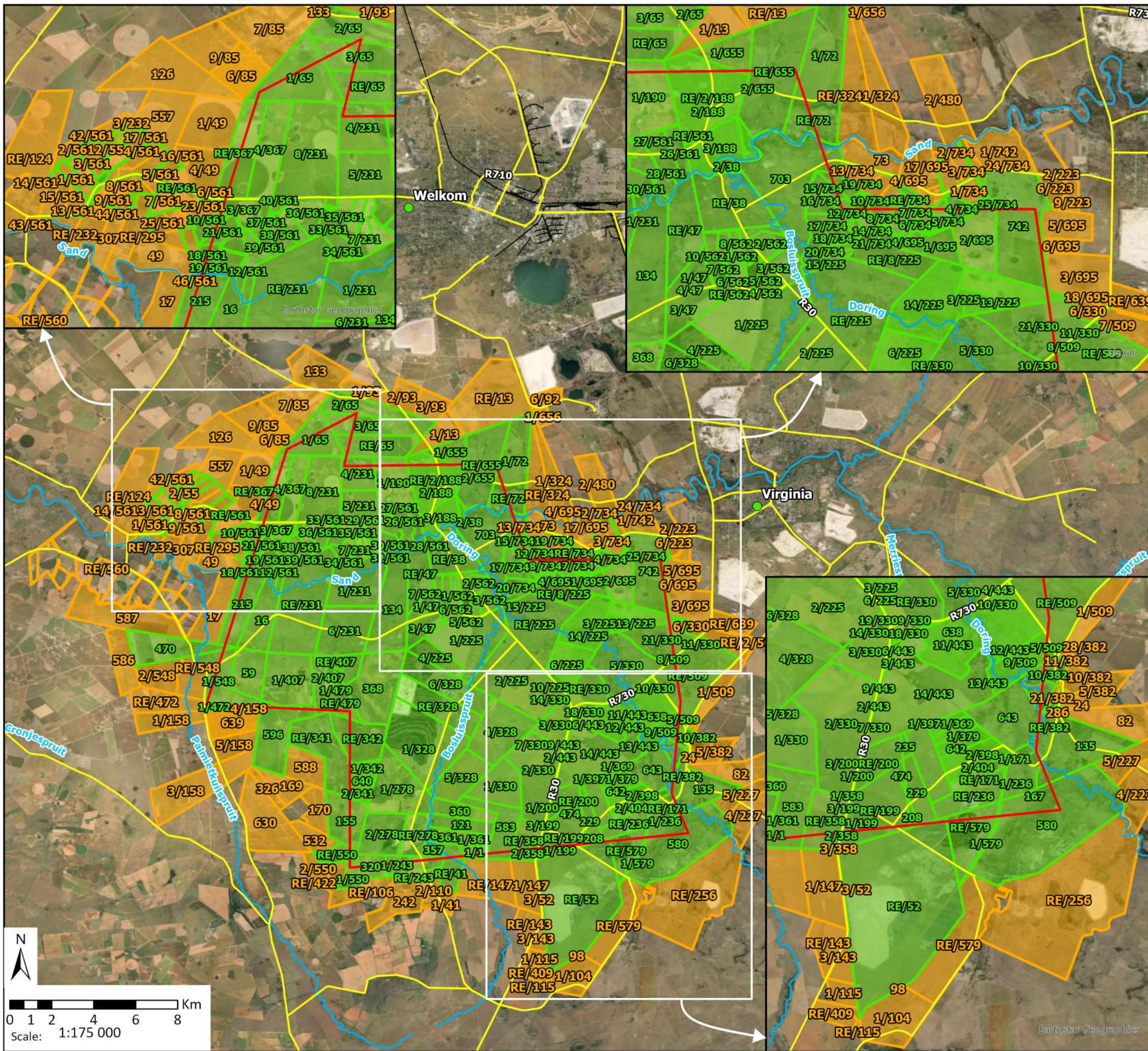
- 32 m ZoR NEMA
- 100 m ZoR NWA
- 500 m ZoR NWA



Data Sources:  
CSG; ESRI  
Coord System: GCS WGS 1984  
Datum: WGS 1984  
Units: Degree  
Ref: 1595\_Sensitivity

Date: 2026/04/02  
EIMS Ref: 1595  
Compiled: JW  
Reviewed: JJ  
Approved: LW

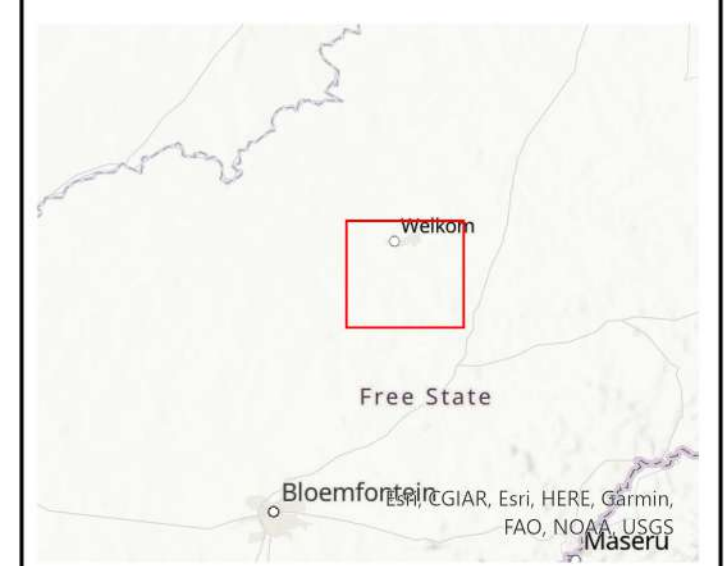




## Properties Map

1595 Tetra4 Seismic EA Amendment

- ### Legend
- Cluster 2 Boundary Study Area
  - NFEPA Rivers
  - Towns
  - Railway
  - Roads
  - Directly Affected Farm Portions
  - Adjacent Farm Portions



