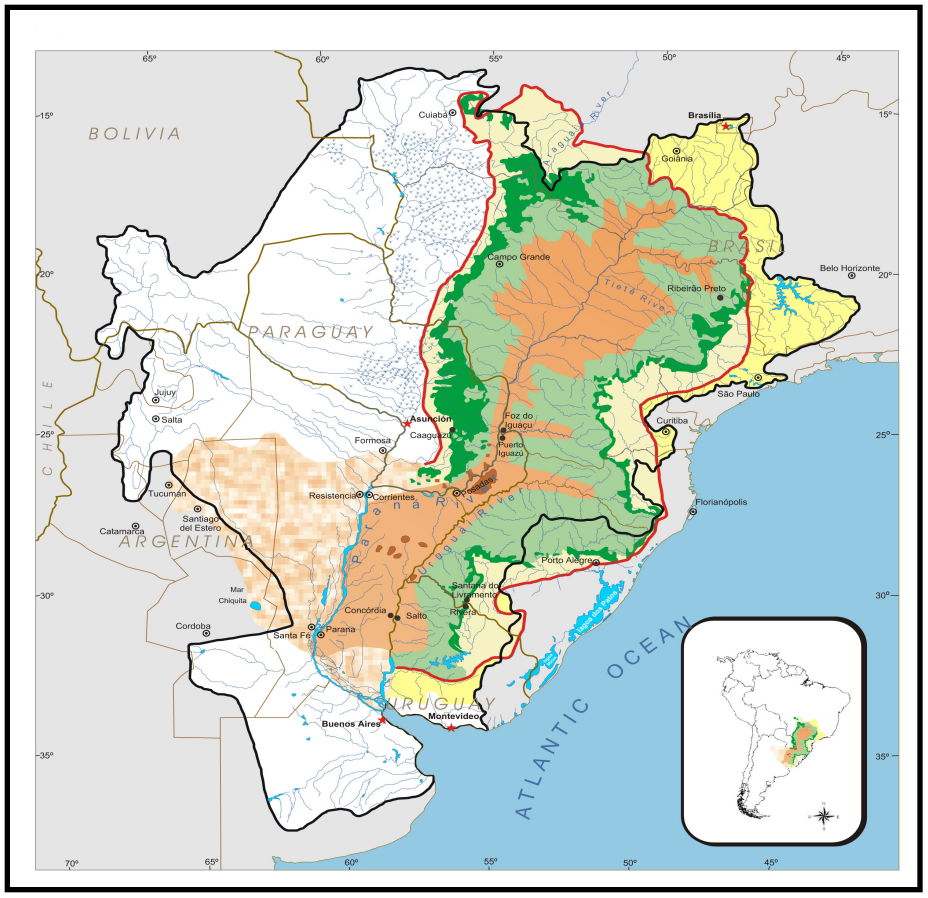
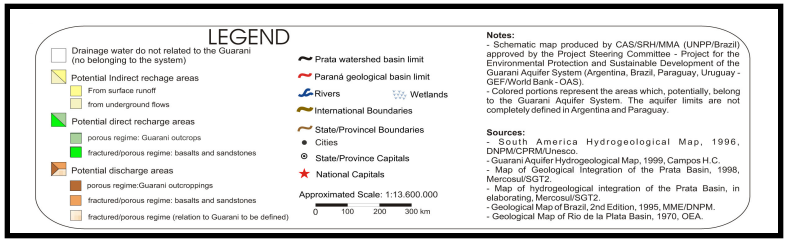
Case Study I: Guaraní Aquifer System (SAG)

Objective: Define the Geometry of the aquifer: Basement detection
Morfologic Characterization



Guarani Aquifer System

- Area:1.200.00 km²
- Fresh water
- 50m-800 thickness
- Target ~ 2km , 3km
- Fresh water 45.000 km3
- Sedimentary Basin reaches 4.5km depth



