

# **TECHNICAL REPORT ON THE MICHELIN URANIUM DEPOSIT, NEWFOUNDLAND AND LABRADOR, CANADA.**

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**PREPARED FOR  
AURORA ENERGY INC.**

**NI 43-101 Report**

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# 1 SUMMARY

## 1.1 EXECUTIVE SUMMARY

Roscoe Postle Associates Inc. (RPA) has been retained by Aurora Energy Inc. (Aurora), to prepare an independent Technical Report on the Michelin Uranium Deposit in central Labrador. The purpose of this report is to provide our independent assessment of the Mineral Resources of the Michelin deposit. Fronteer Development Group (Fronteer) is a joint venture partner with Altius Resources Inc. (Altius) in the Michelin Project and other mineral licences in Central Mineral Belt (CMB) in central Labrador. The Technical Report is required to be conformable to NI 43-101 Standards of Disclosure for Mineral Projects. RPA visited the property from September 12 to 15, 2005.

Fronteer is a reporting issuer listed at the Toronto Stock Exchange (TSX) and the American Stock Exchange (AMEX). The company holds a 57% controlling interest in Aurora Energy Inc. (Aurora), a private company set up to hold the Labrador assets. Altius holds the remaining 43% interest in Aurora. In addition to Aurora, Fronteer is also earning a 100% interest in the Agi Dagi and Kirazli advanced exploration gold projects, as well as other gold projects, in Western Turkey, and is advancing two drill-ready gold projects in Jalisco State, Mexico.

The Michelin Property comprises the historic Michelin Uranium Deposit, the Rainbow Uranium Deposit, a zone of mineralization approximately 2 km south of the Michelin deposit, which has been tested by limited diamond drilling, and the Michelin East Target Area.

This report discusses only the 4,750 ha Michelin mineral concession, including the Michelin Uranium Deposit and other exploration targets within the larger Central Mineral Belt Project in Labrador. Table 1-1 below summarizes RPA's estimate of the Mineral Resources at the Michelin deposit:

**TABLE 1-1 RPA MINERAL RESOURCES**  
Aurora Energy Inc. – Michelin Uranium Deposit

Zone	Category	Tonnes	Grade (% U <sub>3</sub> O <sub>8</sub> )	Contained lbs U <sub>3</sub> O <sub>8</sub>
2	Measured	272,000	0.117	700,000
2A	Measured	5,000	0.068	7,500
2B	Measured	7,000	0.083	13,000
3	Measured	45,000	0.105	104,000
4	Measured	13,000	0.092	26,500
<b>Total</b>	<b>Measured</b>	<b>342,000</b>	<b>0.113</b>	<b>851,000</b>
1	Indicated	726,000	0.099	1,581,000
2	Indicated	3,324,000	0.133	9,726,000
2A	Indicated	146,000	0.087	279,000
2B	Indicated	209,000	0.099	455,000
3	Indicated	2,590,000	0.113	6,439,000
4	Indicated	661,000	0.077	1,120,000
5	Indicated	51,000	0.073	82,000
6	Indicated	10,000	0.085	19,000
A	Indicated	543,000	0.083	991,000
A1	Indicated	305,000	0.092	617,000
B	Indicated	47,000	0.059	61,000
C	Indicated	3,000	0.056	4,000
<b>Total</b>	<b>Indicated</b>	<b>8,615,000</b>	<b>0.113</b>	<b>21,374,000</b>
<b>Total</b>	<b>Measured &amp; Indicated</b>	<b>8,957,000</b>	<b>0.113</b>	<b>22,225,000</b>
1	Inferred	207,000	0.066	300,000
2	Inferred	1,721,000	0.130	4,922,000
3	Inferred	1,410,000	0.174	5,397,000
4	Inferred	778,000	0.166	2,841,000
<b>Total</b>	<b>Inferred</b>	<b>4,116,000</b>	<b>0.148</b>	<b>13,460,000</b>

**Note:**

1. CIM definitions were followed for Mineral Resources.
2. Mineral Resources are estimated at a cutoff grade of 0.05% U<sub>3</sub>O<sub>8</sub> and a minimum vein width of 2.0 m.
3. Density of mineralized rock is 2.83 t/m<sup>3</sup>.
4. Tonnage and contained lbs. uranium numbers are rounded.
5. Average grade of resource blocks estimated by interpolation using kriging method.

RPA’s resource estimates are in accordance with the Mineral Resource/Reserve Classification as recommended by the CIM Committee on Mineral Resources and Mineral Reserves, as required by NI-43-101.



**CONCLUSIONS**

Based on our site visit and review of technical reports and publications, RPA concludes that:

- The Michelin Uranium Deposit is hosted predominantly by quartzo-feldspathic rocks of volcanic provenance, and of Early Proterozoic age, modified by Hudsonian (1.8 Ga) deformation and metamorphism.
- Uranium mineralization occurs along well define high strain structural zones that are almost parallel to identifiable east-northeast trending and moderately south dipping stratigraphic zones. These structural zones are also parallel to the regional foliation in the area.
- Overall, the uranium mineralization is stratabound and shear-hosted, but is present within different facies of fragmental quartzo-feldspathic rocks.
- At least twelve (12) mineralized units are recognized within the 160 m distance across the strike of the Michelin deposit, although not all of them can be traced for distances more than 200 m along strike. Some zones may be traced up to 725 m along strike.
- The more continuous mineralized zones are present within a 40 m to 50 m wide pink alteration zone with typical hematitic staining.
- The thickness of the individual mineralized zones ranges from <2 m to 15 m, with an average thickness ranging from 5 m to 8 m for the more continuous ones.
- At the 0.05% U<sub>3</sub>O<sub>8</sub> cut-off grade, the Michelin Uranium Deposit contains some 342,000 tonnes of Measured Mineral Resources at an average grade of 0.113% U<sub>3</sub>O<sub>8</sub>, approximately 8,615,000 tonnes of Indicated Mineral Resources at an average grade of 0.113% U<sub>3</sub>O<sub>8</sub>, and approximately 4,116,000 tonnes of Inferred Mineral Resources at an average grade of 0.148% U<sub>3</sub>O<sub>8</sub>.
- Mineralization is open at depth below the historic deposit and has been extended from a vertical depth of 250 m to 700 m by the 2005 drilling. Mineralization currently remains open below 700 m.
- Results of recent confirmation drilling at Michelin suggest that uranium mineralization extends farther at depth than previously recognised. These results also indicate that mineralization extends more than 700 m below the surface.
- There is good potential for the discovery of additional uranium mineralization south and east of Michelin and at other targets in the Belt, which hosts the

Michelin deposit, with geological and geophysical with similar characteristics to Michelin.

- Some of the RPA check assay values are slightly higher than the earlier Brinex and/or Aurora results. The differences are considered to be due to the variability in uranium values between the two halves of the core, and are not cause for concern, in RPA's view.

**RECOMMENDATIONS**

RPA recommends that:

- Ongoing exploration efforts continue to infill and test the extensions of the Michelin Uranium Deposit along strike and at depth to assess its potential for hosting an economic deposit. Based on encouraging results from the 2005 confirmation drilling, Aurora has an exploration program and budget for approximately 10,000 m of infill drilling, and an additional 10,000 m of exploration drilling to test for additional parallel shoots along strike (in particular from 11+80W to 7+09W) and also below 700 m vertical depth.
- Ongoing exploration efforts should also continue to test the Rainbow Zone target and the Michelin East (Chitra) target areas by drilling. Aurora has a program and budget for an additional 6,000 m of drilling to test near surface target areas at Michelin East and Rainbow. RPA concurs with this program.
- Aurora assess the potential of the district to host multiple satellite deposits to compliment Michelin by testing the other uraniumiferous "Michelin-like" systems present within the greater CMB land package.
- Aurora move the project along toward pre-feasibility, while at the same time, evaluate alternatives for mine development and project funding by a joint venture partner.

## 1.2 TECHNICAL SUMMARY

### **OBJECTIVE**

Aurora's objective in the Central Mineral Belt of Labrador is to discover and outline economic uranium deposits. The exploration target is shear-hosted uranium deposits that bear similarities to IOCG type mineralization.

### **PROPERTY STATUS**

Through Aurora, Fronteer holds a 57% interest in 30 mineral licences covering a total area of 82,900 ha in central Labrador, including the Michelin mineral licence 9412M, which is located approximately 210 km (straight line) north of Happy Valley-Goose Bay. The Michelin mineral licence 9412M is comprised of 190 claims covering an area of 4,750 ha. This licence, as well as the claims contained within it, is map-staked, and hence does not have physical boundaries. The licence was originally issued to Altius on February 27, 2003 for a five-year period but was transferred to Aurora early in January 2006. The current licence may be extended to a second term of five years. Assessment records indicate that work requirements are satisfied for the first two years of the licence and some \$41,000 must be spent during the third year, which ends on March 27, 2006. RPA is of the opinion that the current verification drilling program of 4,500 m should more than cover the assessment work requirements and the property should be in good standing well into the extended term (years 6 to 10) of the licence.

In March 2003, Fronteer entered into a 50-50 strategic alliance with Altius (Alliance). The terms of the joint venture agreement with Altius were finalized on May 31, 2005, and are summarized as follows:

- Aurora Energy Inc. (Corporation) was incorporated on June 8, 2005 to hold the uranium exploration assets located in the central mineral belt of Newfoundland and Labrador, Canada, of Fronteer Development Group Inc. (Fronteer) and Altius Resources Inc. (Altius). Fronteer and Altius acquired the properties by way of staking in 2003 and operated the properties as a 50/50 joint venture until the transfer of the properties to the Corporation in June 2005. The properties consist of a total of 82,900 hectares in 30 licenses or groups of mineral claims.

- As consideration for the properties transfer, the Corporation issued 5,200,000 Class A Common Shares to Fronteer and 4,800,000 Class A Common shares to Altius. In addition, Altius received a 2% gross sales royalty on uranium and a 2% net smelter royalty on base and precious metals.
- Fronteer provided \$4,999,995 of financing to the Corporation through two separate flow-through share subscriptions in June and August 2005, for a total of 4, 444, 440 Class B Common shares at \$1.125 per share, thereby increasing its ownership percentage in the Corporation to 57%.

RPA understands that Aurora nor any of its affiliates is not responsible for any type of environmental damage caused prior to the time at which time Fronteer and Altius staked the Central Mineral Belt Property in 2003. Aurora may freely export and sell the uranium, base metals and industrial minerals produced and the proceeds will be repatriated to Aurora without restriction

**LOCATION AND ACCESS**

The Michelin license 9412M is located approximately 40 km south-southwest of the town of Postville, which is approximately 250 km north of Happy Valley-Goose Bay, in central Labrador. The property lies within an area of low relief, ranging from 10 m to 50 m. The elevation in the low-lying areas is in the order of 300 m above mean sea level.

Access to the Michelin deposit area is by fixed wing aircraft or helicopter (approximately 40 km) from Postville, a settlement of approximately 250 people on the west shore of Kaipokok Bay.

The climate in central Labrador is sub-arctic with short summer seasons and long winters from November to April. The mean temperature during the winter months is -15° C and ranges from 15° C to 30° C during the summer months. The average annual precipitation is approximately 450 cm. Exploration at Michelin is affected by the typical seasonal climatic variations.

Local infrastructure is limited at the two settlements of Postville and Makkovik. The latter is a coastal community situated some 40 km northeast of Postville. There is no

infrastructure at the site and electrical power for local operations is obtained from diesel generators. Water, both industrial and potable, is drawn from wells.

The area is covered with many lakes and sparse coniferous forest with locally abundant outcrops. Vegetation consists predominantly of black spruce, balsam fir and tamarack trees, typical of the northeastern part of the Canadian Shield. Areas of outcrop are flanked by glacial till or boulder fields. Overburden cover ranges from 10 m to 15 m.

### ***HISTORY***

Exploration for uranium and base metals in the Michelin and neighbouring areas in Labrador started in 1955 was started by British Newfoundland Exploration Limited (Brinex). The first significant uranium showing was found by Walter Kitts in 1956. This was followed by a program of diamond drilling and underground development in 1957, but work was suspended the following year and no further work was done until 1966.

In 1966, Brinex and Metallgesellschaft A.G. (Metallgesellschaft), a German energy company, formed a joint venture to explore part of the lease containing the Kitts uranium deposit. Metallgesellschaft subsequently transferred its interest to its wholly-owned subsidiary, Urangesellschaft Canada Limited (Urangesellschaft). Under this agreement, the joint venture discovered a number of uranium showings in 1968, including the Michelin deposit by prospector Leslie Michelin, and the Gear, Inda and Nash showings from 1968 to 1969. All of these discoveries were made by follow-up ground spectrometer surveys on anomalies detected from airborne radiometric surveys.

During the 1970s, Brinex carried out further detailed exploration on the Michelin deposit and completed approximately 32,480 m of diamond drilling in 290 drill holes. This included approximately 30,720 m of diamond drilling in 235 surface drill holes and approximately 1,760 m of diamond drilling in 56 underground drill holes. In addition, Brinex drove an inclined tunnel of approximately 580 m and other underground workings to access the mineralized zones at depth and for bulk sampling. To date there has been no mining at the Michelin deposit.

In 1980, Derry, Michener and Booth (DMB), a geological consulting at the time, carried out a detailed review of the drill results on behalf of Brinex, and reported that the Mineral Resources of the Michelin deposit contained “Drill Indicated” resources totalling some 6,850,000 tons at an average grade of 0.13% U<sub>3</sub>O<sub>8</sub>. DMB also reported that the Michelin deposit contained “Geologically Inferred” resources totalling some 235,000 tons at an average grade of 0.13% U<sub>3</sub>O<sub>8</sub>. Due to the drastic decline in the price of uranium in the 1980s and 1990s, however, Brinex did not carry out further work, and eventually allowed the property to lapse.

#### ***GEOLOGICAL SETTING AND MINERALIZATION***

The Michelin deposit is situated within the porphyritic and fragmental rhyolitic rocks of the Aillik Group of rocks of the Central Mineral Belt (CMB) in Central Labrador. The CMB forms part of the Nain, Makkovik and Churchill structural provinces and has been overprinted in the south by the Exterior Thrust Belt of the Grenville Province. The Makkovik Province is a triangular wedge situated between the Nain Province to the north and the Grenville Province to the south. In terms of tectonic setting, the Michelin deposit is situated within the Aillik domain of the Makkovik Province, which comprises the Kaipokok, Aillik and Cape Harrison tectonic domains. The Kaipokok shear zone, which defines the boundary between the Kaipokok and Aillik tectonic domains, also marks the southern limit of the Archean crust in the Makkovik Province.

The Aillik Domain is underlain by Middle to Late Proterozoic rocks of the Post Hill and Aillik groups, respectively, as well as extensive granitoid terrain comprised of several Aphebian intrusive suites. The Aillik Group is comprised of approximately 5,000 m thick assemblage of metasedimentary rocks, bimodal metavolcanic rocks, subvolcanic intrusives and diabase dikes. The Aillik Group rocks host most of the uranium, copper, zinc, lead and molybdenum occurrences in the region, including the Michelin deposit. Within the project area, the Aillik rocks are commonly represented by laminated magnetite-feldspar-quartz gneiss. The rocks are foliated with a general easterly trend,

dipping moderately to the south. Commonly, strong lineation of the minerals indicates a moderate to steep southerly plunge.

Uranium mineralization in the region is hosted by rocks of both the Post Hill Group and the Aillik Group of the Aillik Domain. Earlier work suggested the uranium mineralization within the Post Hill Group to be stratabound and possibly syngenetic in origin, and an occasional occurrence of epigenetic replacement mineralization within the Aillik Group of rocks. Recent interpretation of exploration data suggests that the vast areas of hematite+albite and quartz+epidote+actinolite+chlorite alteration in the Kitts-Michelin area have characteristics similar to the alteration assemblages present at Olympic Dam-type iron-oxide-copper-gold (IOCG) deposits around the world.

The Michelin deposit is associated with an airborne radiometric anomaly approximately 900 m long and 500 m wide. This anomaly is associated with quartzofeldspathic gneisses of the Aillik Group and flanked by intrusive phases of the Helikian age Burnt Lake granite. The deposit consists of several east-northeast trending and moderately south dipping subparallel mineralized zones along a strike length of approximately 1,200 m. The host rocks are light grey to pink, fine to medium-grained felsic tuffs (CPR), exhibiting strong penetrative fabric with foliated medium to coarse feldspar and quartz fragments as well as phenocrysts. The mineralized zones appear to be conformable with the lithologic units with local variability in the attitude, and in part, overlap.

Deformation is dominated by strong shearing with possible subparallel faulting, which may have separated the individual mineralized zones and resulting in “en echelon” pattern. Thin, grey, fine-grained, foliated calcite-biotite schists form horizons are continuous along strike for short distances. This may be the result of minor shears. A second group of faults strikes northeast, and a third group of faults trends west-northwest. Apparent displacements for the latter group are interpreted to be in the order of tens to several hundreds of metres.

Uranium mineralization at Michelin is commonly associated with hematization, which imparts a distinctive pink colouration to the host rock. The intensity of this colouration, varying from very pale pink to full reddish, is often a visual indication of the amount of uranium present. The uranium and the associated hematite occurs in bands varying up to several centimetres in thickness, which in aggregate, form wider and more persistent zones of mineralization. The fine banding is associated with thinly bedded tuffaceous layers in the order of a few centimetres, and the coarse banding with porphyritic rhyolite up to 10 cm. thick. Grouped together, these alternating and overlapping bands form a reasonably well defined zone. The grouping of the zones themselves produces a similar en-echelon pattern.

The mineralized zones contain more calcite, but generally less than 2% and are characterized by a greater abundance of biotite and hornblende, than the unmineralized rocks. The calcite primarily occurs as irregular streaks and specks and imparts a brownish colour on weathering. The mineralized units are noticeably softer than the unmineralized rocks.

Mineralogical studies indicate that the ore minerals at Michelin consist primarily of pitchblende (>99% UO<sub>2</sub>) with trace amounts of soddyite (Na-U-silicate, <1%) and molybdenite. The gangue minerals are feldspar (85%), quartz (5%), calcite (1.5%), magnetite (1%), fluorite (1%), and pyrite (<0.2%). Fine-grained pyrite is commonly present in mafic dikes.

**EXPLORATION**

Prior to 2003, prospecting was the prominent exploration tool in the Michelin area. Consequently, all the discoveries of uranium mineralization were made from trenching and drilling of outcropping zones. Since the formation of the Fronteer-Altius Strategic Alliance in 2003, however, a new approach and exploration model has been applied by assessing the potential of the Central Mineral Belt for IOCG-type mineralization. Based on review of historical data and examination of drill core, the companies have outlined wide areas of hematite-chlorite-epidote-actinolite alteration, which is considered



favourable for IOCG-type mineralization. In 2003 and 2004, exploration work in the district consisted of:

- A combined airborne radiometric and magnetic survey by Fugro Airborne Surveys Corporation (Fugro) covering an area 70 km x 20 km. Results of this survey indicate that uranium mineralization at the Michelin deposit and at the Rainbow showing to the south may be hosted by the same horizon, thus indicating a regional isoclinal fold structure.
- Lithochemical sampling. Based on results of 304 rock samples, Aurora concludes that the uranium content in rocks is best correlated with the lead content, which is assumed to be radiogenic.

Recently in 2005, in a more focused search for shear-hosted uranium mineralization, Aurora carried out a multi-disciplinary exploration program consisting primarily of diamond drilling along with a combined detailed airborne radiometric and magnetic survey, geological mapping, and geochemical, scintillometer and track etch surveys. In total, some 4,500 m of diamond drilling were completed on the Michelin license in 10 holes including the twinning of two historical Brinex holes to confirm their data.

#### **MINERAL RESOURCES**

RPA carried out an estimate of the Mineral Resources at Michelin. This included:

- Geological interpretation of the mineralized zones on sections and plans.
- Database verification including sampling and assaying protocols.
- Review of drill core logging and visual examination of six representative holes in the central part of the deposit, as well as core from the current drilling.
- Independent sampling of four holes, three from old holes completed by Brinex and one hole from the current drilling by Aurora.
- Classification of Mineral Resources.

With few exceptions, RPA found that values and compilations of uranium grades were accurately recorded. RPA estimates that the Michelin deposit contains some 348,000 tonnes of Measured Mineral Resources at an average grade of 0.113% U<sub>3</sub>O<sub>8</sub>, 8.5 million tonnes of Indicated Mineral Resources at an average grade of 0.113% U<sub>3</sub>O<sub>8</sub>, and 3 million tonnes of Inferred Mineral Resources at an average grade of 0.144% U<sub>3</sub>O<sub>8</sub>, as

noted above. RPA's mineral resource estimate is in accordance with the Mineral Resource/Reserve Classification as recommended by the CIM Committee on Mineral Resources/Reserves.

***INDEPENDENT SAMPLING BY RPA***

RPA collected a total of eighteen (18) samples of split core; six from a hole of the recent drilling by Aurora, and twelve (12) samples from old Brinex drill holes, and sent them to SGS Laboratories in Don Mills, Ontario, for independent assays for uranium.

The RPA samples confirm the presence of uranium values at essentially the same order of magnitude as the Aurora or Brinex assays. The differences are considered to be due to the variability in uranium between the two halves of the core, and are not cause for concern, in RPA's view.

***EXPLORATION POTENTIAL***

Extensive areas of airborne radiometric (U/Th) anomalies are correlated with airborne magnetic (vertical derivative) anomalies. Ground investigations have shown that many of these anomalies are underlain by radioactive uraninite-bearing assemblages.

Recent results show that the Michelin deposit, as well as many known uranium occurrences, is situated along airborne radiometric anomalies. Since the Michelin deposit is exposed at only a few places (old trenches) along a linear radiometric anomaly, there is good potential for the discovery of hidden uranium mineralization in the area.

Results of recent confirmation drilling at Michelin also suggest that uranium mineralization extends significantly deeper than previously recognised.

The current exploration concept is focussed on exploring for structurally controlled uranium mineralization that bears affinity to the IOCG style deposit. Past results show that the Michelin deposit is situated along a major shear zone which hosts uranium mineralization, and that it has some characteristics which are similar to those at IOCG-

type deposits. RPA is of the opinion that further mineralogical and analytical work is required to classify the Michelin as an IOCG-type uranium deposit. In particular, research should focus on two important aspects of these types of deposits. These are; brecciation and gold and silver mineralization associated to the hematization of the uranium bearing zones.

There are other areas of known uranium mineralization within the Michelin Mineral Licence. These include the historic Rainbow deposit, Michelin East (Chitra) deposit, and other radioactive zones such as Asha Pond, some 3 km east-northeast and along strike of the Michelin deposit. These are all characterized by pronounced U/Th anomalies, outcropping zones of uranium mineralization, and coincident trains of radioactive boulders.

In addition, a number of other areas have been identified in the greater CMB claim group and are currently being explored by Aurora. These include:

- **Melody Hill:** This area is situated approximately 10 km north of the Michelin deposit. Aurora reports that uranium mineralization may be spatially associated with northeast trending faults, which cut the high grade radioactive boulder train (values ranging from 0.05%  $U_3O_8$  to 20.4%  $U_3O_8$ ). A number of the boulders also contained base metal and silver mineralization ranging from 0.08% Cu to 0.92% Cu, 0.50% Pb to 6.0% Pb and 0.15 oz/ton Ag to 0.42 oz ton Ag). Aurora plans to drill this target area in 2006.
- **White Bear Lake:** This area is situated approximately 15 km east of the Michelin deposit and was drill tested by Brinex in 1977 returning a high of 0.22 %  $U_3O_8$  in DDH 77-7. Aurora plans to drill this target area in 2006.
- **Otter Lake:** This area includes the Emben Main, Emben West, Emben Central and Emben South targets, situated approximately 20 km east of the Michelin deposit. Early work by Brinex discovered a number of highly radioactive boulders, which were reportedly comparable to the radioactive boulders at the Michelin deposit. Recent drilling by Aurora in 2005 at the Emben (Otter) South target returned an high grade intercept of 1.0%  $U_3O_8$ /0.5m in DDH OL-05-04. Aurora plans to continue drill testing this target area in 2006.

- **Burnt Brook Lake:** This area consists of a 500m x 500m U/Th anomaly situated approximately 20 km east-northeast of the Michelin deposit. A grab sample has returned 0.31% U<sub>3</sub>O<sub>8</sub> and a trench sample includes 0.154% U<sub>3</sub>O<sub>8</sub> over 2.4 m.
- **Jacque's Lake:** This area contains a narrow northeast trending U/Th anomaly 500 m in width and extending 3 km along strike. It is situated approximately 30 km east-northeast of the Michelin deposit, and contains a train of 165 radioactive boulders, with radioactive response ranging from 1,000 cps to 15,000 cps, and outcropping uranium mineralization in historic trenches. Drilling in 2005 by Aurora confirmed the presence of the mineralization and returned a high of 0.1% U<sub>3</sub>O<sub>8</sub> /9.2m in JL-05-05. Aurora plans to continue drill testing this target area in 2006.
- **Gear Lake:** This target area, together with the Inda Lake and Nash Lake targets, are located within the Post Hill area. The Gear Lake target is situated approximately 15 km east of Postville. Uranium mineralization discovered in 1968 is associated with a spherical U/Th radiometric anomaly 0.35 km in diameter. The mineralization occurs within sheared metasedimentary rocks for a strike length of 120 m. An average grade of 0.165% U<sub>3</sub>O<sub>8</sub> over an area 30 m long and 4.9 m wide, is reported.
- **Inda Lake:** This target area is situated approximately 3 km southwest of the Gear Lake occurrence. Uranium mineralization discovered in 1968 is associated with a spherical U/Th radiometric anomaly 0.35 km in diameter. The mineralization related to a northeasterly trending antiform for a strike length of 1.1 km. An average grade of 0.19% U<sub>3</sub>O<sub>8</sub> is reported from 23 drill holes which have tested a small deposit 640 m long and having an average width of 2.44 m.
- **Nash Lake:** This target area is also situated approximately 3 km southwest of the Inda Lake occurrence, along the same belt of metasedimentary and metavolcanic rocks as at the Kitts uranium deposit, some 15 km northeast. Uranium mineralization discovered in 1967 is associated with an oval shaped U/Th radiometric anomaly 0.7 km by 0.35 km in diameter. The mineralization related to a north-northwesterly trending shear zone known as the Naskit Slide. Mineralization is reported to extend 365 m along strike and 140 m in the vertical dimension, with an average thickness of 1.85 m. A mineral resource totalling some 550,000 tonnes at an average grade of 0.16% U<sub>3</sub>O<sub>8</sub> is reported to be present within the Post Hill area.

## 2 INTRODUCTION AND TERMS OF REFERENCE

Roscoe Postle Associates Inc. (RPA) has been retained by Aurora Energy Inc. (Aurora), to prepare an independent Technical Report on the Michelin uranium deposit in central Labrador (Figure 2-1). The purpose of this report is to provide our independent assessment of the Mineral Resources. Fronteer Development Group (Fronteer) is a joint venture partner with Altius Resources Inc. (Altius) in the Michelin Project and other mineral licences in Central Mineral Belt (CMB) in central Labrador. The Technical Report is required to be conformable to NI 43-101 Standards of Disclosure for Mineral Projects.

Fronteer is a reporting issuer listed at the Toronto Stock Exchange (TSX) and the American Stock Exchange (AMEX). The company holds a 57% interest in Aurora Energy Inc. (Aurora) a private company set up to hold the Labrador assets. Altius has a 43% interest in Aurora.

Fronteer is also earning 100% interest in the Agi Dagi and Kirazli advanced exploration gold projects, as well as other gold projects, in Western Turkey. It is advancing two drill-ready gold projects in Jalisco State, Mexico.

The Michelin Property comprises the historic Michelin Uranium Deposit; the Rainbow Uranium Deposit, a zone of mineralization approximately 2 km south of the Michelin deposit which has been tested by limited diamond drilling, and the Michelin East Target Area.

This report discusses only the 4,750 ha Michelin mineral concession, including the Michelin mineral deposit and other exploration targets, within the larger group of mineral licences in the Central Mineral Belt of Labrador.

For this report RPA carried out:

- A site visit to the property from September 12 to 15, 2005.
- A review of old drilling results by British Newfoundland Exploration Limited (Brinex).
- Independent sampling of old (Brinex) and new (Aurora) drill core. RPA sent these samples for independent assays at a Canadian laboratory
- Estimation of the Mineral Resources of the Michelin uranium deposit.

Information for this Technical Report, supplied by Aurora, was collected during the site visit by RPA and subsequent correspondence with Aurora. Technical documents and other sources of information are listed at the end of this report. Mr. Hrayr Agnerian, M.Sc (Applied), P.Geo., Consulting Geologist with RPA, and the Qualified Person for this Technical Report, visited the Michelin Property from September 12 to 15, 2005, including the trenches along the main zone and other surface exposures on the property. Mr. Agnerian is responsible for all the sections included in this Technical Report.

This report is prepared in accordance with the requirements of National Instrument 43-101 (NI 43-101) of the Ontario Securities Commission (OSC) and the Canadian Securities Administrators (CSA).

