830841

Memorandum

Date: November 18, 2002

To: Scott Broughton

CC: David Caulfield

From: Mark Baknes

RE: William's IP Interpretation

I've spent some time producing and interpreting sections and plans of the Williams 3D-IP data model supplied to me by SJ Geophysics. SJ ran a few different iterations/inversions of the data and as it turned out the earlier ones were not all that useful. What I received is a 3D model and a software viewer that allows the model to be sliced in any direction and to output these slices or views as bitmap files. From there I registered them and brought them into Mapinfo so I could superimpose the drill hole and geological data. Attached to this memo are a series of sections and plans. I have reproduced the key images at 1:5000 scale for sections, with drill holes and As-Au histograms, and 1:10,000 scale for plans with geology and drill holes superimposed. I have also inserted postage stamp sized plans and sections cut at narrow intervals. These have no spatial reference, but they do provide a single glance view of how the chargeability varies in three dimensions. I did not include sectional data for the conductivity since I convinced myself that the conductivity wasn't penetrating to depth. We will no doubt hear more regarding this in Syd's report. I have none, and therefore don't offer any opinions on the absolute strength of the anomalies and how relevant they might be. My interpretation is simply trying to relate the IP to known geology and mineralization and making inferences about potential mineralized zones. In the sections below I have singled out conductive and chargeable anomalies and described and interpreted each, in no particular order.

In looking at the data there are some cautionary notes to keep in mind:

- The surface and near surface chargeability data is contains abundant "noise" that can't be interpreted. The result of this is that horizontal sections slice through the irregular topography unevenly, in places cutting below the surface and in other places cutting above topography so that some areas, like valley bottoms, are full of "noise" while the topographic highs display good data.
- My feeling is that conductivity data is only measuring near surface properties, contrary to what the geophysicists say, but I might easily be wrong on this
- Resistivity highs are falsely produced at the north end of lines, perhaps where the topography drops off

Memorandum

 Note that my plan maps often represent two sets of data, the central detailed inversion and an outer coarser generation of data covering the whole grid. These don't match perfectly because of the different inversions and my lack of skill in matching thematic scales

Conductive Anomalies (Near Surface)

F1: Anomaly F1 is a large area of strong conductive response, situated south of drill hole 83-4. The area of high conductivity also coincides closely with an area of high chargeability. The core of the chargeability lies at 8500E and 9500N. In long section (images "ChgLngSec9400N-9900N") the chargeability climbs vertically and grid west. The section 8500E (image "ChgSec8500E") shows the chargeability anomaly and a possible shallow dip. The surface geology indicates expansive areas of carbonaceous to locally graphitic phyllites and limy phyllites coincident with the chargeability and conductivity. Based on these relationships the most reasonable cause of the F1 anomaly is conductive sediments and not sulphides.

F2: Anomaly F2 is a 700m long ENE-trending conductor located 600 m northwest of camp. This feature is less conductive than the F1 Anomaly and is not associated with anomalous chargeability. The area is overburden covered so there are no obvious geological causes. The NE-trend does parallel some nearby faults and it is parallel to one of the prominent fold axis directions. The most probably cause is a fault or perhaps sediments at depth beyond the penetration of the conductivity.

F3: Anomaly F3 is a minor area of weak conductive response situated north of hole 84-4. A number of outcrops in the area are comprised of quartz-carbonate-sericite altered schist, but two intervals of graphitic schist are recorded in the drill logs. There is only a minor chargeability response associated with the conductivity, however, the most likely cause of the conductivity and chargeability responses are these phyllite intervals.

F4: Anomaly F4 is a conductive area approximately 1 km SW of camp and 800 m due south of the main cluster of drill holes. This 300 by 400 m area shows patchy and weaker conductive response in comparison to F1. The F4 Anomaly is also strongly chargeable as is best evident in the deeper chargeability plans at the 1600 and 1660 m elevations (images "1600ChgPlan & 1660ChgPlan") The area is underlain by carbonaceous phyllites which are again the probable cause of the conductive and chargeable response.