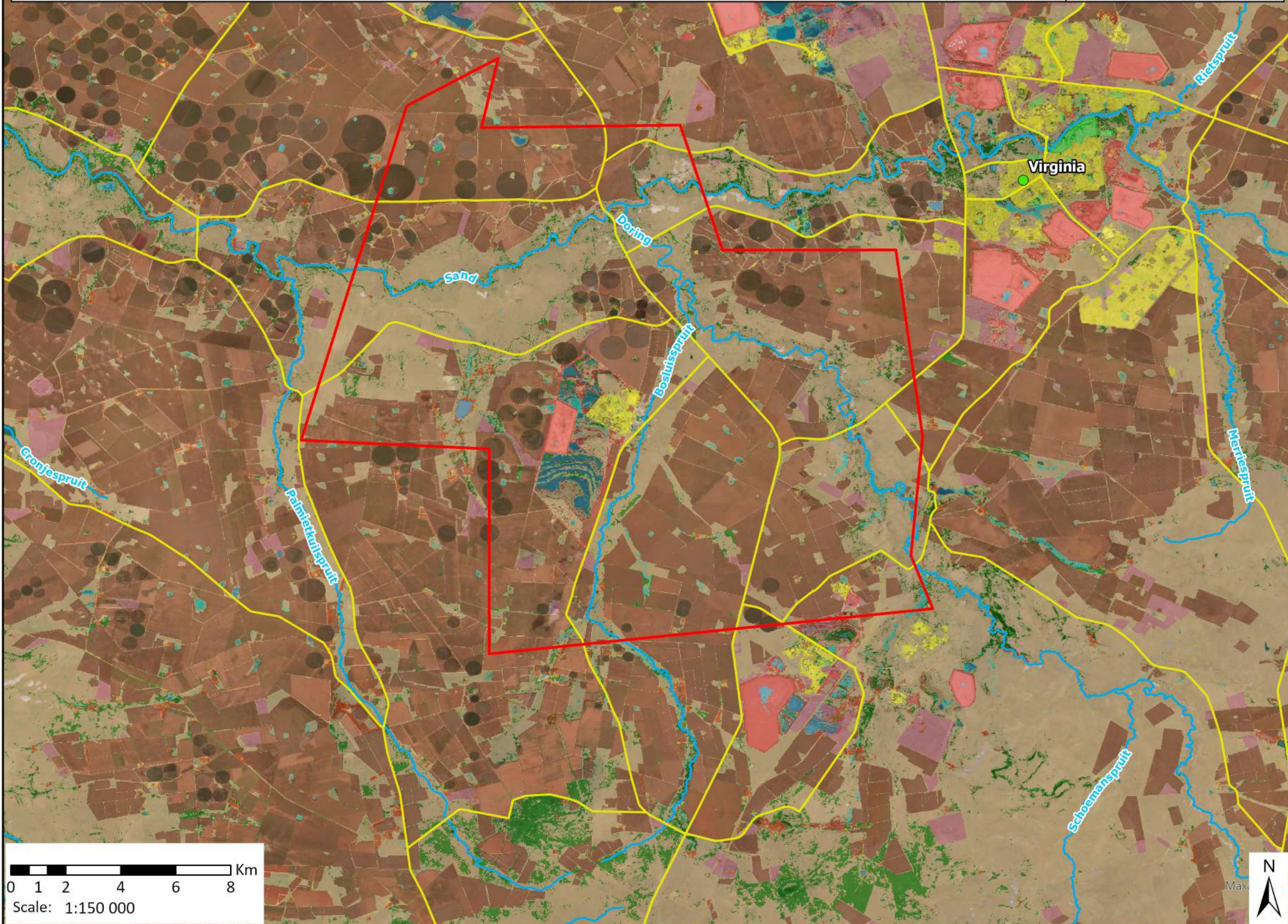
Data Sources:  
 CSG; ESRI  
 Coord System: GCS WGS 1984  
 Datum: WGS 1984  
 Units: Degree  
 Ref: 1595\_PropertiesInset

Date: 2023/11/20  
 EIMS Ref: 1595  
 Compiled: JW  
 Reviewed: BW  
 Approved: LW