In preparation of this report, Mr. Agnerian reviewed technical documents and reports on the Michelin Property and the general area in Central Mineral Belt in Central Labrador, supplied by Aurora. Mr. Agnerian also held discussions with Aurora professionals knowledgeable on the project including:

- Rick Valenta, Ph.D., P.Geo., Vice President Exploration and Chief Operating Officer.
- Ian Cunningham-Dunlop, P.Eng., Project Manager.
- Sally Howson, Environmental Manager and Community Relations.
- Matthew Lennox-King, Exploration Geologist
- Dave Barbour, Exploration Geologist, Altius Minerals Corporation.
- Mark King, Exploration Geologist

RPA has not searched title to the property, and has relied on technical data contained in reports of past exploration and title documents supplied by Aurora.

The key technical documents reviewed by RPA for this report are:

- The report entitled “Central Mineral Belt Project, Labrador” by R.D. Hall of Fronteer, dated February 15, 2005.
- The report entitled “Report on the Geology and Reserves, Michelin Deposit” by F.J. Sharpley of Derry, Michener and Booth (DMB) for Brinex, dated January 1980.
- The report entitled “Review of Engineering and Cost Reports, Kitts-Michelin Uranium Project, Labrador, Newfoundland” by Bechtel and Company (Ontario) Limited for Brinex, dated September 1977.

Units of measurement used in this report conform to the SI (metric) system. All currency in this report is US dollars (US\$) unless otherwise noted. The list of abbreviations used in this report is shown in Table 2-1.

**TABLE 2-1 LIST OF ABBREVIATIONS**  
**Aurora Energy Inc. – Michelin Property**

μ	Micron	km <sup>2</sup>	square kilometres
°C	degree Celsius	kPa	Kilopascal
°F	degree Fahrenheit	kVA	kilovolt-amperes
μg	Microgram	kW	Kilowatt
A	Ampere	kWh	kilowatt-hour
A	Annum	l	Liter
m <sup>3</sup> /h	cubic metres per hour	l/s	litres per second
CFM	cubic metres per minute	m	Metre
Bbl	Barrels	M	mega (million)
Btu	British thermal units	m <sup>2</sup>	square metre
C\$	Canadian dollars	m <sup>3</sup>	cubic metre
Cal	Calorie	min	Minute
Cm	Centimetre	masl	metres above sea level
cm <sup>2</sup>	square centimetre	mm	Millimetre
D	Day	mph	mile per hour
dia.	Diameter	MVA	megavolt-amperes
Dmt	dry metric tonne	MW	Megawatt
Dwt	dead-weight ton	MWh	megawatt-hour
Ft	Foot	m <sup>3</sup> /h	cubic metres per hour
ft/s	foot per second	opt, oz/st	ounce per short ton
ft <sup>2</sup>	square foot	oz	troy ounce (31.1035g)
ft <sup>3</sup>	cubic foot	oz/dmt	ounce per dry metric tonne
G	Gram	ppm	part per million
G	giga (billion)	psia	pound per square inch absolute
Gal	Imperial gallon	psig	pound per square inch gauge
g/l	gram per litre	RL	relative level
g/t	gram per tonne	s	Second
Gpm	Imperial gallons per minute	st	short ton
gr/ft <sup>3</sup>	grain per cubic foot	stpa	short ton per year
gr/m <sup>3</sup>	grain per cubic metre	stpd	short ton per day
Hr	Hour	t	metric tonne
Ha	Hectare	tpa	metric tonne per year
Hp	Horsepower	tpd	metric tonne per day
In	inch	US\$	United States dollar
in <sup>2</sup>	square inch	USg	United States gallon
J	joule	USgpm	US gallon per minute
K	kilo (thousand)	v	Volt
Kcal	kilocalorie	w	Watt
Kg	kilogram	wmt	wet metric tonne
Km	kilometre	yd <sup>3</sup>	cubic yard
km/h	kilometre per hour	yr	Year





**MICHELIN PROPERTY**

Figure 2-1

**Aurora Energy Inc.**

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*Michelin Property*  
Newfoundland and Labrador, Canada

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**Location Map**

### **3 DISCLAIMER**

This report has been prepared by RPA for Aurora Energy Inc. (Aurora). The information, conclusions, opinions, and estimates contained herein are based on:

- Information available to RPA at the time of preparation of this report,
- Assumptions, conditions, and qualifications as set forth in this report, and,
- Data, reports, and other information supplied by Fronteer and its subsidiary, Aurora Energy Inc. (Aurora).

For technical information on the Michelin deposit, RPA has relied on some reports by Fronteer, Altius, Aurora and by British Newfoundland Exploration Limited (Brinex, the project operator from the 1960s to 1980s) and on publications in technical journals. RPA has not verified the technical information in these reports, but has formed its opinions on the geological continuity of the mineralized zones at Michelin, primarily on the basis of this technical information. RPA has visited the Michelin deposit and has taken independent samples.

While it is believed that the information contained herein is reliable under the conditions and subject to the limitations set forth herein, this report is based in part on information not within the control of RPA and RPA does not guarantee the validity or accuracy of conclusions or recommendations based upon that information that is outside the area of technical expertise of RPA. While RPA has taken all reasonable care in producing this report, it may still contain inaccuracies, omissions, or typographical errors.

## 4 PROPERTY DESCRIPTION AND LOCATION

The Michelin licence 9412M is located approximately 40 km south-southwest of the town of Postville, which is approximately 250 km north of Happy Valley-Goose Bay.

Aurora holds interest in 30 mineral licences (The Property), covering a total area of 82,900 ha in central Labrador, including the Michelin mineral licence 9412M, which is located approximately 210 km (straight line) north of Happy Valley-Goose Bay (Figure 4-1). The Michelin mineral licence 9412M is comprised of 190 claims covering an area of 4,750 ha (Table 4-1 and Figure 4-2).

### 4.1 AURORA ENERGY SHAREHOLDER AGREEMENT

In March 2003, Fronteer entered into a 50-50 strategic alliance with Altius. The terms of the joint venture agreement with Altius were finalized on May 31, 2005, and are summarized as follows:

- The Aurora Energy Inc. (Corporation) was incorporated on June 8, 2005 to hold the uranium exploration assets located in the central mineral belt of Newfoundland and Labrador, Canada, of Fronteer Development Group Inc. (“Fronteer”) and Altius Resources Inc. (“Altius”). Fronteer and Altius acquired the properties by way of staking in 2003 and operated the properties as a 50/50 joint venture until the transfer of the properties to the Corporation in June 2005. The properties consist of a total of 203,880 acres in 30 licenses or groups of mineral claims.
- As consideration for the properties transfer, the Corporation issued 5,200,000 Class A Common Shares to Fronteer and 4,800,000 Class A Common shares to Altius. In addition, Altius received a 2% gross sales royalty on uranium and a 2% net smelter royalty on base and precious metals.
- Fronteer provided \$4,999,995 of financing to the Corporation through two separate flow-through share subscriptions in June and August 2005, for a total of 4, 444, 440 Class B Common shares at \$1.125 per share, thereby increasing its ownership percentage in the Corporation to 57%.
- Fronteer is the operator on behalf of Aurora.

## **4.2 LAND TENURE**

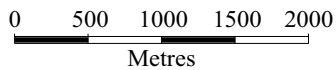
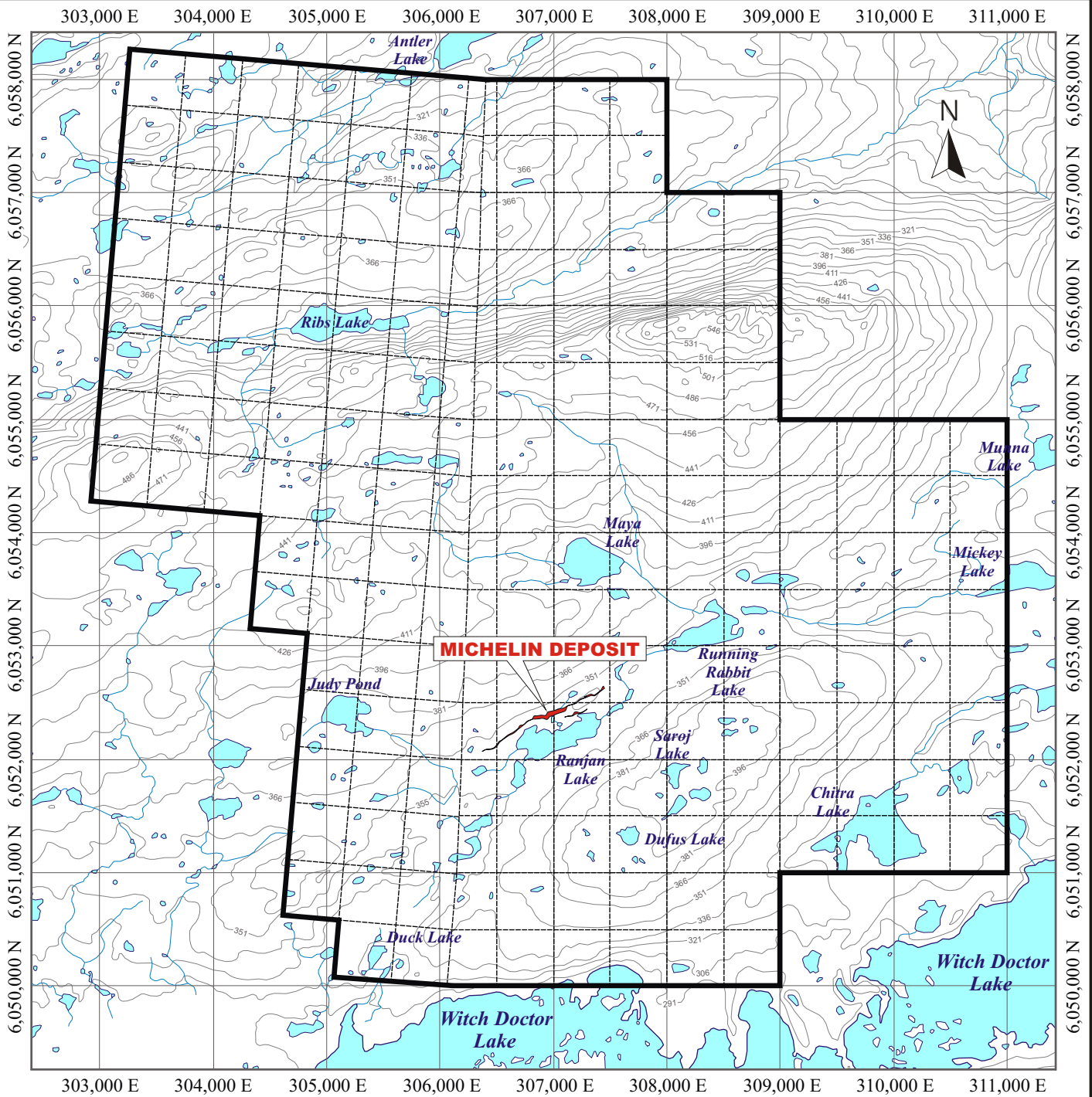
The registered licence holder of the Michelin Property is Aurora Energy Inc. (Aurora). The licence was initially issued to Altius Minerals Corporation on February 27, 2003 for a five-year period, but the title was transferred to Aurora in January 2006. The license may be extended to a second term of five years. Assessment records indicate that work requirements are satisfied for the first two years of the licence and some \$41,000 must be spent during the third year, which ends on March 27, 2006. RPA is of the opinion that the current verification drilling program of 4,500 m should more than cover the assessment work requirements and the property should be in good standing well into the extended term (years 6 to 10) of the licence.

RPA understands that Aurora nor any of its affiliates is not responsible for any type of environmental damage caused prior to the time at which time Fronteer and Altius staked the Central Mineral Belt Property in 2003. Aurora may freely export and sell the uranium, base metals and industrial minerals produced and the proceeds will be repatriated to Aurora without restriction

**TABLE 4-1 LIST OF MINERAL LICENCES, MICHELIN AREA**

Aurora Energy Inc. – Michelin Property							
Property	Licence	No. of claims	Area (ha)	NTS Area	Date Issued	Work Due	Assessment work due (\$)
Aurora River	10343M	175	4,375	13J/12	2004-10-29	2005-10-29	35,000
Burnt/Emben	9414M	63	1,575	13J/12E	2003-03-27	2005-03-27	13,549
Burnt/Emben	9413M	42	1,050	13J/12E	2003-03-27	2005-03-27	9,032
Croteau	9415M	40	1,000	13K//06	2003-03-27	2005-03-27	3,965
East Micmac Lake	9721M	36	900	13J/12W,13J13W	2003-10-24	2004-10-24	7,200
Kaipokok Bay	10059M	54	1,350	13J/13W	2004-04-12	2005-04-12	10,800
Makkovik River 1	10050M	147	3,675	13J/12E,	2004-04-12	2005-04-12	29,400
Makkovik River 2	10051M	220	5,500	13J/13E, 13J12E	2004-04-12	2005-04-12	44,000
Makkovik River 3	10052M	127	3,175	13J/11W, 13J/13E, 14W	2004-04-12	2005-04-12	25,400
Makkovik River 4	10053M	111	2,775	13J/12E	2004-04-12	2005-04-12	22,200
Makkovik River 5	10054M	170	4,250	13J/13E	2004-04-12	2005-04-12	34,000
Makkovik River 6	10055M	136	3,400	13J/13E,13J/14W	2004-04-12	2005-04-12	27,200
Makkovik River 7	10056M	126	3,150	13J/13E	2004-04-12	2005-04-12	25,200
Makkovik River 9	10058M	30	750	13J/13E	2004-04-12	2005-04-12	6,000
Melody Lake	10344M	132	3,300	13K/09E, 13J/12W	2004-10-29	2005-10-29	26,400
<b>Michelin</b>	<b>9412M</b>	<b>190</b>	<b>4,750</b>	<b>13K/09E, 13J/12W</b>	<b>2003-03-27</b>	<b>2005-03-27</b>	<b>42,657</b>
Michelin North	9482M	145	3,625	13K/09E	2003-04-28	2005-04-28	19,326
Michelin NE	9722M	100	2,500	13J/12W	2003-10-24	2005-10-24	20,000
Michelin NW	9723M	42	1,050	13K/09E	2003-10-24	2005-10-24	8,400
Post Hill	9410M	136	3,400	13J/13E	2003-03-27	2005-03-27	21,585
Post Hill	9411M	128	3,200	13J/13E	2003-03-27	2005-03-27	20,316
Post Hill NE	9718M	8	200	13J/13W	2003-10-24	2004-10-24	1,600
Post Hill NW	9719M	32	800	13J/13E	2003-10-24	2004-10-24	6,400
Post Hill West	9720M	60	1,500	13J/13E,13J/13W	2003-10-24	2004-10-24	12,000
Storm	9416M	72	1,800	13K/03	2003-03-27	2005-03-27	14,724
Walker Lake	10022M	190	4,750	13K/09E	2004-04-02	2005-04-02	38,000
West Micmac Lake 1	10046M	181	4,525	13J/12W,13K/09E	2004-04-12	2005-04-12	36,200
West Micmac Lake 2	10047M	120	3,000	13J/12W	2004-04-12	2005-04-12	24,000
West Micmac Lake 3	10048M	137	3,425	13J/12W,13J/12E	2004-04-12	2005-04-12	27,400
West Micmac Lake 4	10049M	166	4,150	13J/12W	2004-04-12	2005-04-12	33,200
<b>Total</b>		<b>3,116</b>	<b>82,900</b>				<b>645,155</b>

Source: Fronteer, 2006



Note: Elevation contours in metres.

Figure 4-2

**Aurora Energy Inc.**

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*Michelin Property*  
Newfoundland and Labrador, Canada

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**Claim Map**

## 4.2 MINERAL LICENCES

Under the Newfoundland and Labrador Mining Code and regulations, the Michelin Mineral Licence, as well as the claims contained within it, is map-staked, and hence does not have physical boundaries. A map-staked licence consists of a number of 500 m by 500 m claims. The limitations on map staking are that:

- All claims be drawn using the Universal Transverse Mercator (UTM) co-ordinate system, in which all claim boundaries drawn on co-ordinate lines of multiples of 500 m, which start from a defined corner having easting and northing co-ordinates along the UTM lines. In cases where the map-staked property straddles more than one UTM map sheet, the dimensions of the individual claims in the vicinity of the common boundary between the two map sheets, may vary from the 500 m by 500 m normal size, as shown in Figure 4-2.
- A mineral licence may contain up to 256 claims.
- Assessment work is applied on the mineral licence containing the claims and not on the individual claims. Assessment work requirements for a Mineral Licence are, as follows:
  - \$200 per unit or map-staked claim during the first year.
  - \$250 per unit or map-staked claim during the second year.
  - \$300 per unit or map-staked claim during the third year.
  - \$350 per unit or map-staked claim during the fourth year.
  - \$300 per unit or map-staked claim during the fifth year.
  - For each year of the first extended term (years 6 to 10), \$600 per unit or map-staked claim.
  - For each year of the second extended term (years 11 to 15), \$900 per unit or map-staked claim.
  - For each year of the third extended term (years 16 to 20), \$1,200 per unit or map-staked claim (Ministry of Mines and Energy, Government of Newfoundland and Labrador).

RPA understands that Aurora is in compliance with all assessment work requirements and report filings (Fronteer, 2005).

The Michelin area mineral licences are surrounded to the north, east and west by Exempt Mineral Lands (EML), which are areas exempted from staking to protect local interests during final negotiations of the Labrador Inuit land claim (Figure 4-3).

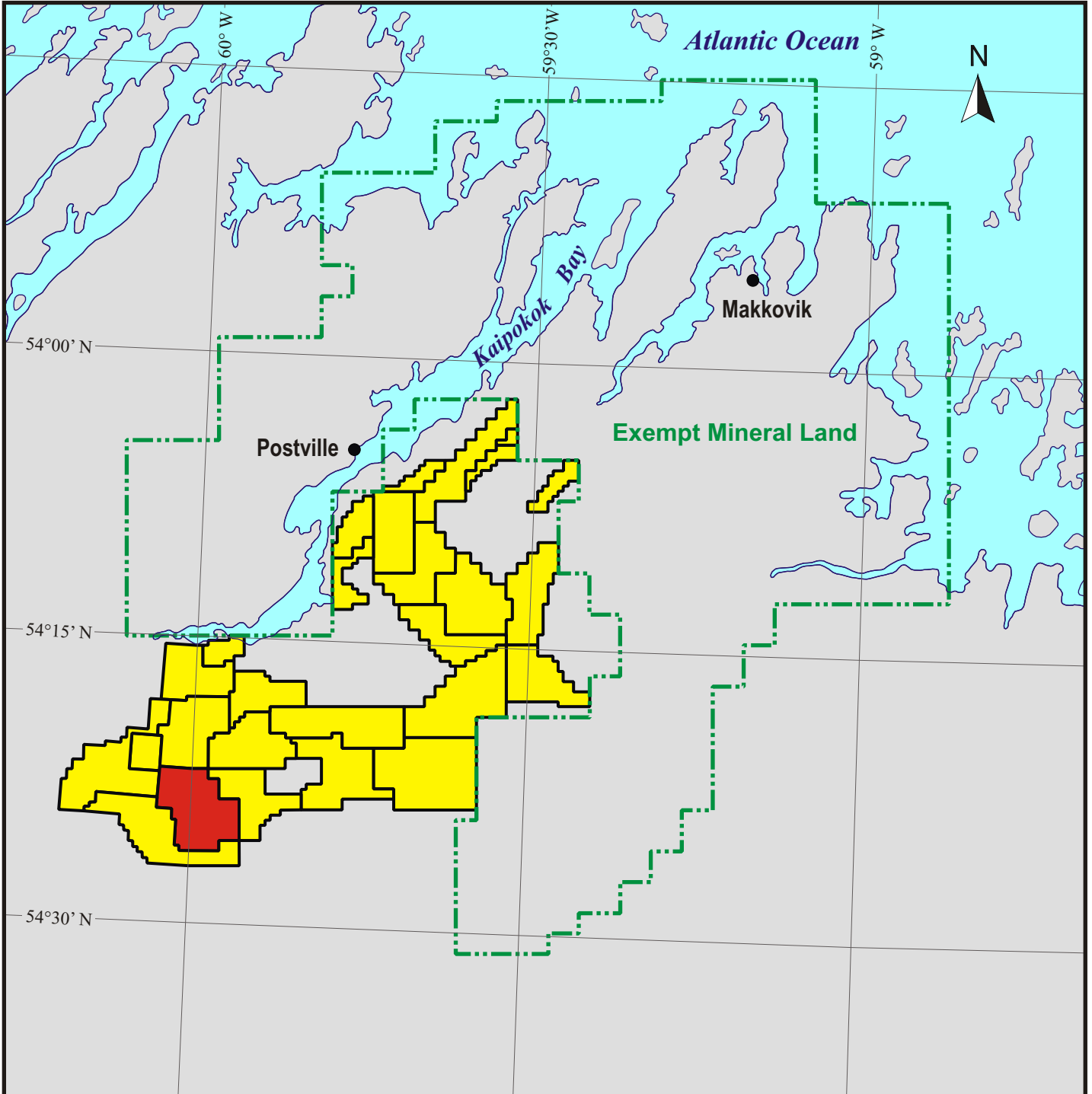
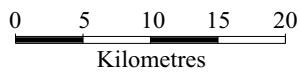


Figure 4-3



**Legend:**

- Frontier Development Group Michelin Property
- Frontier Development Group Other Land Holdings

January 2006

Source: Frontier, 2005.

**Aurora Energy Inc.**

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*Michelin Area*  
Newfoundland and Labrador, Canada

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**Land Tenure**



## **5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY**

Access to the Michelin deposit area is by fixed wing aircraft or helicopter (approximately 40 km) from Postville, a town of approximately 250 people on the west shore of Kaipokok Bay. Supplies and heavy equipment is brought to the community by barge from St. John's, Newfoundland. Some members of the community are employed at the Voisey's Bay Nickel Mine, some are occupied by inshore fishing and some are employed (seasonally) by Aurora.

The climate in central Labrador is sub-arctic with short summer seasons and long winters from November to April. The mean temperature during the winter months is  $-15^{\circ}$  C and ranges from  $15^{\circ}$  C to  $30^{\circ}$  C during the summer months. The average annual precipitation is approximately 450 cm (Environment Canada, 2005). Exploration in the Michelin area is affected by the typical seasonal climatic variations.

Local infrastructure is limited at the two settlements of Postville and Makkovik. The latter is a coastal community situated some 40 km northeast of Postville. There is no infrastructure at the site and electrical power for local operations is obtained from diesel generators. Water, both industrial and potable, is drawn from wells.

The area is covered with many lakes and sparse coniferous forest with locally abundant outcrops. Vegetation consists predominantly of black spruce, balsam fir and tamarack trees, typical of the northeastern part of the Canadian Shield. Areas of outcrop are flanked by glacial till or boulder fields. Overburden cover ranges from 10 m to 15 m.

The land in the Michelin property area is used mainly by local villagers for trapping. Wildlife in the area includes wolves, foxes, bears and various species of birds.

## 6 HISTORY

Exploration for uranium and base metals in the Michelin and neighbouring areas in Labrador started in 1955 was started by British. The first significant uranium showing was found by Walter Kitts in 1956. This was followed by a program of diamond drilling and underground development in 1957, but work was suspended the following year and no further work was done until 1966.

In 1966, Brinex and Metallgesellschaft A.G. (Metallgesellschaft), a German energy company, formed a joint venture to explore part of the lease containing the Kitts uranium deposit. Metallgesellschaft subsequently transferred its interest to its wholly-owned subsidiary, Urangesellschaft Canada Limited (Urangesellschaft). Under this agreement, the joint venture discovered a number of uranium showings in 1968, including the Michelin deposit by prospector Leslie Michelin, and the Gear, Inda and Nash showings from 1968 to 1969. All of these discoveries were made by follow-up ground spectrometer surveys on anomalies detected from airborne radiometric surveys.

During the 1970s, Brinex carried out further detailed exploration on the Michelin deposit and completed approximately 32,480 m of diamond drilling in 290 drill holes. This included approximately 30,720 m of diamond drilling in 235 surface drill holes and approximately 1,760 m of diamond drilling in 56 underground drill holes. In addition, Brinex drove an inclined tunnel of approximately 580 m and other underground workings to access the mineralized zones at depth and for bulk sampling. To date there has been no mining at the Michelin deposit.

In early 1976, Brinex retained Kilborn Engineering (Kilborn) to prepare a Preliminary Engineering, Capital Cost and Operating Cost Report for its proposed Kitts-Michelin project. Kilborn considered three separate concepts to develop the two deposits. In August 1976, Brinex again retained Kilborn to carry out a detailed Feasibility Study on the Kitts-Michelin Project based on the results of the earlier report (Brinex, 1979).

In 1977, Bechtel and Company (Ontario) Limited (Bechtel) carried out a detailed review of the Kilborn Feasibility Study and concluded that production cost would be too high for the development of the Michelin deposit. Furthermore, Bechtel retained Behre-Dolbear, a geological consulting company, to review the Mineral Reserves estimated by Kilborn. Behre-Dolbear concluded that the average grade of the Michelin resources may have been overestimated by up to 5.5% (Bechtel, 1977).

In 1979, Brinex reviewed the technical data on the Kitts and Michelin deposits, and concluded that the Michelin could be developed as an open pit mine in view of the improved market for uranium at the time (Brinex, 1979). The deposit, however, was not developed and the project was put aside for further study.

In 1980, Derry, Michener and Booth (DMB), a geological consulting company at the time, carried out a detailed review of the drill results on behalf of Brinex, and reported that the Mineral Resources of the Michelin deposit contained “Drill Indicated” resources totalling some 6,850,000 tons at an average grade of 0.13% U<sub>3</sub>O<sub>8</sub>. DMB also reported that the Michelin deposit contained “Geologically Inferred” resources totalling some 235,000 tons at an average grade of 0.13% U<sub>3</sub>O<sub>8</sub>. Due to the drastic decline in the price of uranium in the 1980s and 1990s, however, Brinex did not carry out further work, and eventually allowed the property to lapse.

## 7 GEOLOGICAL SETTING

### 7.1 REGIONAL GEOLOGY

The Michelin deposit is situated within the Central Mineral Belt (CMB) in Central Labrador. The CMB forms part of the Nain, Makkovik and Churchill structural provinces and has been overprinted in the south by the Exterior Thrust Belt of the Grenville Province (Figure 7-1). The Makkovik Province is a triangular wedge situated between the Nain Province to the north and the Grenville Province to the south. In terms of tectonic setting, the Michelin deposit is situated within the Aillik domain of the Makkovik Province, which comprises the Kaipokok, Aillik and Cape Harrison tectonic domains. The Kaipokok shear zone, which defines the boundary between the Kaipokok and Aillik tectonic domains, also marks the southern limit of the Archean crust in the Makkovik Province (Hall, 2005).

The Aillik Domain is underlain by Middle to Late Proterozoic rocks of the Post Hill and Aillik groups, respectively, as well as extensive granitoid terrain comprised of several Aphebian intrusive suites. The Aillik Group is comprised of approximately 5,000 m thick assemblage of metasedimentary rocks, bimodal metavolcanic rocks, subvolcanic intrusives and diabase dikes. The Aillik Group rocks host most of the uranium, copper, zinc, lead and molybdenum occurrences in the region, including the Michelin deposit. Within the project area, the Aillik Group rocks are commonly represented by laminated magnetite-feldspar-quartz gneiss. The rocks are foliated with a general easterly trend, dipping moderately to the south. Commonly, strong lineation of the minerals indicates a moderate to steep southerly plunge.

Deformation is dominated by strong shearing with possible subparallel faulting, which may have separated the individual mineralized zones and resulting in “en echelon” pattern. Thin, grey, fine-grained, foliated calcite-biotite schists form horizons are continuous for short distances. This may be the result of minor shears. A second group of faults strikes northeast, and a third group of faults trends west-northwest. Apparent

displacements for the latter group are interpreted to be in the order of tens to several hundreds of metres.

## 7.2 LOCAL GEOLOGY

The Michelin area is underlain by metamorphosed felsic volcanic rocks and minor foliated intrusive rocks, both of which are cut by granitoid intrusives and several phases of mafic dikes. The rocks are metamorphosed to upper greenschist facies, with chlorite, biotite, hornblende, actinolite and epidote as stable mineral assemblages. Felsic volcanic rocks comprise a finely porphyritic sequence intercalated with thin coarsely porphyritic units. The volcanics show complete recrystallization of the quartzo-feldspathic groundmass and are strongly deformed and foliated, which has led to various interpretations of their origin. Brinex geologists initially interpreted these rocks as quartzitic meta-sediments. Subsequent microscopic and lithochemical investigations resulted in reclassification of the rocks as subaerial ash to lapilli tuffs, with variable lithic, crystal and vitric components. A more detailed description of the geology is available in a Technical Report by Wilton and Cunningham-Dunlop (2006).

## 7.3 TECTONIC SETTING

The Michelin uranium deposit is located within an area of volcanism, which is part of the northeast trending Aillik Group. The lower Aillik Group is exposed as a coastal belt, approximately 40 km long and 5 km wide, along the eastern shore of Kaipokok Bay (Figure 7-1). Structurally, the Lower Aillik Group overlies a basement of foliated Archean gneiss. The contact between these two groups is described as a “tectonic slide zone” (Wilton, 1966). The Lower Aillik Group is subdivided into three units, as follows:

- An uppermost unit consisting of the Kitts Pillow Lava formation. This unit includes two members; a pillow lava and tuff unit, and a metasedimentary unit of graphitic metapelite, semipelite, chert and magnetite iron formation.
- A middle unit consisting of interlayered grey psammites, phyllitic schist, semipelite, quartz-muscovite schist and biotite schist.
- A lower unit known as the Post Hill Amphibolite, consisting of fine-grained, dark green and grey hornblende schist (Hall, 2005 and Wilton, 1996).