Consideration of the conductive zones in relationship to geology and the chargeability response suggests that the main area of conductivity on the south side of the grid is caused by carbonaceous and graphitic sediments and that other smaller features may be narrow sections of carbonaceous sediments and or faults.

Chargeability Anomalies Without Associated Conductivity

F6: The F6 chargeability anomaly, situated toward the north end of lines 9300 and 9400E (image "1560-1660ChgPlan"), is also associated with a distinct resistivity high (image "2000ResPlan"). This area is devoid of outcrop, but has relatively strong geochemical response in Au-As in contour soils. The nearest outcrops above consist of gossanous quartz-carbonate-sericite schist. The poor IP coverage and the lack of outcrop coverage don't allow for good definition, however, the coincidence of the chargeability/resistivity and anomalous geochemistry are positive indicators. It also

Memorandum

appears that the chargeability anomaly extends up to the head of the cirque to the SW. The terrain in this area is severe, but float samples of up to 5 g/t Au have been collected and extensive alteration and quartz float were noted during the survey.

F7: The F7 chargeability anomaly is located east of the phyllite contact, centred on drill hole 84-9 and 83-4. Chargeability in this area becomes most evident in plan views below 1810 m elevation, where the chargeability migrates northward. Examination of the drill logs reveals a number of graphite schist and graphitic marble intervals that might easily have produced this effect, however, there is no associated conductivity that would confirm the presence of sediments. My suspicion is that the chargeability is caused by sediments and that the conductivity data is not penetrating into the subsurface where these sediments occur.

F8: F8 is in my estimation the most significant chargeability anomaly defined by the survey. F8 is a roughly circular anomaly comprised of four lobes. The anomaly is situated immediately north of the main cluster of drill holes, in the heart of the soil geochem anomaly and within dominantly quartz-carbonate-sericite altered schist and lesser chlorite schist. The anomaly is covered by a broad expanse of high resistivity which seems to correlate overall with the distribution of the alteration. There is no indication of conductive sediments in the area and there were no carbonaceous units intersected in any of the adjacent drill holes. My best guess is the chargeability is reflecting a higher percentage of sulphides than in the adjacent schists. The anomaly is most visible on the 1810 m chargeability plan, the 10150N chargeability long section and (images"1810ChgDetailPlan, 8910E section ChgSec10150Ndet, the cross ChgSec8910E"). A 3D perspective image (image 3dchgperspectivemodel) illustrates the lobate morphology and almost saddle-like shape of the chargeability (NW corner of block model). A series of east-west and north-south sections through the chargeability shows, that with the exception of hole 83-5, that the holes are either on the fringes or were drilled some distance away from the F8 anomaly (detailed section 10150N, 10200N and chargeability plan 1810 m) Hole 83-5 failed to reach the heart of the anomaly, but even so it would have been encouraging to see some positive indications or at least possible causes for the anomalous chargeability. The hole contains abundant, out again fairly typical-sounding, alteration and a fair number of thin guartz-arsenopyrite stringers at low angles to the core axis. Nothing in the log descriptions gives a hint as to the cause of the chargeability and unfortunately there is no increase in gold grades down hole. Arsenic concentrations are more anomalous in the lower half of the hole but these are generally lower than in a number of other holes that display no associated chargeability.

Orientation of the Phyllites – Dome or No Dome?

One of the major (theorized) geological features of the Williams preperty is the existence of a structural dome as indicated by a fairly small number of foliation (= compositional layering) measurements. The westerly dipping structural footwall of the phyllites and the western side of the dome is well evident on surface, east of the collar of drill hole 83-4. Assuming a NE elongation of the dome the phyllites should dip to the southwest, along the long axis, in the region of section 8600E. In the chargeability sections this is not evident and in fact the overall dip of the chargeability appears to be northward. Resolving the conflict between the IP and geology in this area is difficult, however, the occurrence of significant widths of graphitic phyllito below the main phyllite means that the north dip could be a result of thin, south-dipping, graphitic beds within the less-chargeable schist. Although very subtle there does seem to be some south dipping

Memorandum

"fabric" within the anomaly itself favouring the argument. The inferred east dipping limb of the dome should lie east of 8600E and there is some indication of this eastward dip in the long sections (image "ChgSec9850N").

