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INITIAL TEST WELL CONDITIONING AT NOPAL I URANIUM DEPOSIT

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Presented to:
The Geological Society of America

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Objectives

Field efforts conducted over the last 3 years

EarthVision[1] Software – 3D Field Model

Drilling / Coring, Geophysical Well Logging and Casing Installation

Initial Sampling / Conditioning

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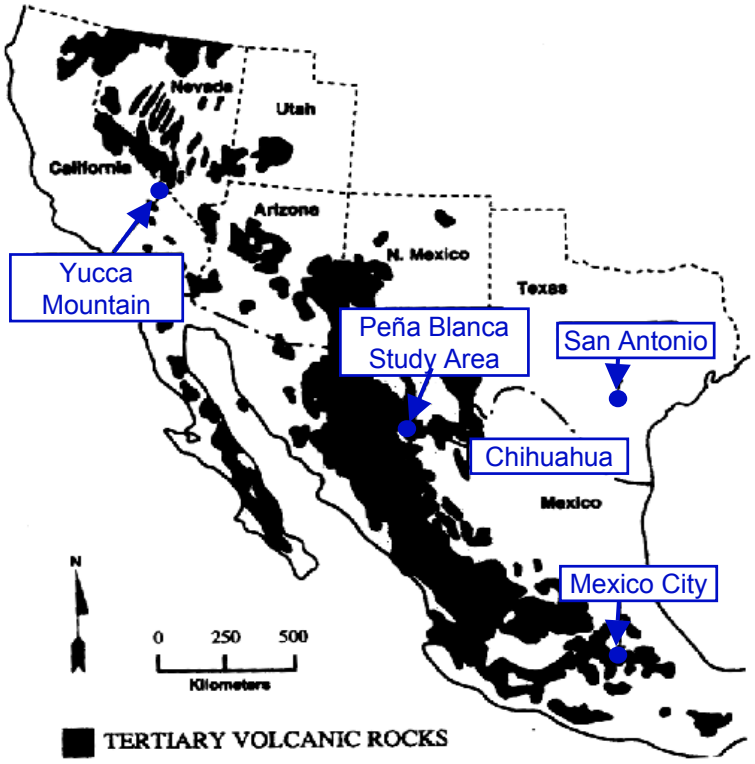
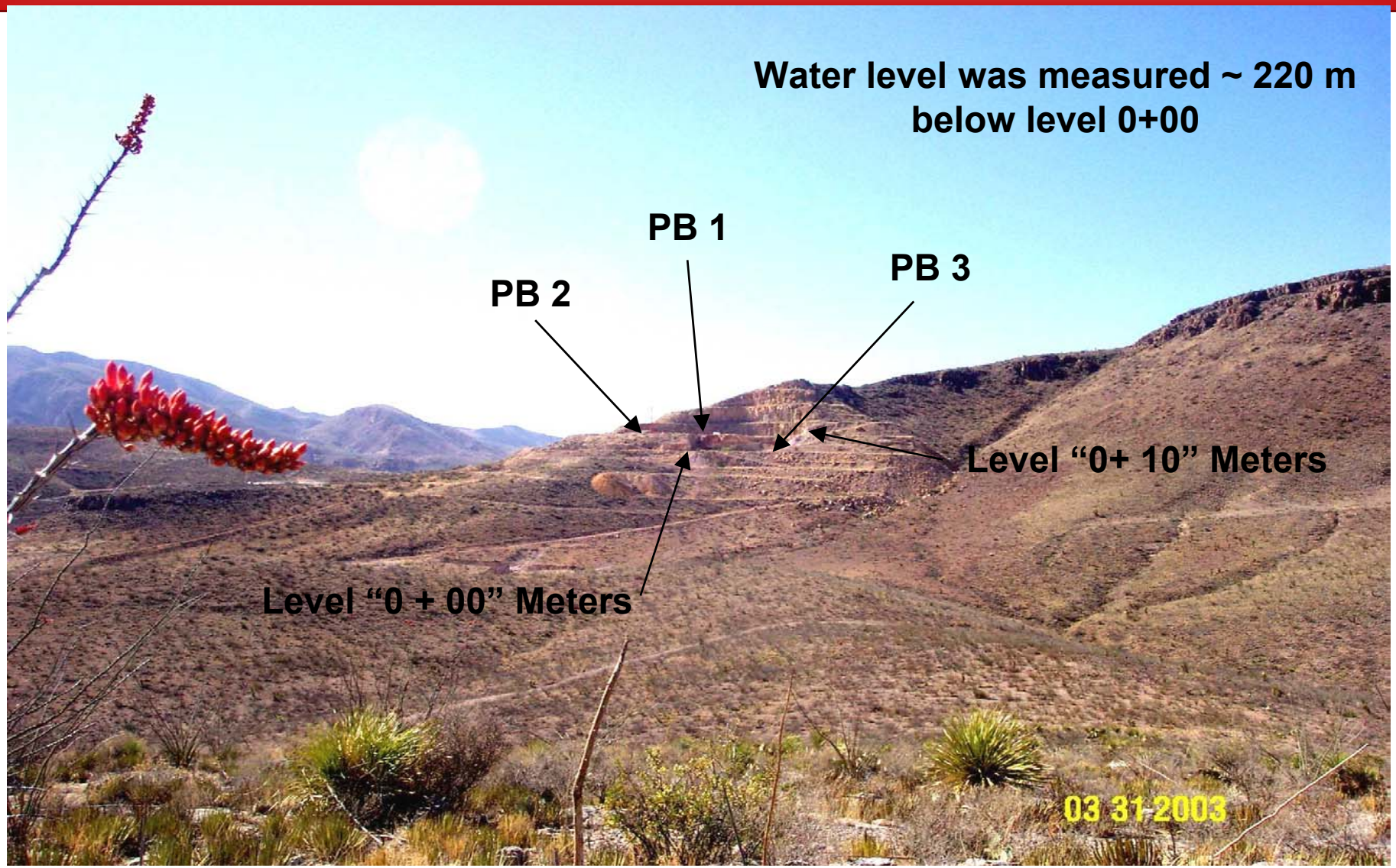
Sierra Peña Blanca Region