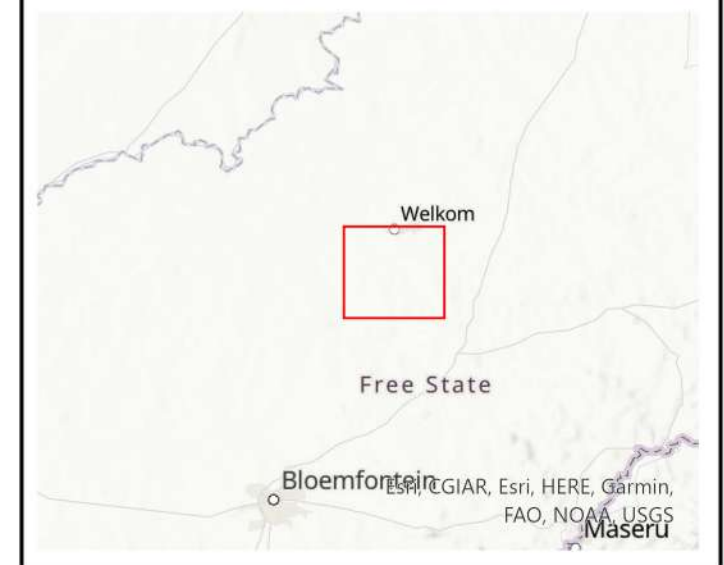
Land Cover							
contiguous low forest & thicket	low shrubland (other)	artificial flooded mine pits	bare riverbed material	commercial annual crops rain-fed / dryland	residential formal (tree)	residential informal (bare)	smallholdings (bare)
dense forest & woodland	sparsely wooded grassland	herbaceous wetlands (currently mapped)	other bare	fallow land & old fields (trees)	residential formal (bush)	village scattered (bare & low veg / grass combo)	urban recreational fields (tree)
open woodland	natural grassland	herbaceous wetlands (previously mapped)	cultivated commercial permanent orchards	fallow land & old fields (bush)	residential formal (low veg / grass)	village dense (bare & low veg / grass combo)	urban recreational fields (bush)
contiguous & dense plantation forest	natural rivers	natural rock surfaces	commercial annual crops pivot irrigated	fallow land & old fields (grass)	residential formal (bare)	smallholdings (tree)	urban recreational fields (grass)
open & sparse plantation forest	natural pans (flooded @ observation times)	dry pans	commercial annual crops non-pivot irrigated	fallow land & old fields (bare)	residential informal (tree)	smallholdings (bush)	urban recreational fields (bare)
temporary unplanted (clear-felled) plantation forest	artificial dams (including canals)	eroded lands		fallow land & old fields (low shrub)	residential informal (bush)	smallholdings (low veg / grass)	commercial
	artificial sewage ponds				residential informal (low veg / grass)		industrial
							roads & rails (major linear)
							mines: surface infrastructure
							mines: extraction pits, quarries
							mine: tailings and resource dumps
							land-fills
							fallow land & old fields (wetlands)



## Land Cover Map

1595 Tetra4 Seismic EA Amendment

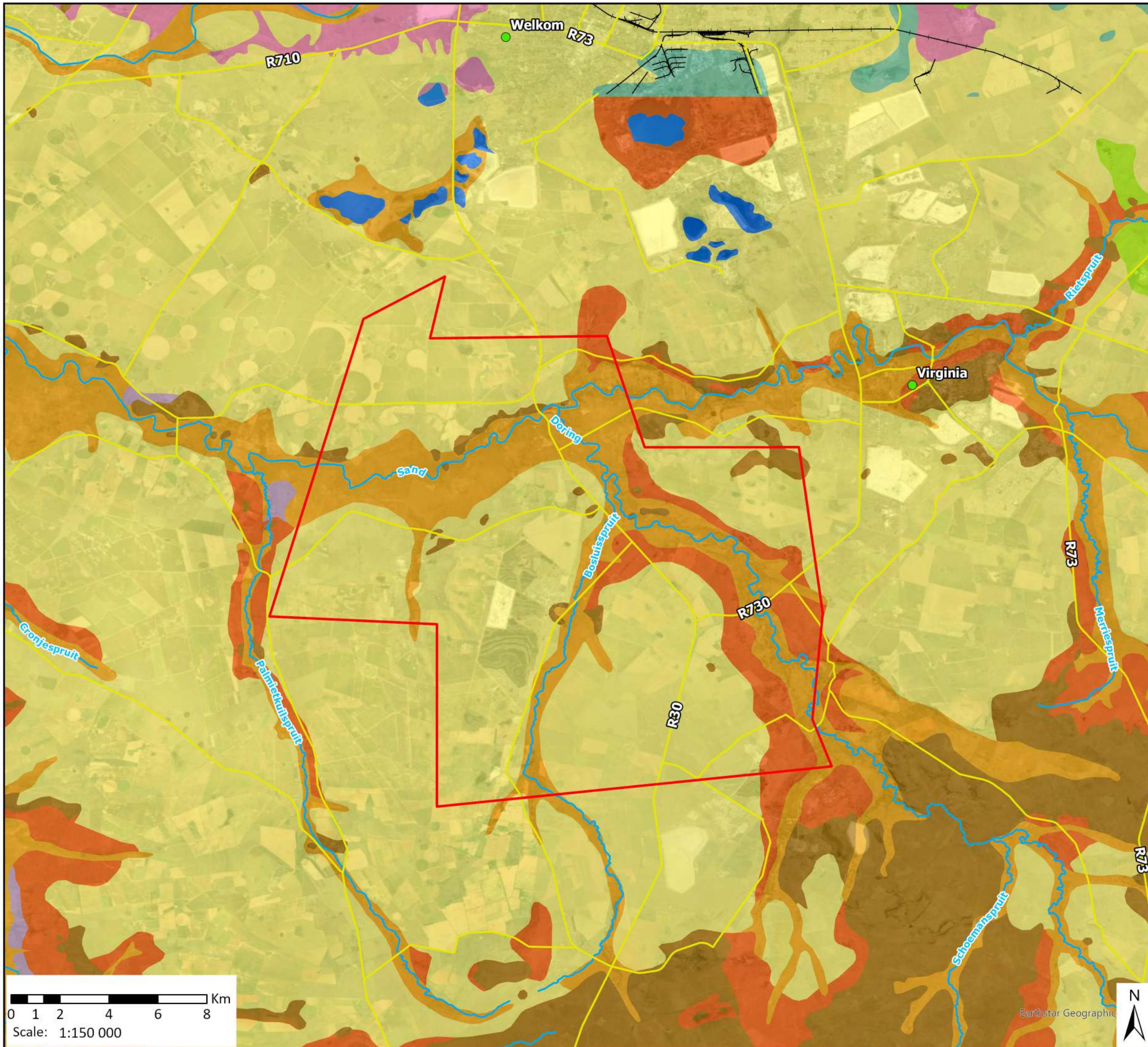
- ### Legend
- Cluster 2 Boundary Study Area
  - NFEPA Rivers
  - Towns
  - Railway
  - Roads