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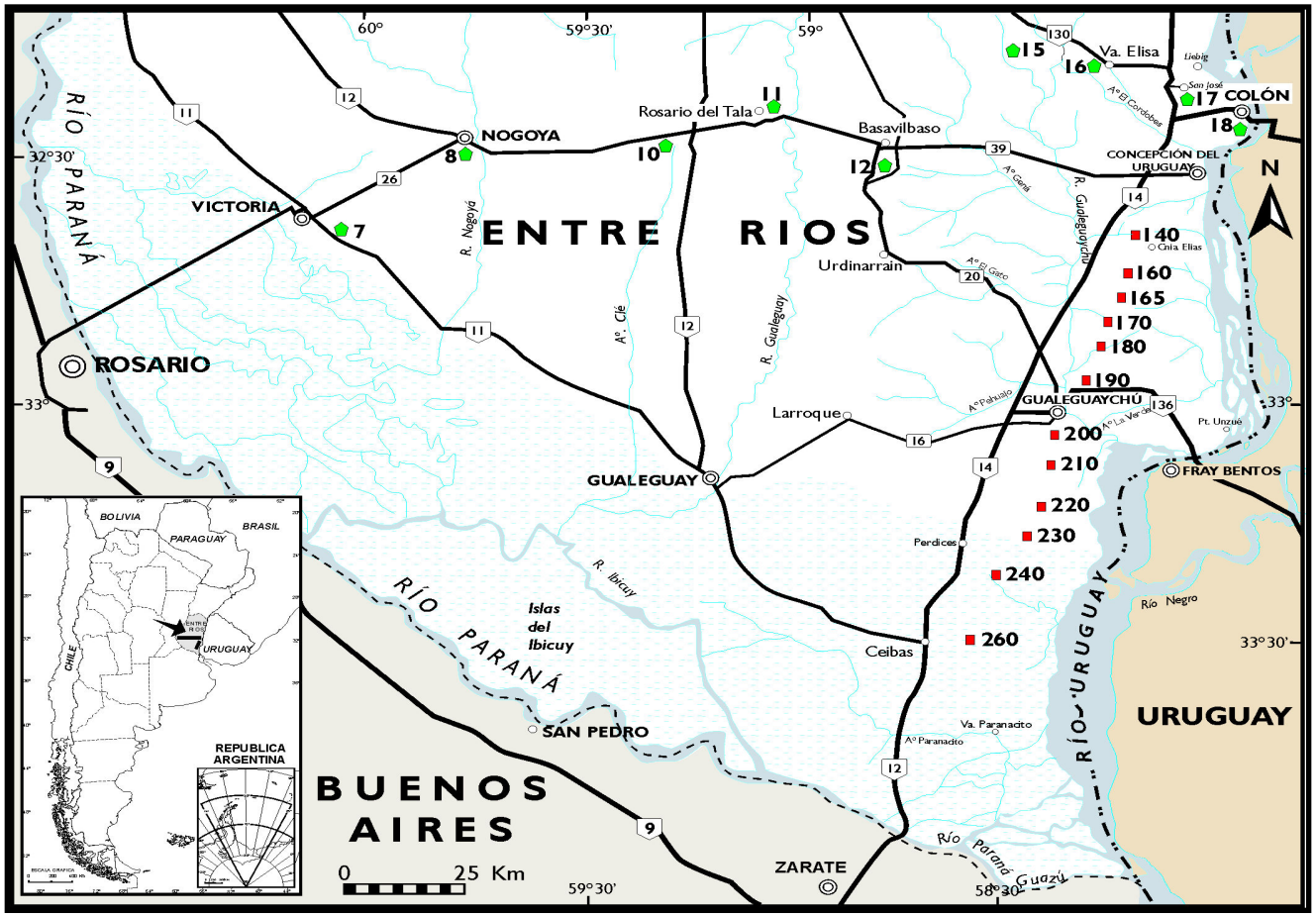