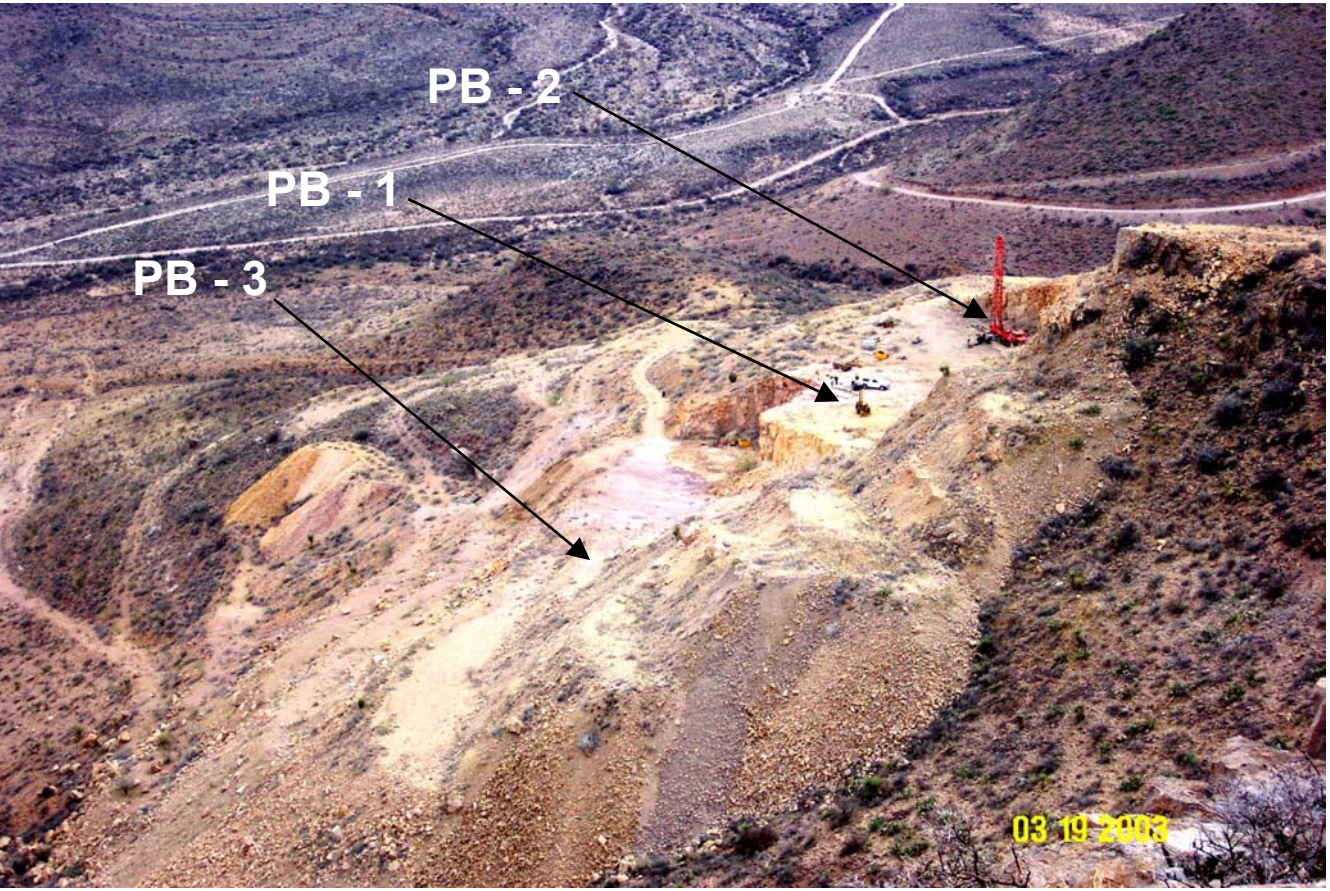


- Nopal I geologic setting is similar to Yucca Mountain – rhyolitic tuff, unsaturated zone, semi-arid climate
- Geologic units at Nopal I include the Nopal, Coloradas Tuff, Pozos Conglomerate and Cretaceous Limestone ~ *44 Ma and Older*
- Uraninite deposit ~ *8±5 Ma*
- Mining during *1960-1985*
- Test Drilling/Coring - 2003