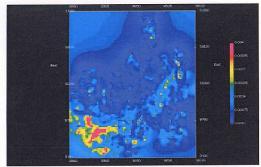
Discussion\Conclusions

My conclusions on the IP data are tentative and might change after seeing what interpretations Syd comes up with. In essence I have concluded that the bulk of the chargeable response along the south and southwest corner of the grid is caused by sediments, like those on surface and perhaps also more discrete horizons below that structural level As a result of this interpretation I don't see much potential to the south based solely on the IP data.

The most interesting anomaly is the F8 chargeability anomaly. I would probably be more enthused about this anomaly if were not for the fact that hole 83-5 appears to have partly tested the anomaly and yet shows no positive signs in terms of mineralization. There is no clear orientation to the anomaly only a slight NW elongation. Although it does lie at depth it may show signs of day-lighting in the northwest cirque, near the end of the baseline, where strong soil geochemical results have been defined along a soil contour. During the survey we noted abundant altered material and mineralized quartz float in this area. Drill testing of the anomaly should be conducted, but with serious consideration of adopting a different drilling orientation from that in the past, and testing different orientations. Work this year suggests that a significant number of veins strike E-W to NW and dip steeply to the north. It may be advisable to drill toward the SW in the initial holes, but closely monitor the vein orientation data and be ready to adapt.

The chargeability and resistivity anomalies in the cirque to the northeast of camp and the area toward the end of line 9400E also rates as a priority area, certainly worthy of more surface work.

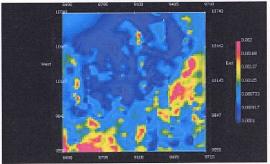
It will be interesting to see if Syd attaches any importance to the F8 anomaly. Overall it looks like the past drilling intersected zones on the margin of a good sized chargeability anomaly and as t suggest things should get better when we drill into the core of the anomaly. A worry is that the area of mineralization, as defined by drilling, isn't a prominent chargeability anomaly, which could lead one to think the chargeability isn't showing us anything. That's a possibility, but so is the possibility of it being fringe mineralization the edge of a large chargeable anomaly and a larger area of high resistivity. The geochem also remains strong in the F8 area as does the alteration.



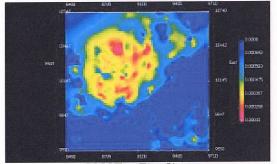
. 4

1

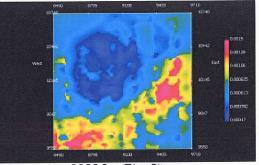
2000ConPlan



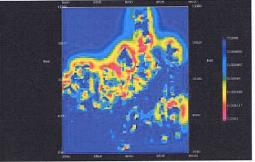
2000ConPlan6lter



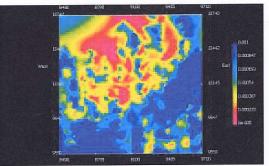
2000ResPlan2lter



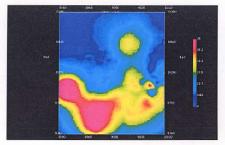
2000ConPlan2lter



2000ResPlan



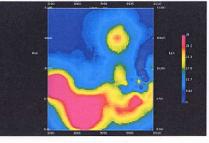
2000ResPlan6lter



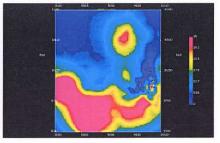
. .