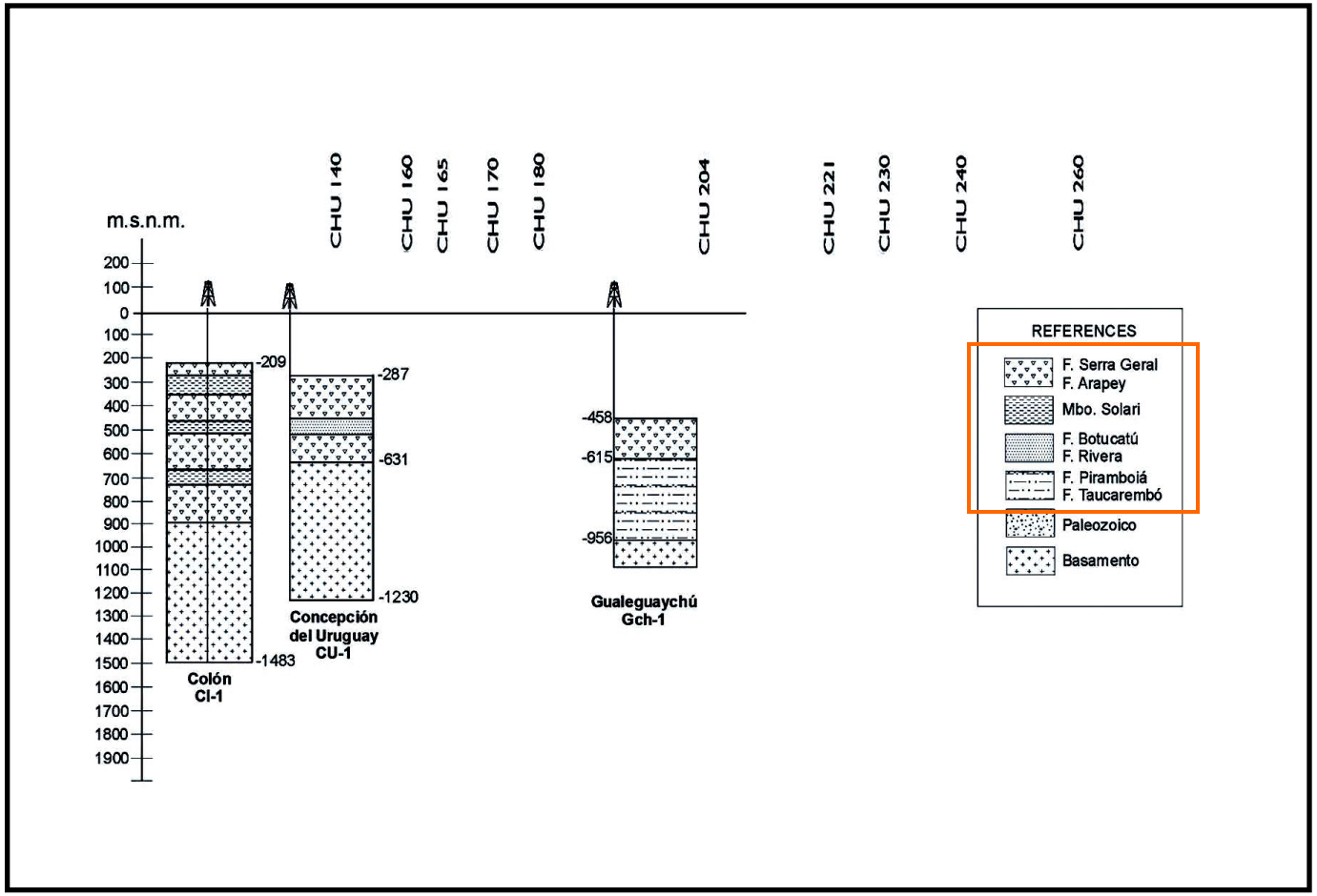
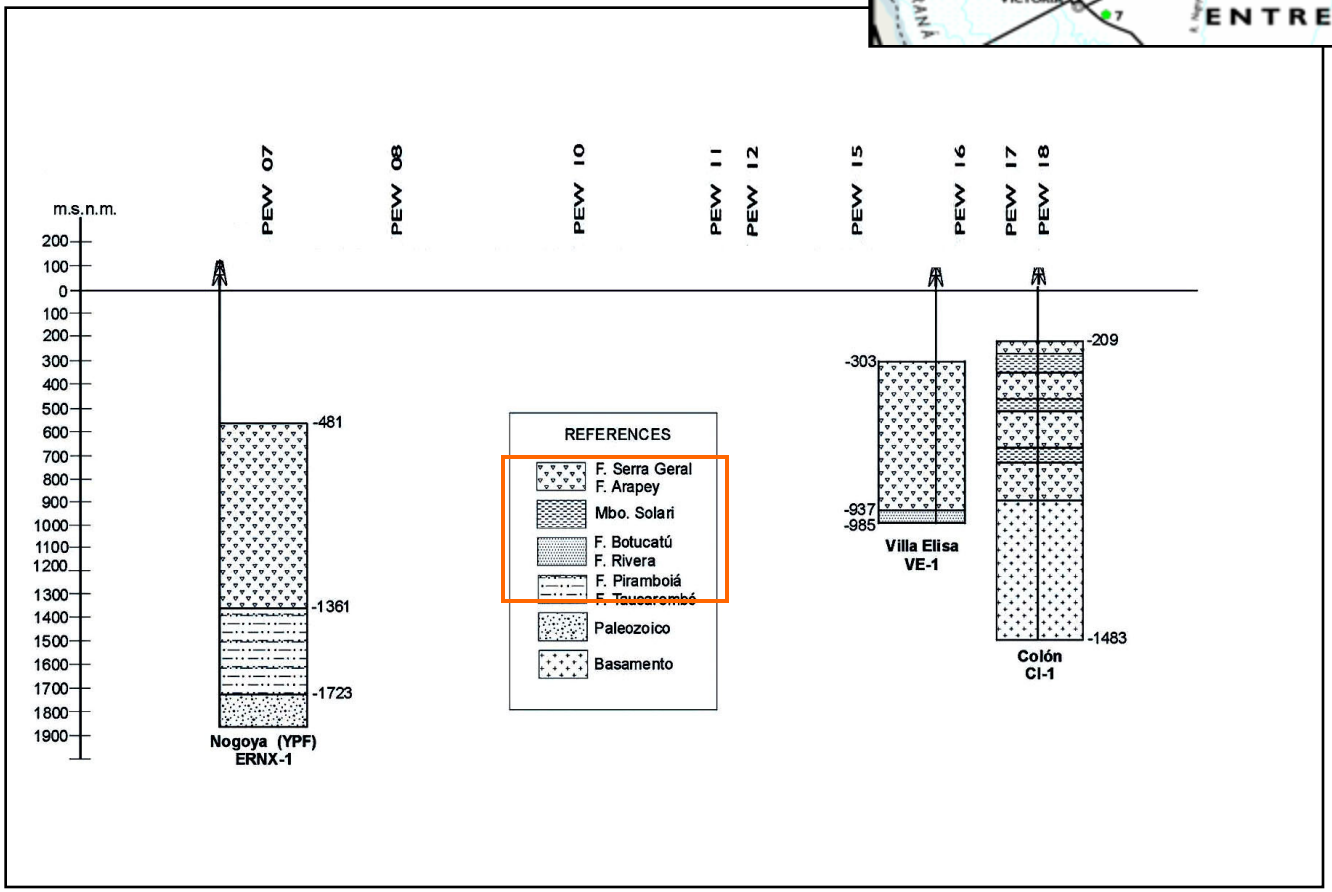