The age of the Lower Aillik Group has not been directly determined, but appears to be Aphebian. Interpretation of field relationships, such as lithologic contacts and structural features, indicates that maximum age for these rocks to be in the range from 2342 MA to 2276 MA. Earlier reports also indicate U-Pb zircon dates ranging from 1860 (+9-3) MA to 1856±2 MA as a minimum age for the Lower Aillik Group (Wilton, 1996). Uranium bearing horizons veins are genetically related to the east-northeast trending units and faults with similar orientation, i.e. the latter have acted as conduits for mineralizing solutions along complementary structures.

Recent airborne geophysical (combined radiometric and magnetic) survey results suggest that a linear uranium/thorium anomaly coincides with the surface trace of the Michelin deposit. The radiometric anomaly extends to the east for 4 km along strike and encompasses several known uranium occurrences, including the Rainbow occurrence some 2 km south of Michelin. This radiometric anomaly also correlates with a vertical derivative magnetic anomaly. These results further suggest that the Michelin, Rainbow and other uranium occurrences are situated along the two limbs of an overturned fold with steep southwesterly plunge and southeast dipping fold limbs (Smith et al, 2005).

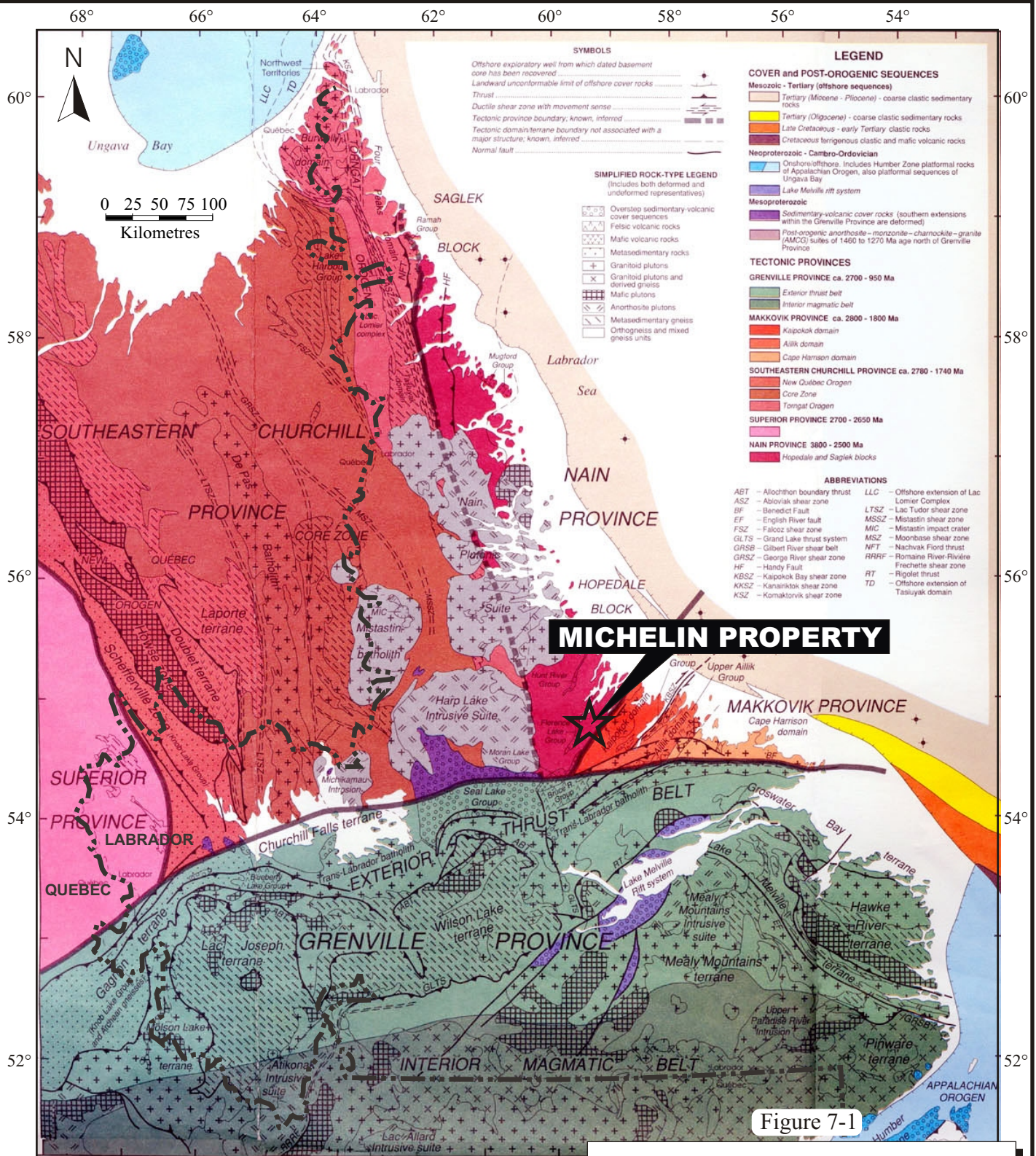


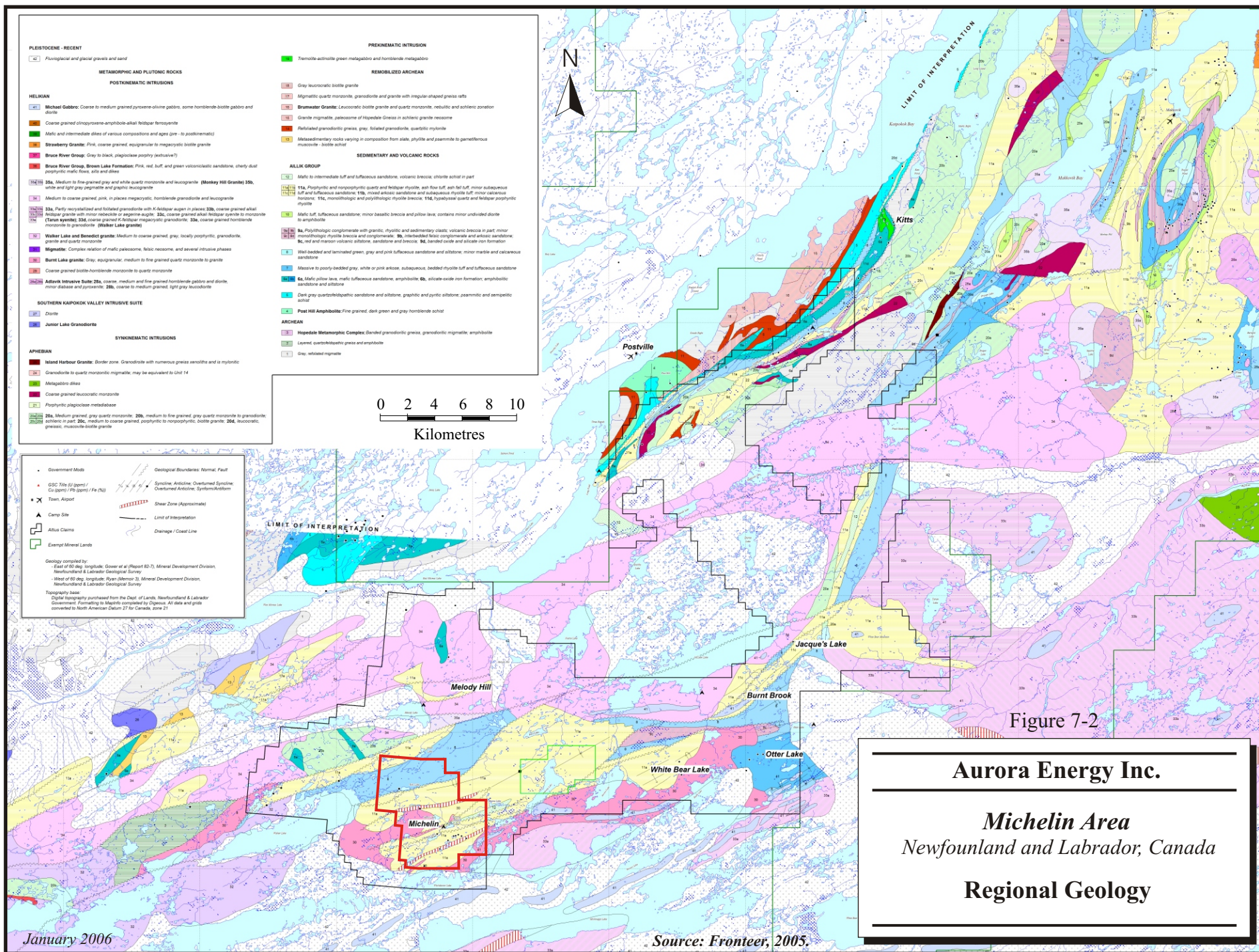
Figure 7-1

Source: Government of Newfoundland and Labrador, Dept. of Mines and Energy, Geological Survey, Map97-07

**Aurora Energy Inc.**

*Michelin Property*  
Newfoundland and Labrador, Canada

**General Geology of Labrador**



- PLEISTOCENE - RECENT**
- Fluvial and glacial gravels and sand
- METAMORPHIC AND PLUTONIC ROCKS**
- POSTKINEMATIC INTRUSIONS**
- HELIXIAN**
- Michael Gabbro:** Coarse to medium grained pyroxene-olivine gabbro, some hornblende-biotite gabbro and diorite
  - Coarse grained clinopyroxene-amphibole-alkali feldspar ferrogabbro
  - Mafic and intermediate dikes of various compositions and ages (pre- to postkinematic)
  - Strawberry Granite:** Pink, coarse grained, eugeopline to megacrystic biotite granite
  - Bruce River Group:** Gray to black, plagioclase pophyry (extrusive?)
  - Bruce River Group, Brown Lake Formation:** Pink, red, buff, and green volcanoclastic sandstone, cherty dark pophyritic mafic flows, silt and diorite
  - 35a:** Medium to fine-grained gray and white quartz monzonite and leucogranite. (**Monkey Hill Granite**) 35b, white and light gray pegmatite and graphic leucogranite
  - 34:** Medium to coarse grained pink, in places megacrystic, hornblende granodiorite and leucogranite
  - 33a:** Fully recrystallized and foliated granodiorite with K-feldspar augen in places 33b, coarse grained alkali feldspar granite with minor relict or eugeopline augen. 33c, coarse grained alkali feldspar granite to monzonite (**Town granite**) 33d, coarse grained K-feldspar megacrystic granodiorite. 33e, coarse grained hornblende monzonite to granodiorite. (**White Lake granite**)
  - 32:** Walker Lake and Benedict granite: Medium to coarse grained, gray, locally porphyritic, granodiorite, granite and quartz monzonite
  - Migmatite:** Complex relation of mafic, psammitic, felsic, meso- and several intrusive phases
  - Burnt Lake granite:** Gray, eugeopline, medium to fine grained quartz monzonite to granite
  - Coarse grained biotite-hornblende monzonite to quartz monzonite
  - Adakite Intrusive Suite:** 25a, coarse, medium and fine grained hornblende gabbro and diorite, minor diorite and pyroxene; 25b, coarse to medium grained, light gray leucodiorite
- SOUTHERN KAPOKOK VALLEY INTRUSIVE SUITE**
- Diorite
  - Junior Lake Granodiorite
- SYNKINEMATIC INTRUSIONS**
- APHEBIAN**
- Island Harbour Granite:** Border zone, Granodiorite with numerous gneiss xenoliths and is mylonitic
  - Granodiorite to quartz monzonite migmatite, may be equivalent to Unit 14
  - Migmatite dikes
  - Coarse grained leucocratic monzonite
  - Porphyritic plagioclase metabasalt
  - 20a, Medium grained, gray quartz monzonite. 20b, medium to fine grained, gray quartz monzonite to granodiorite, schistose in part. 20c, medium to coarse grained, porphyritic to nonporphyritic, biotite granite. 20d, leucocratic, gneiss, muscovite-biotite granite

- PREKINEMATIC INTRUSION**
- Tremolite-actinolite green metagabbro and hornblende metagabbro
- REMOBILIZED ARCHEAN**
- Gray leucocratic biotite granite
  - Migmatitic quartz monzonite, granodiorite and granite with irregular-shaped gneiss rafts
  - Brownwater Granite:** Leucocratic biotite granite and quartz monzonite, relictic and schistose zonation
  - Granite migmatite, paragneiss of Hépatite Gneiss in schistose granite mesosome
  - Foliated granodioritic gneiss, gray, foliated granodiorite, quartzite mylonite
  - Migmatitic rocks varying in composition from staurolite, phyllite and psammitic to garnetiferous muscovite-biotite schist
- SEDIMENTARY AND VOLCANIC ROCKS**
- ALLIK GROUP**
- Mafic to intermediate tuff and tuffaceous sandstone, volcanic breccia, chlorite schist in part
  - 11a, Porphyritic and nonporphyritic quartz and feldspar rhyolite, ash flow tuff, ash fall tuff, minor subaqueous tuff and tuffaceous sandstone. 11b, mixed felsic sandstone and subaqueous rhyolite tuff, minor calcareous siltstone. 11c, monolithologic and polytuffitic rhyolite breccia. 11d, feldspathic quartz and feldspar porphyritic rhyolite
  - Mafic tuff, tuffaceous sandstone; minor basaltic breccia and pillow lava; contains minor undivided diorite to amphibolite
  - 12a, Polytextured conglomerate with granitic, rhyolitic and sedimentary clasts, volcanic breccia in part, minor monolithologic rhyolite breccia and conglomerate. 12b, interbedded felsic conglomerate and siliceous sandstone; 12c, red and maroon volcanic sandstone and breccia. 12d, banded sand and siliceous siltstone formation
  - Well sorted and laminated green, gray and pink siliceous sandstone and siltstone, minor marble and calcareous sandstone
  - Massive to poorly bedded gray, white or pink arkose, subaqueous, bedded rhyolite tuff and tuffaceous sandstone
  - 14a, Mafic pillow lava, mafic tuffaceous sandstone, amphibolite. 14b, siliceous siltstone formation, amphibolite sandstone and siltstone
  - Dark gray quartzite/siltstone sandstone and siltstone, graphic and pyritic siltstone, psammitic and semipelite siltstone
  - Post Hill Amphibolite: Fine grained, dark green and gray hornblende schist
- ARCHEAN**
- Hépatite Metamorphic Complex:** Banded granodioritic gneiss, granodioritic migmatite, amphibolite
  - Laminated quartzite/siltstone gneiss and amphibolite
  - Gray, foliated migmatite

- Government Mobs
- Geological Boundaries: Normal Fault
- GSC File (U ppm) / Col ppm (F %)
- Syncline, Anticline, Overturned Syncline, Overturned Anticline, Symfolds/Antiform
- Shear Zone (Approximate)
- Limit of Interpretation
- Drainage / Coast Line
- Exempt Mineral Lands
- Geology compiled by: East of 60 deg. longitude: Gower et al (Report 82-7), Mineral Development Division, Newfoundland & Labrador Geological Survey. West of 60 deg. longitude: Ryan (Memoir 2), Mineral Development Division, Newfoundland & Labrador Geological Survey.
- Topography base: Digital topography purchased from the Dept. of Lands, Newfoundland & Labrador Government. Formatting to MapInfo completed by Digibase. All date and grids converted to North American Datum 27 for Canada, zone 21.

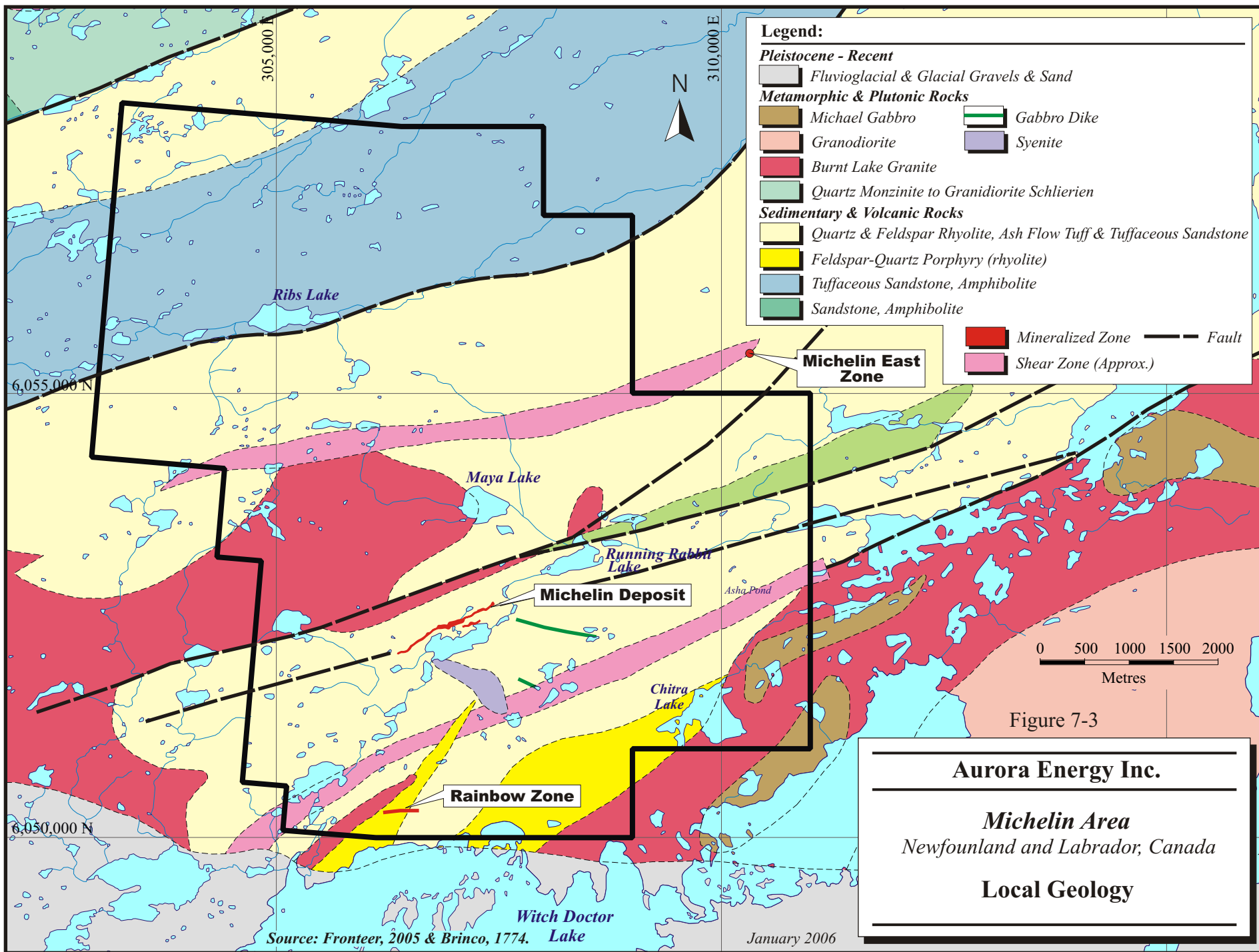
Figure 7-2

**Aurora Energy Inc.**

*Michelin Area*  
Newfounland and Labrador, Canada

**Regional Geology**





**Legend:**

**Pleistocene - Recent**

Fluvioglacial & Glacial Gravels & Sand

**Metamorphic & Plutonic Rocks**

Michael Gabbro

Gabbro Dike

Granodiorite

Syenite

Burnt Lake Granite

Quartz Monzonite to Granodiorite Schlieren

**Sedimentary & Volcanic Rocks**

Quartz & Feldspar Rhyolite, Ash Flow Tuff & Tuffaceous Sandstone

Feldspar-Quartz Porphyry (rhyolite)

Tuffaceous Sandstone, Amphibolite

Sandstone, Amphibolite

Mineralized Zone

Fault

Shear Zone (Approx.)

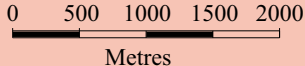


Figure 7-3

**Aurora Energy Inc.**

*Michelin Area*  
Newfoundland and Labrador, Canada

**Local Geology**

## 8 DEPOSIT TYPES

Uranium mineralization hosted by lithologies of the Post Hill Group has been referred to as epigenetic by early workers while that within the Aillik Group has been called volcanic-hosted, stratabound and possibly syngenetic in origin (Gower et al., 1982; Gandhi, 1986). Pb-Pb ages in the range 1895 to 1697 Ma for uranium mineralization in the Post Hill Group (2178 to 2013 Ma) support an epigenetic origin for these occurrences (Wilton, 1996). An epigenetic emplacement of the uranium mineralization within the Aillik Group is also indicated by uraniferous fracture filling and breccias.

Extensive areas of hematite + albite and quartz + epidote + actinolite + chlorite alteration in the Kitts - Michelin area are similar to alteration assemblages developed in iron-oxide-copper-gold (IOCG) districts of Paleoproterozoic age (Hitzman et al., 1992; Haynes, 2000). In some of these districts a peripheral enrichment in uranium has been exploited as an exploration tool to locate copper-gold mineralization. Consequently, fracture controlled uraninite + magnetite mineralization found in the Kitts - Michelin area may represent part of a uranium-rich end member of the iron-oxide class of epigenetic deposits.

## 9 MINERALIZATION

### 9.1 STYLE OF MINERALIZATION

The uranium mineralization at Michelin is hosted within a 150 m to 200 m thick zone of visibly discernable alteration within the felsic meta-volcanics, the boundaries of the zone being essentially conformable with S1 and lithologic contacts. The zone has been traced along strike for 1200 metres and to a local vertical depth of 706 m, and is open in all directions. Elevated radioactivity is sporadically distributed throughout this zone. The most consistently mineralized material occurs within a 65-metre thick interval, located near the upper part of the lower half of the alteration zone. This interval contains up to three higher-grade sub-intervals, separated by lower-grade or essentially un-mineralized material. The high-grade zones pinch and swell, or have some lateral discontinuity, such that the Brinex resource calculation was based on eight separate lenses. Two smaller lenses of mineralization occur within the upper half of the eastern part of the alteration zone.

The alteration zone is marked by a silica and feldspar destructive alteration, which leaves the rock soft and finely porous or “weathered looking”. This is accompanied by a gradational replacement of biotite and chlorite by hornblende, and more proximal to mineralization by pyroxene and actinolite. There is also an increase in calcite and gypsum, although these are still only present in very minor quantities. Early mafic dikes show increased chloritization, locally accompanied by major amounts of biotite, and proximal to mineralization, by hornblende and actinolite. Hematization increases significantly proximal to mineralization, with associated disappearance of magnetite and locally pyrite. Uranium normally occurs in microscopic disseminations of (pitchblende?) associated with strong hematization; some centimetre-sized massive pitchblende veinlets were recorded at the west end of the zone. However, the highest uranium values do not necessarily correlate with the strongest hematite. Microscopic study by Brinex indicates that much of the uranium is intergrown with pyroxene and actinolite. The uranium mineralization is hosted by both finely and coarsely porphyritic phases of the felsic meta-volcanics, with higher grades locally having some preference for the coarsely porphyritic

units. The early mafic dikes are unmineralized, but uranium grades often increase adjacent to them.

There are more than 150 uranium-bearing minerals that are known to exist in the world, but only a few are common. A general description of the more common uranium minerals is presented in Table 9-1.

<b>TABLE 9-1 COMMONLY OCCURRING URANIUM MINERALS</b>		
<b>Aurora Energy Inc. – Michelin Property</b>		
<b>Mineral</b>	<b>Chemical Formula</b>	<b>Description</b>
Uraninite (Pitchblende)	UO <sub>2</sub>	Steely black to brownish black crystals, usually cubic, octahedral; also massive (pitchblende); dense and botryoidal; also dendritic (pitchblende). Most common naturally occurring uranium mineral
Torbernite (meta-torbernite)	Cu(UO <sub>2</sub> ) <sub>2</sub> (PO <sub>4</sub> ) <sub>2</sub> ·8-12H <sub>2</sub> O	Thin to thick tabular crystals or scaly aggregates; emerald green to apple green; not fluorescent under ultraviolet light
Autunite (meta-autunite)	Ca(UO <sub>2</sub> ) <sub>2</sub> (PO <sub>4</sub> ) <sub>2</sub> ·10-12H <sub>2</sub> O	Habit similar to torbernite; lemon-yellow, strongly fluorescent under ultraviolet light. Secondary uranium mineral commonly found in zone of oxidation and weathering of veins containing uranium.
Carnotite	K <sub>2</sub> (UO <sub>2</sub> ) <sub>2</sub> (VO <sub>4</sub> ) <sub>2</sub> ·3H <sub>2</sub> O	Occurs usually as bright yellow to lemon-yellow powdery mineral, dull or earthy; rarely as crusts or minute platy crystals.
Weeksite	K <sub>2</sub> (UO <sub>2</sub> ) <sub>2</sub> (Si <sub>6</sub> O <sub>14</sub> )·4H <sub>2</sub> O	Uncommon uranium mineral, detected at Macusani
Tyuyamanite	Ca(UO <sub>2</sub> ) <sub>2</sub> (VO <sub>4</sub> ) <sub>2</sub> ·nH <sub>2</sub> O	Occurs as canary-yellow to lemon-yellow or greenish scales, laths and aggregates. Not easily recognized except by chemical or XRD tests.
Coffinite	U(SiO <sub>4</sub> ) <sub>1-x</sub> (OH) <sub>4x</sub>	Naturally occurring black mineral, commonly fine-grained mixed with organic matter and other minerals.
Davidite	(Ce,La)(Y,U)Ti <sub>2</sub> Fe <sub>5</sub> O <sub>38</sub>	Brown to black, crystalline to amorphous uranium mineral containing rare-earth elements and titanium; found in pegmatites.
Brannerite	(U,Ca,Ce)(Ti,Fe) <sub>2</sub> O <sub>6</sub>	Yellow-green, brown or black crystalline (prismatic) mineral, found in gold placers; highly radioactive.
<b>Source: Berry &amp; Mason, 1959, Weller, 1957, Wright's Rock Shop (the Internet).</b>		

Mineralogical studies indicate that the ore minerals at Michelin consist primarily of pitchblende (>99% UO<sub>2</sub>) with trace amounts of soddyite (Na-U-silicate, <1%) and molybdenite. The gangue minerals are feldspar (85%), quartz (5%), calcite (1.5%), magnetite (1%), fluorite (1%), and pyrite (<0.2%) (Kilborn, 1979). Fine-grained pyrite also is commonly present in mafic dikes.

## 9.2 MINERALIZED AREAS

The discussion below on the geology and radiometric response of the mineralized areas is explained in more detail in the Wilton and Cunningham-Dunlop (2006) NI43-101 report.

### 9.2.1 MICHELIN DEPOSIT

The Michelin deposit is the largest uranium deposit in the Kaipokok Uranium Province. Mineralization occurs within east-northeast trending strata and has been traced for approximately 1,200 m along strike. At least twelve (12) mineralized units are recognized within the 160 m distance across the strike of the Michelin deposit, although not all of them can be traced for distances more than 200 m along strike. Some zones may be traced up to 725 m along strike. The deepest intersection to date is at a vertical depth of approximately 340 m. The mineralized units are enveloped by lower grade material, commonly declining gradually in grade outwards, from 0.1%  $U_3O_8$  to barren rock. Within the mineralized units, grade is variable, commonly within the range of 0.1%  $U_3O_8$  to 1.5%  $U_3O_8$ .

Michelin deposit is associated with a U/Th radiometric anomaly about 900 m by 500 m in size although this includes the effects of surface disturbance. This zone of radioactivity is associated with feldspar-quartz gneiss of the Aillik Group and flanked by intrusive phases of the 1650 Ma Burnt Lake granite. Historical resources estimates for the Michelin deposit are based on intercepts from 159 surface drill holes totalling 25,014 m of drilling, data from 662 metres of underground development, and data from 1,774 metres (56 holes) of underground drilling (Booth et al., 1979).

The Michelin deposit consists of several sub-parallel groups of mineralized zones along a strike length of 1200 m and to local depths of 700 m and is open in all directions. The mineralization is largely confined to 150 m to 200 m thick zone of visibly discernable hematite alteration within a coarse feldspar porphyritic quartz mylonite unit, the boundaries of the zone being essentially conformable with S1 and lithologic contacts. The zones strike approximately  $060^\circ$ , dip about  $55^\circ$  southeast, and contains higher grade

shoots which plunge steeply to the south-southwest, consistent with the regional plunge lineation. The most consistently mineralized material occurs within a 65 m thick interval located near the upper part of the lower half of the alteration zone. This interval contains up to three higher-grade sub-intervals, separated by lower-grade or essentially un-mineralized material. The alteration zone is marked by a gradational replacement of biotite and chlorite by hornblende, and more proximal to mineralization, by pyroxene and actinolite. There is also an increase in calcite and gypsum, although these are still only present in very minor quantities. Hematization increases significantly proximal to mineralization, with associated disappearance of magnetite and locally pyrite. Uranium normally occurs in microscopic disseminations of (pitchblende?) associated with strong hematization.