16

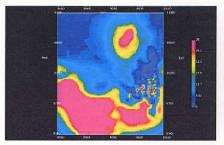
1530ChgPlan



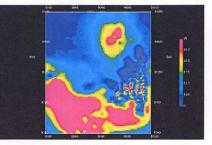
1560ChgPlan



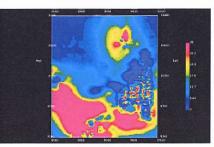
1600ChgPlan



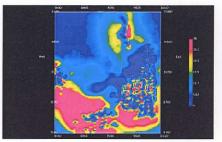
1640ChgPlan



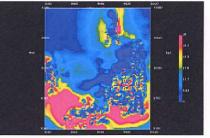
1660ChgPlan



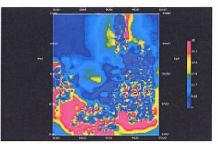
1680ChgPlan



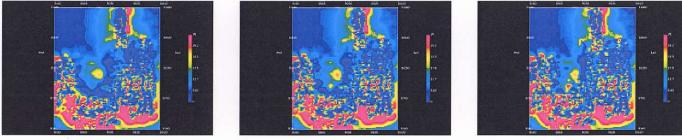
1720ChgPlan



1750ChgPlan



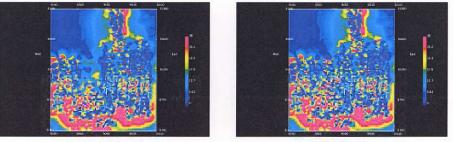
1780ChgPlan



1810ChgPlan

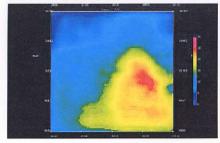
1830ChgPlan

1860ChgPlan



1880ChgPlan

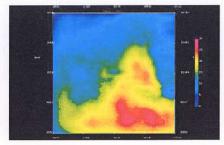
2000ChgPlan



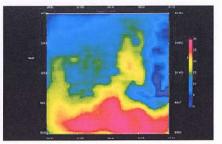
.

