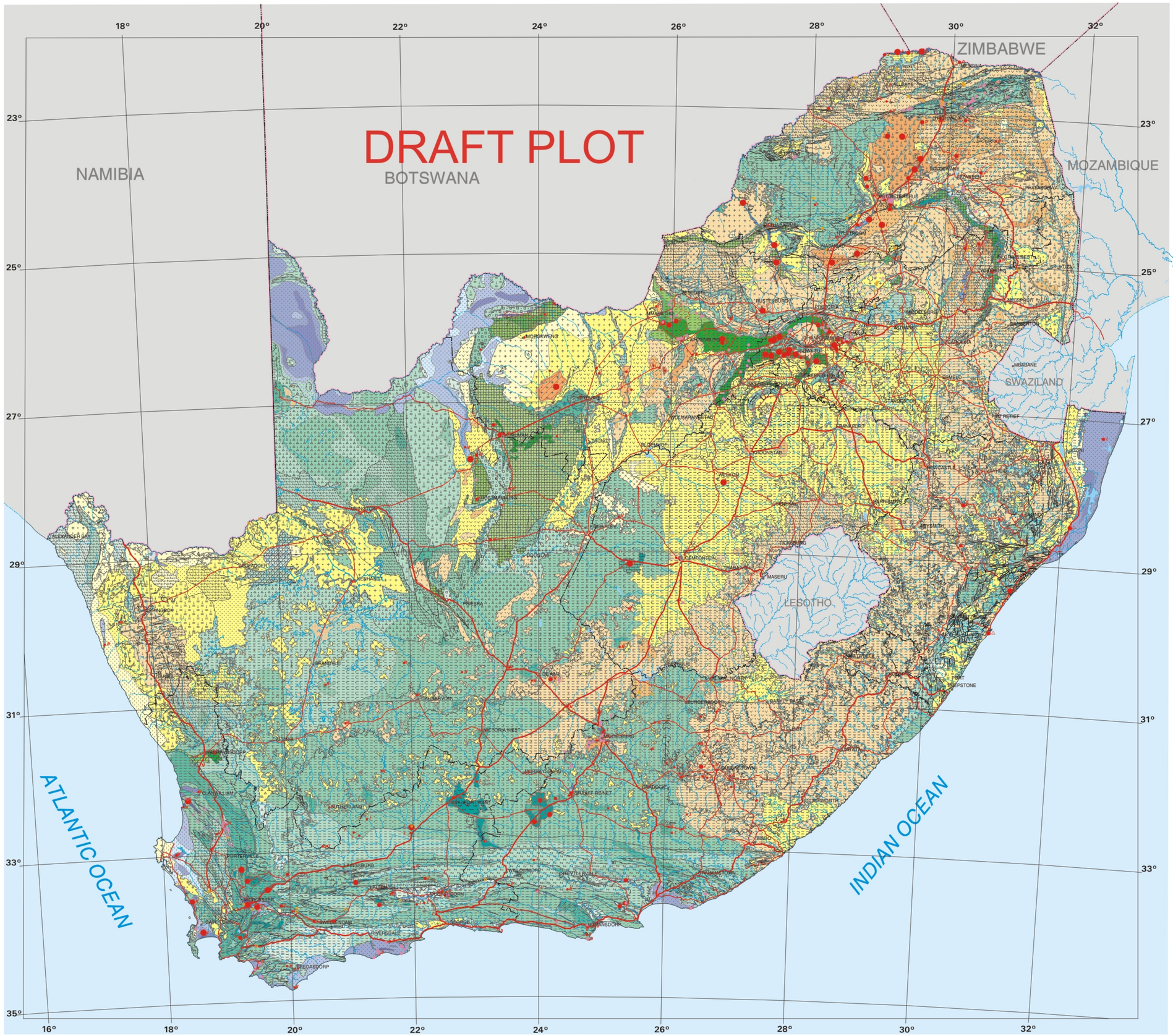

1:2 000 000
COMPILATION OF THE
1:500 000
HYDROGEOLOGICAL MAPPING SERIES

This is a presentation on 2 million scale of the 21 map sheets done for the 1:500 000 Hydrogeological mapping series project between 1998 and 2004. The Department is considering to produce a 2 million Hydrogeological map in the future

GIS: Issabel du Toit assisted by Martie Erasmus
Cartography: Issabel du Toit assisted by Martie Erasmus

Occurrence of groundwater
Borehole yield class (median l/sec)
(excl. dry boreholes)