View of Nopal I mine from near PB-4

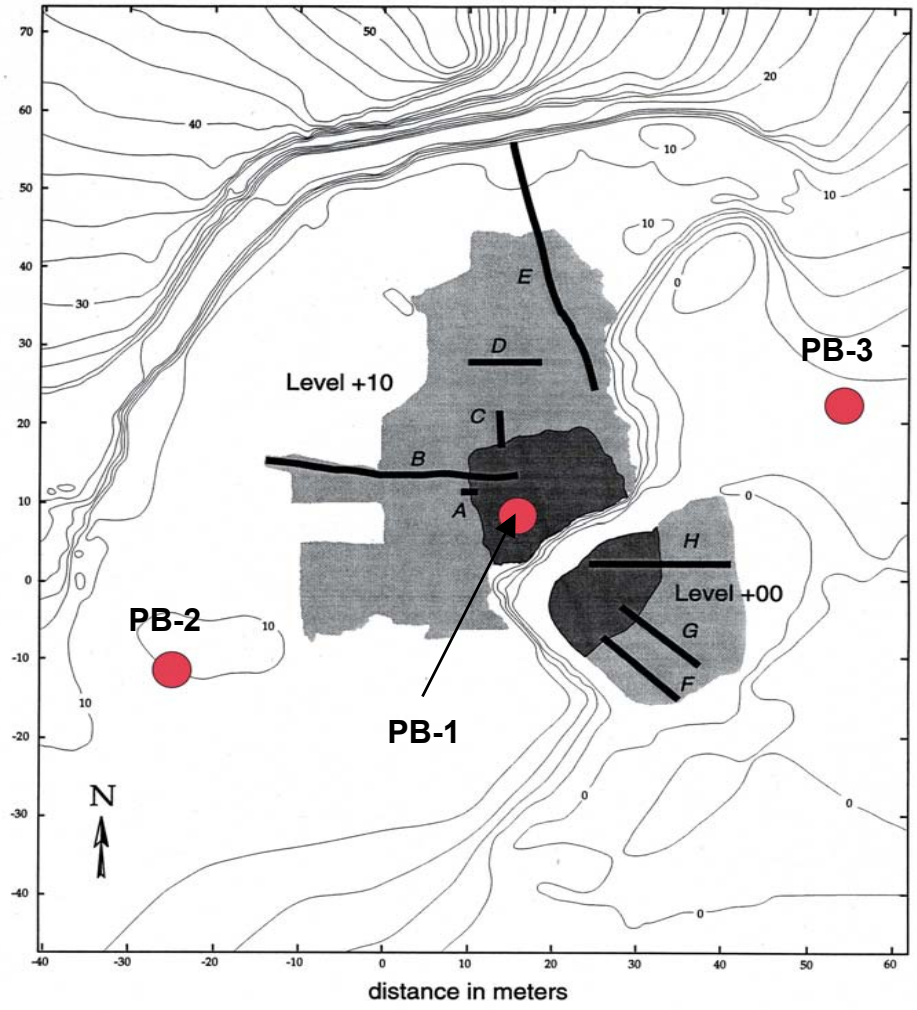


Nopal I Benches and Boreholes



View from ridge to the north

Nopal I Initial Drilling Goals/ Locations

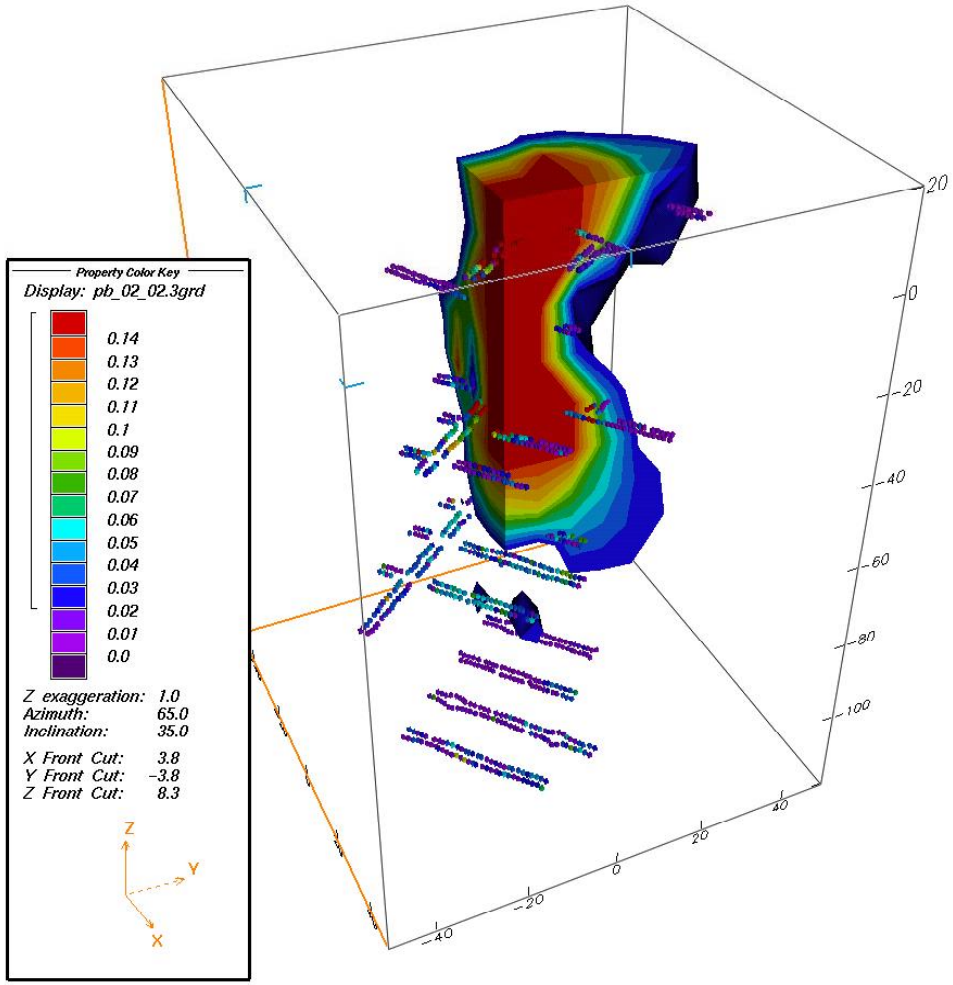


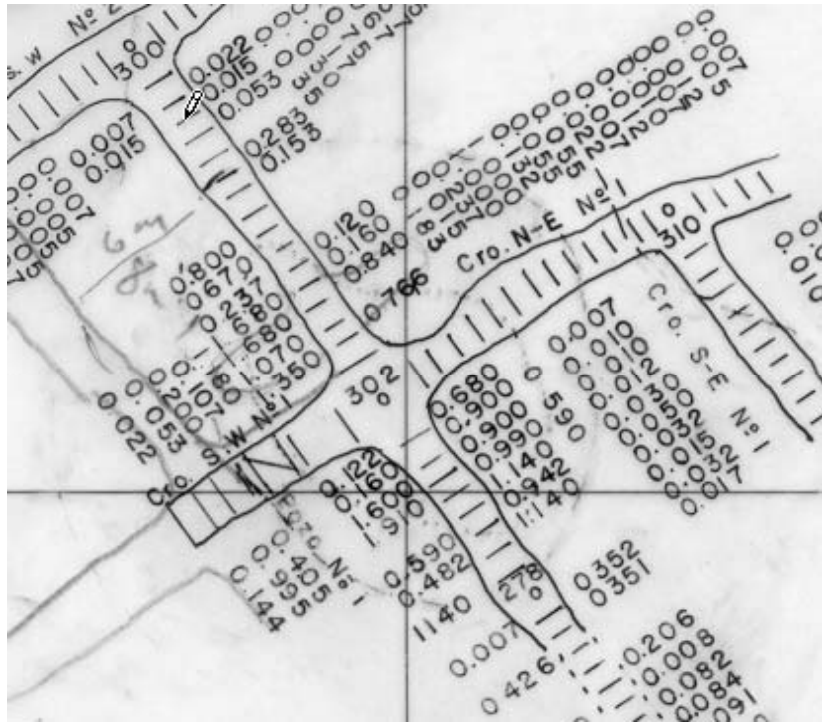
(Pearcy et al, 1995)

- Drill one continuously cored well and two additional boreholes to a depth 20 m below the water table
- Collect rock and water samples for analyses
- Monitor Water Quality and Levels over time
- Provide Data to Supplement the conceptual model for Peña Blanca, Nopal I