ŝ

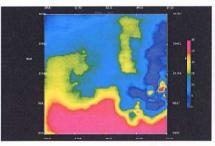
1530ChgDetailPlan



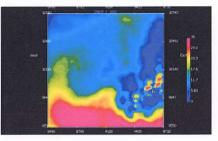
1560ChgDetailPlan



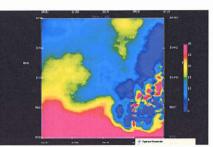
1600ChgDetailPlan



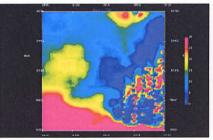
1640ChgDetailPlan



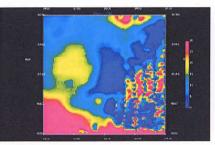
1660ChgDetailPlan



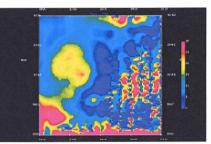
1680ChgDetailPlan



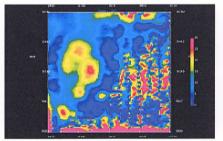
1720ChgDetailPlan



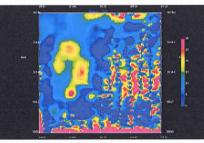
1750ChgDetailPlan



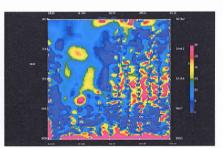
1780ChgDetailPlan