Wells along NS Profile



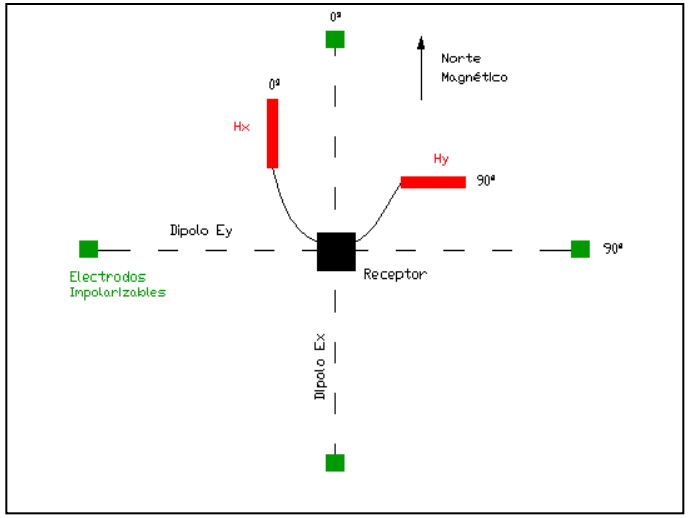
Pozos y distribución de estaciones correspondientes al perfil N-S

Wells along EW Profile

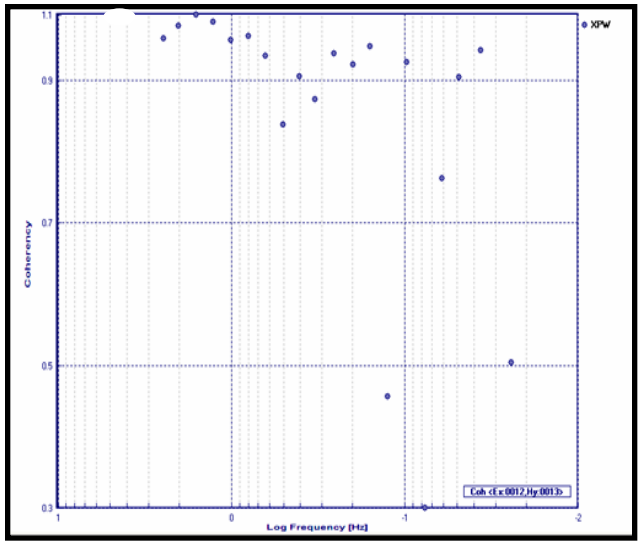


Pozos y distribución de estaciones correspondientes al perfil E-W

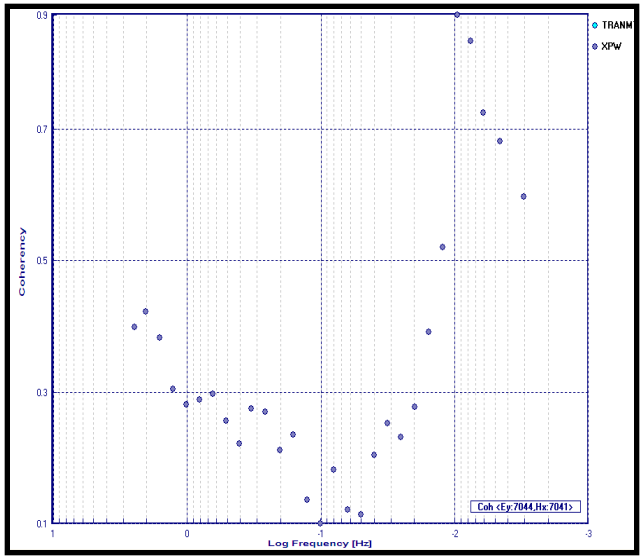
Set up Time Series, Coherence, Consistence Test, Dimensionality