Preliminary EarthVision© - 3D Model w/o Geophysical Logging Data

Greater than 0.03 % U Contour to -1+00 meter level w/ cut away

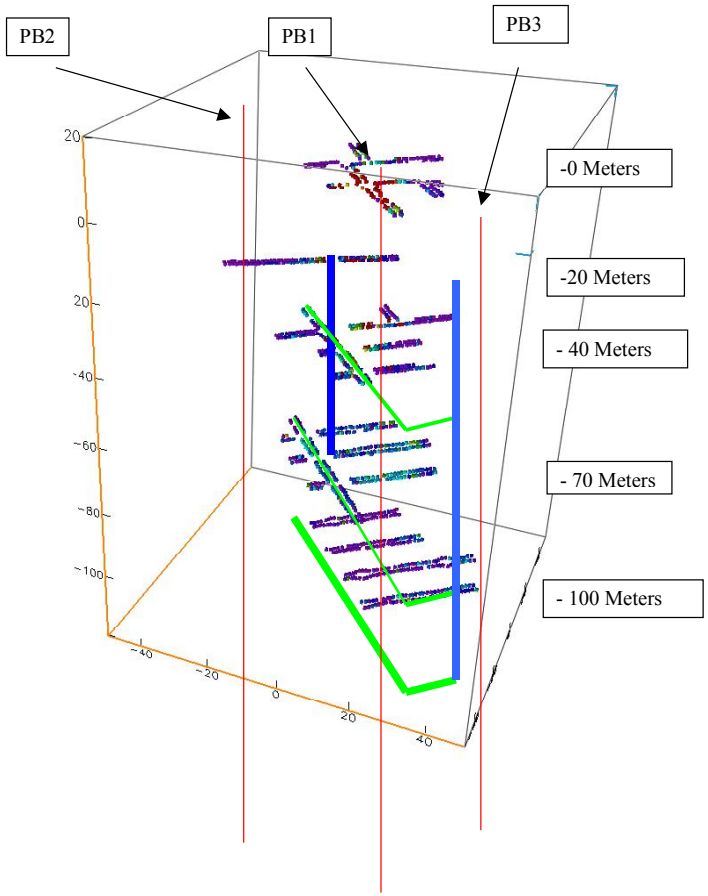


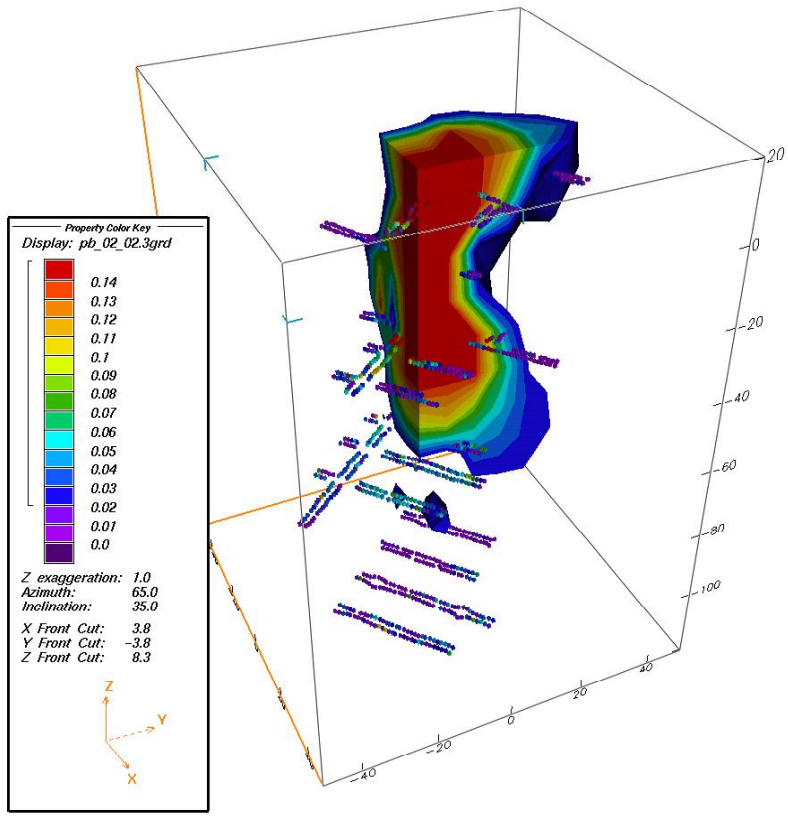


0+00 meter Level – old Nopal I mine records – assayed % U

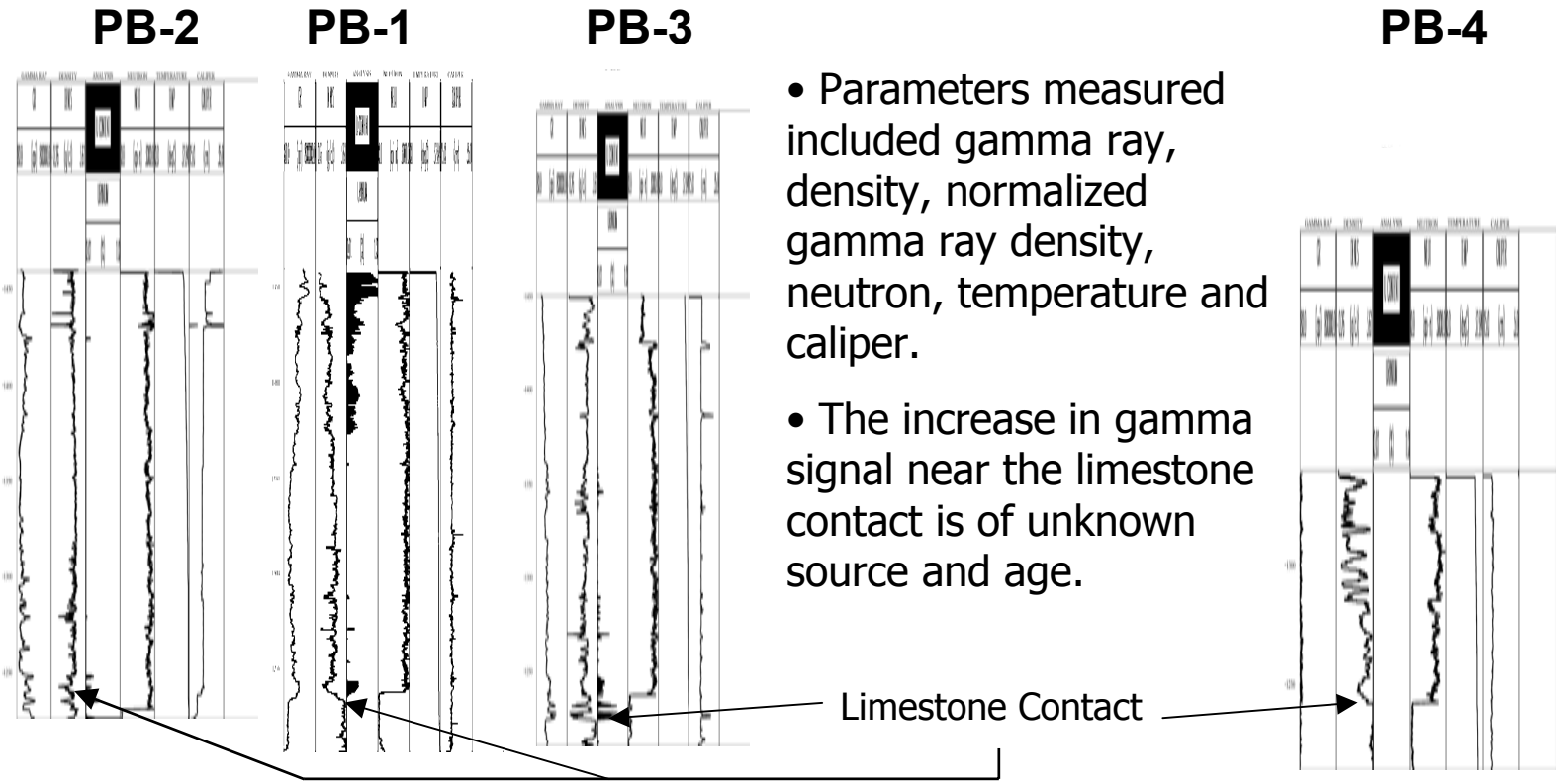
Preliminary EarthVision© 3D Mining Data

Data inputs limited to 5 drift levels w/o geophysical log input





Geophysical Logging



- Parameters measured included gamma ray, density, normalized gamma ray density, neutron, temperature and caliper.
- The increase in gamma signal near the limestone contact is of unknown source and age.