At Michelin, the uranium mineral, apparently uraninite ( $\text{UO}_2$ ) is finely disseminated through the quartzo-feldspathic rocks. On microscopic scale, the grains, 5  $\mu$  to 10  $\mu$  in diameter, are seen to form aggregates along the quartz and/or hornblende streaks or layers (Gandhi and Guiton, 1974). It is not certain whether the mineralization is syngenetic or epigenetic, but it is definitely stratabound. The mineralization is closely associated with the volcanism, and may have been modified by later deformation and metamorphism. Gandhi and Guiton (1974) attributed the mineralization to be syngenetic with the host rocks, with en-echelon arrangement, in part due to folding and faulting. In places, however, the mineralized zones do not necessarily coincide with the zones that show the most shearing and brecciation. In fact, "some highly sheared zones in the surrounding area are barren. The lack of development of micaceous minerals, such as muscovite and sericite, may indicate that shearing took place under 'dry' conditions. Hydrothermal alteration is minimal even in the ore zone. Textural data clearly support a pre-metamorphic age of mineralization, and some redistribution of uranium must have taken place during deformation and metamorphism" (Gandhi and Guiton (1974).

### **9.2.2 RAINBOW DEPOSIT**

The Rainbow zone of mineralization occurs as a stratiform lens within feldspathic tuff and tuff breccia of the Aillik Group. Mineralization with an average grade of 0.15%

U<sub>3</sub>O<sub>8</sub>, occurs over a strike length of 290 m and widths of up to 15 m. The main lens, as inferred by drilling, is 140 m long, 2 m to 15 m wide and 79 m deep.

### **9.2.3 MICHELIN EAST TARGET**

The area was investigated by Brinex during the development of the neighbouring Michelin Deposit and dozens of the 300 drill holes performed at Michelin fall within the Michelin East target area (Figure 7-3). The work resulted in the discovery of the Chitra Zone, Mikey Lake Zone, and Running Rabbit Zones and follow-up drilling tested these zones as well as the majority of the known radiometric anomalies. The three main showings are described below.

#### ***CHITRA PROSPECT***

The Chitra Prospect is located in the western part of Chitra Zone on the interpreted southern limb of the fold. It consists of a number of small trenches into outcropping mineralization and drill holes underneath these. Interestingly the surface showing is off to the south-west and south of the main radiometric anomalies.

#### ***MIKEY LAKE ZONE***

The Mikey lake Zone is located in the north-east and north of the mapping area and consists of a number of small U/Th highs within the broader anomalous area. It is located over another aeromagnetic unit to the north of the interpreted fold closure of the main Michelin zone.

#### ***RUNNING RABBIT ZONE***

In the Running Rabbit Zone, a trench was identified to be at surface of the mineralized zone. The host rock appears to be a strongly foliated to sheared felsic volcanic that is coarsely porphyritic in layers or bands at metre scale. This is assumed to be the same as the “coarsely porphyritic rhyolite” described as the host rock at the Michelin deposit. In this trench exposure the feldspar appears to be porphyroblastic rather than magmatic in origin. The outcrop in the trench is strongly banded in places and the feldspar grains vary from late-stage, coarsely euhedral to strongly augened.

## 10 EXPLORATION

Prior to 2003, prospecting was the prominent exploration tool in the Michelin area. Consequently, all the discoveries of uranium mineralization were made from trenching and drilling of outcropping zones. Since the start of the project in 2003, however, a new approach is applied by assessing the potential for IOCG-type mineralization in the eastern part of the Central Mineral Belt. Based on review of historical data and examination of drill core, Aurora has outlined wide areas of hematite-chlorite-epidote-actinolite alteration, which is considered favourable for IOCG-type mineralization.

Since 2003, exploration work in the general area of the Michelin license consisted of:

- A combined airborne radiometric and magnetic survey by Fugro Airborne Surveys Corporation (Fugro) covering an area 70 km x 20 km. Results of the survey indicate that uranium mineralization at the Michelin deposit and at the Rainbow showing to the south may be hosted by the same horizon, thus indicating a regional isoclinal fold structure.
- Lithochemical sampling. Based on results of 304 rock samples, Aurora concludes that the uranium content in rocks is best correlated with the lead content, which is assumed to be radiogenic.
- Digital compilation of drill hole data and a three-dimensional computer generated model of the Michelin deposit.

Recently in the 2005, Aurora completed an exploration program consisting of:

- A detailed airborne radiometric and magnetic survey by Fugro Airborne Surveys.
- Geological mapping to confirm the previous work by Brinex.
- GPS Surveying of historic grids, trenches, and drill holes.
- Digital compilation of drill hole data and a the generation of a three-dimensional computer generated model of the Michelin deposit.
- Geological, geochemical sampling (rock & humus) and scintillometer surveys on other targets within the Michelin license.
- A total of 4,548 m of helicopter-supported diamond drilling in 10 holes (9,402 m 27 holes within the greater CMB Property). This included confirmation drilling



by twinning two old Brinex holes as well as testing the down-plunge extent of the known mineralization at depth with an additional eight holes (seven completed and one aborted). Results are discussed in the next section under Drilling.

Recent airborne geophysical survey results suggest that the Michelin and the Rainbow uranium occurrence are situated along the two limbs of an overturned fold with steep south-westerly plunge and southeast dipping fold limbs, as noted above. The closure of this possible fold occurs in the Michelin East target area.

At Rainbow, a few outcrops consist of “well-foliated, variably hematitic, purple-brown to grey and green, fine-grained felsic units that have been assigned to the Aillik Group. These units are variably magnetic with up to 15% seams of amphibole and locally exhibit clouded blue quartz phenocrysts”, with radiometric response of up to 1,500 cps (SPP2) on locally derived boulders containing traces of uranophane (Smith et al, 2005). Mineral resources totalling some 100,000 tonnes at an average grade of 0.15% U<sub>3</sub>O<sub>8</sub> are reported for the Rainbow occurrence. RPA notes, however, that these resources are not NI 43-101 compliant.

## 11 DRILLING

During the 2005 field season, Aurora completed nine (9) holes. Total drilling, including one aborted hole, was 4,547 m in the Michelin Deposit area. Drilling was carried out from August 20 to November 2, 2005.

The goal of the 2005 drill program was to confirm the presence of the uranium mineralization at Michelin as documented in the historic Brinex drilling, and to also try and extend the known zones below the previously tested vertical depth of 250 metres. To that end, two twin holes were drilled in the upper portion of the A Zone, while eight holes were drilled on the down plunge projection of the “A Zone” to test the zone between 250 m and 700 m vertical depth. Additional information on the 2005 diamond drilling program is available in Wilton and Cunningham-Dunlop (2006).

Drilling contractor was Falcon Drilling of Prince George, BC. Drill moves were supported by helicopter. BTW size core was recovered and the procedures used during the diamond drilling programs are as follows:

- The collar locations of all drill holes are surveyed and marked in the field. A Geographic Positioning System (GPS) instrument was used to mark the collar locations of both old Brinex drill holes as well as the new Aurora drill holes. This survey was carried out by N.L. Parrott Land Surveyors of Goose Bay, Labrador.
- A Flex-It survey instrument, supplied by Falcon Drilling, is used to provide control information on the directional deviation (both azimuth and inclination) of each hole. This system utilizes an electronic sensor which is lowered down the hole and measurements are recorded on a remote sensing pad in the drill shack. In addition to the azimuth and dip angle, readings are taken for magnetic field strength, magnetic dip angle, gravity roll angle, temperature, hole number, date and time. The instrument is used in “single shot” mode and operated by the driller. The number of measurements taken per hole is dependent upon the hole length and included at a minimum a measurement at the bottom and top of each hole. For the holes testing the Michelin deposit, measurements are taken at 50-metre intervals, and for each 100-metre interval down the hole for exploration holes. RPA understands that no significant deviation problems were encountered at Michelin (Valenta, 2005). Nevertheless, RPA recommends that additional survey measurements be taken at the start of mineralized intersections to allow for more accurate calculation of horizontal width of the mineralized zones.

- Lithologic logging is done on drill core and geotechnical observations are made by company geologists, depicting all down-hole data including assay values. All information is recorded on hand written logs. This includes marking:
  - Lithologic contacts
  - Descriptive geology
  - Intensity of various alteration types
  - Structural features, such as foliation, fracture and brecciated zones
  - Core angles
  - Core diameter
  - Down hole inclination
  - Percent core recovery record
  - Rock quality designation (RQD) measurements
  - Recording of radiometric response on a representative sample of each 3 m interval of the core
  - Recording the magnetic susceptibility on a representative sample of each 1.5 m interval of the core
  - Maintaining a photographic record of the core with a digital camera. Photographs are taken of all exploration drill core and key information is summarized in a digital database

Results of recent drilling are summarized in Table 11-1.

TABLE 11-1 2005 DIAMOND DRILLING RESULTS					
Aurora Energy Inc.– Michelin Deposit					
Drill Hole	Target	Results/Mineralized Intersection			
		From (m)	To (m)	Interval (m)	% U <sub>3</sub> O <sub>8</sub>
M-05-01	Abandoned hole.				
M-05-02C	Testing for U-min at depth (Zone 1)	343.00	.45.20	1.00	0.031
M-05-02C	Testing for U-min at depth (Zone 2)	369.53	377.83	8.30	0.154
M-05-02C	Testing for U-min at depth (Zone 3)	387.12	396.04	8.92	0.144
M-05-02C	Testing for U-min at depth (Zone 4)	402.72	412.33	9.61	0.243
M-05-03	Testing for U-min at depth (Zone 1)	346.36	350.36	4.00	0.068
M-05-03	Testing for U-min at depth (Zone 2)	378.74	388.92	10.18	0.069
M-05-03	Testing for U-min at depth (Zone 3)	418.46	430.42	11.96	0.235
M-05-03	Testing for U-min at depth (Zone 4)	437.22	439.89	2.67	0.026
M-05-04	Testing for U-min at depth (Zone 2)	339.60	346.46	6.86	0.070
M-05-04	Testing for U-min at depth (Zone 3)	349.95	366.95	17.00	0.172
M-05-04	Testing for U-min at depth (Zone 4)	383.15	386.90	3.75	0.175
M-05-05	Testing for U-min at depth (Zone 2)	442.75	462.47	19.72	0.165
M-05-05	Testing for U-min at depth (Zone 3)	466.75	474.50	8.03	0.115
M-05-05	Testing for U-min at depth (Zone 4)	492.95	499.54	6.59	0.129
M-05-06	Testing for U-min at depth (Zone 1)	485.97	489.07	3.10	0.082
M-05-06	Testing for U-min at depth (Zone 2)	502.31	511.16	8.85	0.119
M-05-06	Testing for U-min at depth (Zone 3)	524.31	534.24	9.93	0.280
M-05-06	Testing for U-min at depth (Zone 4)	542.34	549.47	7.13	0.277
M-05-07	Testing for U-min at depth (Zone 2)	422.00	429.19	7.19	0.206
M-05-07	Testing for U-min at depth (Zone 3)	441.19	443.19	2.00	0.117
M-05-07	Testing for U-min at depth (Zone 4)	453.69	457.99	4.30	0.130
M-05-07	Testing for U-min at depth (Zone 5)	461.95	465.03	3.08	0.091
M-05-08	Testing for U-min at depth (Zone )	689.5	697.65	8.15	0.10
M-05-08	Testing for U-min at depth (Zone )	706.82	707.32	0.5	0.32
TWM-05-92	Twin for hole M-70-92 (Zone B)	36.60	38.67	2.07	0
TWM-05-92	Twin for hole M-70-92 (Zone 1)	48.25	50.67	2.07	0
TWM-05-92	Twin for hole M-70-92 (Zone 2)	57.49	68.67	11.19	0.137
TWM-05-92	Twin for hole M-70-92 (Zone 2A)	74.37	76.51	2.14	0.031
TWM-05-92	Twin for hole M-70-92 (Zone 3)	81.75	83.88	2.13	0.258
TWM-05-92	Twin for hole M-70-92 (Zone 4)	86.84	89.67	2.83	0.068
TWM-05-174	Twin for hole M-76-174 (Zone A)	9.96	13.92	3.97	0.013
TWM-05-174	Twin for hole M-76-174 (Zone A1)	37.48	40.74	3.25	0.001
TWM-05-174	Twin for hole M-76-174 (Zone 2)	137.32	140.82	3.51	0.006
TWM-05-174	Twin for hole M-76-174 (Zone 3)	145.44	160.47	15.02	0.137
TWM-05-174	Twin for hole M-76-174 (Zone 4)	182.25	185.64	3.38	0

**Source: Fronteer, 2005.**

Note: Twin holes TWM-05-92 and TWM-05-174 essentially confirmed earlier results.

Comparison of the old (Brinex) and new (Aurora) drill results for the twinned holes indicates that the new holes have essentially duplicated the old results, as shown in Table 11-2.

<b>TABLE 11-2 COMPARISON OF TWINNED HOLE RESULTS</b>									
<b>Aurora Energy Inc. – Michelin Project</b>									
<b>Brinex Results</b>					<b>Aurora Results</b>				
<b>DDH No.</b>	<b>From (m)</b>	<b>To (m)</b>	<b>Interval (m)</b>	<b>% U<sub>3</sub>O<sub>8</sub></b>	<b>DDH No.</b>	<b>From (m)</b>	<b>To (m)</b>	<b>Interval (m)</b>	<b>% U<sub>3</sub>O<sub>8</sub></b>
M-70-92	57.13	68.79	11.27 <sup>(1)</sup>	0.162	TWM-05-92	55.23	66.62	11.39	0.156
M-70-92	81.75	83.88	2.13 <sup>(2)</sup>	0.258	TWM-05-92	79.00	82.00	3.00	0.237
M-76-174	128.32	130.45	1.67 <sup>(3)</sup>	0.056	TWM-05-174	137.32	140.82	3.51	0.006
M-76-174	134.72	149.96	15.24 <sup>(4)</sup>	0.101	TWM-05-174	145.44	160.47	15.02	0.137

**Source: Fronteer, 2005.**

**Note:**

1. Zone 2 intersection.
2. Zone 3 intersection.
3. Zone 2 intersection.
4. Zone 3 intersection.
5. Average grades of intervals calculated at the 0.05% U<sub>3</sub>O<sub>8</sub> cut-off grade, including internal dilution.

## 12 SAMPLING METHOD AND APPROACH

### 12.1 BRINEX PROGRAMS

During the 1970s diamond drill campaigns carried out by Brinex, all drill core was tested for radioactivity by hand-held scintillometer. In some cases, if the radioactive response was higher than background, uneven lengths were split and sampled. In other cases (late 1970s drilling) drill core with radioactive response  $\geq 0.02\%$   $U_3O_8$  was assayed in 3-ft lengths (Sharpley, 1980).

### 12.2 AURORA ENERGY PROGRAM

Materials sampled for resource estimation for the Michelin deposit include drill core, underground workings and surface trenches. Core size varies from BTW (Aurora holes), and BQ and AQ for most Brinex surface holes and underground holes. Drill core recovery at Michelin is generally very good. All samples are collected by, or under the supervision of, a geologist.

All samples have been collected by splitting the drill core. The methodology of sampling of the drill core, underground openings or surface material is described below.

For diamond drill holes, mineralized drill core intervals to be sampled are identified and marked by the geologist. Sample lengths vary from 0.8 m to 1.25 m. Visual indicators of the intervals to be sampled include lithologic contacts, silicified breccias, silicified rock and other altered zones. The sampling procedure is as follows:

- Sample intervals are marked by sample tags stapled into the core box, and are normally extended for two metres into unmineralized rock.
- Marked sample intervals are split in half using a mechanical core splitter. A technician collects the split core.
- Samples are collected in large 40 cm x 50 cm clear polyethylene bags, sealed and kept in 10-gal plastic drums, and each drum is marked as to its contents.
- Cuttings from the splitter are collected and stored in a 10-gal drum.

In general, the drill hole and underground sampling procedures employed by Aurora conform to industry standards, in RPA's view. For better control on sampling, however, RPA recommends that:

- Aurora use flagging tape to mark sample intervals prior to sampling. This is because, in places, the unsplit core may mask the sample tags at the bottom of the row in the core box, and thus may cause mixing of samples.
- Diamond saw be used for sampling instead of the core splitter. The cuttings may be collected the same way as it is presently done for core splitter, and the water can be re-circulated using a collecting tank.
- Prior to sampling, drill core to be marked by a line drawn along the core, so that systematically one side of the core is sampled.
- Sample tags be inserted only after the samples have been collected.
- Permanent marker be used to mark sample intervals on the core boxes.
- Continuous samples be collected, i.e. do not leave blank spots (1 m to 3 m long) in between sampled intervals.
- Separate list of samples be prepared with radiometric response recorded.
- The collecting pans be thoroughly cleaned (by a vacuum cleaner) after collecting each sample.
- A summary log be prepared for each hole, after completion of logging and sampling.
- Photographs of the drill core be taken directly after completion of the lithologic logging.
- Shelters be built to store new and old drill core.

## **13 SAMPLE PREPARATION, ANALYSES AND SECURITY**

### **13.1 SAMPLE PREPARATION AND ASSAYS / BRINEX PROGRAMS**

During the earliest Brinex drilling programs, core samples were assayed on site using a Beta Count Ratemeter and/or a TV-1 instrument. Later on in the 1970s, split core samples were sent to Atlantic Analytical Services Ltd. (Analytical) in Springdale, Newfoundland and assayed by the fluorimetric method. Some of the samples from the 1969 drilling were also assayed at the Stanleigh Laboratory (Stanleigh) of Rio Algom Mines Ltd. During the 1975/76 underground drilling program, samples were assayed on site using a Ludlum 2002 scalar Beta Counter calibrated with standards supplied by the Department of Energy, Mines and Resources (EMR) of the Government of Canada (Sharpley, 1980).

### **13.2 SAMPLE PREPARATION AND ASSAYS / AURORA PROGRAMS**

Core samples are crushed, pulverized, and assayed for uranium at Activation Laboratories (Activation) at Ancaster, Ontario. Quality control includes the use of blanks, duplicates, standards and internal check assays by Aurora as well as by Activation (Appendix A).

### **13.3 ASSAY QUALITY ASSURANCE AND QUALITY CONTROL**

The quality assurance and quality control (QA/QC) procedures and assay protocols followed by Brinex in the past are not available to RPA. QA/QC procedures used by Aurora for the recent drill core samples at Michelin were reviewed by RPA. These procedures are, as follows:

- Samples are handled only by the authorized Aurora personnel. Samples from the recent drilling are delivered by the geologist or technician directly to the Frontier



Logistics Manager at Postville, where after appropriate documentation is completed, the samples are shipped to Happy Valley-Goose Bay by boat or chartered cargo plane and onto Activation Labs by transport truck.

- All drill core from surface drill holes is taken one or more times per shift from the drill rigs directly to a drill logging and sampling area within the Michelin Property by authorized exploration personnel. Within 48 hours, the material core intervals (e.g. potentially mineralized intervals) are photographed, logged and sampled; and the samples are delivered directly to the warehouse at Postville. They are then shipped to the laboratory.
- Each sample is assigned a unique sample number that allows it to be traced through the sampling and analytical procedures and for validation against the original sample site. The second half of the split core is stored on-site as a control sample, available for review and re-sampling, if required.
- Blanks and standards are inserted after every 25 samples. Three types of standards are used. These were acquired from Met Chem and the blanks are collected from a mafic dike with an expected nil uranium value.

Sample preparation and assays are carried out at the Activation laboratory (Appendix A). RPA notes that the procedures used at this laboratory, including the reagents and apparatus used for the assays, are similar to those used at many commercial laboratories in Canada. In particular, they include:

- Crushing the split sample to 10 mesh and grinding it to 150 mesh.
- Cleaner sand is used to clean the pulverizer after each sample to avoid cross contamination of samples.
- Assays carried out on one-gram sub-samples.
- Determination of the uranium content by Delayed Neutron Counting (DNC) method.

## **13.4 CHECK ASSAYS**

### **13.4.1 BRINEX PROGRAMS**

During the Brinex drilling programs approximately 10% of the samples taken prior to 1977 were sent to Correlation Laboratories (Correlation) in Cobden, Ontario for check assays by Beta Gamma counter. In addition, 465 samples from the 1975/76 surface

drilling and 101 samples from the underground drilling were sent to the Atomic Energy of Canada Limited (AECL) laboratory in Ottawa for check assays by the Neutron Activation method.

During the earlier 1969-1970 drilling sixty-one (61) of the Stanleigh samples and thirteen (13) of the Springdale samples were also check assayed at AECL by the Neutron Activation method. During the last phase of the Brinex drilling, check assaying was done on approximately 5% of the samples. Results of the Brinex check assay program are presented in Figure 13-1.

Results of the Brinex check assaying program indicated that, on the whole, the original Michelin on-site assays were slightly higher than the EACL assays. The mean of the percentage differences between the Michelin on-site assays and the AECL assays, for the surface holes, with specific ranges of assays, using the Michelin on-site assay as a base (Table 13-1).

<b>TABLE 13-1 BRINEX CHECK ASSAY RESULTS</b>								
<b>Aurora Energy Inc. – Michelin Deposit</b>								
	<b>0.0</b>	<b>0.026</b>	<b>0.076</b>	<b>0.151</b>	<b>0.251</b>	<b>0.401</b>	<b>0.626</b>	<b>&gt;0.875</b>
<b>Range from</b>	<b>0.0</b>	<b>0.026</b>	<b>0.076</b>	<b>0.151</b>	<b>0.251</b>	<b>0.401</b>	<b>0.626</b>	<b>&gt;0.875</b>
<b>% U<sub>3</sub>O<sub>8</sub> to</b>	<b>0.025</b>	<b>0.075</b>	<b>0.150</b>	<b>0.250</b>	<b>0.400</b>	<b>0.625</b>	<b>0.875</b>	
No. of duplicate assays	58	102	106	95	59	28	6	2
Mean percent difference	+37.3	-5.0	-5.2	-6.2	-7.7	-7.8	-3.3	-25
<b>Source: Sharpley, 1980.</b>								

**Note:**

1. Total number of check assays: 456.
2. By omitting the lowest and highest group, the average difference ranges from 5.0% to 7.8%, i.e. the AECL assays are in general 5.0% to 7.8% less than the Michelin on-site assays.

RPA notes that the large percentage difference in the first group is expected for lower concentrations and the higher concentration represent a small percentage of the total number of assays. RPA, therefore, considers the Brinex check assay results to be reliable and acceptable.

### 13.4.2 AURORA PROGRAM

For the 2005 confirmation drilling program by Aurora, check assays and quality control-quality assurance (QA/QC) procedures are followed both at the Michelin project site as well as at the Activation laboratory. These include:

- Internal check assay program on standards and blanks by the Aurora exploration staff, as discussed above. Aurora used four standards and assays were performed at the Activation laboratory.
- External check assays performed at to SGS Laboratories (SGS), Toronto. Aurora sent a total of one hundred and seven (107) sample pulps, as a second check.
- Internal check assay program at Activation laboratory. Five standards were used for this program.

The check assay data and comparisons are presented in Figures 13-2 to 13-4, and the detailed results are provided in Appendix A. These results show that, except for one erroneous assay on average, the SGS values are approximately 11% lower than the Activation laboratory assays for the same samples. RPA notes, however, that the %  $U_3O_8$  values for the Activation laboratory are calculated values from ppm U values. Furthermore, the uranium determinations at the Activation laboratory were done by the delayed neutron counting (DNC) method, whereas they were done by the induced coupled (ICA50) method using a sodium peroxide fusion. RPA is of the opinion that the two datasets correlate well and the check assay results are reliable.

A review of the assay results on the blanks and standards indicate that:

- The duplicates for blanks show an acceptable precision for the set of 32 samples with an expected value in the range of 0 to 4 ppm U (Figure 13-2). Of these 32 samples;
  - Only one sample contained a high of 46 pp U.
  - Four samples contained values ranging from 10 ppm U to 16 ppm U.
  - Six samples contained values ranging from 5 ppm U to 8 ppm U.
  - The remaining twenty-one (21) samples contained 0 to 4 ppm U.
- The duplicates for the four standards show an acceptable precision for the set of 33 samples expected values as follows:

- Standard No. 1 (expected value of 220 ppm U): Of the nine (9) samples; the median difference was -2 ppm U and the mean difference was 6 ppm U (Table 13-1 and Figure 13-3).
  - Standard No. 2 (Expected value of 1,248 ppm U): Of the fourteen (14) samples; the median difference was -122 ppm U and the mean difference was -123 ppm U (Table 13-1 and Figure 13-3).
  - Standard No. 3 (Expected value of 2,010 ppm U): Of the seven (7) samples; the median difference was -60 ppm U and the mean difference was -49 ppm U (Table 13-1 and Figure 13-3).
  - Standard No. 4 (Expected value of 4,530 ppm U): Of the three (3) samples; two samples had differences of -340 ppm U and one sample had a difference of -70 ppm U (Table 13-1 and Figure 13-3).
- The reject check assay results show very good comparison between the Activation and SGS laboratories with no apparent bias, except for a single sample (CMB 1904) (Figure 13-4).

<b>TABLE 13-1 CHECK ASSAY RESULTS ON STANDARDS, AURORA PROGRAM</b>							
<b>Aurora Energy Inc. – Michelin Deposit</b>							
<b>Standard</b>	<b>Expected Value (ppm U)</b>	<b>No. of assays</b>	<b>Range (ppm U)</b>			<b>Difference (ppm U)</b>	
			<b>Max</b>	<b>Min</b>	<b>Avg.</b>	<b>Mean</b>	<b>Median</b>
1	220	9	359	1.8	214	6	-2
2	1,248	14	1,410	1,330	1,371	-123	-122
3	2,010	7	2,120	2,010	2,059	-49	-60
4	4,530	3	4,870	4,600	4,780	n/a	n/a

Source: Fronteer, 2005.

The Activation laboratory carries out QA/QC checks on a set of standards. These range in concentrations from a low of 7 ppm U<sub>3</sub>O<sub>8</sub> (0.007% U<sub>3</sub>O<sub>8</sub>) to 83,590 ppm U<sub>3</sub>O<sub>8</sub> (8.359% U<sub>3</sub>O<sub>8</sub>). Internal check assays are monitored on a regular basis using the XRF-Uranium Assay method. The results of six determinations on each standard are shown in Table 13-2 and Figures 13-5. These results show that:

- For the standard with very low concentration (UTS-2) with the certified value of 0.007% U<sub>3</sub>O<sub>8</sub>, two assays had identical values as the expected value, and the remaining four assays had differences ranging from -28.4% to +42.8%. RPA notes that these large differences are expected for samples of very low metal concentrations.

- For the standard with low concentration (UTS-4) with the certified value of 0.119% U<sub>3</sub>O<sub>8</sub>, all six assays were higher than the expected value, with differences ranging from +3.4% to +12.6%. RPA notes that these differences are expected for samples of low metal concentrations.
- For the standard with slightly higher concentration (DH-1A) with the certified value of 0.31% U<sub>3</sub>O<sub>8</sub>, all six assays were lower than the expected value, with the differences ranging from -0.65% to -5.5%. RPA notes that these differences are also expected for samples of low metal concentrations.
- For the standard with medium concentration (BL3) with the certified value of 1.203% U<sub>3</sub>O<sub>8</sub>, all six assays were slightly higher than the expected value, with the differences ranging from +2.1% to +3.6%. RPA notes that these assays are very close to the expected value.
- For the high-grade standard (BL5) with the certified value of 8.359% U<sub>3</sub>O<sub>8</sub>, all six assays were very close to the expected value, with the differences ranging from -0.30% to +0.11%.

RPA is of the opinion that the Activation Laboratory check assay results are reliable.

<b>TABLE 13-2 ACTIVATION LABORATORIES, CHECK ASSAY RESULTS</b>					
<b>Aurora Energy Inc. – Michelin Deposit</b>					
<b>Date</b>	<b>Standard Used and Concentration (%U<sub>3</sub>O<sub>8</sub>)</b>				
	<b>UTS-2 (0.007)</b>	<b>UTS-4 (0.119)</b>	<b>DH-1A (0.310)</b>	<b>BL3 (1.203)</b>	<b>BL5 (8.359)</b>
June 6, 2005	0.005	0.131	0.293	1.232	8.333
September 8, 2005	0.007	0.124	0.298	1.230	8.334
September 15, 2005	0.007	0.134	0.299	1.230	8.368
September 27, 2005	0.010	0.123	0.302	1.246	8.362
September 30, 2005	0.005	0.137	0.308	1.229	8.326
October 21, 2005	0.009	0.134	0.298	1.228	8.339
<b>Average</b>	<b>0.007</b>	<b>0.132</b>	<b>0.300</b>	<b>1.232</b>	<b>8.344</b>

**Source: Activation Laboratories, 2005**

ACTLABS also has carried out check assaying on samples from the current exploration program using a CANMET standard (SY2) with an expected value of 284 ppm U (Figure 13-6). These results show that, of the seventy-two (72) determinations:

- Nineteen (19) assays were more than one standard deviation ( $\pm 1\sigma$ ) of the expected value.

- Only two of the assays were more than two standard deviations ( $\pm 2\sigma$ ) of the expected value.

RPA is of the opinion the check assay results from the ACTLABS assay results are acceptable and suitable for estimation of Mineral Resources.