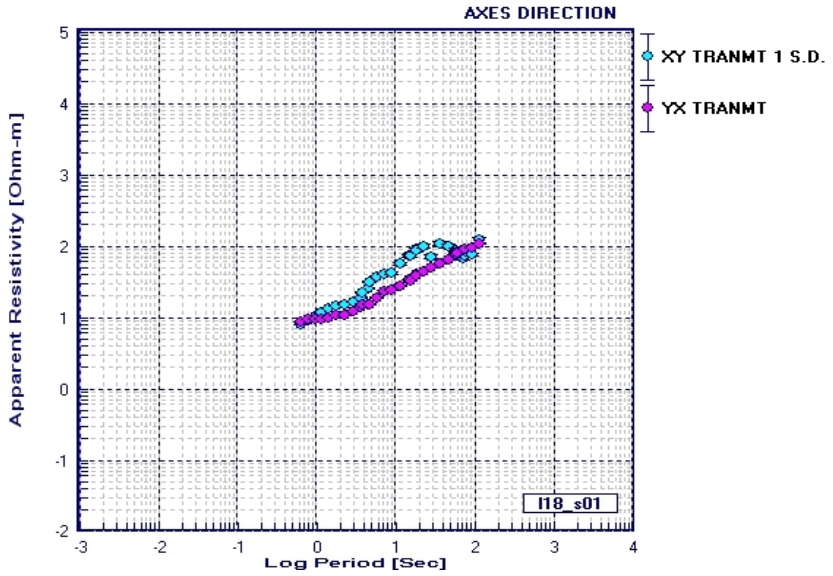
Time Series, Coherence, Consistence Test,Dimensionality,