Data Sources:  
 CSG; ESRI  
 Coord System: GCS WGS 1984  
 Datum: WGS 1984  
 Units: Degree  
 Ref: 1595\_LandCover

Date: 2023/11/20  
 EIMS Ref: 1595  
 Compiled: JW  
 Reviewed: BW  
 Approved: LW



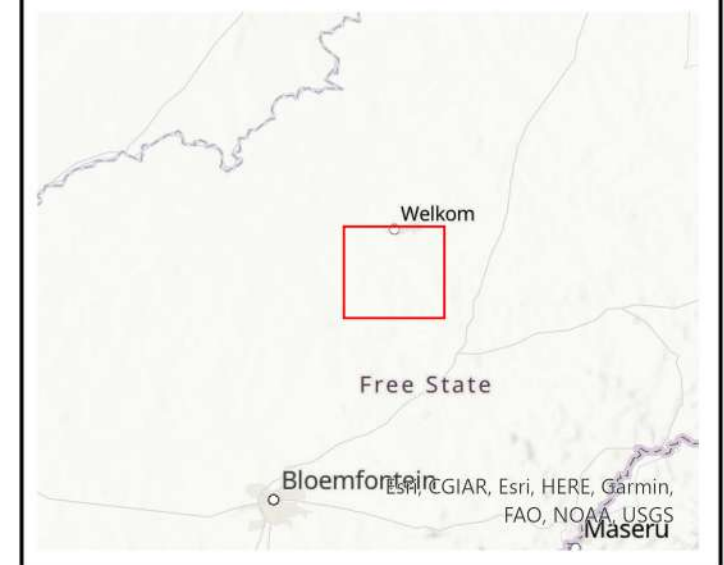


## Simplified Geology Map

1595 Tetra4 Seismic EA Amendment

**Legend**

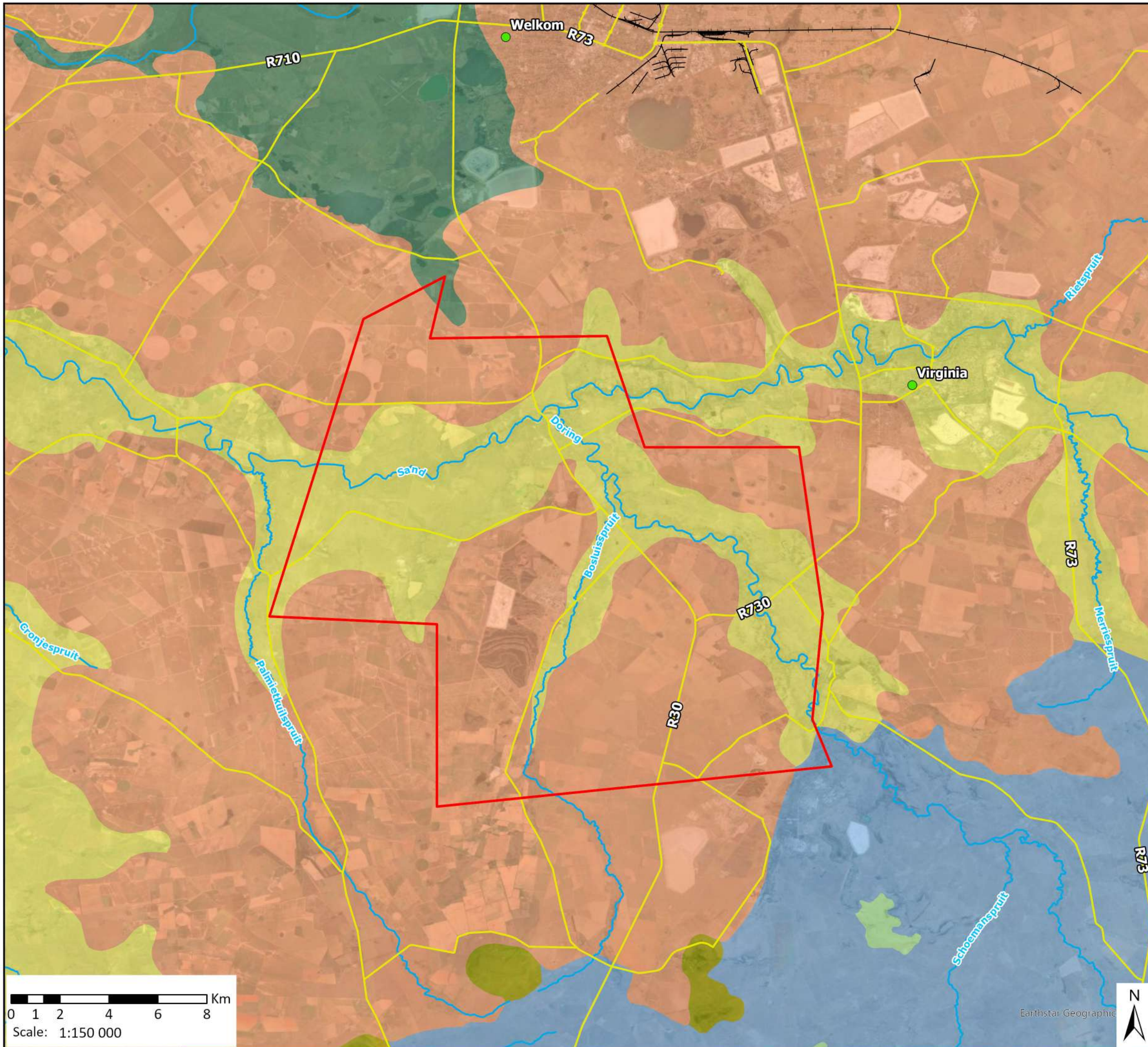
Cluster 2 Boundary Study Area	<b>Geology Sub-group</b>
NFEPA Rivers	Aeolian sand
Towns	Alluvium
Railway	Calcrete and surface limestone
Roads	Water
	Adelaide - Mudrock, subordinate sandstone
	Karoo Dolerite - Network of dolerite sills, sheets and dykes, mainly intrusive into the Karoo Supergroup
	Normandien - Green-grey and (at the top) red mudstone and siltstone, grey shale and rhythmite, sandstone
	Tierberg - Grey shale with interbedded siltstones in the upper part
	Volksrust - Mudrock