### **13.4 SAMPLE SECURITY**

The procedures for sample security are discussed under assay quality assurance and quality control. Based on our review and discussions with field personnel, RPA is of the opinion that sample security procedures at Postville are in keeping with industry standards.

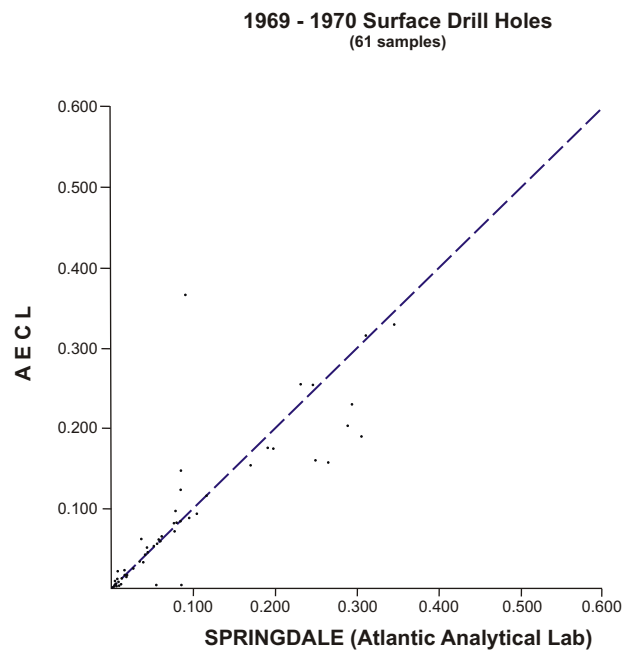
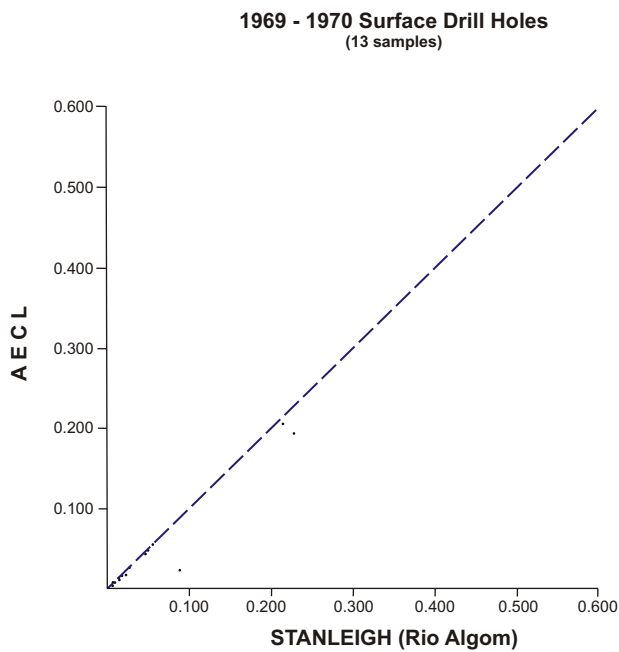
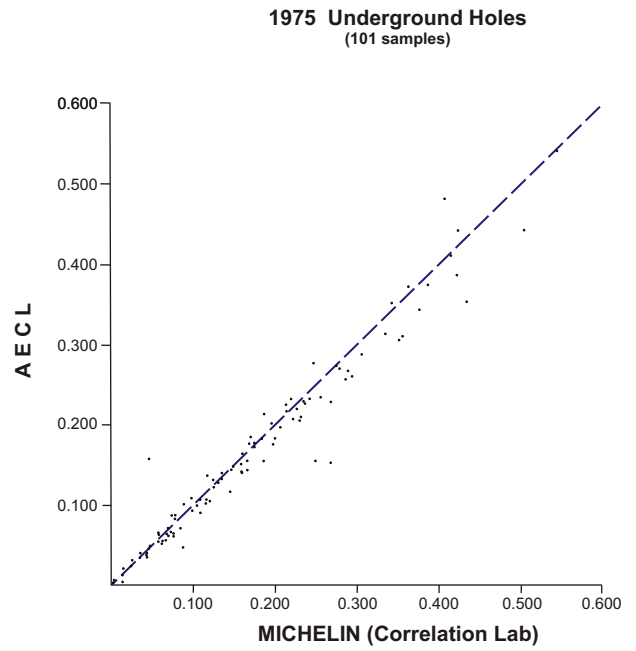
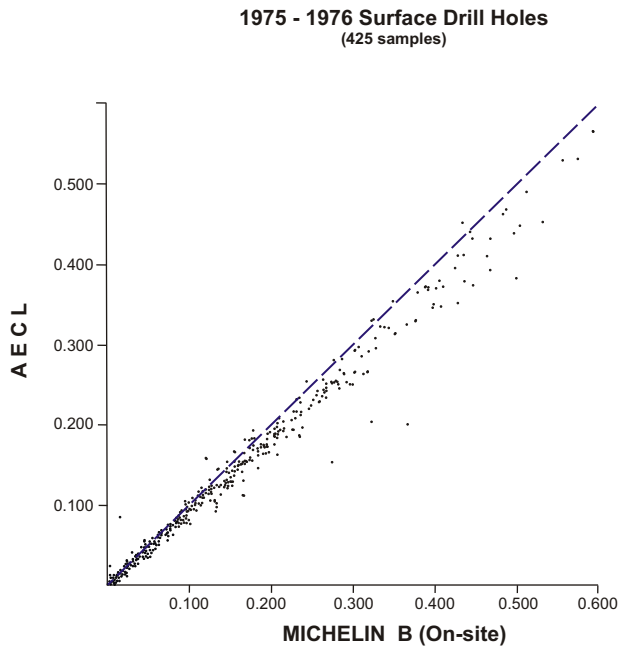


Figure 13-1

**Aurora Energy Inc.**

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*Michelin Deposit*  
Newfoundland and Labrador, Canada

**Check Assays Results  
on Brinex Samples**

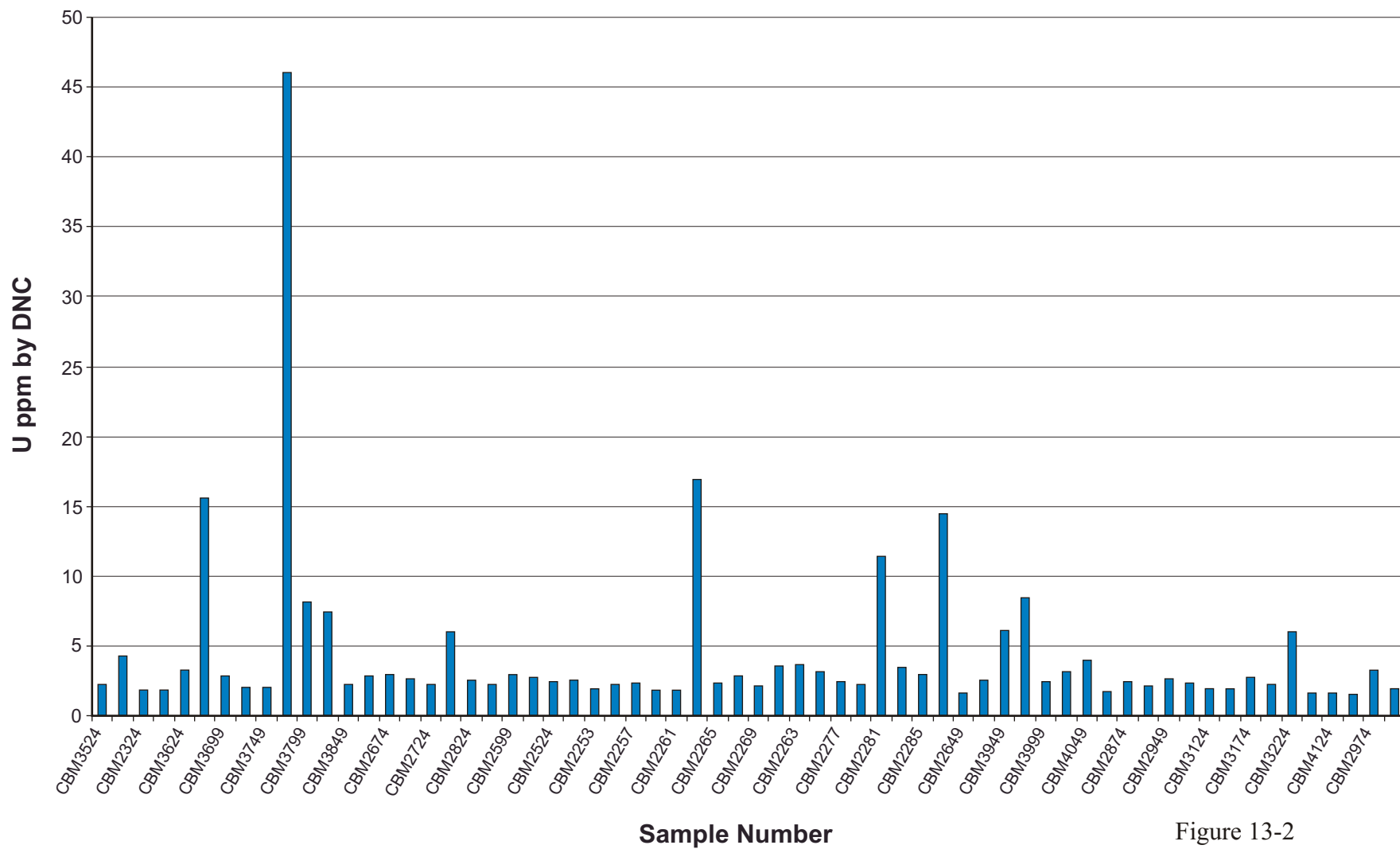


Figure 13-2

**Aurora Energy Inc.**  
*Michelin Area*  
*Newfoundland and Labrador, Canada*  
**Check Assay Results on Blanks**  
**Fronteer Program**

13-9



13-10

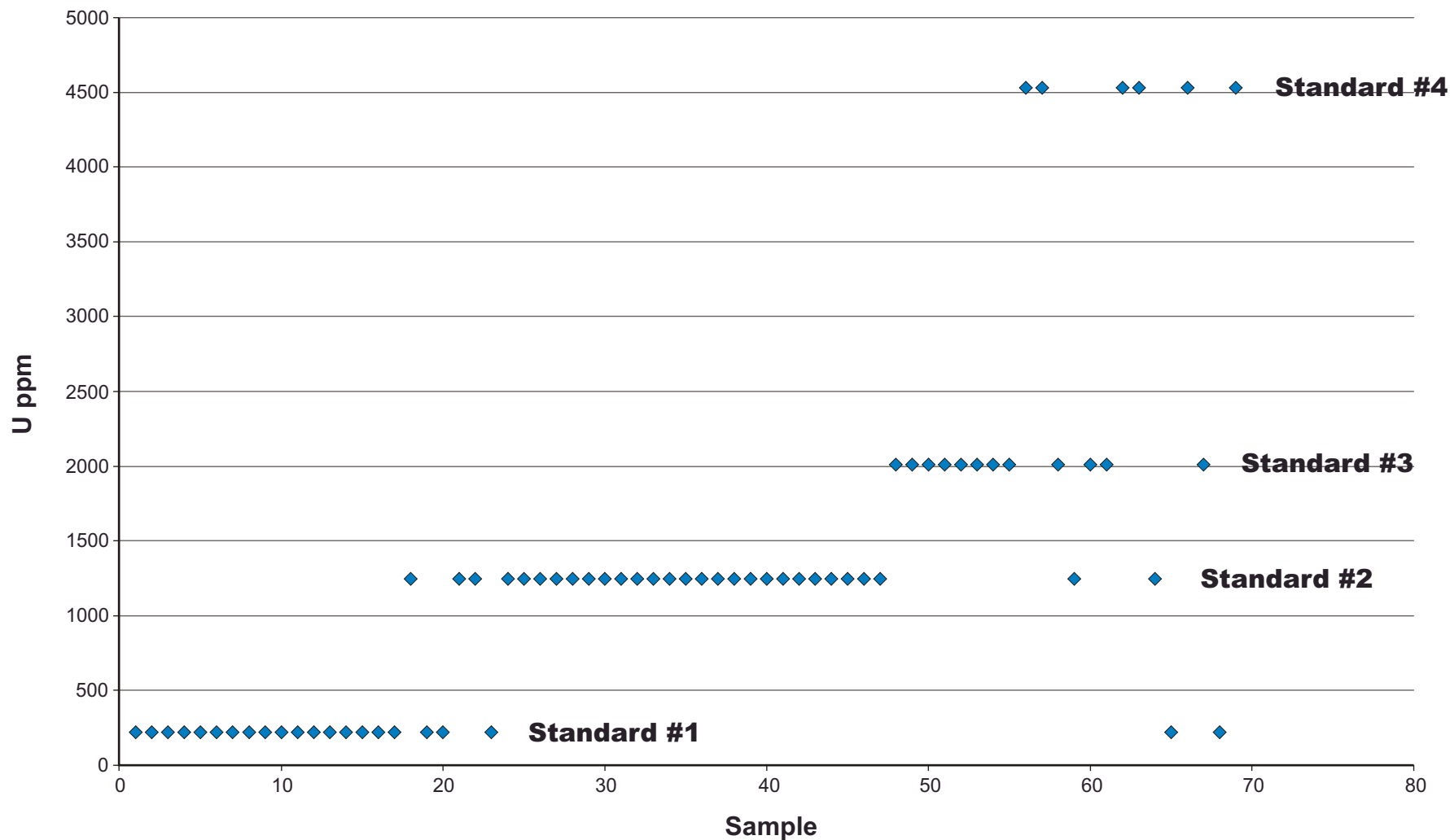


Figure 13-3

**Aurora Energy Inc.**  
*Michelin Area*  
*Newfoundland and Labrador, Canada*  
**Check Assay Results on Standards**  
**Fronteer Program**

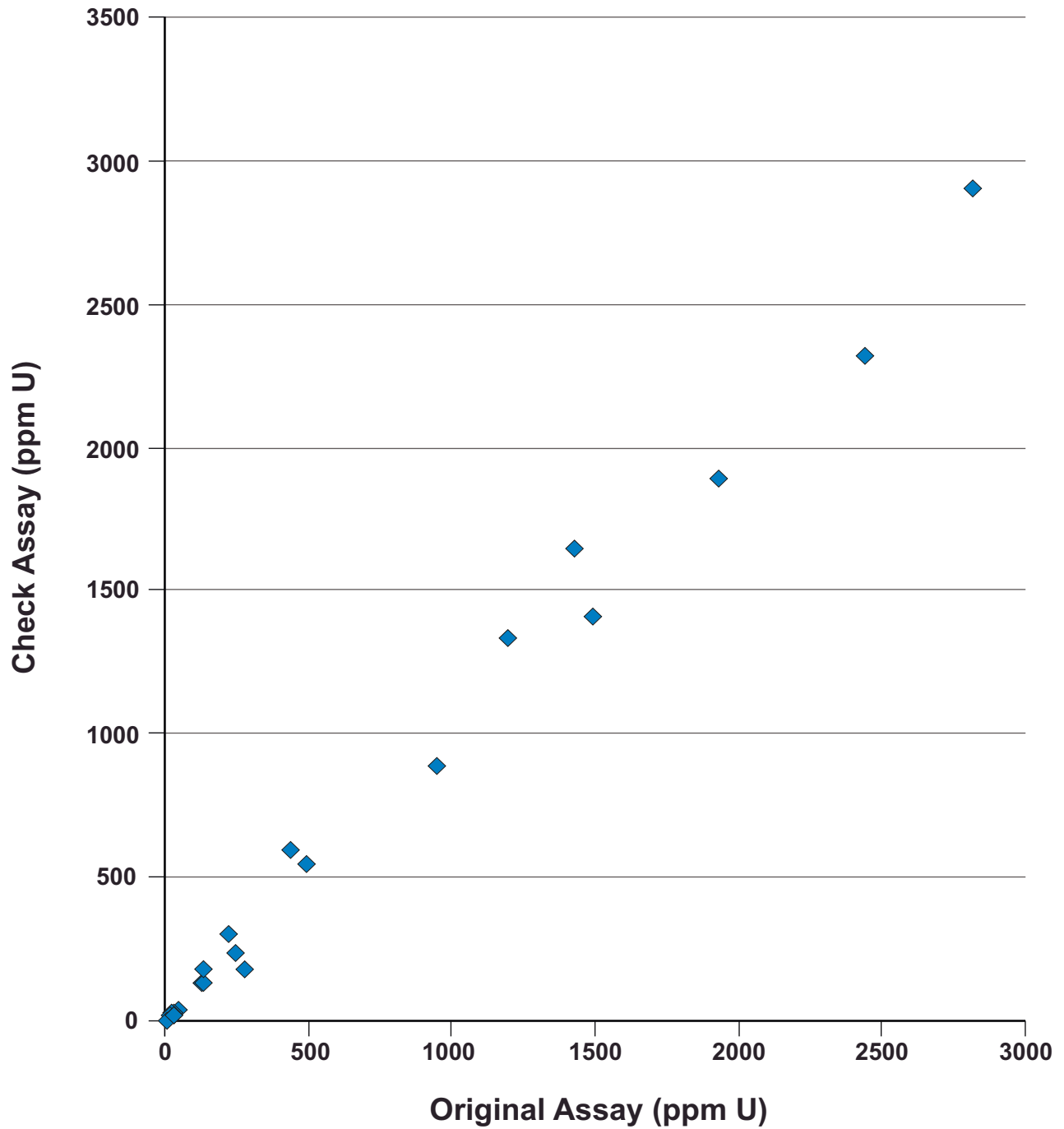


Figure 13-4

**Aurora Energy Inc.**  
***Michelin Deposit***  
*Newfoundland and Labrador, Canada*  
**Check Assay Results**  
**Selected Samples**  
**Fronteer Program**

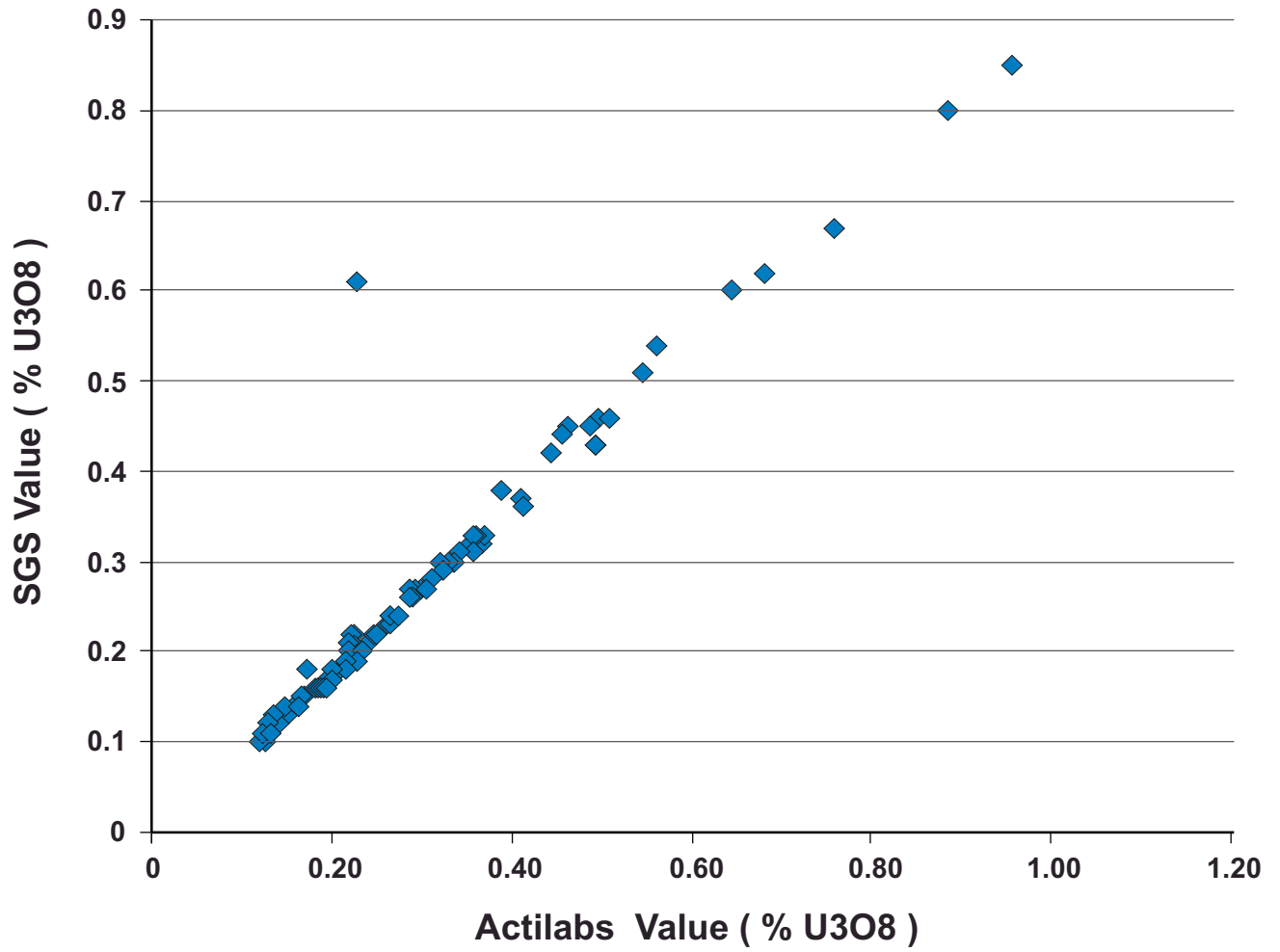
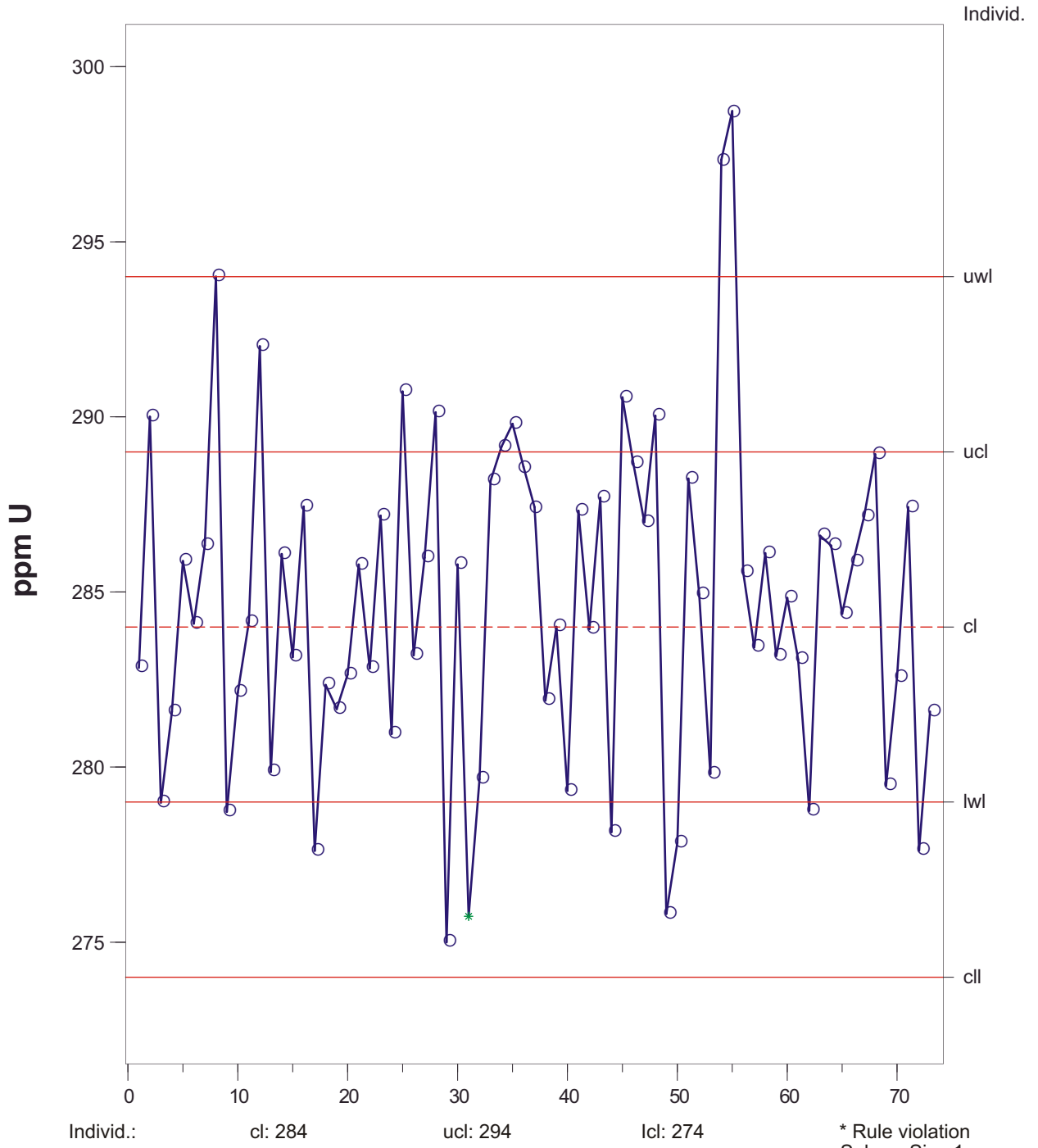


Figure 13-5

**Aurora Energy Inc.**  
*Michelin Deposit*  
*Newfoundland and Labrador, Canada*  
**Check Assay Results**  
**Actilabs vs. SGS**



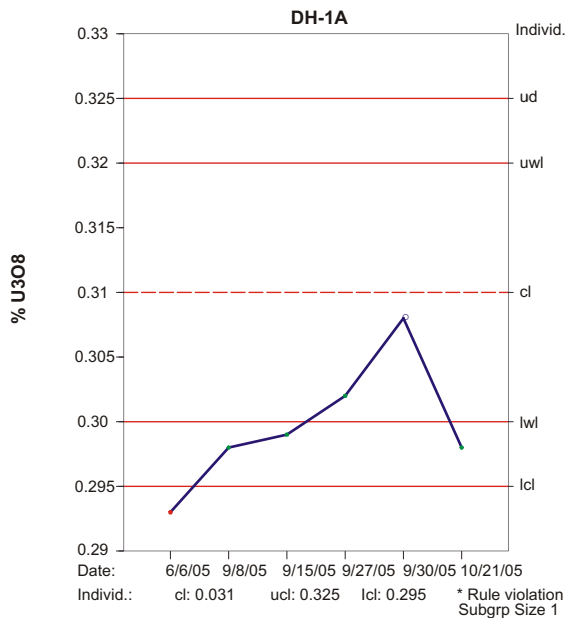
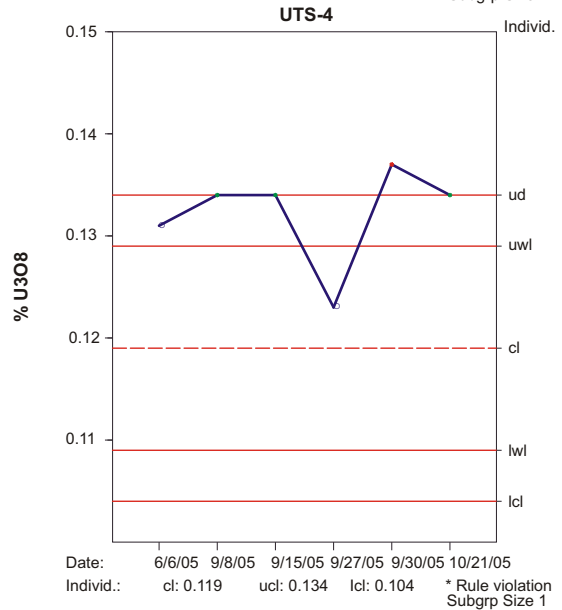
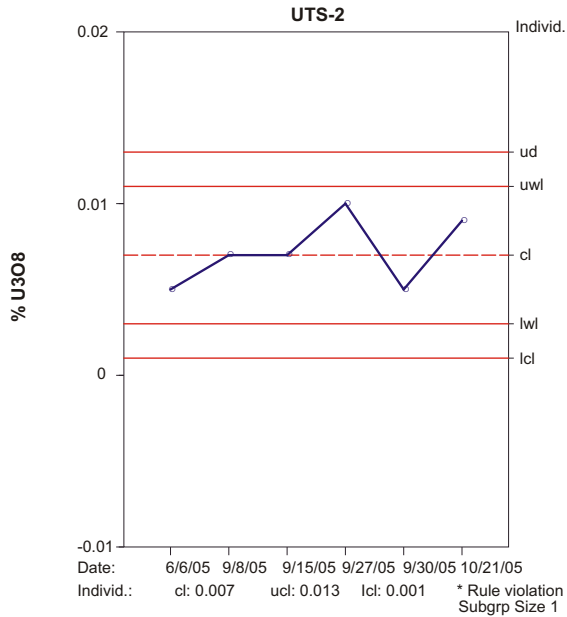
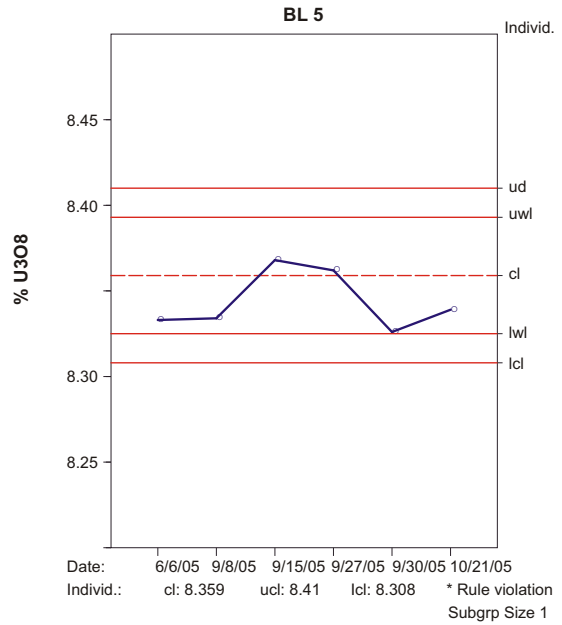
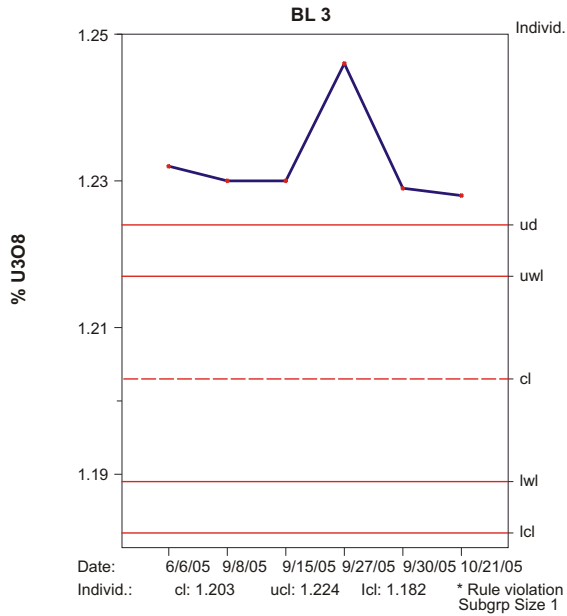
cl: expected value (ppmU)  
 uwl: cl+1σ  
 lwl: cl-1σ  
 ucl: cl+2σ  
 lcl: cl-2σ

Figure 13-6

**Aurora Energy Inc.**

*Michelin Deposit*  
 Newfoundland and Labrador, Canada

**Check Assays Results  
 Activation Laboratory**



cl: expected value (% U308)  
 uwl: cl+1σ  
 lwl: cl-1σ  
 ucl: cl+2σ  
 lcl: cl-2σ

January 2006  
 Source: Frontier, 2005.