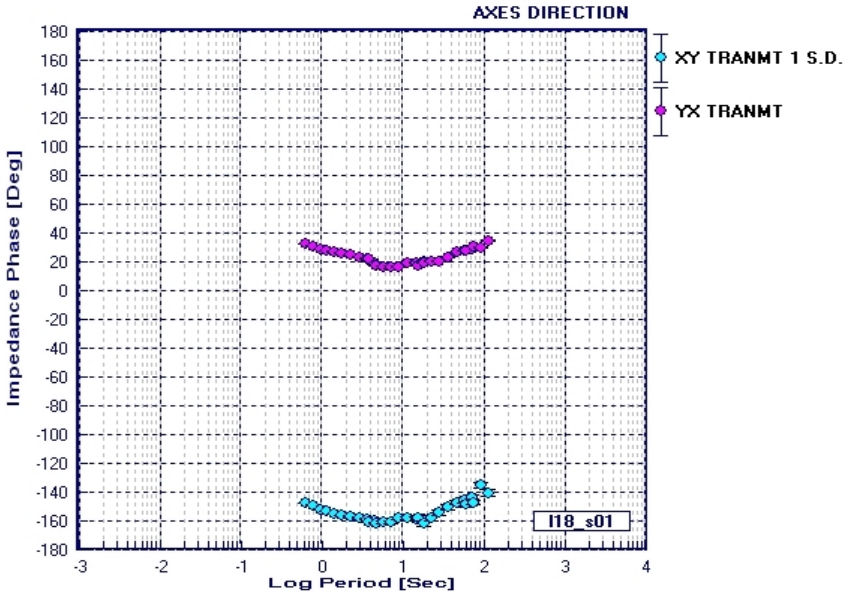


Good Data



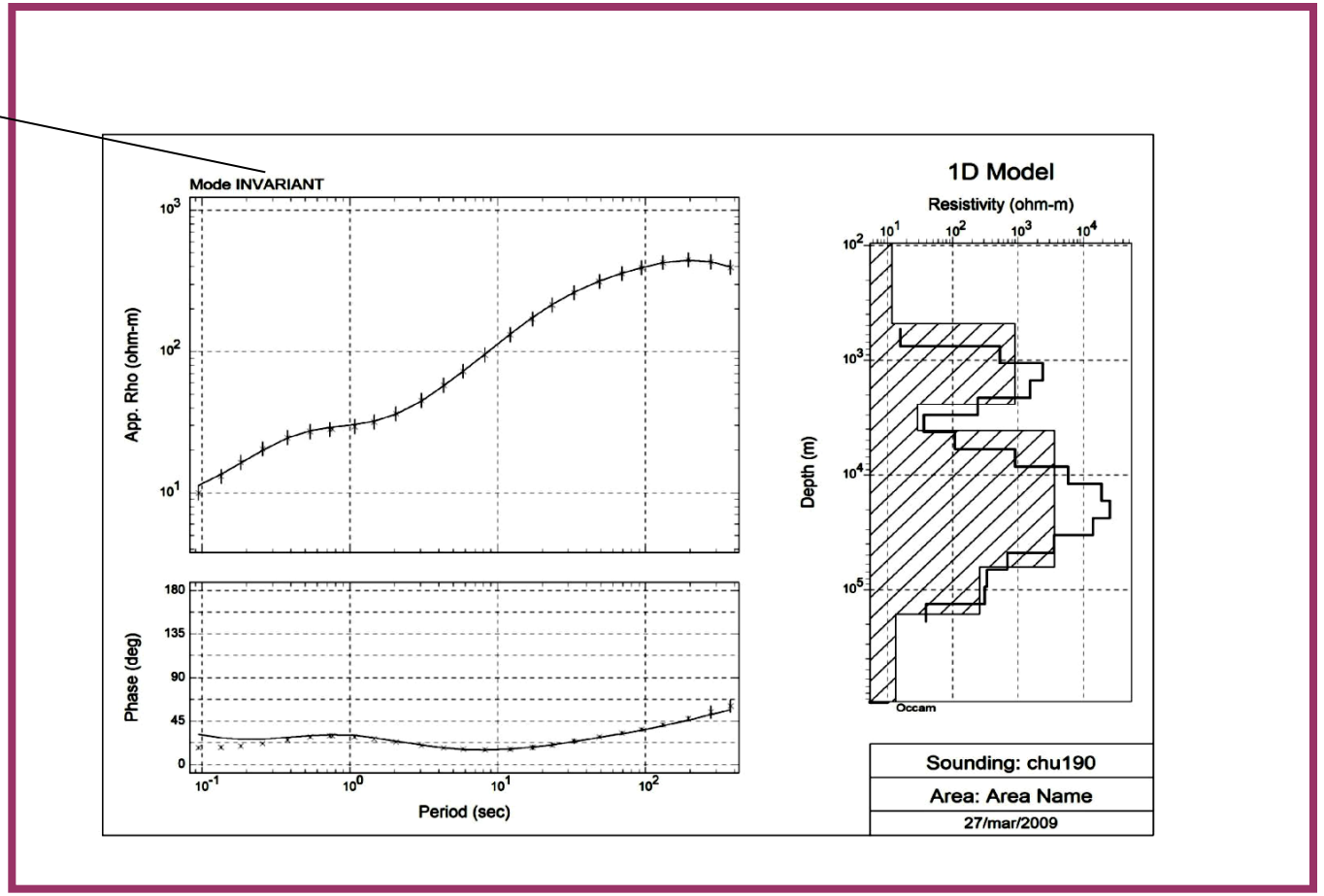
Noisy Data





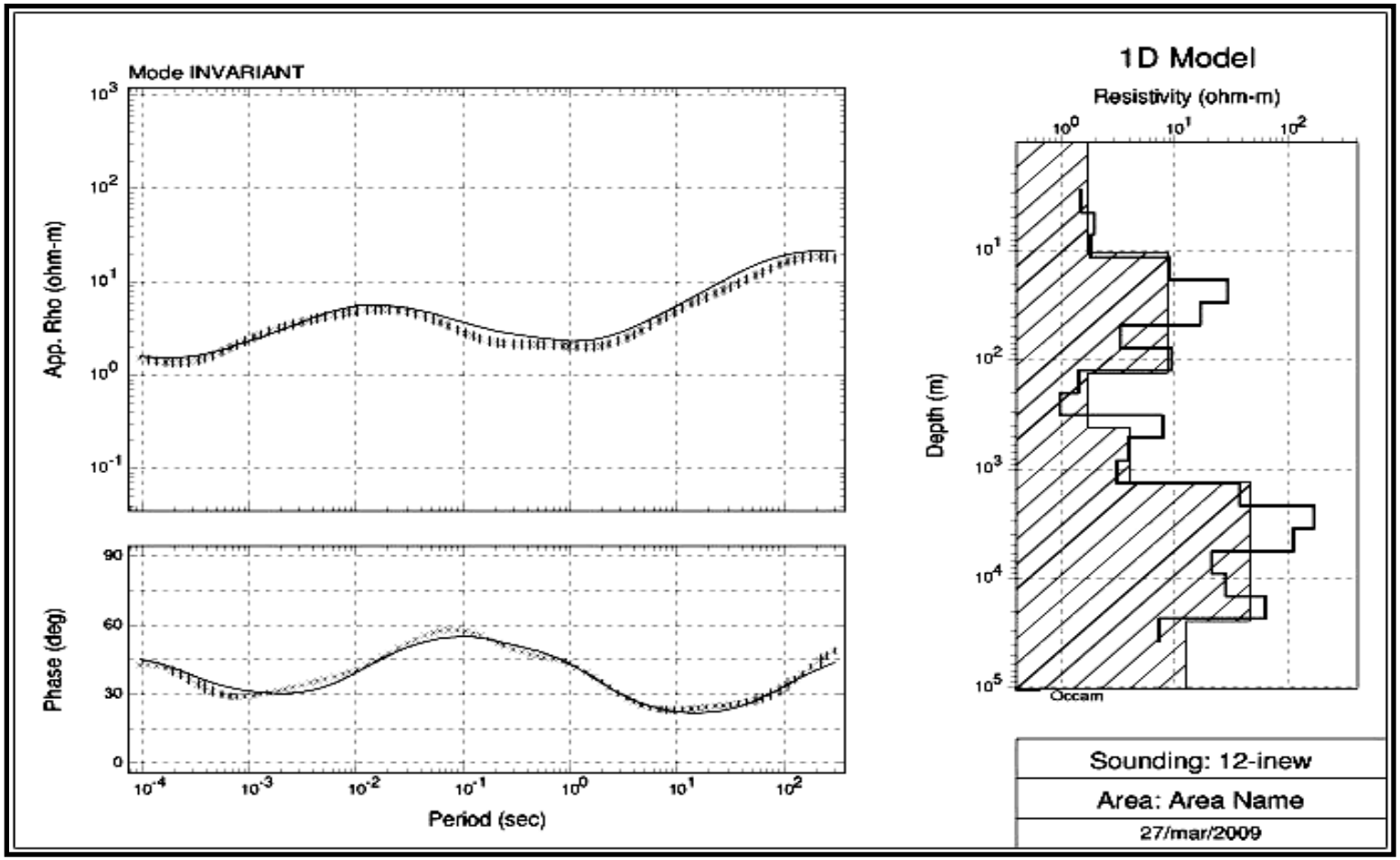
1D Model (NS)