PB-2, PB-1, PB-3 ---------- ≈ 5 kilometers -------- **PB-4**

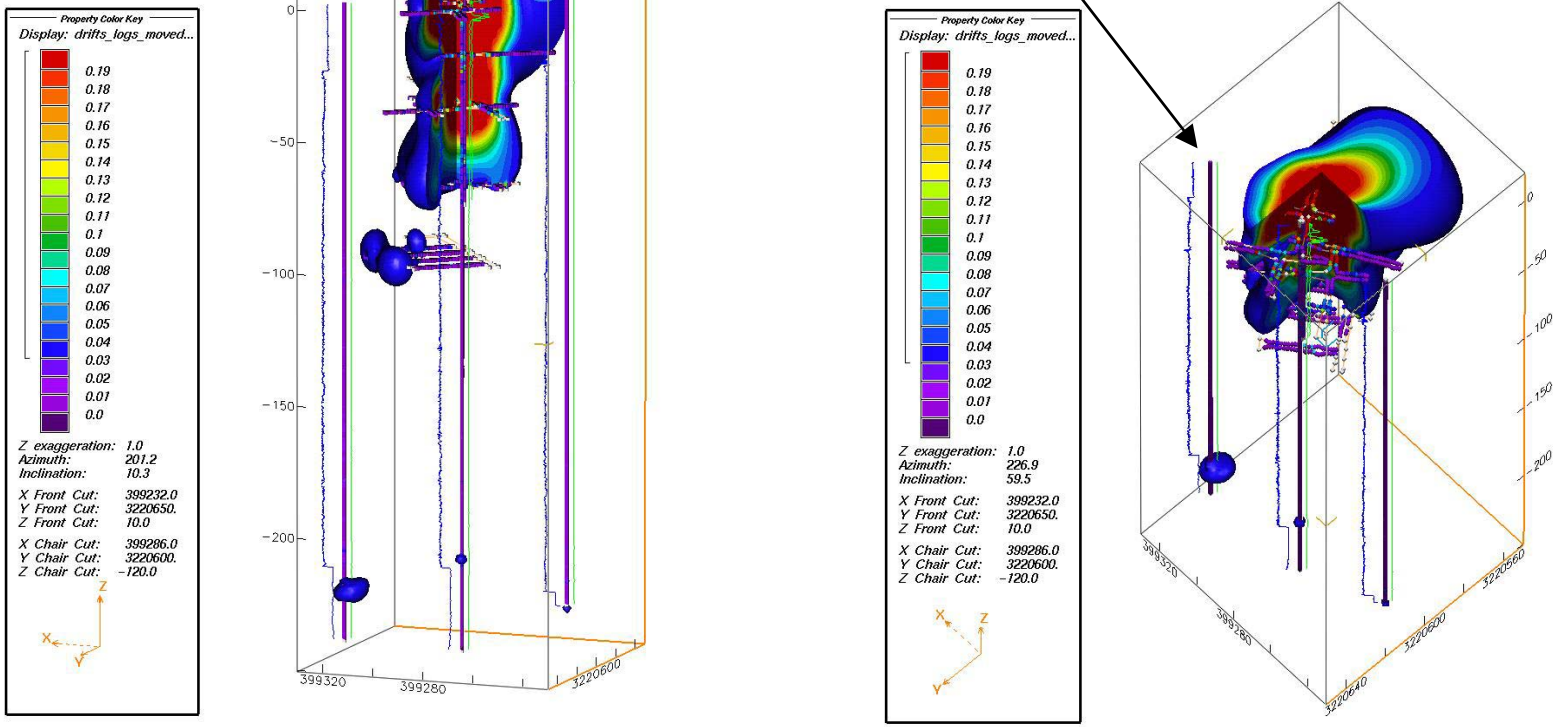
Geophysical logs were then run in each of the boreholes and one of the nearby water wells, designated PB-4, located approx. 5 km ESE and down-gradient (assumed).

Preliminary EarthVision© - 3D model

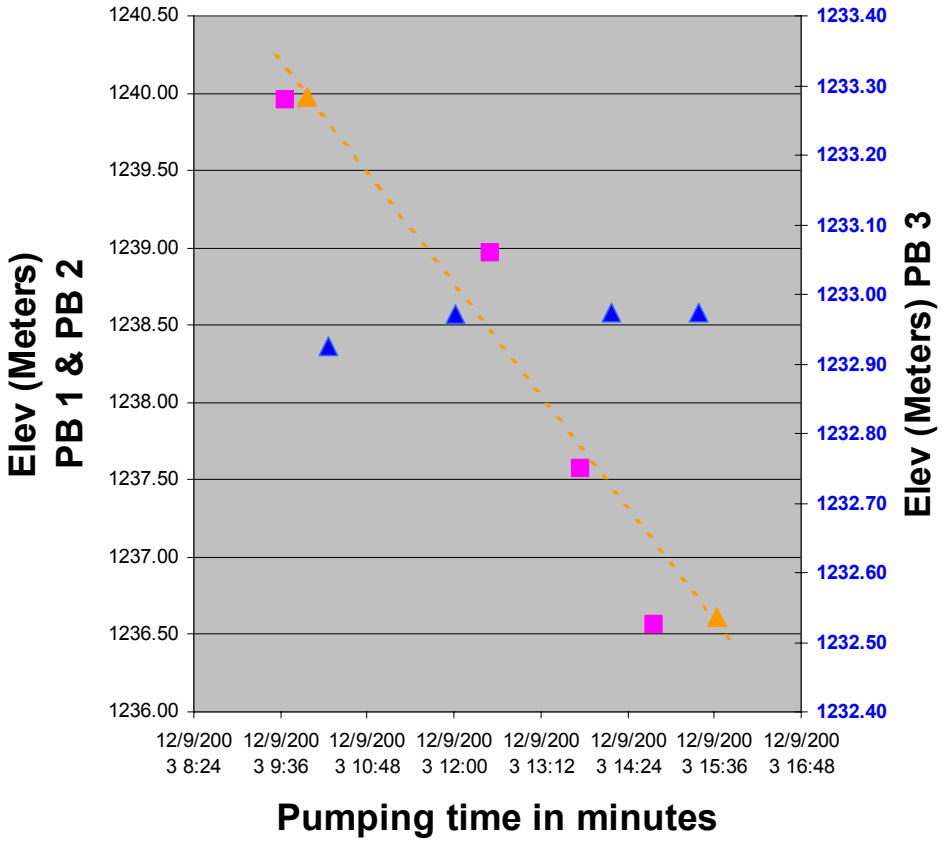
Geophysical log estimates add to data set