Data Sources:  
 CSG; ESRI  
 Coord System: GCS WGS 1984  
 Datum: WGS 1984  
 Units: Degree  
 Ref: 1595\_Geology

Date: 2023/11/21  
 EIMS Ref: 1595  
 Compiled: JW  
 Reviewed: BW  
 Approved: LW

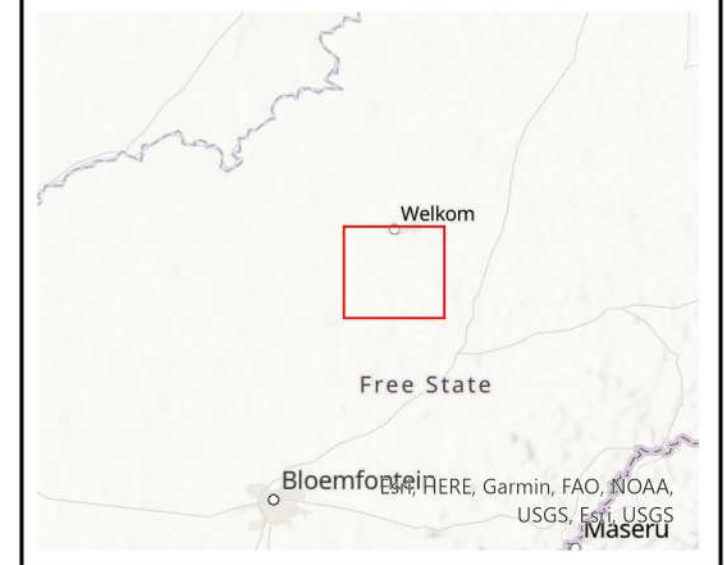




## Vegetation Status Map

1595 Tetra4 Seismic EA Amendment

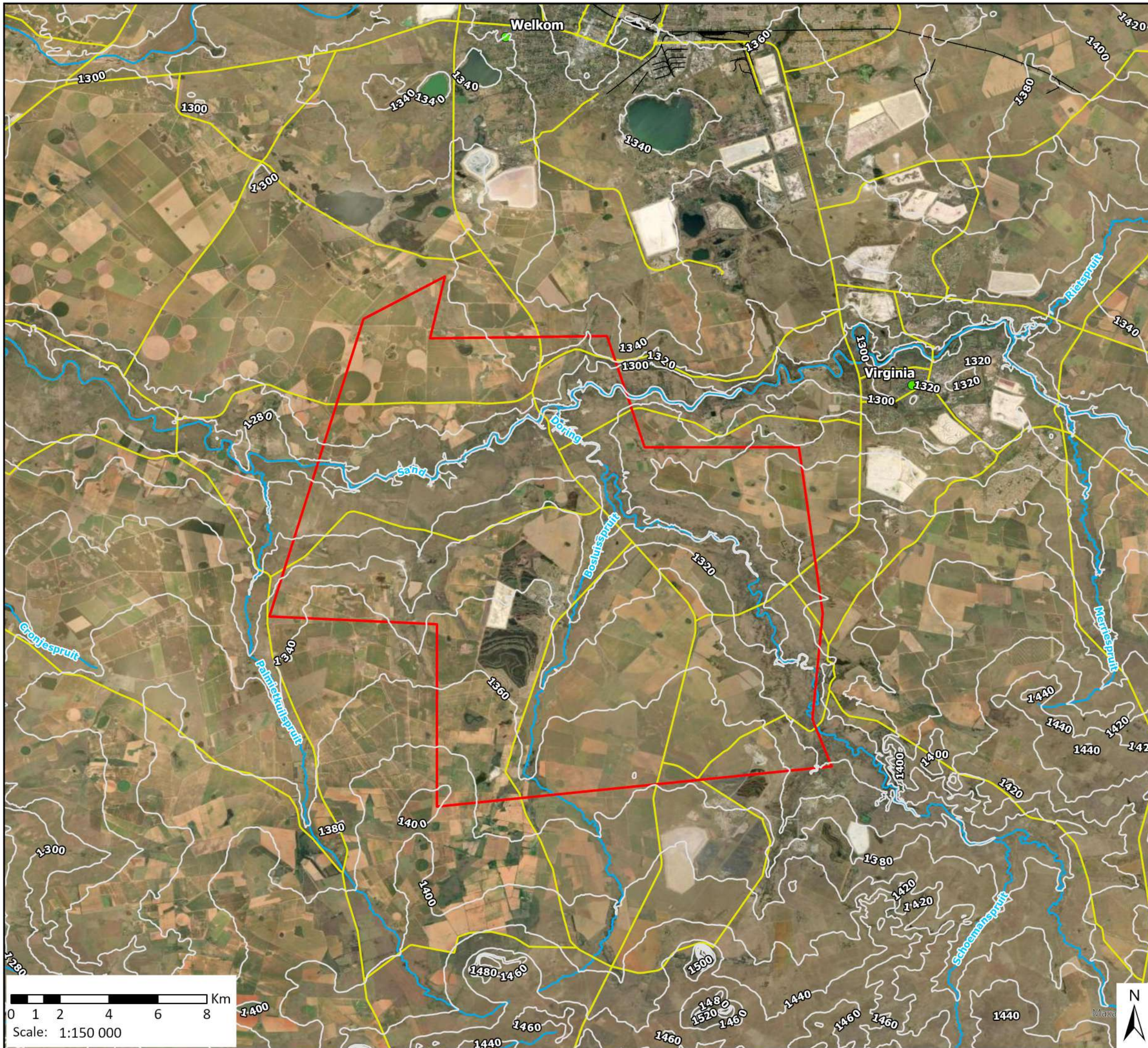
Legend	
	Cluster 2 Boundary Study Area
	NFEPA Rivers
	Towns
	Railway
	Roads
Vegetation Status	
	Bloemfontein Karroid Shrubland Conservation Target: 28% Protection Level: Moderately Protected Ecosystem Threat Status: Least Concern
	Central Free State Grassland Conservation Target: 24% Protection Level: Poorly Protected Ecosystem Threat Status: Least Concern
	Highveld Alluvial Vegetation Conservation Target: 31% Protection Level: Poorly Protected Ecosystem Threat Status: Least Concern
	Vaal-Vet Sandy Grassland Conservation Target: 24% Protection Level: Not Protected Ecosystem Threat Status: Endangered
	Western Free State Clay Grassland Conservation Target: 24% Protection Level: Poorly Protected Ecosystem Threat Status: Least Concern
	Winburg Grassy Shrubland Conservation Target: 28% Protection Level: Poorly Protected Ecosystem Threat Status: Least Concern