Figure 13-7

**Aurora Energy Inc.**

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*Michelin Deposit*  
 Newfoundland and Labrador, Canada

**Check Assays Results  
 on Standards**

## 14 DATA VERIFICATION

### 14.1 DATA VERIFICATION BY BRINEX

Data verification of the old drilling results by Brinex was done by Brinex geologists. In 1979, F.J. Sharpley of Derry, Michener and Booth (DMB) carried out a study on the Michelin assay database and concluded that “the AECL checks were between 5.0% to 7.8% lower than the on-site (Beta Count Ratemeter, *sic*) assays. The 5% variance applied to assays below 0.1% U<sub>3</sub>O<sub>8</sub>, and the 7.8% variance applied to assays higher than the noted value.” In terms of the 1980 DMB resource estimate, Sharpley further commented that:

- The inherent error of resource estimation was more than the possible bias error and for the sake of consistency original assays should be used throughout.
- The assays “where the checks indicated values may be too high only would apply to about half of the intersections and only about half the assays of the relevant intersections are affected. This means that the possible bias in grade for estimates using the original assays is about 2% to 3%.
- The amount of bias only affects the grade in the third decimal place and by rounding down the grade as has been done, the bias is more than eliminated.”

### 14.2 DATA VERIFICATION BY AURORA

During the recent confirmation drilling campaign data verification and quality control is done by Aurora personnel. The quality and reliability of the data obtained from the recent drilling program is reviewed and verified by Mr. Ian Cunningham-Dunlop, P. Eng., Project Manager, who is a Qualified Person in accordance with National Instrument 43-101.

### 14.3 INDEPENDENT SAMPLING BY RPA

For this report, RPA collected a total of eighteen (18) samples of split core; six from a hole of the recent drilling by Aurora, and twelve (12) from old Brinex drill holes, and

sent them to SGS Laboratories in Don Mills, Ontario, for independent assays for uranium.

The RPA samples were taken from the remaining half core from three drill holes, two holes from the old Brinex drilling and one hole from the current Aurora drilling. Table 14-1 provides the sample description and assay results.

**TABLE 14-1 RPA INDEPENDENT SAMPLING RESULTS**

Aurora Energy Inc. – Michelin Deposit

DDH No.	RPA Sample No.	Aurora Sample No.	Brinex Sample No.	From (m)	To (m)	Interval (m)	RPA ppm U	Aurora/Brinex ppm U	
M05-2C	70833	03517		379.83	381.0	1.17			
				<b>379.83</b>	<b>381.0</b>	<b>1.17</b>	<b>0.027</b>		
	70834	03518		381.0	382.0	1.00			
				<b>381.0</b>	<b>382.0</b>	<b>1.00</b>	<b>0.048</b>		
	70835	03519		382.0	382.9	0.90			
				<b>382.0</b>	<b>382.9</b>	<b>0.90</b>	<b>0.007</b>		
	70836	03520		382.9	383.9	1.00			
				<b>382.9</b>	<b>383.9</b>	<b>1.00</b>	<b>0.029</b>		
70837	03521		383.9	385.12	1.22				
			<b>383.9</b>	<b>385.12</b>	<b>1.22</b>	<b>0.0003</b>			
M76-121	70838	03522		385.12	386.12	1.00			
				<b>385.12</b>	<b>386.12</b>	<b>1.00</b>	<b>0.006</b>		
	70839		121-72		776.1	777.1	1.0		0.122
				<b>776.1</b>	<b>777.1</b>	<b>1.0</b>	<b>0.097</b>		
	70840		121-73		777.1	781.6	4.5		0.410
				<b>777.1</b>	<b>781.6</b>	<b>4.5</b>	<b>0.220</b>		
	70841		121-74		781.6	783.1	1.5		0.254
				<b>781.6</b>	<b>783.1</b>	<b>1.5</b>	<b>0.300</b>		
70842		121-79		807.7	810.3	2.6		0.201	
			<b>807.7</b>	<b>810.3</b>	<b>2.6</b>	<b>0.170</b>			
M76-124	70843		121-80		810.3	812.7	2.4		0.328
				<b>810.3</b>	<b>812.7</b>	<b>2.4</b>	<b>0.230</b>		
	70844		121-81		812.7	814.15	1.45		0.318
				<b>812.7</b>	<b>814.15</b>	<b>1.45</b>	<b>0.150</b>		
	70845		124-51		655.8	657.1	1.3		0.429
				<b>655.8</b>	<b>657.1</b>	<b>1.3</b>	<b>0.250</b>		
	70846		124-52		657.1	661.6	4.5		0.130
				<b>657.1</b>	<b>661.6</b>	<b>4.5</b>	<b>0.091</b>		
70847		124-53		661.6	664.6	3.0		0.286	
			<b>661.6</b>	<b>664.6</b>	<b>3.0</b>	<b>0.220</b>			
70848		124-54		664.6	667.2	2.6		0.628	
			<b>664.6</b>	<b>667.2</b>	<b>2.6</b>	<b>0.330</b>			
70849		124-61		672.2	680.55	1.35		0.237	
			<b>672.2</b>	<b>680.55</b>	<b>1.35</b>	<b>0.180</b>			
70850		124-62		680.55	683.95	3.4		0.279	
				<b>680.55</b>	<b>683.95</b>	<b>3.4</b>	<b>0.190</b>		

**Note:**

1. Brinex sample intervals are in the Imperial system, i.e. in feet.
2. All samples are split (quartered) drill core.

The RPA samples confirm the presence of uranium values at approximately 50% lower than the Aurora and/or Brinex assays (Figure 14-1). The differences are



considered to be due to the different assay methodologies at the two laboratories, Activation and SGS, and are not cause for concern, in RPA's view.

As part of our due diligence, RPA also carried out a detailed review of portions of seven diamond drill logs. These were Hole M05-2C, the second twinned hole from the recent confirmation drilling program, and eight Brinex holes on Section 8+06W. The latter were Hole No. 79-223, 79-224, 76-160, 76-162, 76-124 and 76-121. RPA considers the drill hole logging and data recording procedures to be in keeping with industry standards.

Prior to the above uranium assays, SGS carried out density determinations on the eighteen samples submitted by RPA. The average value for the density is 2.83 g/cm<sup>3</sup>. RPA has used this value in its estimate of the Mineral Resources at Michelin.

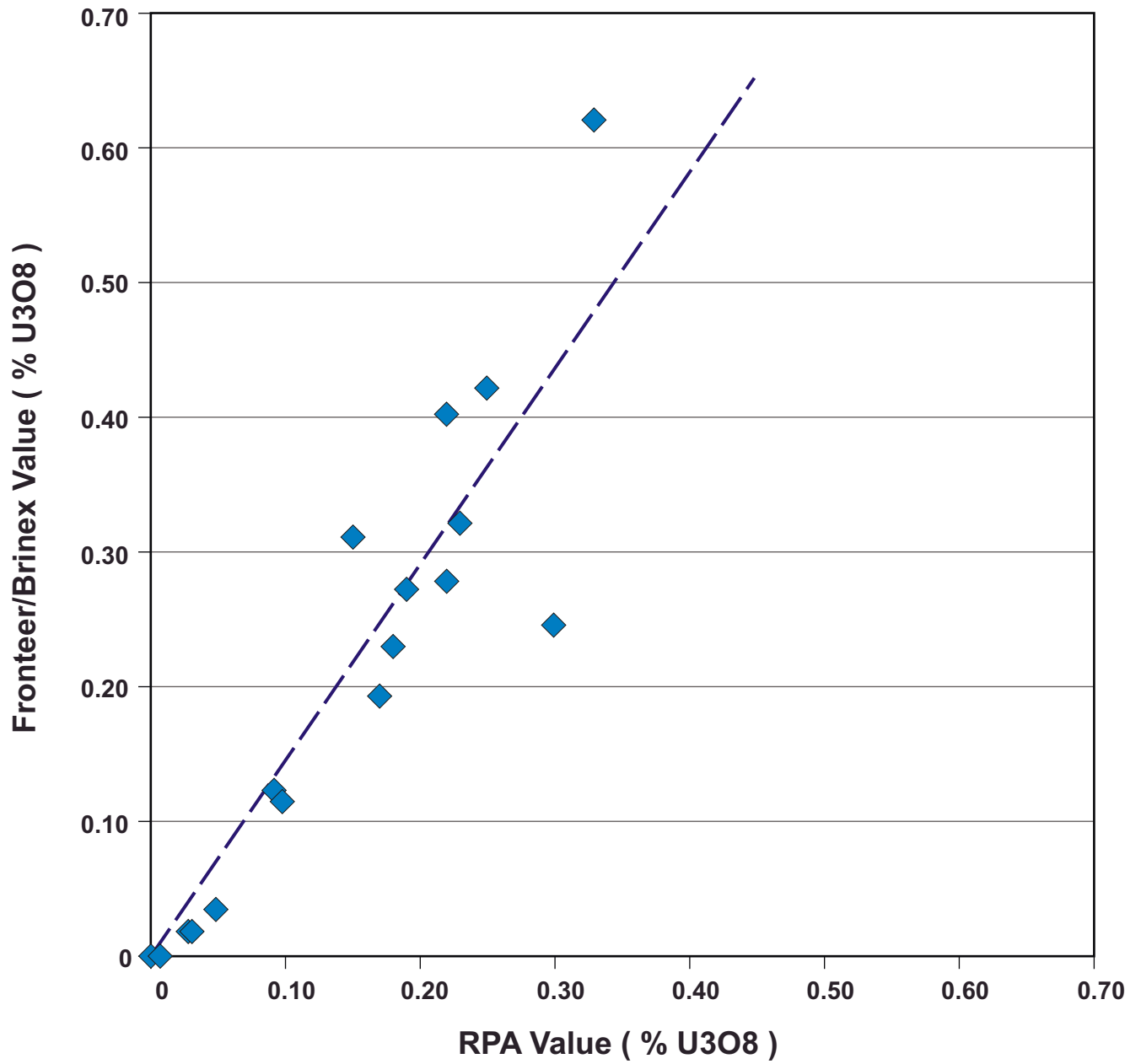


Figure 14-1

**Aurora Energy Inc.**  
*Michelin Deposit*  
Newfoundland and Labrador, Canada  
**RPA Independent Sampling Results**  
(Actilabs vs SGS)

# 15 MINERAL RESOURCES AND MINERAL RESERVES

## 15.1 GENERAL STATEMENT

For this Report, RPA has estimated the Mineral Resource estimate of the Michelin uranium deposit by constructing a block model of the mineralized zones. The RPA resource estimate is in accordance with the Mineral Resource/Reserve Classification as recommended by the CIM Committee on Mineral Resources/Reserves. Table 15-1 provides the Mineral Resources of the Michelin deposit.

**TABLE 15-1 RPA MINERAL RESOURCE SUMMARY**  
Aurora Energy – Michelin Deposit

Category	Tonnes	Grade (% U <sub>3</sub> O <sub>8</sub> )	Contained lbs U <sub>3</sub> O <sub>8</sub>
Measured	342,000	0.113	851,000
Indicated	8,615,000	0.113	21,374,000
Inferred	4,116,000	0.148	13,460,000

**Notes:**

1. Mineral Resources are estimated at a minimum vein width of 2.0 m and at a cut-off grade of 0.05% U<sub>3</sub>O<sub>8</sub>
2. Density of mineralized rock is 2.83 t/m<sup>3</sup>.
3. Measured Mineral Resources include those mineralized blocks situated from the surface to 10 m below the inclined tunnel (underground drift).
4. Indicated Mineral Resources include those mineralized blocks defined by diamond drill holes spaced 50 m or less.
5. Inferred Mineral Resources comprise all other mineralized blocks.

There are no Mineral Reserves on the Michelin Property at present.

## 15.2 DATABASE

The database for the current resource estimate consists of 235 surface drill holes, 56 underground drill holes and underground sampling data. Drill core from the 1976 to 1979 era was logged by Brinex geologists and from the current drilling by Aurora

geologists, and information on each hole is compiled containing the lithologic log, descriptive geology, core angles, core diameter, hole inclination and azimuth, percent core recovery record, as noted above. The drill hole data are placed in files for each drill hole and stored digitally. Drill hole data, plotted on detailed north-south cross sections (1:500) at approximately 25 m intervals provide the basis for the geological interpretation and estimation of average grades of resource blocks. All drill core, survey, geological and assay information used for the resource estimate is verified and approved by the Aurora geological staff and maintained as an on-site database.

RPA inspected some of the drill hole files and found them to be in keeping with industry standards. Aurora notes that it verifies the database internally, as discussed in a previous section.

### **15.2.1 DATA VERIFICATION**

As part of our independent resource estimate, RPA checked the drill hole database provided by Aurora. With few exceptions, the drill hole database was found to be free of data entry errors. RPA considered them to be acceptable to estimate Mineral Resources.

### **15.2.2 DENSITY MEASUREMENTS**

Systematic density measurements are not carried out on drill core by Aurora staff, and the average value used in the DMB Mineral Resource estimate is 2.72 g/cc, the one reported by Brinex (Sharpley, 1980).

As part of our due diligence, RPA had density determinations carried out on the eighteen independent samples assayed at the SGS Laboratories. SGS used its CH125 density measurement technique and the procedure was as follows:

- Pouring into a Specific Gravity burette a solution consisting of equal (1:1) parts of CH<sub>3</sub>OH and H<sub>2</sub>O and bring it to the 48 ml mark.
- Weighing a 5 g sample and adding it to the solution in the burette.
- Mixing the solution well to free air bubbles.
- Washing down the sides of burette with 10 ml of 1:1 CH<sub>3</sub>OH : H<sub>2</sub>O.

- Allowing the solution to settle.
- Measuring and recording the difference in volume.

The density is calculated as:  $\text{Density} = [\text{Sample weight (5 g)}] / \text{Displaced Volume}$

The average density of these eighteen samples submitted by RPA is 2.83 g/cc, as noted above. RPA notes that the average of the new density determinations is 4% higher than the earlier density reported by Brinex. RPA, therefore, has used the new average value 2.83 g/cc, as the density used in RPA's resource estimate.

### 15.3 GEOLOGICAL INTERPRETATION AND 3D SOLIDS

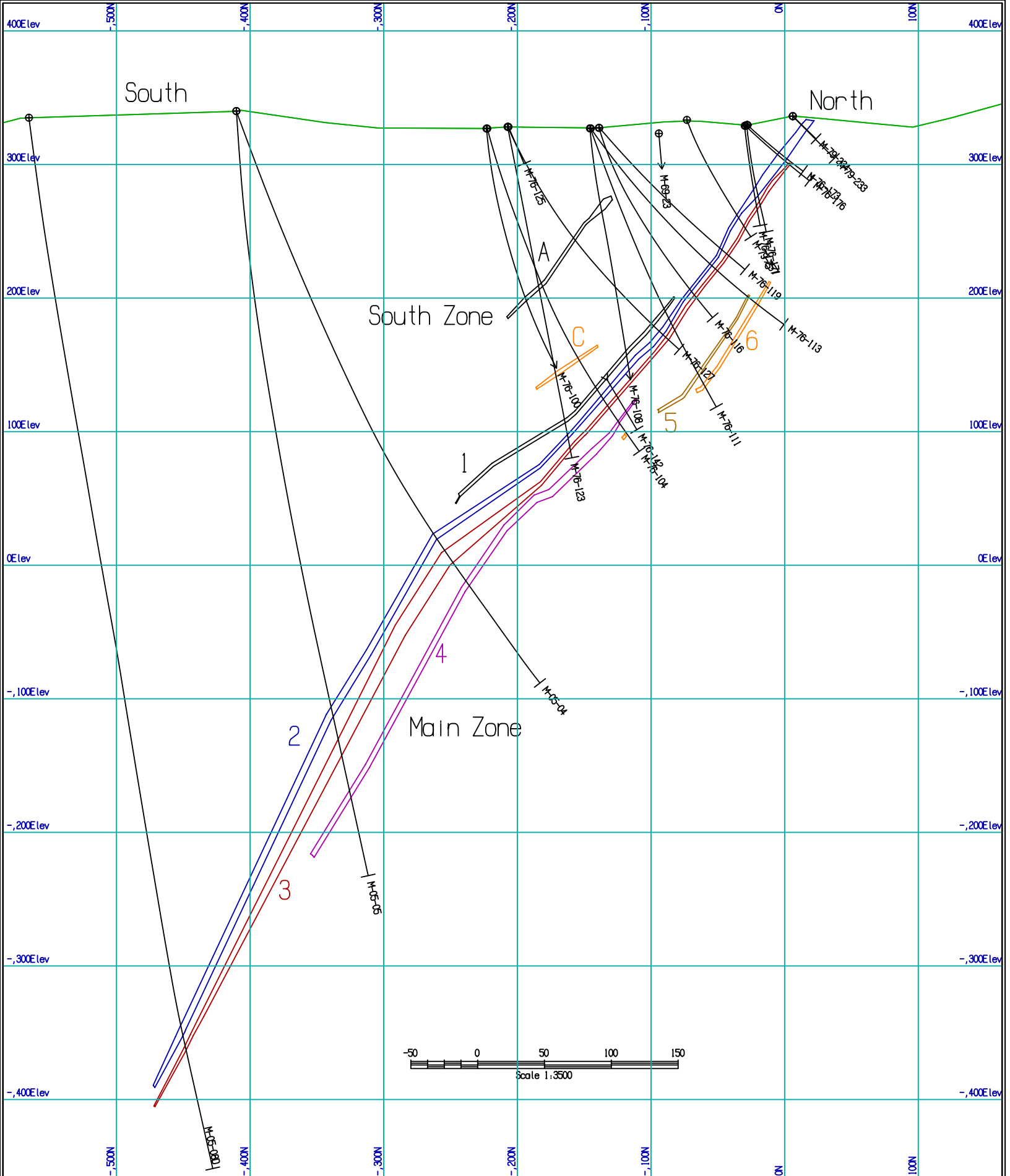
RPA plotted the drill holes in the Michelin database on north-northwest-south-southeast (grid north-south) drill sections at approximately 25 m intervals. RPA reviewed the Brinex (Sharpley) interpretation of the mineralized zones based on lithology, structural features and assay levels, with a threshold of approximately 0.05%  $\text{U}_3\text{O}_8$  and a minimum mineralized width of 2 m. RPA identified at least twelve (12) mineralized lenses within the main grid area. These mineralized zones occur mostly within two separate areas of pink to grey rhyolitic tuff associated with uranium mineralization, known as the Main Zone and the South Zone (Figure 15-1). In detail, the various mineralized zones in the block model are as follows:

- Main Zone: Includes zones 1, 2, 2A, 2B, 3, 4, 5 and 6. Of these, only zones 2, 3 and 4, however, show significant continuity along strike.
- South Zone: Includes zones A1, A2, B1 and B2. Of these, only zones A1, and A2 show significant continuity along strike

RPA notes that the Main Zone and the South Zone mineralized areas are essentially the same as the ones identified by Brinex (Sharpley). RPA also notes that the drill hole spacing and the geological interpretation are adequate to estimate mineral resources.

For the resource blocks defined and as described in the previous section, true widths of mineralized zones are diluted to a minimum width of 2.5 m. If the original true width

is less than 2.5 m, or if there are no assays available (not sampled), dilution is added at a grade of 0.01%  $U_3O_8$ , even though the adjacent samples have much higher assays.



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UNITS : METRES DATE: 06/01/27 TIME: 11:18:42

Michelin Deposit  
 Generalized Cross Section  
 DDH Traces and Zone Outlines

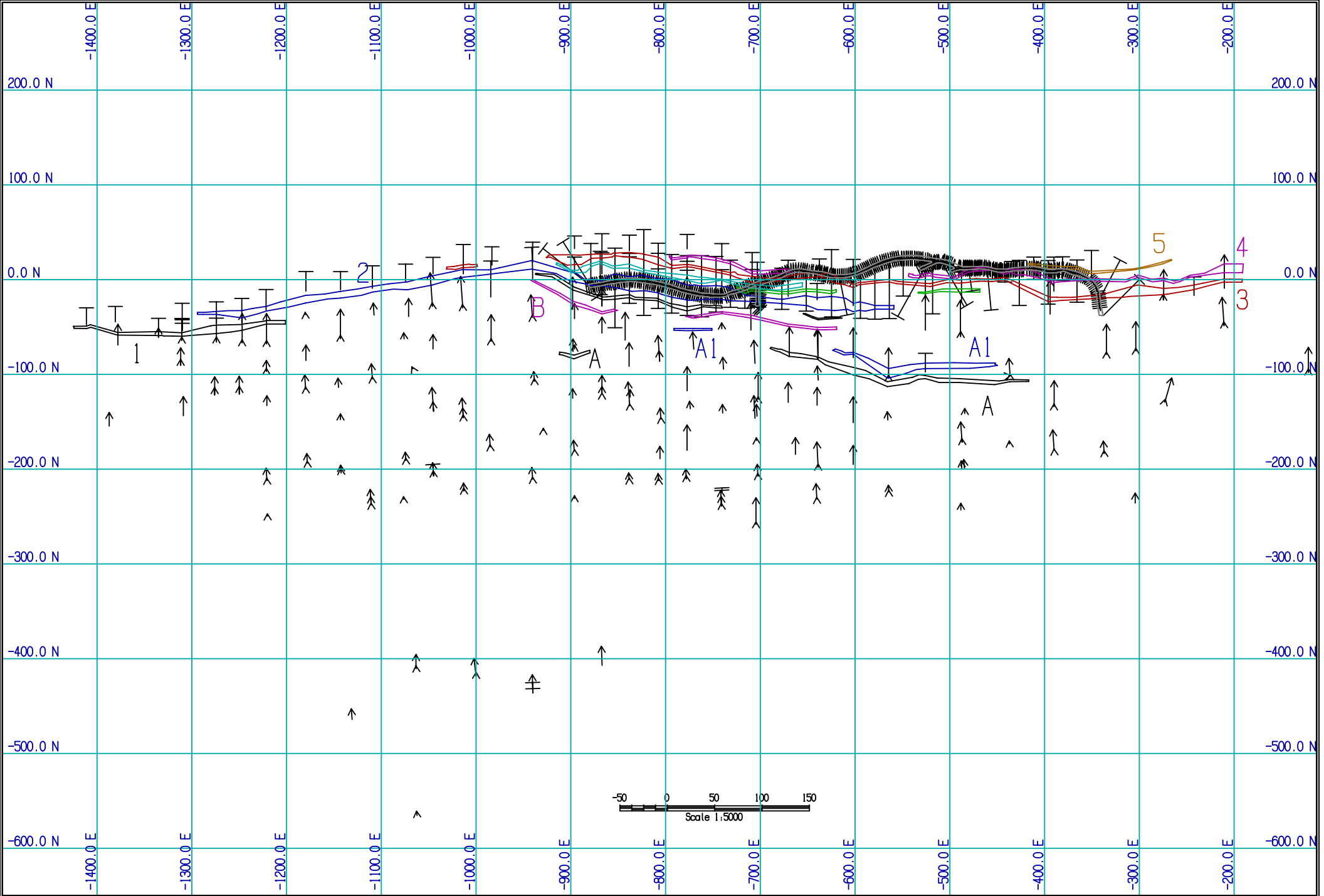
Figure 15-1

Software by Geocom Software International

### 15.3.1 GEOLOGICAL MODEL

Uranium mineralization at Michelin occurs as fine-grained pitchblende (>99% UO<sub>2</sub>) with trace amounts of soddyite (Na-U-silicate) within bands varying up to several centimetres in thickness, which in aggregate, form wider and more persistent zones of mineralization. These bands or “lenses” are commonly associated with hematization, which imparts a distinctive pink colouration to the host rhyolitic rock. In general, the orientation of the mineral lenses is also parallel to the bedding/foliation of the host lithology. Based on surface drill hole and underground exploration data these mineralized lenses are narrow, tabular bodies in shape but oriented en-echelon within the Main Zone. A generalized cross section is shown in Figure 15-1 and plan views of the mineralized zones are presented in Figures 15-2 and 15-3.

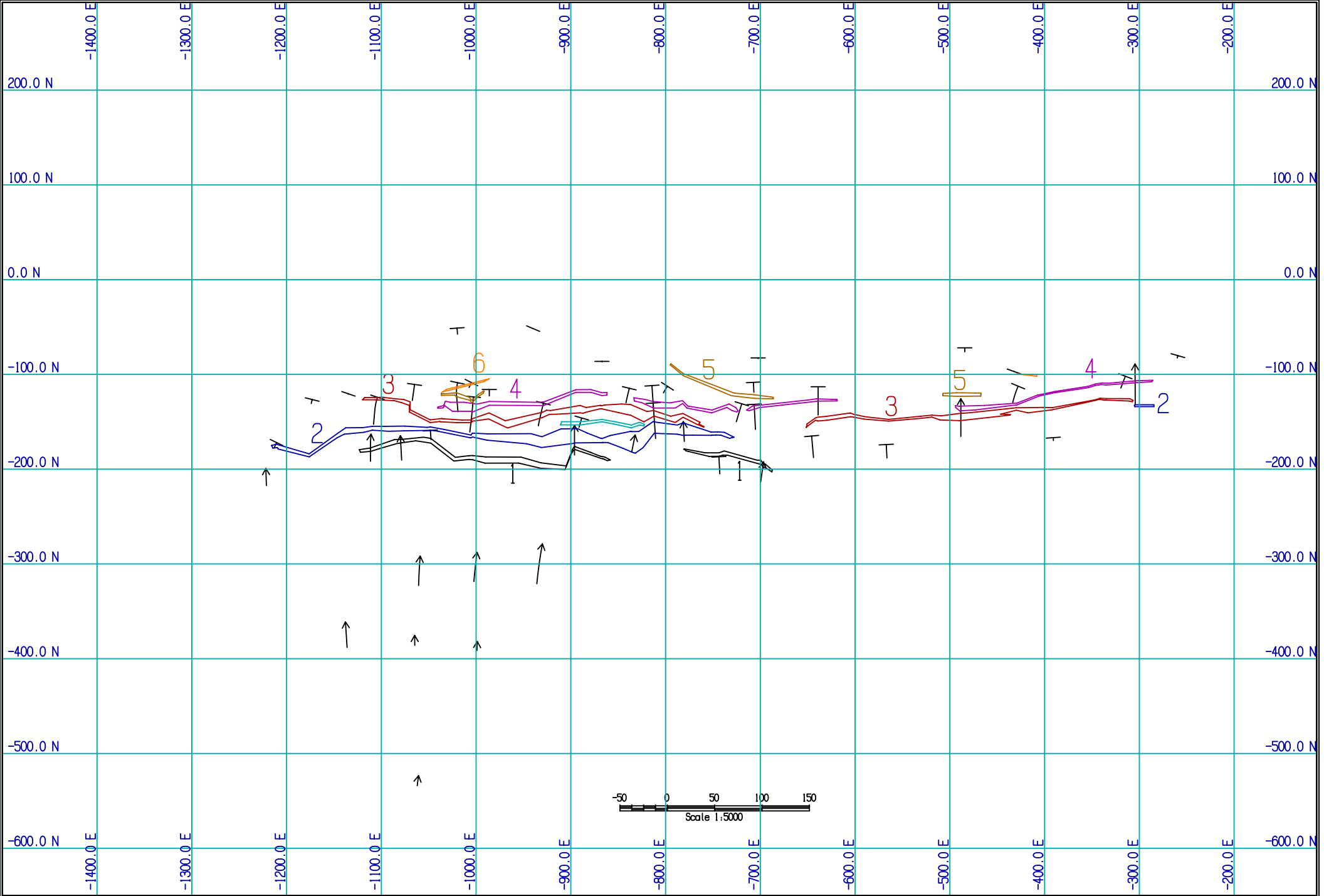




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Michel In Deposit  
 Plan View of the Mineralized Units  
 Along the Drift

Figure 15-2



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Michel In Deposit  
 Plan View of the Mineralized Units  
 At the 100m Elevation

Figure 15-3

### 15.3.2 WIREFRAME MODELS

RPA developed 3D solids using Gemcom software from the mineralized zone outlines on the cross sections. RPA constructed 3D wireframe models using 3D wobbly polylines that were snapped on to the drill hole intervals. Polylines were created on cross sections and were joined together using tie lines. At model extremities, for the majority of the 3D solids, polylines were extrapolated for approximately 25 m beyond the last drill hole intercept. For the cross sections which included data from the new drilling, polylines were extended to more than 100 m to “close” the polygon between widely spaced drill holes. A pseudo-3D presentation of the No. 2 and 3 zones is shown in Figure 15-4. The tonnage and grade estimates for the blocks contained in those polygons are considered to be part of the Inferred Mineral Resources, as discussed below.