0.04 (blue), 0.09, 0.12 and 0.14 % (red) U Contours

PB-3



PB-1 Conditioning

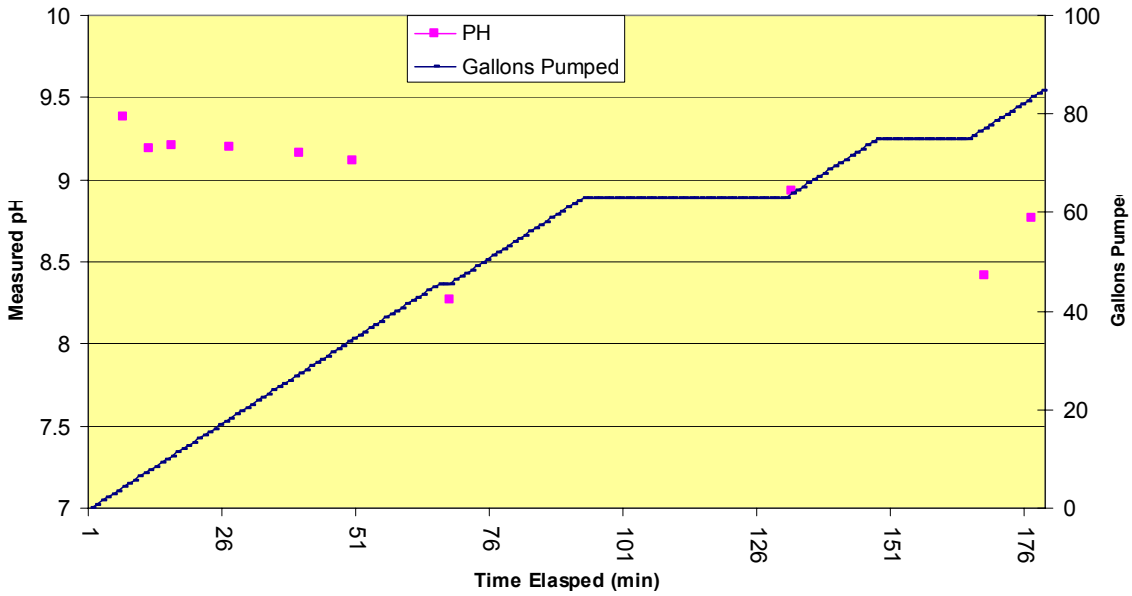


Note: PB-1 and PB-2 appear to be linked and PB-3 is somewhat independent. Pumped 590 l @ ~3.5 l/min resulting in a 3.4 m drawdown.

PB-2 Conditioning

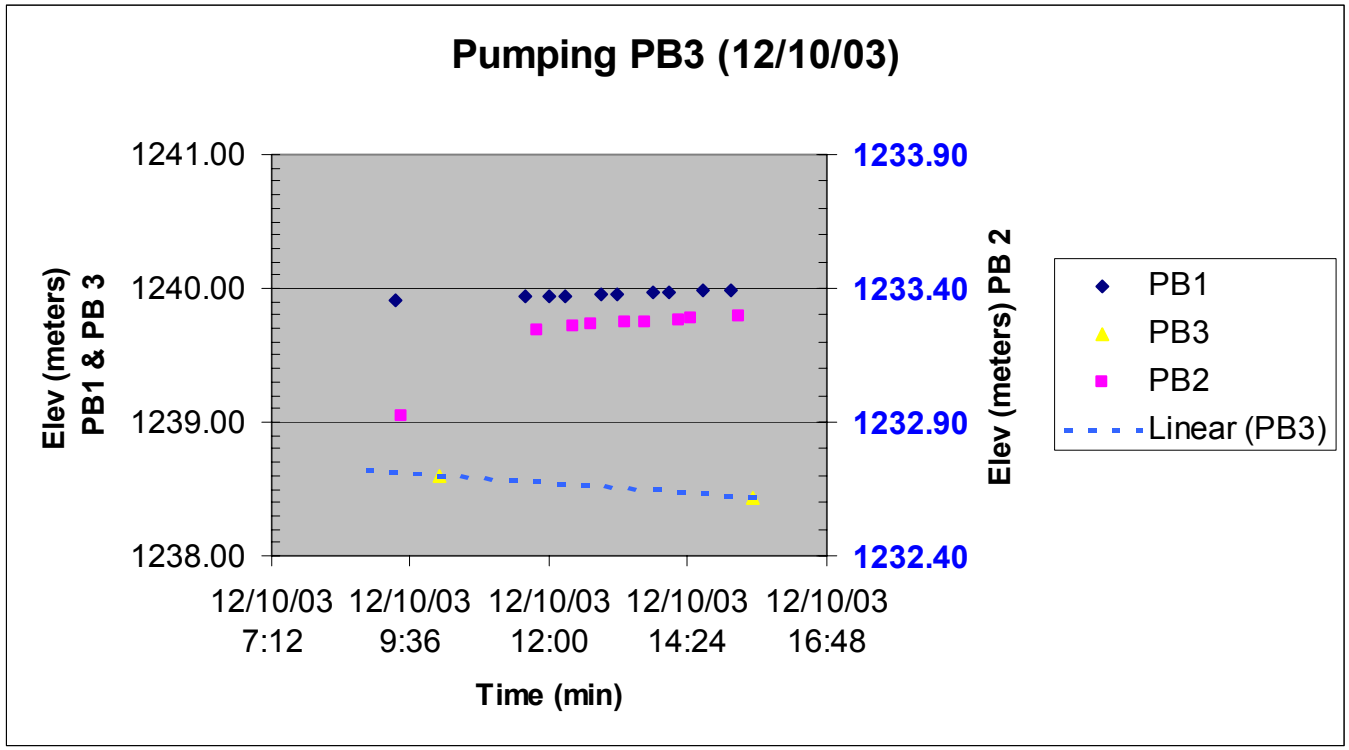
PB2 Pumping (12/07/03)