	< 0.1	0.1 - 0.5	0.5 - 2.0	2.0 - 5.0	> 5
Intergranular					
Fractured					
Karst					
Intergranular and Fractured					
Two layer aquifer	Intergranular 0.0 - 0.5l/s Intergranular 0.1 - 0.5l/s	Intergranular 0.5 - 2.0l/s Intergranular 0.1 - 0.5l/s	Intergranular 0.5 - 2.0l/s Intergranular 2.0 - 5.0l/s	Intergranular 2.0 - 5.0l/s Intergranular & Fractured 2.0 - 5.0l/s	Intergranular 0.1 - 5.0l/s Intergranular & Fractured 5.5 - 2.0l/s
Upper aquifer is Intergranular Lower aquifer is Fractured	Intergranular 0.0 l/s Intergranular & Fractured 0.0 - 0.5 l/s	Intergranular 0.5 - 2.0 l/s Intergranular & Fractured 0.1 - 0.5 l/s			

- Lithology boundary
- Borehole yields boundary
- Median borehole yield in the 1.5 - 2.0 l/sec range
- Faults
- Inferred fault

LITHOLOGY
UNCONSOLIDATED ROCKS

- Alluvium (clay,sand,gravel,boulders)
- Undifferentiated coastal and inland deposits (unconsolidated to semi-consolidated sediments including sand,calcrete, calarenite, aeolianite, conglomerate, clay,silcrete, limestone ect.)

SEDIMENTARY ROCKS

- Predominantly argillaceous rocks (shale, carbonaceous shale, claystone, mudstone siltstone)
- Predominantly arenaceous rocks (sandstone, feldspathic sandstone, arkose, sandstone-becoming-quartzitic-in-places)
- Argillaceous and arenaceous rocks (approximately equal proportions)
- Predominantly calcareous rocks (limestone, dolomite, calcarenite)
- Predominantly rudaceous rocks (conglomerate, grit, breccia)
- Predominantly diamictite (tillite, ect)
- Predominantly (banded) iron formation

IGNEOUS ROCKS

- Mafic/ultra mafic intrusive rocks (dolerite, diabase, diorite, gabbro, dunite, pyroxenite, norite, anorthosite, hornblendite, carbonatite)
- Mafic/ultra mafic extrusive rocks (basalt, andesite)

METAMORPHIC ROCKS

- Predominantly meta-arenaceous rocks (quartzite, gneiss, migmatite, granulite)
- Predominantly meta-calcareous rocks (marble, calc-silicate)

SEDIMENTARY, IGNEOUS AND METAMORPHIC ROCKS

- Undifferentiated rocks and various mixed lithologies

LOCALLY WITH BASIC INTRUSIONS (dolorite, diabase, ect)

SEDIMENTARY ROCKS

- Predominantly argillaceous rocks (shale, carbonaceous shale, claystone, mudstone, siltstone)
- Predominantly arenaceous rocks (sandstone, feldspathic sandstone, arkose)
- Argillaceous and arenaceous rocks (approximately equal proportions)
- Predominantly calcareous rocks (limestone, dolomite, calcarenite)
- Predominantly rudaceous rocks (conglomerate, grit, breccia)
- Predominantly diamictite
- Predominantly (banded) iron formation

IGNEOUS ROCKS

- Predominantly pyroclastic rocks (tuff, agglomerate, breccia, ignimbrite)
- Mafic/ultra mafic intrusive rocks (dolerite, diabase, diorite, gabbro, dunite, pyroxenite, norite, anorthosite, hornblendite, carbonatite)
- Acid/intermediate/Alkaline intrusive rocks (various granitoids)
- Mafic/ultra mafic extrusive rocks (basalt, andesite)
- Acid/intermediate/alkaline extrusive rocks (rhyolite, felsite, quartzporphyry)

METAMORPHIC ROCKS

- Predominantly meta-argillaceous rocks (slate, phyllite, meta-pelite, schist, serpentine, amphibolite, hornfels)
- Predominantly meta-arenaceous rocks (quartzite, gneiss, migmatite, granulite)
- Predominantly meta-calcareous rocks (marble, calc-silicate)
- Predominantly gneissoid rocks with xenoliths of undifferentiated metamorphic rocks

SEDIMENTARY, IGNEOUS AND METAMORPHIC ROCKS

- Undifferentiated rocks and various mixed lithologies

Large scale groundwater abstraction

- >10
- 5 - 10
- 2 - 5
- 1 - 2
- 0.1 - 1
- Spring (>5 l/s)
- Thermal spring (°C)
- Town
- National road
- Main road
- International boundary
- Provincial boundary
- Primary catchment boundary
- Primary / perennial river
- Secondary / non-perennial river
- Dam
- Pan

I Irrigation
D Domestic
⚒ Mining, industrial
M Municipal
△ Industrial

Projection: Albers Equal Area
Spheroid Clark 1880
Standard parallels: 22 and 35
Central meridian: 24

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www.dwaf.gov.za

Draft Plot Date : 04 Mar 05