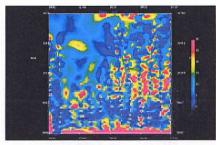
1810ChgDetailPlan



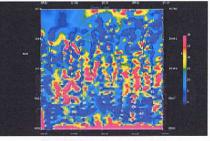
1830ChgDetailPlan



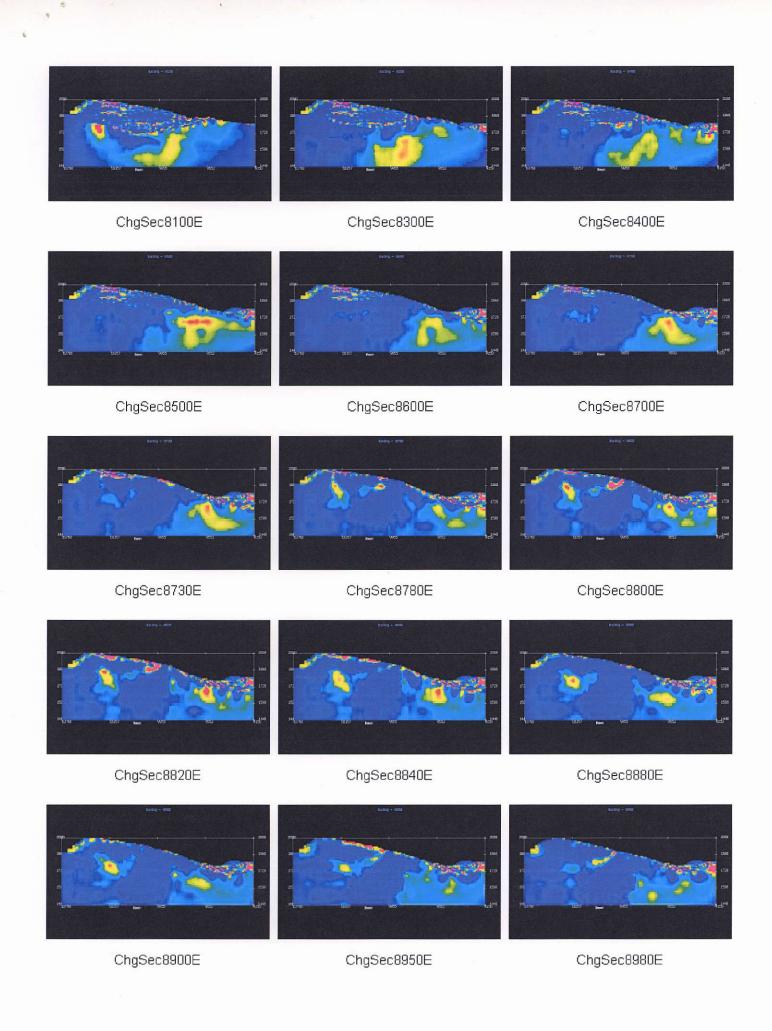
1860ChgDetailPlan

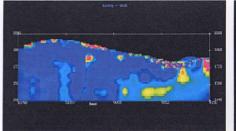


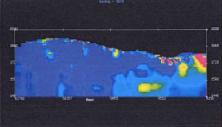
1880ChgDetailPlan

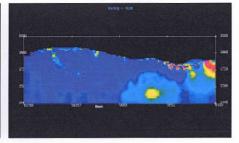


2000ChgDetailPlan





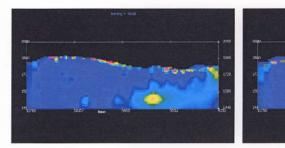




ChgSec9030E

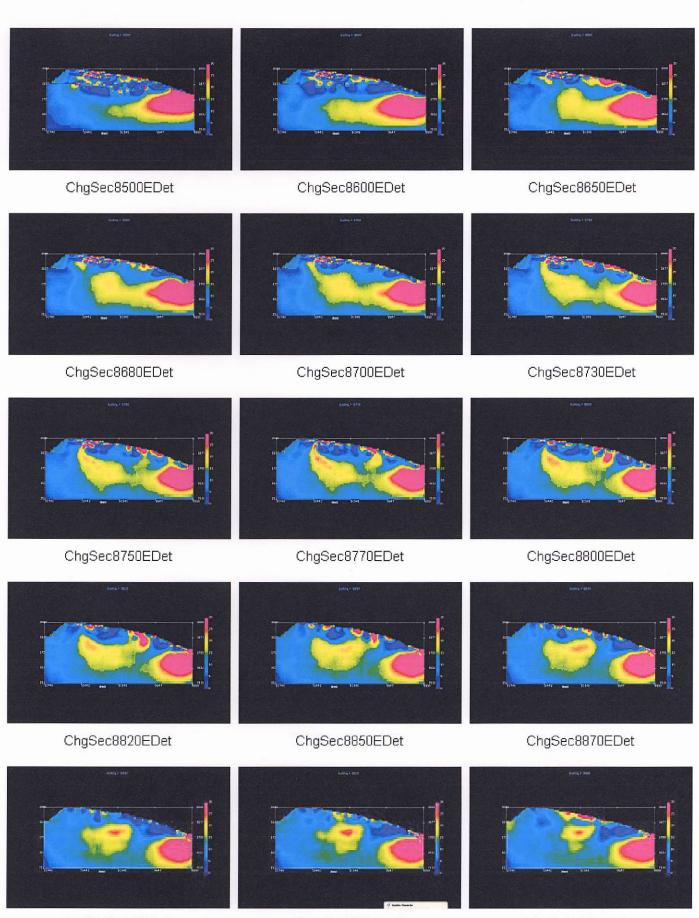
ChgSec9070E

ChgSec9100E



ChgSec9150E

ChgSec9200E



ChgSec8890EDet

2

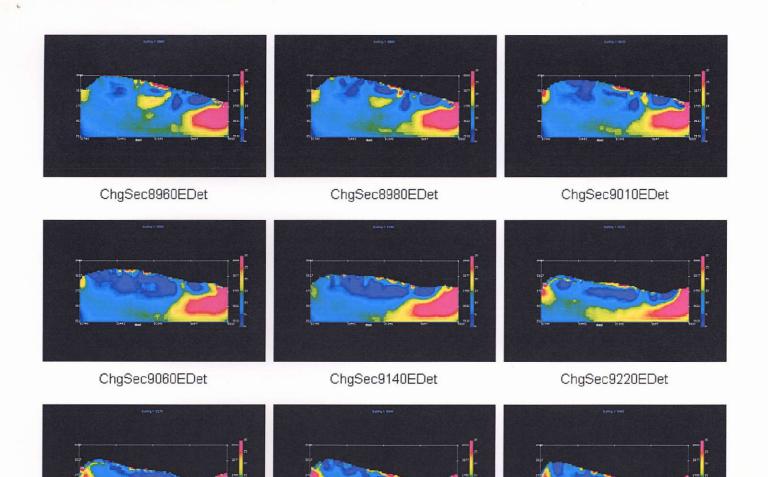
.

í.

×.