	PB2 Conditioning			
	Day 1	Day 2	Day 3	
Volume Pumped	132	302	321	Liters
Observed Drawdown	10.1	13.4	15.8	Meters



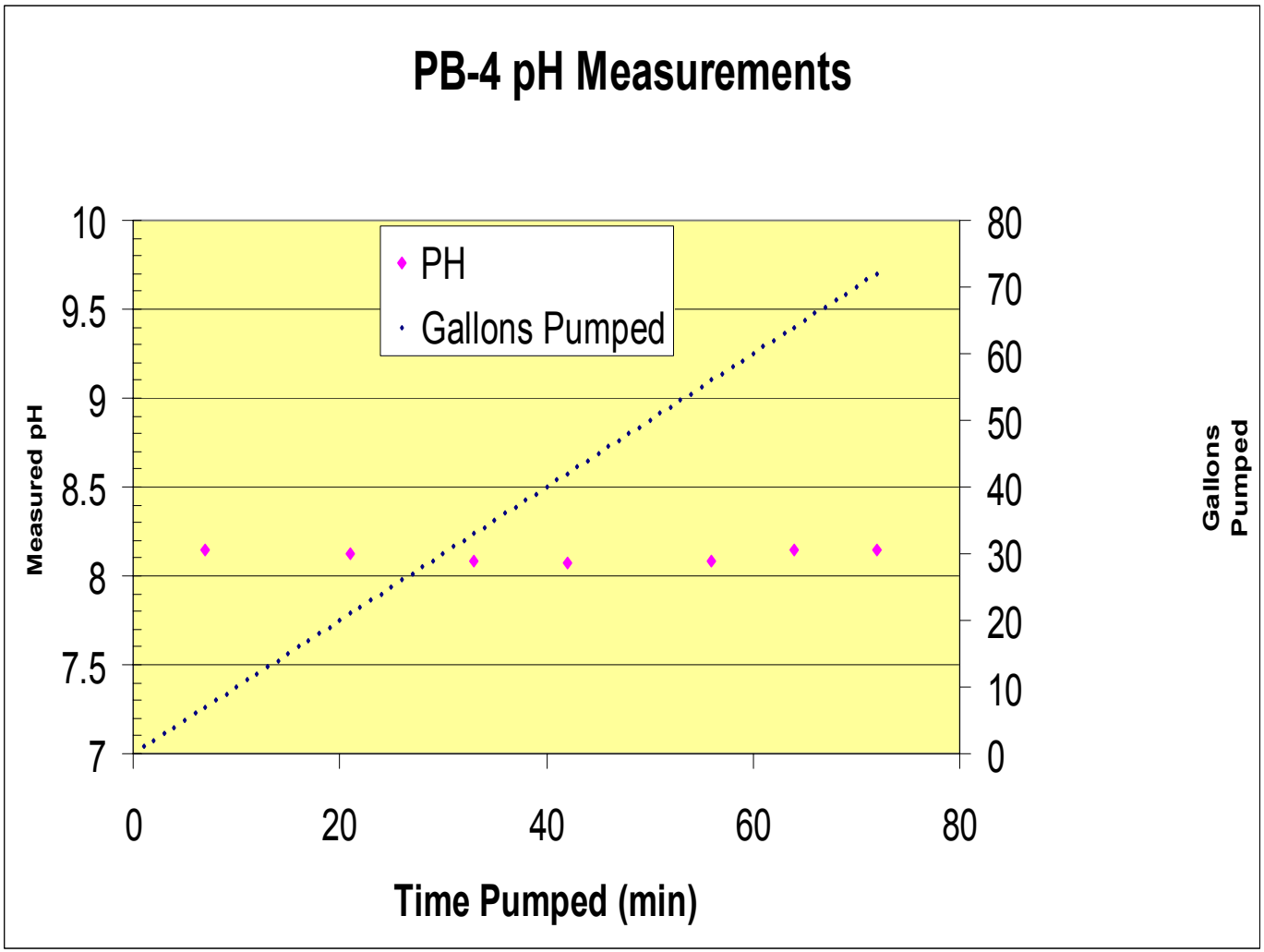
pH decrease indicated successful conditioning

PB-3 Conditioning



Note : PB-3 pumping showed negligible effects on PB-1 and PB-2. Pumped ~738 L @ ~3.5 L/min resulting in 0.3m drawdown.

PB-4 Pumping



PB-4 shows near steady state pH conditions

Pumped ~265 l @ ~3.5 l/min resulting in 1.5 m drawdown

Field test performed only on PB-3 sample showing gamma constituents in water

- Household sponge used as water filter during PB-3 pumping
  - After pumping 870 liters (230 gal) of water at ~ 3.8 liters per min in 8 hours the activity had raised to 2.74 mR/hr
  - Upon return the next morning, the activity was back at background at .075 mR/hr.

Conclusions

- EarthVision© - 3D modeling of early mining data ore concentrations combined with Geophysical log gamma log data illustrates possible ore distribution.
- During the conditioning of PB-1, PB-2 and PB-3 approximately 757 liters (~200 gal) of water withdrawn from each hole indicates not all wells communicating and a complex system
- Pump rates of 3.5 l/min caused drawdown in all wells

Questions?