Data Sources:  
 CSG; ESRI  
 Coord System: GCS WGS 1984  
 Datum: WGS 1984  
 Units: Degree  
 Ref: 1595\_Vegetation

Date: 2023/11/21  
 EIMS Ref: 1595  
 Compiled: JW  
 Reviewed: BW  
 Approved: LW





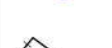




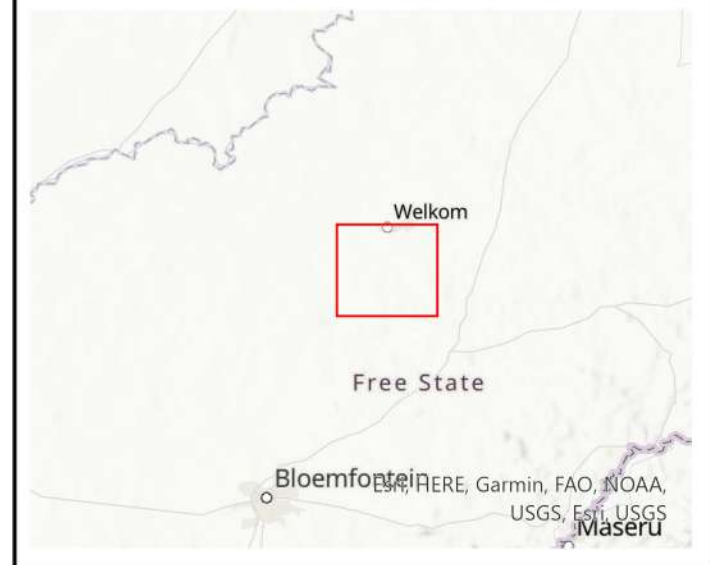


## Topography Map

1595 Tetra4 Seismic EA Amendment

### Legend

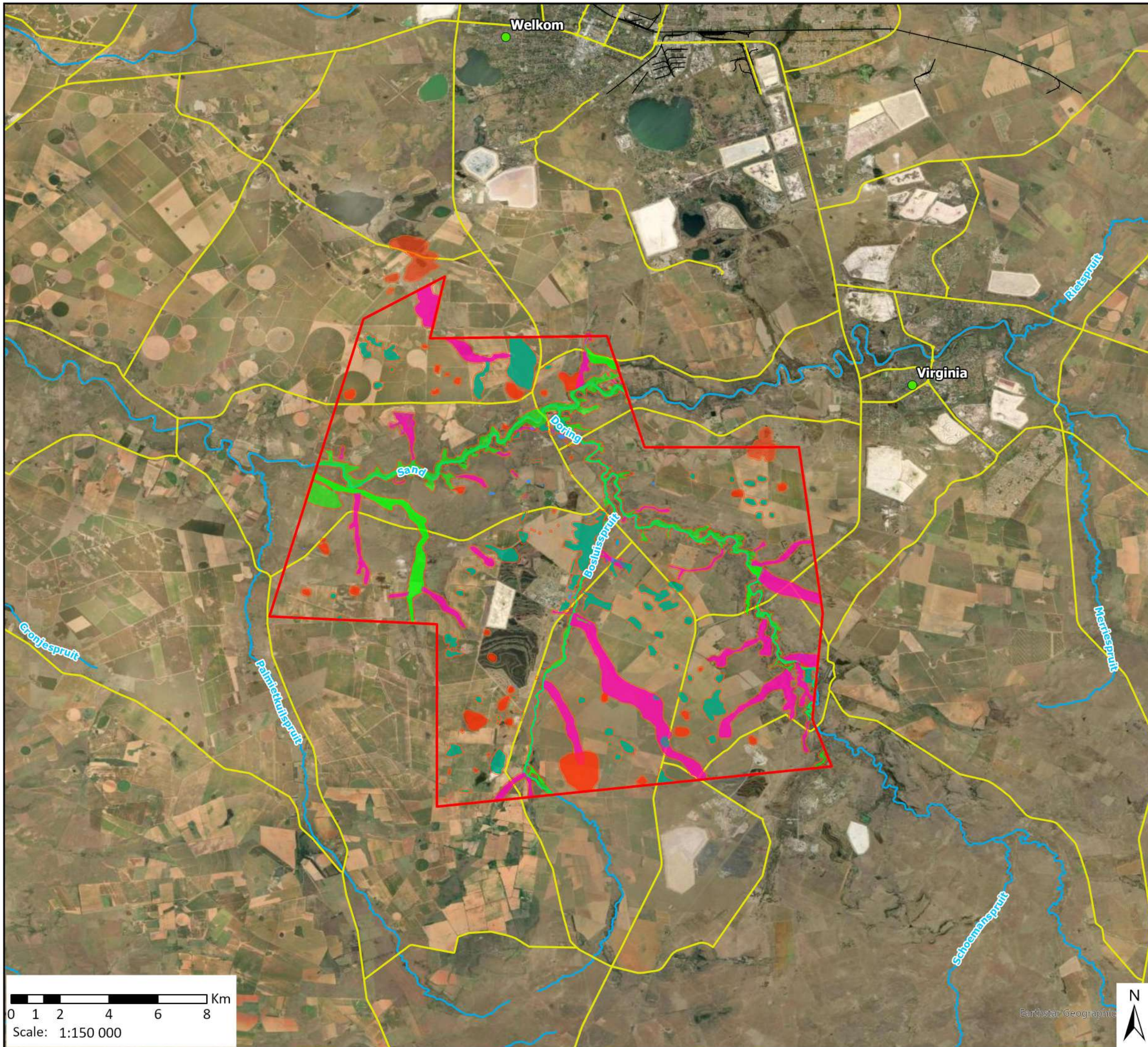
-  Cluster 2 Boundary
-  Study Area
-  NFEPA Rivers
-  Towns
-  Railway
-  Roads
-  Contour Lines (20m)



