REPUBLIC OF BOTSWANA

DEPARTMENT OF WATER AFFAIRS

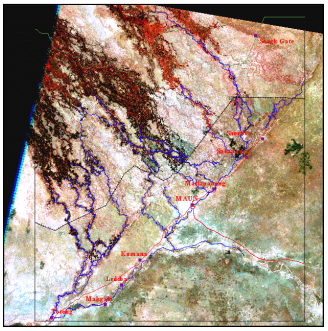
Ministry of Minerals, Energy and Water Affairs

MAUN GROUNDWATER DEVELOPMENT PROJECT PHASE-2

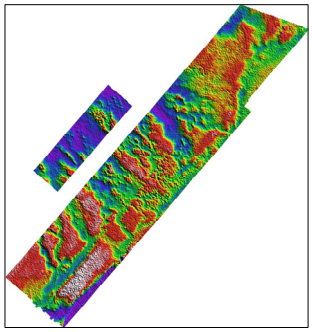
Resources Assessment and Wellfield Development

(TB 10/3/5/2000-2001)

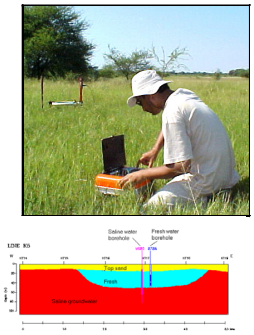
PROJECT ACTIVITIES



Satellite image (September 2000) of the Maun Project area. It shows the extent of flooding and major structural features.



An Airborne Electro-Magnetic (AEM) survey was flown over the Maun Project area. It shows the lateral distribution of freshwater aquifers (blue).

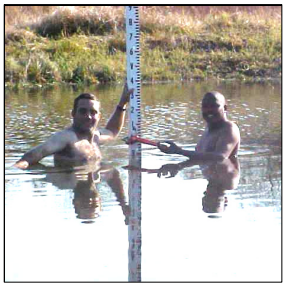


Surface Geophysics (TEM technique) in conjunction with AEM was found an appropriate tool to map the geometry of fresh water aquifers in the Maun area. It provided site locations and depth estimates for drilling boreholes.

DWA's crawler rig drilling a monitoring borehole to study groundwater levels in the Project Area.

After drilling, monitoring boreholes were developed using compressed air jetting.

To analyse the recharge conditions in the Project Area, monitoring of groundwater levels is carried out.



To estimate the recharge from the river, water levels are measured using river gauges.

Piezometers were augured to measure the aquifer response to river recharge.

Exploration borehole drilling using Reverse Fluid Circulation (RC) Method.

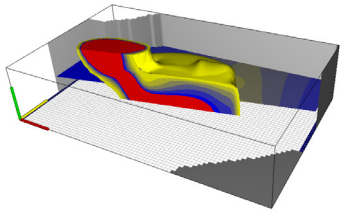
A high precession GPS survey at each borehole provided accurate locations and elevation of the boreholes.

After completion of drilling, a downhole logging probe is lowered in to the borehole to measure the properties of underground formations, which provide useful information for borehole design (placement of screens).

Sometimes crossing rivers was necessary to access some areas. Good driving skills are important.

It's their territory, learn to live with them.

After drilling, pumping tests are conducted on all exploration boreholes to evaluate the potential of the aquifers and optimum yield. The Department of Wildlife provided protection to field crews in wildlife areas.



Groundwater modelling is used to optimise the design of a Wellfield.

Providing fresh water to the people is the ultimate aim of the project.

February 2003