Mode invariant



Ejemplo de inversión 1D la estación 204, perfil N-S.
a) Modelado con algoritmo Occam b) Resistividad aparente y fase de impedancia en función del periodo.

1D Model (EW)



Ejemplo de inversión 1D, algoritmo Occam para la estación 12, perfil E-W. Derecha: Modelado con algoritmo Occam. Izquierda: Resistividad aparente y fase de impedancia en función del período.

2 Inversion, Profile NS, Mode TM (12 soundings)

BC:1000m.

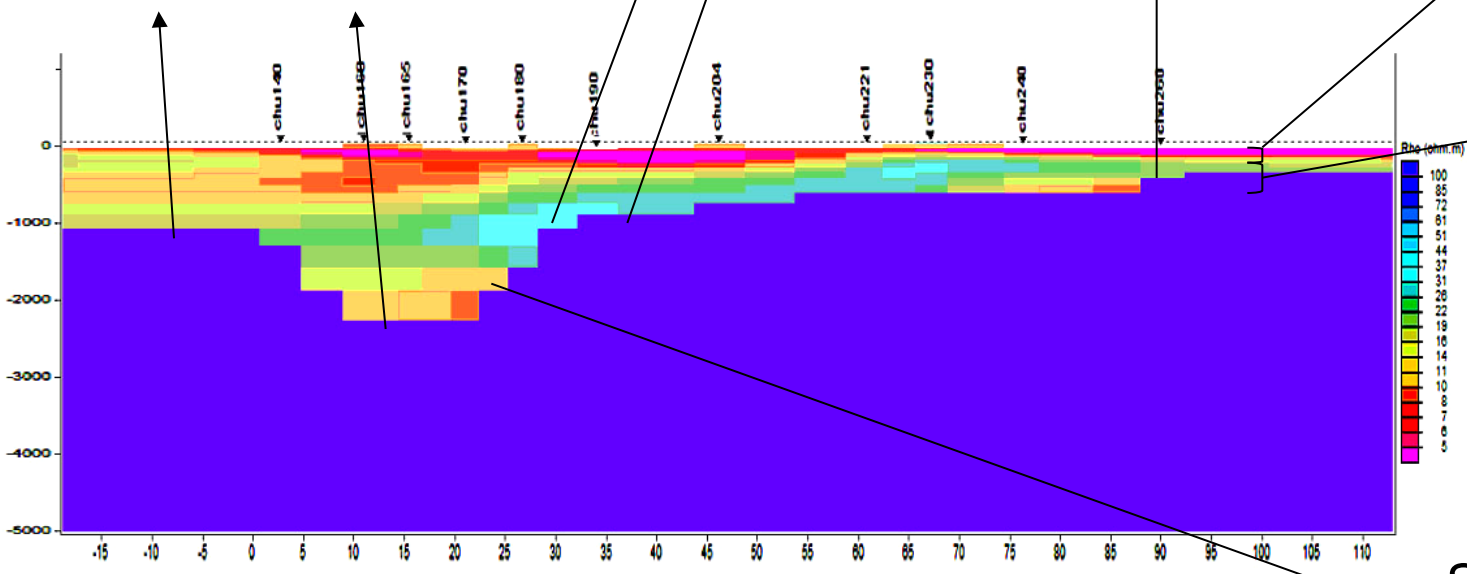
BC 165:2200m.

BC 190:900m.