RPA constructed a significant number of smaller wireframe mineralization models for the discontinuous zones. In general, where the zone is not continuous from one cross section to another - a distance of approximately 25 m - then a polygon (square, rectangle or parallelogram) was constructed with a distance of approximately 12.5 m along strike, i.e. half way to the next section. At extremities of mineralized zones, polygons were extended 25 m up or down-dip beyond the last mineralized intersection. These polygons constitute part of the Inferred Mineral Resources. At the lowest part of the deposit near the intersection of drill hole M05-8D, the polygons were extended 50 m down-plunge as well as laterally. This is because of the interpreted continuity of the mineralization in lenses 2, 3 and 4 in this part of the deposit. These polygons also constitute part of the Inferred Mineral Resources. All wireframe solids were validated to ensure that there were no intersections of solids between different lenses.

15-10

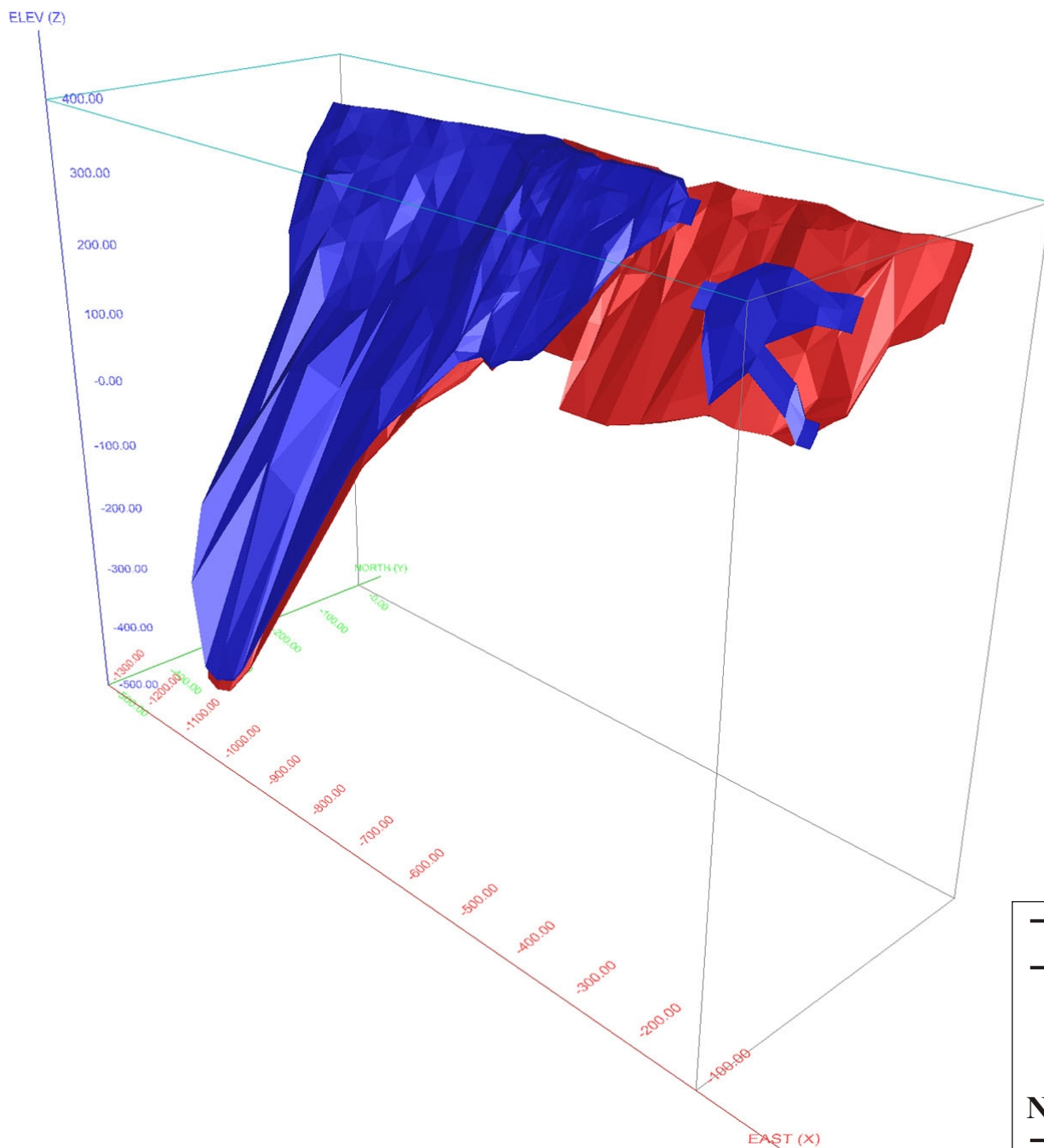


Figure 15-4

**Aurora Energy Inc.**  
*Michelin Deposit*  
*Newfoundland and Labrador, Canada*  
**Pseudo-3D Presentation of  
No.2 and No. 3 Zones View of Zones**

### 15.3.3 CUT-OFF GRADE

RPA has estimated an approximate cut-off grade based on the following assumptions for a conceptual underground mine. The assumptions, however, are based on the current resource size and continued exploration is likely to increase the tonnage and therefore reduce these costs in future assessments. These assumptions are:

- Total operating costs of \$80 per tonne.
- Process plant recovery of 90% for uranium.
- Price of US\$36.25 per pound of U<sub>3</sub>O<sub>8</sub> (Spot price by Uranium Exchange Co., as reported in the Northern Miner, December 30, 2005).
- Exchange rate of CAN\$1.16 = US\$1.00.

Based on the above, the cut-off grade for the Michelin deposit resource estimate is calculated as:

$$\text{Cut-off} = \text{cost}/(\text{value} \times \text{recovery}) = \text{CAN}\$80/((\text{US}\$36.25/\text{lb U}_3\text{O}_8) \times 90\%) = 0.10\% \text{ U}_3\text{O}_8$$

RPA considers this to reflect the break-even cost at the current spot price for uranium. The break-even cost has fixed and variable components. For resource reporting purposes, RPA has used a cut-off grade of 0.05% U<sub>3</sub>O<sub>8</sub> to define the mineralized zones, and on the assumption that fixed costs will be carried by higher grade material. All of the mineralization inside the mineralized envelope is reported as resource since the envelopes were interpreted at a minimum grade of 0.05% U<sub>3</sub>O<sub>8</sub>. Applying a higher cut-off to the zones may result in loss of zone continuity.

### 15.3.4 CUTTING OF HIGH VALUES

Since there are some high-grade assays in the drill hole database, and the assays have a strong positive skewed distribution, RPA considered it necessary to cut the high uranium values to 1.35% U<sub>3</sub>O<sub>8</sub>. This represents the 99.9<sup>th</sup> percentile of the total assay population. Even though there are only five samples with high values (one sample in the

range from 1.80% U<sub>3</sub>O<sub>8</sub> to 1.85% U<sub>3</sub>O<sub>8</sub> and four samples in the range from 1.95% U<sub>3</sub>O<sub>8</sub> to 42.0% U<sub>3</sub>O<sub>8</sub>) it is RPA’s opinion that the latter would strongly affect the average grade of the deposit, especially the part which is close to the surface.

**15.3.5 COMPOSITING AND STATISTICS**

RPA composited assays into one-metre intervals down hole, for intervals inside the twelve mineralized lenses. Composites of <30 cm in length are not included in the interpolation of block grades. These are composites at the boundaries of the mineralized zones. There are a total of 5,015 drill hole composites within the twelve mineralized zones. Overall, compositing involved 291 drill holes. Statistics for the drill hole data set are shown in Table 15-2. The distribution of uranium values is positively skewed and somewhat lognormal, as shown in Figure 15-4.

<b>TABLE 15-2 STATISTICS OF DRILL HOLE ASSAYS AND (1 M) COMPOSITES</b>		
<b>Aurora Energy Inc. – Michelin Property</b>		
<b>Statistic</b>	<b>% U<sub>3</sub>O<sub>8</sub></b>	
	<b>Individual Assays</b>	<b>Composites</b>
Mean	0.118	0.088
Median	0.072	0.064
Max. Value	42.00	0.867
Standard Deviation	0.738	0.090
Coefficient of Variance	6.239	1.013

The distribution of assays for the drill hole data set within the mineralized zones outlined is presented in Figure 15-5.

15-13

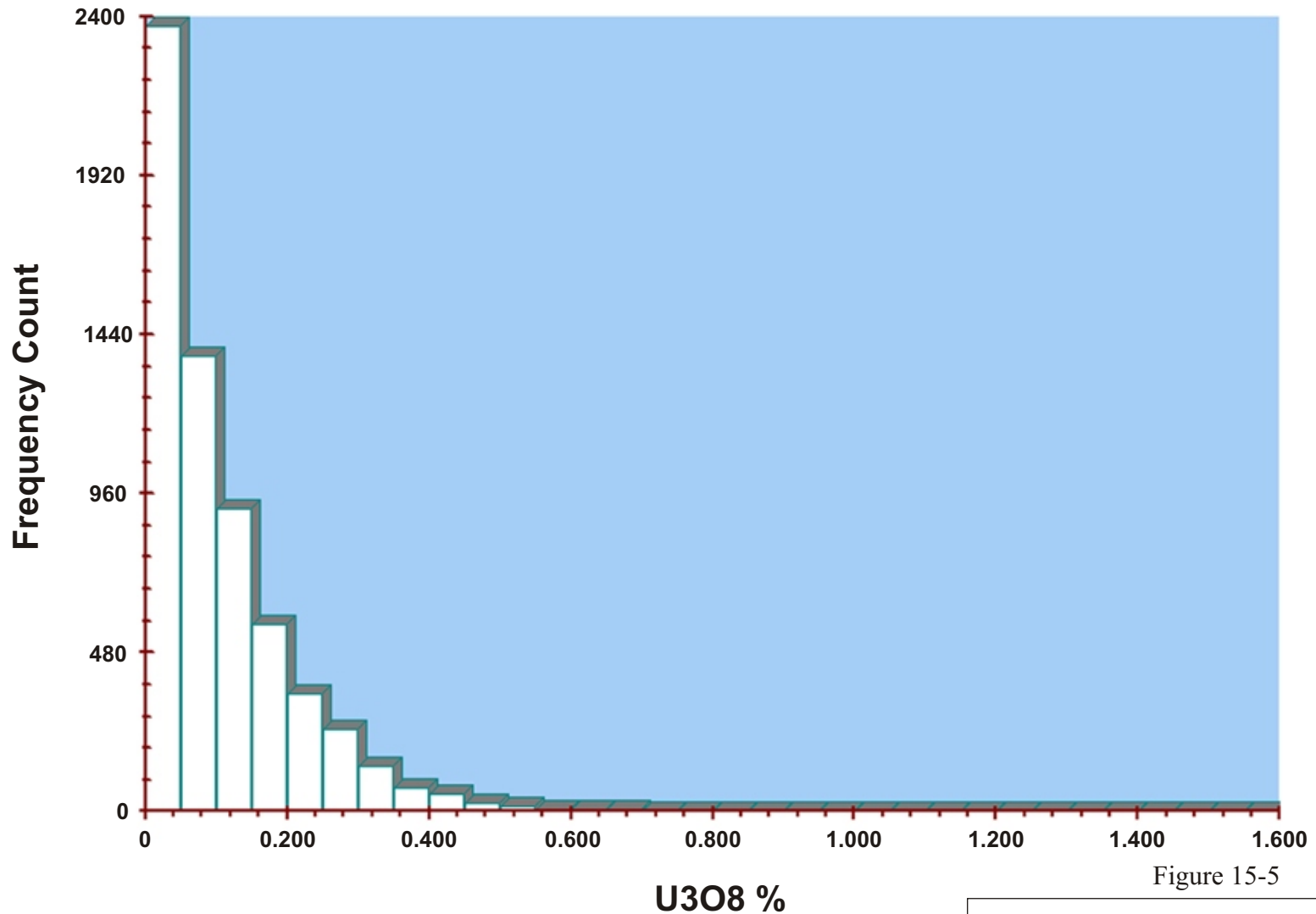


Figure 15-5

**Aurora Energy Inc.**  
*Michelin Deposit*  
*Newfoundland and Labrador, Canada*  
**Histogram of Uranium Assays Values  
Within the Mineralized Zones**

**15.3.6 VARIOGRAPHY**

RPA constructed a number of semi-variograms using all of the uranium one-metre composite data for all the mineralized zones combined. Semi-variograms were prepared for a number of strike directions, dips and plunges. Down-hole variograms indicate a relative nugget effect of approximately 25%. The along strike and down-dip variograms have a range in the order of 60 m. The variogram normal to the dip has a range in the order of 4 m. RPA therefore oriented the search ellipse long dimensions along the east-west strike with an average dip of -55° to south-southeast. The search ellipse radius for the first pass was 150 m. For the second pass, as discussed in section 15.3.2, the search ellipse was extended to 200 m.

**15.5.7 BLOCK MODEL AND KRIGING PARAMETERS**

The resource block is based on one-metre composites of the assay database. A search ellipsoid using a minimum of one and a maximum of ten composites was used to interpolate uranium grades (% U<sub>3</sub>O<sub>8</sub>) into blocks using a single-pass process, and the search ellipse (for each lens) was oriented with a grid east strike along the average dip of the zone, in most cases approximately 50° to the southeast. The search ellipsoid used had 100 m radius along strike as well as across strike and 50 m in the down-dip direction. RPA interpolated the block grades by the kriging method and block size was 2.5 m (east-west) by 2.5 m (north-south) and 5 m in the vertical dimension. Grades were interpolated into each of the four mineralized zones using only composites within each zone. The limits of the block model are shown in Table 15-3.

<b>TABLE 15-3 DESCRIPTION OF BLOCK MODEL</b>			
<b>Aurora Energy Inc. – Michelin Deposit</b>			
	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>
Block Size (m)	2.5	2.5	5.0
Block Origin	-1460	-500	350
No. of Blocks	524	240	150
Minimum (all)	-1460	-500	-400
Maximum (all)	-150	100	350
Minimum (Mineralized blocks)	-1432.5	-460	-380
Maximum (Mineralized blocks)	-190	47.5	340



### 15.3.8 BLOCK MODEL VALIDATION

RPA used two methods to validate the block model Mineral Resource estimate. These were:

- Visual inspection and comparison of block grades with composite grades.
- Statistical comparison of composite and block grade distributions.
- Check of average grades using inverse distance squared ( $I/D^2$ ) interpolation.

RPA detected no significant differences in comparing block grades with composite grades. Similarly, the statistics of block grades and composite grades are comparable. Finally, the estimates of the tonnage and average grade of the resource are similar by using the two resource estimation methods.

### 15.3.9 RPA CLASSIFICATION OF MINERAL RESOURCES OF THE MICHELIN DEPOSIT

Based on our interpretation of the mineralized zones, and using a cut-off grade of 0.05%  $U_3O_8$ , RPA estimates the Mineral Resources of the Michelin deposit to total some 8.96 million tonnes of Measured and Indicated Mineral Resources at an average grade of 0.113%  $U_3O_8$ , as described below and shown in Table 15-4.

#### 15.3.9.1 MEASURED MINERAL RESOURCES

Measured Mineral Resources include those blocks which extend from the surface to ten metres below the inclined tunnel (underground drift), i.e. where assay information includes surface drill hole data, underground drill hole data as well as underground sampling. These resources total approximately 342,000 tonnes at an average grade of 0.113%  $U_3O_8$  and they comprise mineralized zones 2, 2A, 2B, 3 and 4.

#### 15.3.10 INDICATED MINERAL RESOURCES

Indicated Mineral Resources include those mineralized blocks which are defined by drill holes spaced 50 m or less. Since the drill hole density is, in general, 50 m or less, the bulk of the Michelin resource constitutes Indicated Mineral Resources, and they total

approximately 8,615,000 tonnes at an average grade of 0.113% U<sub>3</sub>O<sub>8</sub> and they comprise all of the mineralized zones identified to date.

**15.3.11 INFERRED MINERAL RESOURCES**

Inferred Mineral Resources include all mineralized blocks which are defined by drill holes spaced >50 m apart. These constitute isolated blocks of the South Zone as well as those areas outlined by recent Aurora diamond drilling in the lower part of the Michelin deposit. RPA estimates the Inferred Mineral Resources to be in the order of 4.12 million tonnes at an average grade of 0.148% U<sub>3</sub>O<sub>8</sub> and they comprise mineralized zones 1, 2, 3 and 4.

**TABLE 15-4 RPA MINERAL RESOURCES**  
**Aurora Energy Inc. – Michelin Deposit**

Zone	Category	Tonnes	Grade (% U <sub>3</sub> O <sub>8</sub> )	Contained lbs U <sub>3</sub> O <sub>8</sub>
2	Measured	272,000	0.117	700,000
2A	Measured	5,000	0.068	7,500
2B	Measured	7,000	0.083	13,000
3	Measured	45,000	0.105	104,000
4	Measured	13,000	0.092	26,500
<b>Total</b>	<b>Measured</b>	<b>342,000</b>	<b>0.113</b>	<b>851,000</b>
1	Indicated	726,000	0.099	1,581,000
2	Indicated	3,324,000	0.133	9,726,000
2A	Indicated	146,000	0.087	279,000
2B	Indicated	209,000	0.099	455,000
3	Indicated	2,590,000	0.113	6,439,000
4	Indicated	661,000	0.077	1,120,000
5	Indicated	51,000	0.073	82,000
6	Indicated	10,000	0.085	19,000
A	Indicated	543,000	0.083	991,000
A1	Indicated	305,000	0.092	617,000
B	Indicated	47,000	0.059	61,000
C	Indicated	3,000	0.056	4,000
<b>Total</b>	<b>Indicated</b>	<b>8,615,000</b>	<b>0.113</b>	<b>21,374,000</b>
<b>Total</b>	<b>Measured &amp; Indicated</b>	<b>8,957,000</b>	<b>0.113</b>	<b>22,225,000</b>
1	Inferred	207,000	0.066	300,000
2	Inferred	1,721,000	0.130	4,922,000
3	Inferred	1,410,000	0.174	5,397,000
4	Inferred	778,000	0.166	2,841,000
<b>Total</b>	<b>Inferred</b>	<b>4,116,000</b>	<b>0.148</b>	<b>13,460,000</b>

**Note:**

1. CIM definitions were followed for Mineral Resources.
2. Mineral Resources are estimated at a cut-off grade of 0.05% U<sub>3</sub>O<sub>8</sub> and a minimum vein width of 2.0 m.
3. Density of mineralized rock is 2.83 t/m<sup>3</sup>.
4. Tonnage and contained lbs. uranium numbers are rounded.

## 16 EXPLORATION POTENTIAL

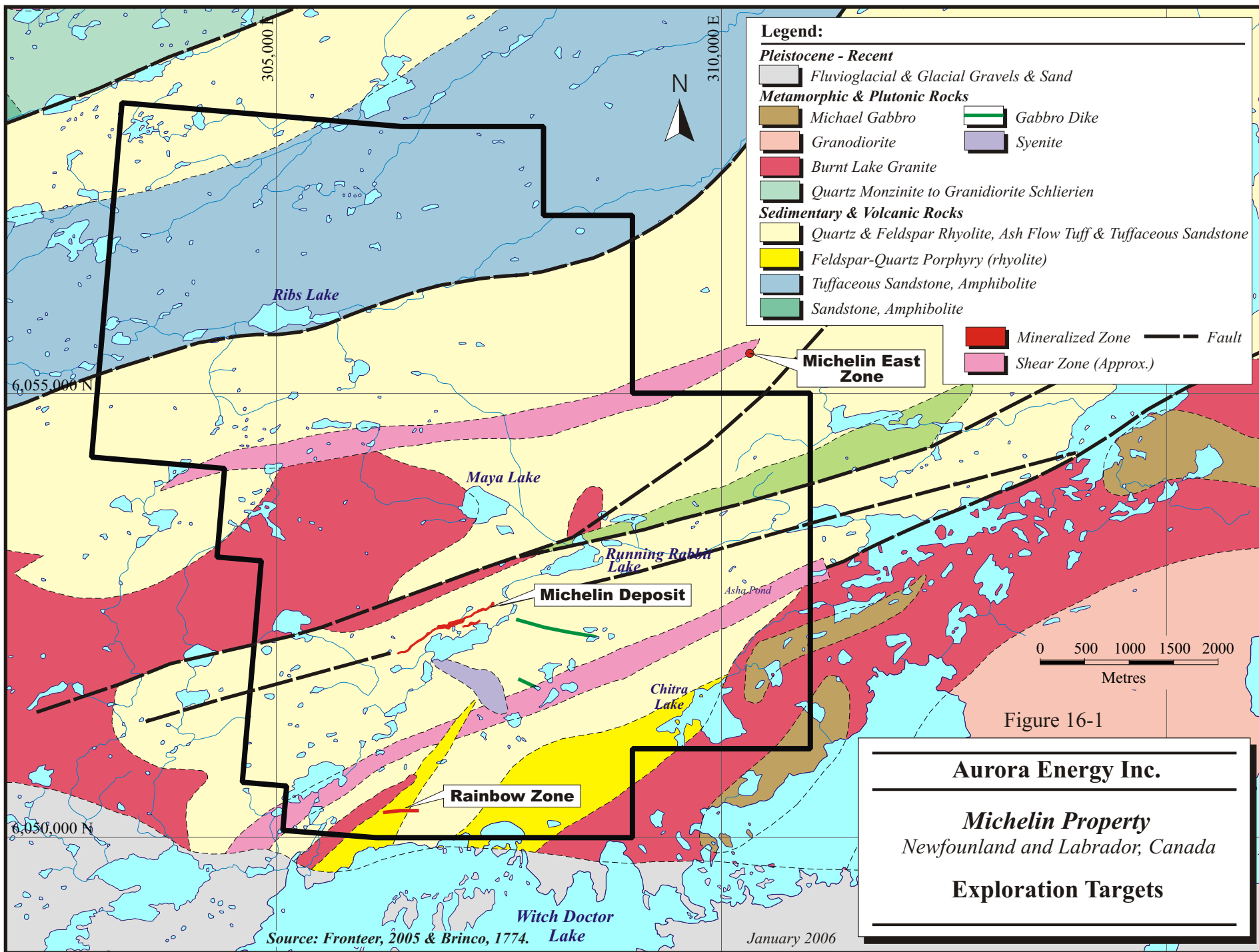
Extensive areas of airborne radiometric (U/Th) anomalies are correlated with airborne magnetic (vertical derivative) anomalies. Ground investigations have shown that many of these anomalies are underlain by radioactive uraninite bearing assemblages.

Recent results show that the Michelin deposit, as well as many known uranium occurrences, is situated along airborne radiometric anomalies (Figure 16-1). Since the Michelin deposit is exposed at only a few places (old trenches) along a linear radiometric anomaly, there is good potential for the discovery of hidden uranium mineralization in the area.

Results of recent confirmation drilling at Michelin also suggest that uranium mineralization extends significantly deeper than previously recognised (Fronteer Press Release of October 3, 2005).

The current exploration concept is focussed on exploring for structurally controlled uranium mineralization that bears affinity to the IOCG style deposit. Past results show that the Michelin deposit is situated along a major shear zone which hosts uranium mineralization, and that it has some characteristics which are similar to those at IOCG-type deposits. RPA is of the opinion that further mineralogical and analytical work is required to classify the Michelin as an IOCG-type uranium deposit. In particular, research should focus on two important aspects of these types of deposits.

There are other areas of known uranium mineralization within the Michelin Mineral Licence. These are historic Rainbow deposit, Michelin East (Chitra) deposit, and other radioactive zones such as Asha Pond, some 3 km east-northeast and along strike of the Michelin deposit. These are discussed under the separate section of Adjacent Properties below.



16-2

## **17 ADJACENT PROPERTIES**

There are a number of adjacent properties as defined by NI 43-101, situated around the Michelin Mineral Licence 9412M as shown in Figure 4-2. These include target areas within the Central Mineral Belt of Labrador.

### **17.1 AURORA LANDS**

A number of regional targets are currently being evaluated by Aurora. Six of these (Melody Hill, White Bear Lake, Otter Lake, Burnt Brook, Jacques Lake, and McLean) are uranium prospects of the Aillik Group and remaining three (Gear, Inda Lake and Nash) are prospects of the Post Hill Group. Results of recent work by Aurora are summarized as follows:

#### **17.1.1 MELODY HILL**

This area is situated approximately 10 km north of the Michelin deposit. Aurora reports that uranium mineralization may be spatially associated with northeast trending faults, which cut the high grade radioactive boulder train (values ranging from 0.05%  $U_3O_8$  to 20.4%  $U_3O_8$ ). A number of the boulders also contained base metal and silver mineralization ranging from 0.08% Cu to 0.92% Cu, 0.50% Pb to 6.0% Pb and 0.15 oz/ton Ag to 0.42 oz ton Ag. Aurora plans to drill this target area in 2006.

#### **17.1.2 WHITE BEAR LAKE**

This area is situated approximately 15 km east of the Michelin deposit and was drill tested by Brinex in 1977 returning a high of 0.22 %  $U_3O_8$  in DDH 77-7. Aurora plans to drill this target area in 2006.

### 17.1.3 OTTER LAKE

This area includes the Emben Main, Emben West, Emben Central and Emben South targets, situated approximately 20 km east of the Michelin deposit. Early work by Brinex discovered a number of highly radioactive boulders, which were reportedly comparable to the radioactive boulders at the Michelin deposit. Recent drilling by Aurora in 2005 at the Emben (Otter) South target returned a high grade intercept of 1.0% U<sub>3</sub>O<sub>8</sub>/0.5m in DDH OL-05-04. Aurora plans to continue drill testing this target area in 2006.

### 17.1.4 BURNT BROOK LAKE

This area consists of a 500 m x 500m U/Th anomaly situated approximately 20 km east-northeast of the Michelin deposit. A grab sample has returned 0.308% U<sub>3</sub>O<sub>8</sub> and a trench sample includes 0.154% U<sub>3</sub>O<sub>8</sub> over 2.4 m.

### 17.1.5 JACQUE'S LAKE

This area contains a narrow northeast trending U/Th anomaly 500 m in width and extending 3 km along strike. It is situated approximately 30 km east-northeast of the Michelin deposit, and contains a train of 165 radioactive boulders, with radioactive response ranging from 1,000 cps to 15,000 cps, and outcropping uranium mineralization in historic trenches. Drilling in 2005 by Aurora confirmed the presence of the mineralization and returned a high of 0.1% U<sub>3</sub>O<sub>8</sub> /9.2m in JL-05-05. Aurora plans to continue drill testing this target area in 2006.

### 17.1.6 MCLEAN LAKE

This showing is located near Jacque's Lake. Mineralization occurs in felsic to intermediate mylonite. Earlier sampling along four trenches dug in 1967 returned values ranging from 0.09% U<sub>3</sub>O<sub>8</sub> over 90 cm to 0.04% U<sub>3</sub>O<sub>8</sub> over 2.1 m (Hall, 2005). No work was done in 2005.

### 17.1.7 GEAR LAKE

This target area, together with the Inda Lake and Nash Lake targets, are located within the Post Hill area. The Gear Lake target is situated approximately 15 km east of

Postville. Uranium mineralization discovered in 1968 is associated with a spherical U/Th radiometric anomaly 0.35 km in diameter. The mineralization occurs within sheared metasedimentary rocks for a strike length of 120 m. An average grade of 0.165% U<sub>3</sub>O<sub>8</sub> over an area 30 m long and 4.9 m wide, is reported (Hall, 2005).