Data Sources:  
 CSG; ESRI  
 Coord System: GCS WGS 1984  
 Datum: WGS 1984  
 Units: Degree  
 Ref: 1595\_Topography

Date: 2023/11/20  
 EIMS Ref: 1595  
 Compiled: JW  
 Reviewed: BW  
 Approved: LW






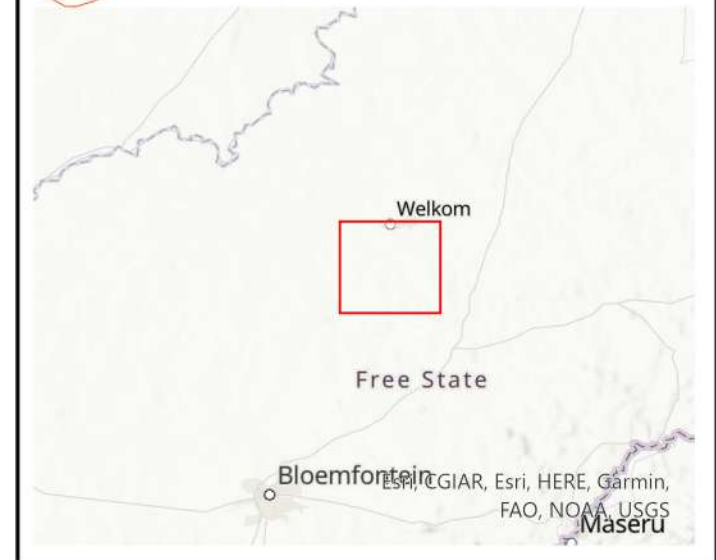


## Surface Water Features Map

1595 Tetra4 Seismic EA Amendment

### Legend

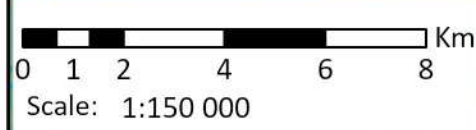
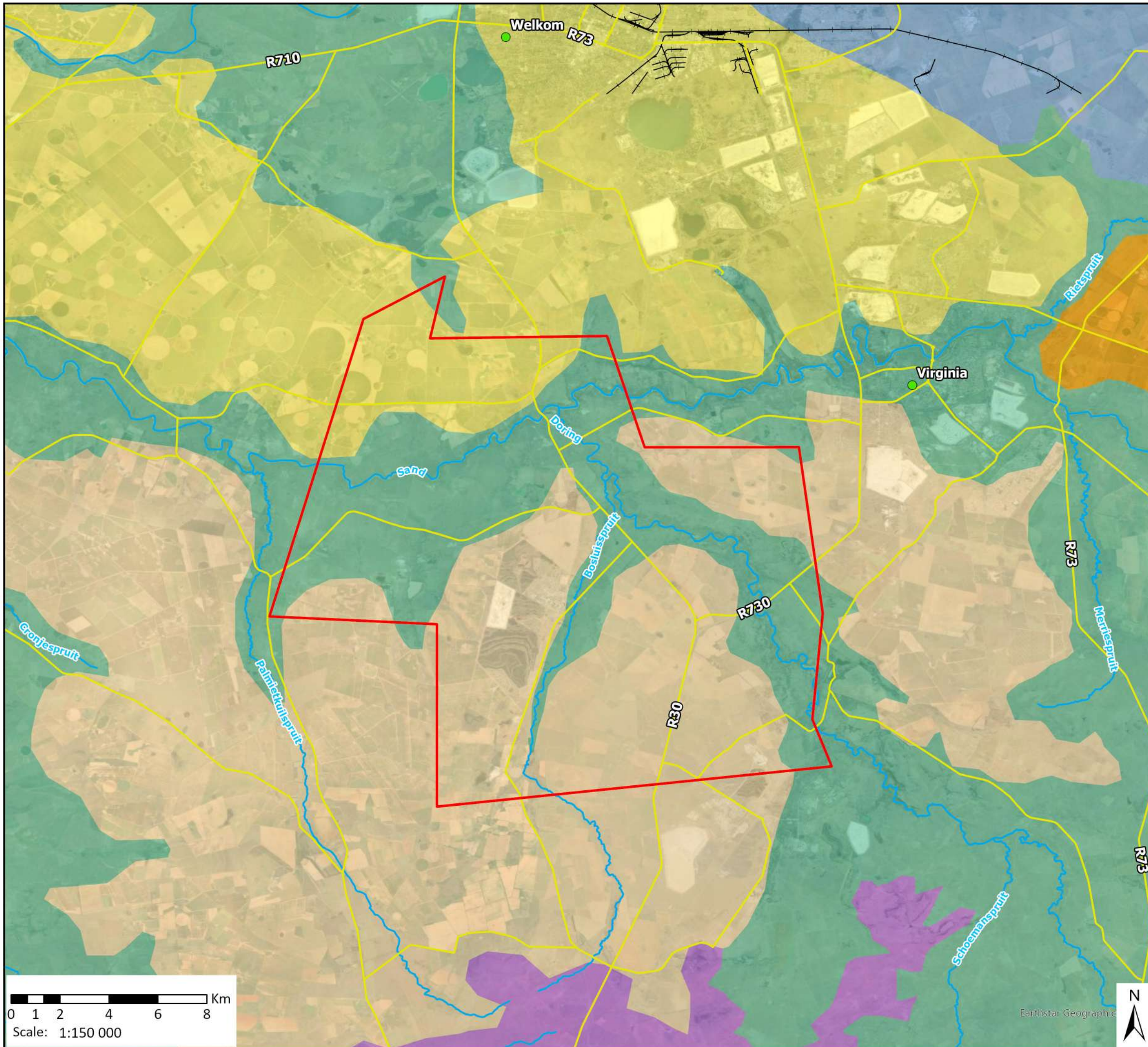
-  Cluster 2 Boundary Study Area
-  NFEPA Rivers
-  Towns
-  Railway
-  Roads
- Wetland Delineations**
-  Artificial Wetland
-  Channelled Valley Bottom
-  Depression
-  Seep
-  Unchannelled Valley Bottom
-  35m Buffer



Data Sources:  
 CSG; ESRI  
 Coord System: GCS WGS 1984  
 Datum: WGS 1984  
 Units: Degree  
 Ref: 1595\_Hydrology

Date: 2023/11/20  
 EIMS Ref: 1595  
 Compiled: JW  
 Reviewed: BW  
 Approved: LW

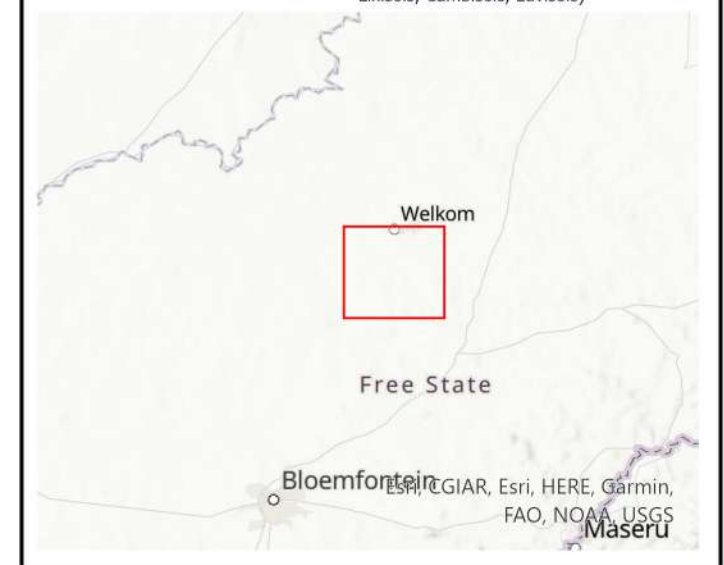




## Simplified Soils Map

1595 Tetra4 Seismic EA Amendment

- Legend**
- Cluster 2 Boundary Study Area
  - NFEPA Rivers
  - Towns
  - Railway
  - Roads
- Soils**
- Eutric Cambisols (CMe)  
Red, yellow and greyish soils with high base status (association of Lixisols, Cambisols, Luvisols and Plinthosols. In addition, other soils with plinthic and gleyic properties may also be present)
  - Lithic Leptosols (LPq)  
Black and red, strongly structured clayey soils with high base status (association of Vertisols, Phaeozems, Kastanozems and Nitisols. In addition one or more Leptosols, Calcisols and Cambisols may be present)
  - Ferric Luvisols (LVf)  
Red, massive or weakly structured soils with high base status (association of well drained Lixisols, Cambisols, Luvisols)
  - Calcic Luvisols (LVk)  
Soils with a marked clay accumulation (association of Luvisols, Planosols and Solonetz. In addition one or more of Plinthosols, Vertisols and Cambisols may be present)
  - Ferric Lixisols (LXf)  
Red, yellow and greyish soils with high base status (association of Lixisols, Cambisols, Luvisols and Plinthosols. In addition, other soils with plinthic and gleyic properties may also be present)
  - Haplic Lixisols (LXh)  
Red, massive or weakly structured soils with high base status (association of well drained Lixisols, Cambisols, Luvisols)



Data Sources:  
CSG; ESRI  
Coord System: GCS WGS 1984  
Datum: WGS 1984  
Units: Degree  
Ref: 1595\_Soils

Date: 2023/11/21  
EIMS Ref: 1595  
Compiled: JW  
Reviewed: BW  
Approved: LW



Earthstar Geographic