ChgSec8910EDet

ChgSec8940EDet



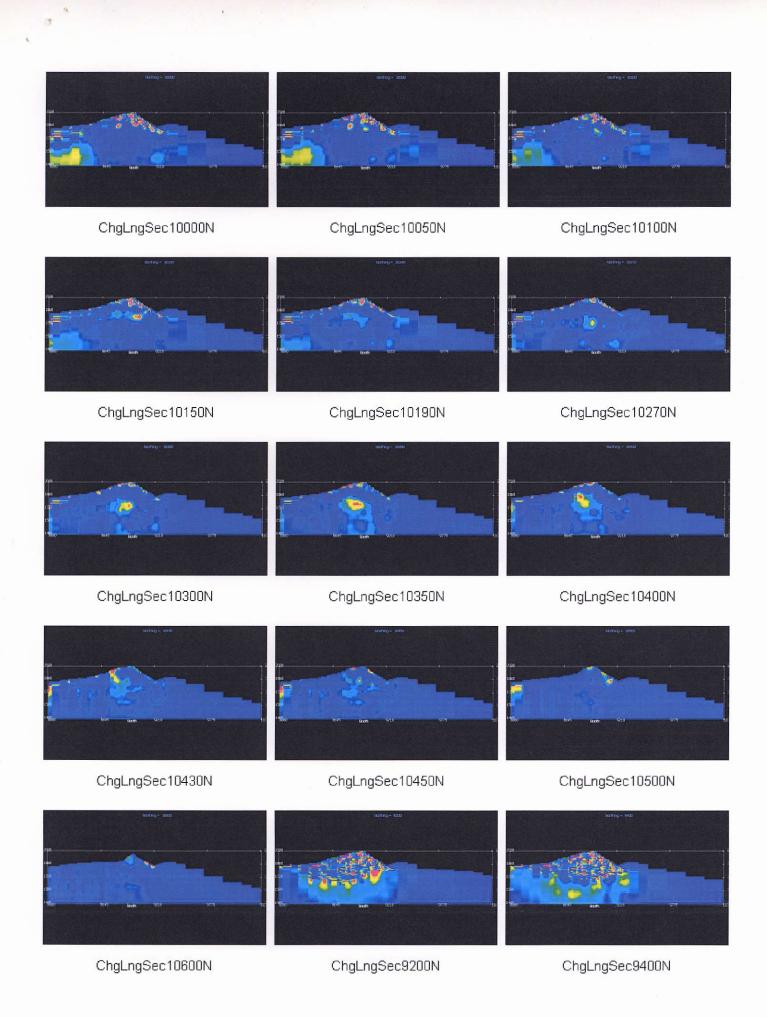


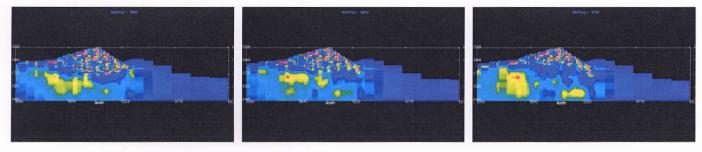
ChgSec9700EDet

1

ChgSec9340EDet

ChgSec9460EDet



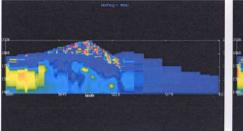


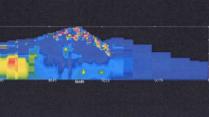
ChgLngSec9500N

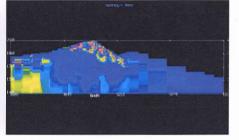
3

ChgLngSec9600N

ChgLngSec9700N



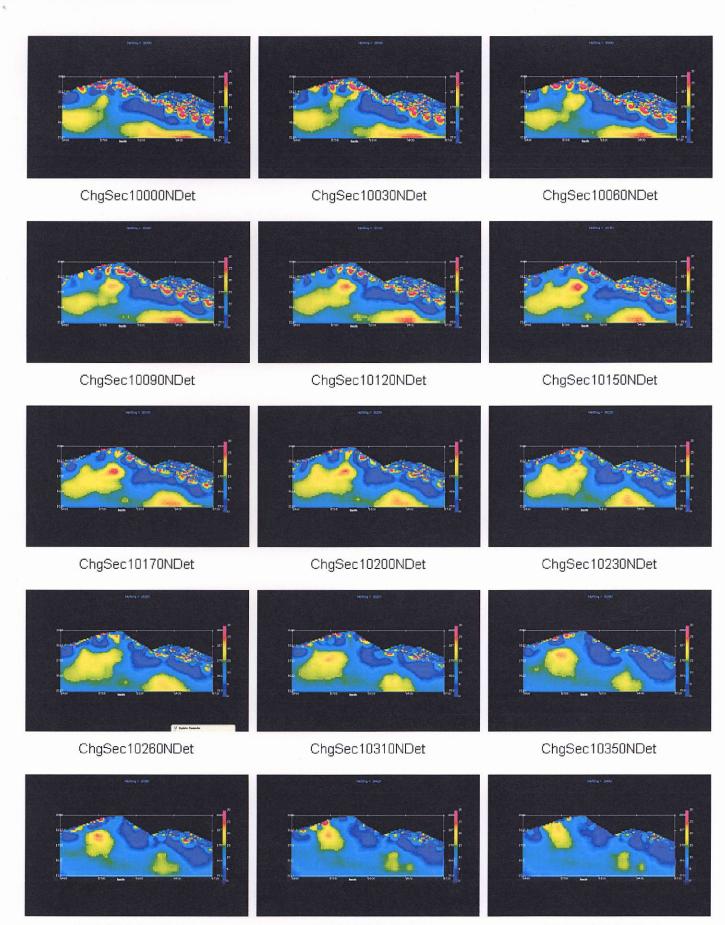




ChgLngSec9800N

ChgLngSec9830N

ChgLngSec9900N



ChgSec10390NDet

5

ChgSec10420NDet

ChgSec10440NDet