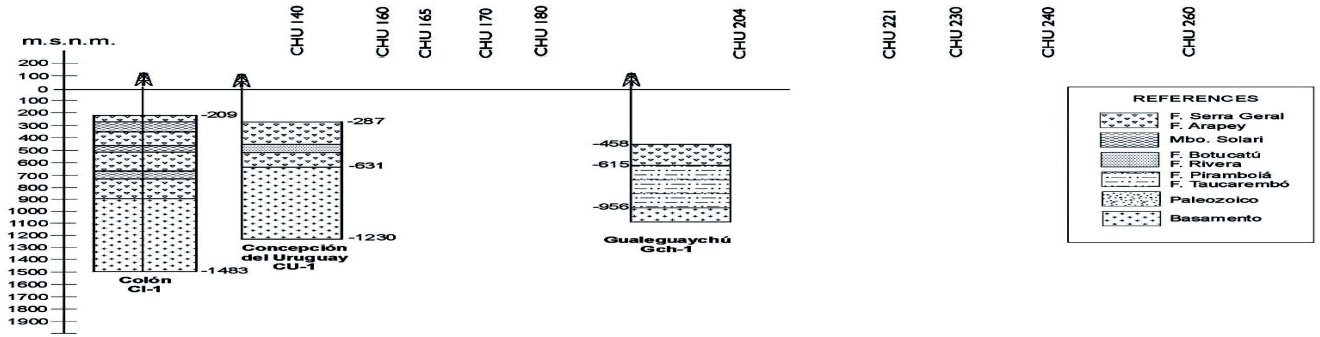
BC 260:400m.

4 Ohm-m

11-25 Ohm-m

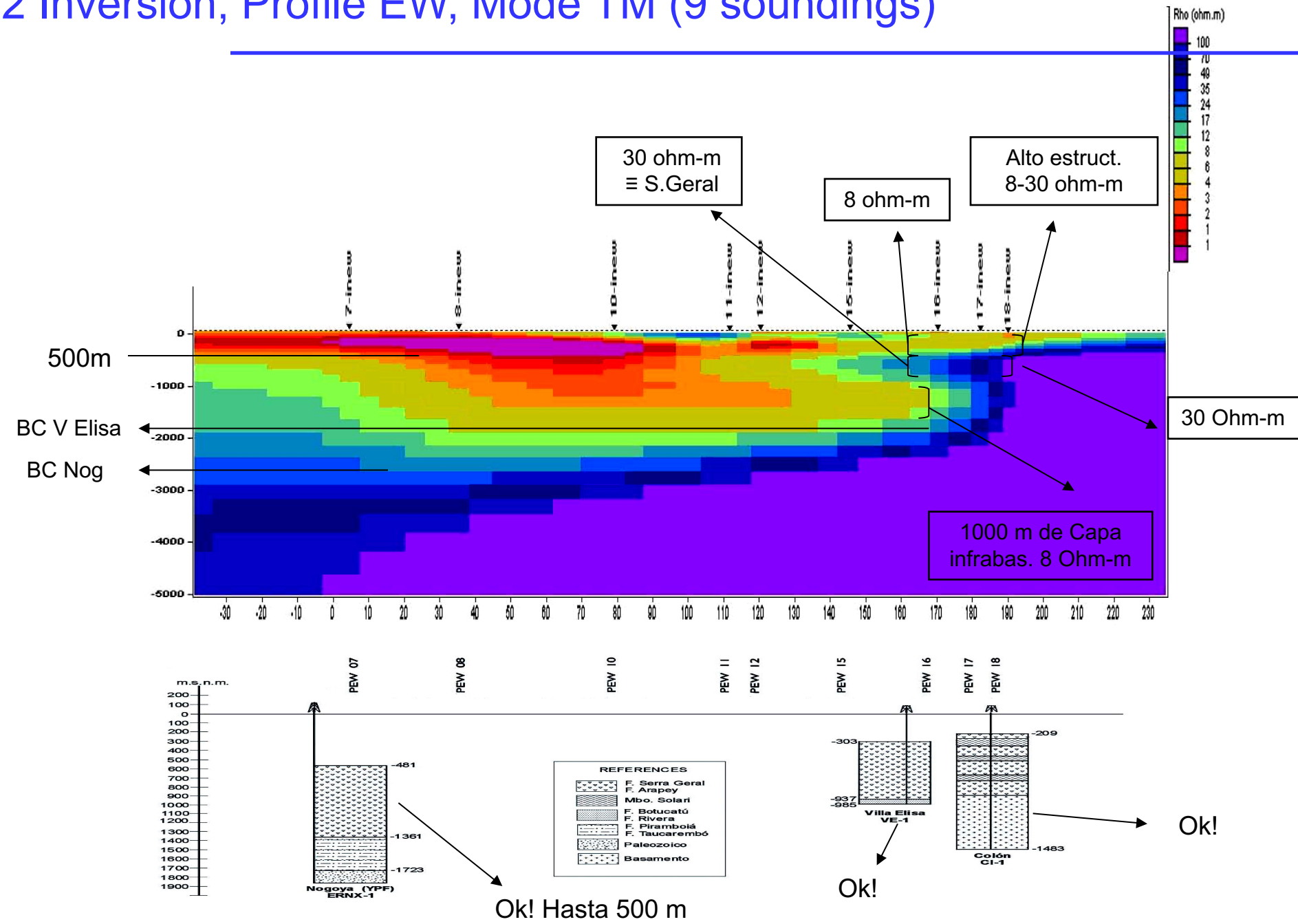


Sedimentos infrabasalticos



Pozos:ok!

2 Inversion, Profile EW, Mode TM (9 soundings)



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Beijing, China. Octubre del año 2008