#### **17.1.8 INDA LAKE**

This target area is situated approximately 3 km southwest of the Gear Lake occurrence. Uranium mineralization discovered in 1968 is associated with a spherical U/Th radiometric anomaly 0.35 km in diameter. The mineralization related to a north-easterly trending antiform for a strike length of 1.1 km. An average grade of 0.19% U<sub>3</sub>O<sub>8</sub> is reported from 23 drill holes which have tested a small deposit 640 m long and having an average width of 2.44 m (Hall, 2005).

#### **17.1.9 NASH LAKE**

This target area is also situated approximately 3 km southwest of the Inda Lake occurrence, along the same belt of metasedimentary and metavolcanic rocks as at the Kitts uranium deposit, some 15 km northeast. Uranium mineralization discovered in 1967 is associated with an oval shaped U/Th radiometric anomaly 0.7 km by 0.35 km in diameter. The mineralization related to a north-northwesterly trending shear zone known as the Naskit Slide. Mineralization is reported to extend 365 m along strike and 140 m in the vertical dimension, with an average thickness of 1.85 m. A mineral resource totalling some 550,000 tonnes at an average grade of 0.16% U<sub>3</sub>O<sub>8</sub> is reported to be present within the Post Hill area (Fronteer Press Release on EDGAR Online, September 8, 2004).



## **17.2 OTHER PROPERTIES WITHIN THE CENTRAL MINERAL BELT**

Properties within the Central Mineral Belt but not controlled by Aurora are listed below.

### **17.2.1 MUSTANG LAKE**

The Mustang Lake property, held by Monster Copper Corporation (Monster Copper) and Santoy Resources (Santoy) , is located 8 km NE of the Michelin uranium deposit and surrounded by Aurora's CMB land package. Three boulder trains were discovered on the Mustang Lake property by Brinex in the late 1970's. These are the Irving Zone, where 117 boulders averaged 1.28%  $U_3O_8$  (range 0.09 to 6.25%); the South Prospect, where 40 boulders averaged 0.55%  $U_3O_8$  (range 0.02 to 3.5%); and Mustang Lake East, where 22 boulders averaged 0.1%  $U_3O_8$  (range 0.02 to 0.6%). Santoy has confirmed the existence and distribution of the three boulder trains by prospecting during the past field season. Santoy's assays from grab samples of boulders in the boulder trains are 1.60%  $U_3O_8$  from Irving Zone, 0.32%  $U_3O_8$  from South Prospect and 0.46%  $U_3O_8$  from Mustang Lake East (Monster Copper Press Release, January 18, 2006)

### **17.2.2 MORAN LAKE**

The Moran Lake Property, held by Crosshair Exploration (Crosshair), lies approximately 65 kilometres west of the Michelin Deposit and 75 kilometres southwest of the community of Postville. Exploration in the Moran Lake area started in the 1950's, with detailed exploration beginning in 1976, when Shell Canada Resources (Shell) began several trenching and subsequent drilling programs on two mineralized zones. Drilling produced several high grade drill intersections including 0.56%  $U_3O_8$  over 3.99 m. Uranium mineralization at Moran Lake occurs in two areas known as the B and C Zones located approximately 3 kilometres apart. Shell reported that the Upper C Zone is host to an inferred geological resource of 500 tonnes (1.1 million pounds) of contained  $U_3O_8$ ,

while the Lower C Zone has a potential resource of 2,236 tonnes (4.92 million pounds) of contained U<sub>3</sub>O<sub>8</sub> (Crosshair Press Release, Wednesday, November 23, 2005).

### **17.2.3 KITTS URANIUM DEPOSIT**

The Kitts uranium deposit, with reported Mineral Resources of approximately 185,000 tonnes at an average grade of 0.73% U<sub>3</sub>O<sub>8</sub>, is located in the general area, some 25 km northeast of Postville, but outside of the Aurora lands of the Central Mineral Belt.

The deposit is associated with a U/Th radiometric anomaly about 0.8 kilometres in diameter although this is probably due in part to surface disturbance. The Kitts deposit is an aggregate of several discontinuous, en echelon zones along a strike length of 400 metres. The deepest intercept is in the B-Central zone approximately 160 metres below surface. The mineralization is associated with black, carbonaceous argillite interbedded with greywacke and garnetiferous tuffs (Booth et. al., 1979). Strata strike 320° and dip northeast. Gabbro occurs in the footwall and pillowed basalt forms the hanging to the mineralized section.

RPA notes that the historical resources of the Kitts deposit were estimated by Brinex based on more than 9,313m of drilling completed in 94 surface diamond drill holes, 974 m of underground development and approximately 1,598 m of underground drilling 124 holes. Nevertheless, these resources are not NI 43-101 compliant.

RPA is not aware of any exploration work currently being carried out on lands outside of the Central Mineral Belt mineral licences.

## 18 MINERAL PROCESSING AND METALLURGICAL TESTING

There are no recent metallurgical testwork done on the Michelin deposit. In 1979, as part of its feasibility study, Kilborn carried out a number of metallurgical tests on bulk samples from the Michelin deposit (samples collected in 1975 and 1976) as well as the Kitts deposit (samples collected in 1958). The Michelin bulk sample was a composite muck sample taken from the Michelin A zone on the 100-foot level adit and crosscut. The sample was considered suitable for testwork aimed at predicting autogenous grinding design parameters. It was not, however, considered to be representative of the Michelin deposit (Bechtel, 1977). Testwork was carried out at the Lakefield Research Laboratories using a 6-foot diameter by 2-foot long mill, operated in closed circuit with a screen. Results of metallurgical testwork were reviewed by Bechtel in 1977 and are summarized, as follows:

- The test program did not provide sufficient data to accurately size an autogenous grinding circuit.
- The residence time in the acid leach circuit was less than 48 hours. By adding 1 lb/ton of sodium chloride (NaCl) to the feed Bechtel concluded that reagent consumption, and hence operating costs, could be reduced.
- The recovery of uranium was increased in the -200 mesh fraction of the ore. This required a low slimes content as well as low residence time to reduce the build-up of solids in the tanks.
- The pilot scale Hemsley system of ion exchange was considered adequate, but Bechtel recommended washing the slurry prior to feeding it to the ion exchange column.
- Kilborn selected the Eulex process for the solvent extraction to produce a liquor containing 20 gpl of  $U_3O_8$ . Due to “crud formation in the uranium extraction circuit, caused by build-up of zirconium, a zirconium extraction circuit is necessary ahead of uranium extraction” (Bechtel, 1977). Bechtel recommended further testwork to remove the zirconium.
- Tailings would be neutralized by using limestone and lime.

## **19 OTHER RELEVANT DATA AND INFORMATION**

### **19.1 MANPOWER**

Aurora employed twenty-one (21) people from Postville for its 2005 (June to November) exploration program. RPA understands that this represents approximately 10% of the work force in that community. RPA is of the opinion that it is good practice to employ local people and use the services of contractors who have established partnerships with the Labrador Inuit Association (LIA).

### **19.2 SAFETY**

Aurora held weekly safety meetings with staff and temporary personnel at its exploration base camp in Postville. Items discussed at one of the meetings, during the time of RPA's site visit, included:

- Safety procedures during field work.
- Radio communication between field personnel as well as with the exploration base camp.
- Location and status of survival packs (caches) in case of emergencies.
- First aid kits to be carried by all field personnel.

RPA understands that at all times there was a Level 3 First Aid Attendant on site for the duration of the 2005 field program. RPA also understands that Aurora has procedures and action plans in place in case of injury or other emergencies during the course of exploration.

RPA also notes that all field personnel wear badges provided by the National Dosimetry Services of Health Canada, to monitor the exposure to radioactivity in the area.

Aurora has developed *Uranium Exploration Health and Safety & Environmental Protection Guidelines* specific to the CMB project (Buchnea 2005). The guidelines provide workers with background information and procedures to ensure personal safety and proper handling of radioactive materials while working on the project.

The guidelines emphasize minimal handling of radioactive samples, maximizing the distance from mineralized core or rocks, sufficient ventilation and personal hygiene (washing hands before eating and not licking rock samples) as the most effective way to reduce potential exposure to radiation. In the field, the health and safety procedures are as follows:

- Workers wear gloves when handling rock samples and monitor their clothing prior to entering the helicopter at the end of the day with a Geiger Mueller detector attached to the Ludlum model 3-97 meter.
- When returning to town all field gear is stored in a central location away from kitchen and sleeping facilities.
- During the drill program workers handling mineralized core are required to wear coveralls, safety glasses, gloves and dusk mask when splitting core. Core is kept wet and split using a core splitter rather than a rock saw to reduce dust in the core splitting facility. The core shack facilities are monitored on a regular basis to ensure radioactive levels are kept to a minimum.
- Scintillometers are used to monitor daily external dosages. To measure the cumulative external dosages, all field workers are supplied with thermo luminescent radiation dosimeters (TLDs). The TLD's are supplied by Health Canada's National Dosimetry Service were submitted every 3 months to Health Canada, which reports the results and maintains a central registry. The Health Canada TLD dosimetry program indicates that no worker has received a measurable dose during the 2005 exploration program.

### **19.3 ENVIRONMENTAL CONSIDERATIONS**

Aurora has located the collars of the twin holes for the confirmation drilling program, as well as other drill holes for the Central Mineral Belt program, at least 30 m away from the high water mark of ponds and lakes in the project area. This is in accordance with regulations and environmental guidelines set by the Government of Newfoundland and

Labrador (Aurora Energy Inc., 2005). RPA understands that no breaches of environmental regulations (spills, leakage of diesel fuel etc.) have occurred during the current confirmation drilling program. RPA noticed, however, that one of the old Brinex drill holes was “making water”. Aurora has documented this occurrence and monitors it on a weekly basis during the exploration program.

In addition, Aurora has developed a set of guidelines to manage environmental, health and safety aspects of the exploration and drill program. This includes a drill site check list to document existing conditions such as artesian drill holes and radiation levels as well as site conditions upon completion of drilling.

## **19.4 URANIUM MARKET**

The principal commodity for the Michelin Property is uranium. RPA notes that the market for uranium has improved considerably during the past 22 months, from a low of approximately US\$11 per lb. U<sub>3</sub>O<sub>8</sub> to approximately US\$36.50 per lb. U<sub>3</sub>O<sub>8</sub> for the spot price of uranium.

## 20 CONCLUSIONS

Based on our site visit and review of technical reports and publications, RPA concludes that:

- The Michelin Uranium Deposit is hosted predominantly by quartzo-feldspathic rocks of volcanic provenance, and of Early Proterozoic age, modified by Hudsonian (1.8 Ga) deformation and metamorphism.
- Uranium mineralization occurs along well define high strain structural zones that are almost parallel to identifiable east-northeast trending and moderately south dipping stratigraphic zones. These structural zones are also parallel to the regional foliation in the area.
- Overall, the uranium mineralization is stratabound and shear-hosted, but is present within different facies of fragmental quartzo-feldspathic rocks.
- At least twelve (12) mineralized units are recognized within the 160 m distance across the strike of the Michelin deposit, although not all of them can be traced for distances more than 200 m along strike. Some zones may be traced up to 725 m along strike.
- The more continuous mineralized zones are present within a 40 m to 50 m wide pink alteration zone with typical hematitic staining.
- The thickness of the individual mineralized zones ranges from <2 m to 15 m, with an average thickness ranging from 5 m to 8 m for the more continuous ones.
- At the 0.05% U<sub>3</sub>O<sub>8</sub> cut-off grade, the Michelin Uranium Deposit contains some 348,000 tonnes of Measured Mineral Resources at an average grade of 0.113% U<sub>3</sub>O<sub>8</sub>, approximately 8,470,000 tonnes of Indicated Mineral Resources at an average grade of 0.113% U<sub>3</sub>O<sub>8</sub>, and approximately 2,900,000 tonnes of Inferred Mineral Resources at an average grade of 0.146% U<sub>3</sub>O<sub>8</sub>.
- Mineralization is open at depth below the historic deposit and has been extended from a vertical depth of 250 m to 700 m by the 2005 drilling. Mineralization currently remains open below 700 m.
- Results of recent confirmation drilling at Michelin suggest that uranium mineralization extends farther at depth than previously recognised. These results also indicate that mineralization extends more than 700 m below the surface.

- There is good potential for the discovery of additional uranium mineralization south and east of Michelin and at other targets in the Belt, which hosts the Michelin deposit, with geological and geophysical with similar characteristics to Michelin.
- Some of the RPA check assay values are slightly higher than the earlier Brinex and/or Aurora results. The differences are considered to be due to the variability in uranium values between the two halves of the core, and are not cause for concern, in RPA's view.



## 21 RECOMMENDATIONS

RPA recommends that:

- Ongoing exploration efforts continue to infill and test the extensions of the Michelin Uranium Deposit along strike and at depth to assess its potential for hosting an economic deposit.. Based on encouraging results from the 2005 confirmation drilling, Aurora has an exploration program and budget for approximately 10,000 m of infill drilling, and an additional 10,000 m of exploration drilling to test for additional parallel shoots along strike (in particular from 11+80W to 7+09W) and also below 700 m vertical depth.
- Ongoing exploration efforts should also continue to test the Rainbow Zone target and the Michelin East (Chitra) target areas by drilling. Aurora has a program and budget for an additional 6,000 m of drilling to test near surface target areas at Michelin East and Rainbow. RPA concurs with this program.
- Aurora assess the potential of the district to host multiple satellite deposits to compliment Michelin by testing the other uraniumiferous “Michelin-like” systems present within the greater CMB land package.
- Aurora move the project along toward pre-feasibility, while at the same time, evaluate alternatives for mine development and project funding by a joint venture partner.

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## 23 SIGNATURE PAGE

This report titled “Technical Report on the Michelin Uranium Deposit, Labrador” and dated January 23, 2005, was prepared by and signed by the author:

Dated at Toronto, Ontario  
January 23, 2005

**(Signed & Sealed)**

Hrayr Agnerian, M.Sc.(Applied), P.Geo.  
Consulting Geologist  
Roscoe Postle Associates Inc.

## 24 CERTIFICATE OF QUALIFICATIONS

### HRAYR AGNERIAN

I, Hrayr Agnerian, M.Sc. (Applied), P.Geo., do hereby certify that:

1. I am a Consulting Geologist with Roscoe Postle Associates Inc. of Suite 501, 55 University Ave Toronto, ON, M5J 2H7.
2. I am a graduate of the American University of Beirut, Lebanon in 1966 with a Bachelor of Science degree in Geology, of the International Centre for Aerial Surveys and Earth Sciences, Delft, the Netherlands, in 1967 with a diploma in Mineral Exploration, and of McGill University, Montréal, Québec, Canada, in 1972 with a Master of Science (Applied) degree in Mineral Exploration.
3. I am registered as a Professional Geoscientist in the Provinces of Ontario (Reg. No. 0757) and Saskatchewan (Reg. No. 4305), and as a Professional Geologist in the Province of Québec (Reg. No. 302). I am a Member of the Canadian Institute of Mining, Metallurgy and Petroleum, and the Prospectors and Developers Association of Canada, and a Fellow of the Geological Association of Canada.
4. I have worked as a Geologist for a total of 35 years since my graduation. My relevant experience for the purpose of the Technical Report is:
  - Review and report as a consultant on more than seventy mining operations and Projects around the world for due diligence and regulatory requirements
  - District Geologist for Canadian mining company
  - Project/Exploration Geologist for several Canadian exploration companies.
5. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI43-101.
6. I am responsible for overall preparation of the Technical Report, including all sections.
7. I visited the Michelin project site from September 12 to 15, 2005.
8. I have had no prior involvement with the property that is the subject of the Technical Report
9. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.

10. I am independent of the Issuer applying the tests set out in section 1.5 of National Instrument 43-101.
11. I have read National Instrument 43-101F1, and the Technical Report has been prepared in compliance with National Instrument 43-101 and Form 43-101F1.
12. I consent to the filing of this Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public, of this Technical Report.

**(Signed & Sealed)**

Dated at Toronto, Ontario  
January 23, 2005

Hrayr Agnerian, M.Sc.(Applied), P.Geo.  
Consulting Geologist  
Roscoe Postle Associates Inc.

## **25 APPENDIX A**

### **QUALITY CONTROL FOR URANIUM ANALYSES AT THE ACTIVATION LABORATORIES**

**QUALITY CONTROL FOR URANIUM ASSAYS*****SAMPLE RECEPTION***

Samples are received and logged in the ACTLABS Laboratory Information Management System (LIMS) and are verified against a sample list provided by the client (if available). Discrepancies are reported to the client. Samples are dried, if required, at 60° C.

***SAMPLE PREPARATION FOR ROCKS AND DRILL CORE***

Once dry, the entire sample is crushed using one of a TM Engineering Rhino crusher (75% - 10 mesh) or TM Engineering Terminator jaw crusher (90% - 10 mesh). Samples are riffle split and an aliquot of at least 100 g (95% minus 150 mesh) is produced using a TM Engineering ring-a-puck pulverizer. Pulverization time is adjusted based on hardness of the sample material. Cleaner sand is run between all samples to avoid cross contamination of samples. Sample duplicates are prepared from rejects (1 in 40) and from pulps (1 in 30) and are run through the entire process to verify adequacy of sample preparation. Random rejects and pulps are screened to ensure that the preparation passes specifications. Results are control charted to detect potential problems before they occur. The sample preparation procedure is documented in the ACTLABS QOP-Prep form.

***URANIUM ANALYSIS BY DELAYED NEUTRON COUNTING (DNC)***

One gram of the sample is weighed, transferred into small polyethylene vials and are sealed. This small vial is then placed in a medium vial which is used as an irradiation rabbit to be sent under computer control for irradiation. After a brief irradiation period of 15 seconds, the sample is sent automatically to a delayed neutron counter which consists of an array of BF3 detectors surrounding the sample. It is then allowed to decay during a period from 15 seconds to 120 seconds, depending on the uranium level before it is counted for 15 seconds. The DNC system is described by P.C. Ernst and E.L. Hoffman in a 1982 publication entitled "Development of Automated Analytical Systems for Large Throughput" in the Journal of Radioanalytical Chemistry, Vol. 70, pp. 527-537.



Initially, all samples containing higher than 2,000 ppm U were reweighed and re-measured by DNC, with the increased delay time of 120 seconds. This showed that the linearity of the calibration could be increased to 4,000 ppm U. Currently, all samples with >4,000 ppm U are rerun with the 15 seconds-120 seconds setting. This allows the DNC method to be used to a level in excess of 1% U, although the upper reporting limit is cut off at 1%. We would expect precision based on counting statistics to be  $\pm 100\%$  at detection limits better than  $\pm 10\%$  at ten times the detection limit, and better than  $\pm 2\%$  at 100 times the detection limit. Our calculation is based on multiple CANMET certified reference materials and goes from low level to over 7% U. Accuracy and potential contamination of the system is monitored by routinely running blanks and controls every 30 samples. The procedure used is our QOP-INAA. All controls are control charted. Samples exceeding 1% U are redone by the fusion XRF process.

***FUSION XRF FOR URANIUM***

A sample weighing 0.5 g is subjected to a temperature of 1,050° C and is then fused in a combination of lithium metaborate/tetraborate in platinum crucibles and the molten fusion mix is poured into a 32 mm platinum mould. The fused discs are analysed on a wavelength dispersive Phillips PW 1540 XRF spectrometer. Analytical monitors are run prior to the samples being analysed to make minor adjustments to the slope of a calibration that has been previously done. CANMET certified reference materials are analysed at the same time to verify the calibration. Precision should be better than 1% and generally we would expect accuracy to be within 2%. The procedure used is our QOP-XRF fusion.

ACTLABS is associated to ISO 17025 with Can-P-1579 for mineral analysis laboratories. As such, we have an international recognized Quality System in place. We are also licensed by the CNSC for working with radioactive materials.

**CHECK ASSAY RESULTS: ACTIVATION LABORATORY V.S.  
SGS LABORATORY, DIAMOND DRILL HOLES FROM  
MICHELIN DEPOSIT**

Sample No.	Activation Laboratory assay (% U <sub>3</sub> O <sub>8</sub> )	SGS Lab assay (% U <sub>3</sub> O <sub>8</sub> )	Difference (% U <sub>3</sub> O <sub>8</sub> )	% Difference
CMB 00751	0.17	0.15	0.02	11.11
CMB 00754	0.56	0.54	0.02	3.66
CMB 00755	0.29	0.27	0.02	6.22
CMB 01154	0.22	0.22	0	0.30
CMB 01158	0.22	0.21	0.01	3.80
CMB 01452	0.16	0.14	0.02	14.64
CMB 01502	0.14	0.12	0.02	14.54
CMB 01503	0.39	0.38	0.01	2.41
CMB 01505	0.19	0.16	0.03	17.32
CMB 01510	0.23	0.22	0.01	2.39
CMB 02032	0.37	0.32	0.05	12.80
CMB 02068	0.17	0.18	-0.01	-3.77
CMB 02075	0.22	0.21	0.01	5.84
CMB 02719	0.44	0.42	0.02	5.59
CMB 02081	0.96	0.85	0.11	11.18
CMB 02082	0.68	0.62	0.06	9.25
CMB 02083	0.89	0.80	0.09	9.60
CMB 03507	0.20	0.17	0.03	15.75
CMB 03508	0.21	0.18	0.03	16.19
CMB 03510	0.15	0.13	0.02	13.93
CMB 03511	0.13	0.10	0.03	20.80
CMB 03512	0.19	0.16	0.03	14.72
CMB 03513	0.17	0.15	0.02	10.48
CMB 03514	0.22	0.19	0.03	12.49
CMB 03526	0.23	0.19	0.04	16.57
CMB 03527	0.22	0.19	0.03	14.81
CMB 03528	0.31	0.27	0.04	11.99
CMB 03530	0.16	0.14	0.02	13.40
CMB 03533	0.14	0.12	0.02	15.99
CMB 03534	0.19	0.16	0.03	15.78
CMB 03535	0.12	0.10	0.02	16.09
CMB 03544	0.22	0.18	0.04	17.10
CMB 03546	0.37	0.33	0.04	11.22
CMB 03547	0.27	0.23	0.04	13.74
CMB 03548	0.31	0.28	0.03	10.46
CMB 03551	0.29	0.26	0.03	9.70
CMB 03552	0.27	0.24	0.03	12.33
CMB 03553	0.32	0.29	0.03	10.63
CMB 03554	0.33	0.30	0.03	8.88
CMB 03556	0.17	0.15	0.02	10.48
CMB 1184	0.51	0.46	0.05	9.76
CMB 1189	0.13	0.12	0.01	10.79
CMB 1301	0.32	0.30	0.02	6.53

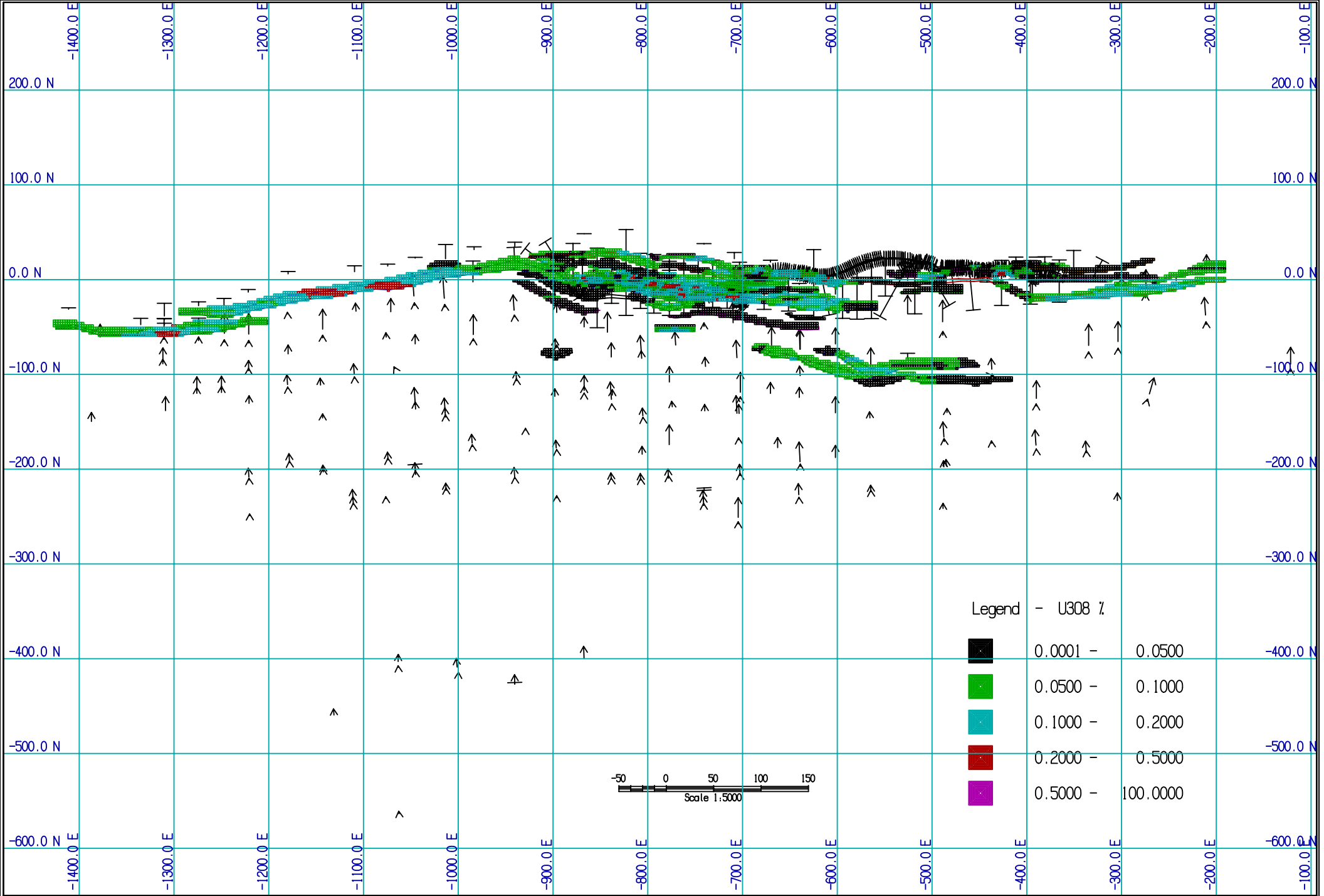
CMB 1302	0.21	0.18	0.03	13.82
CMB 1304	0.16	0.14	0.02	11.46
CMB 1321	0.13	0.12	0.01	8.38
CMB 1619	0.15	0.13	0.02	13.25
CMB 1620	0.36	0.33	0.03	8.01
CMB 1663	0.64	0.60	0.04	6.87
CMB 1669	0.23	0.20	0.03	11.72
CMB 1682	0.22	0.20	0.02	10.79
CMB 1810	0.16	0.14	0.02	14.03
CMB 1856	0.36	0.32	0.04	9.90
CMB 1897	0.34	0.31	0.03	9.41
CMB 1898	0.50	0.46	0.04	7.18
CMB 1899	0.17	0.15	0.02	10.38
CMB 1904	0.23	0.61	-0.38	-165.22
CMB 1916	0.17	0.15	0.02	9.84
CMB 1922	0.20	0.17	0.03	13.21
CMB 1939	0.41	0.36	0.05	12.83
CMB 1940	0.29	0.26	0.03	10.43
CMB 2154	0.49	0.43	0.06	12.61
CMB 2155	0.76	0.67	0.09	11.83
CMB 2156	0.26	0.23	0.03	11.80
CMB 2160	0.23	0.20	0.03	11.26
CMB 2162	0.18	0.16	0.02	11.95
CMB 2172	0.13	0.11	0.02	17.50
CMB 2176	0.12	0.11	0.01	11.22
CMB 2305	0.41	0.37	0.04	9.64
CMB 2401	0.13	0.13	0	3.36
CMB 2471	0.49	0.45	0.04	7.44
CMB 2472	0.14	0.12	0.02	13.82
CMB 2473	0.55	0.51	0.04	6.65
CMB 2476	0.36	0.31	0.05	13.30
CMB 2478	0.29	0.27	0.02	8.11
CMB 2480	0.20	0.17	0.03	13.21
CMB 2483	0.51	0.46	0.05	9.76
CMB 2485	0.16	0.14	0.02	10.79
CMB 2496	0.23	0.20	0.03	14.83
CMB 2497	0.46	0.44	0.02	3.90
CMB 2501	0.14	0.13	0.01	8.19
CMB 2503	0.15	0.13	0.02	14.60
CMB 2504	0.20	0.18	0.02	9.74
CMB 2507	0.24	0.21	0.03	13.19
CMB 2509	0.13	0.11	0.02	12.88
CMB 2510	0.15	0.14	0.01	5.08
CMB 2511	0.16	0.14	0.02	10.79
CMB 2512	0.22	0.20	0.02	8.88
CMB 2513	0.20	0.17	0.03	13.21
CMB 2514	0.12	0.11	0.01	10.37
CMB 2515	0.16	0.14	0.02	12.12
CMB 2516	0.22	0.19	0.03	13.43
CMB 2535	0.22	0.20	0.02	9.84
CMB 2536	0.30	0.27	0.03	9.92
CMB 2537	0.19	0.16	0.03	15.25
CMB 2543	0.21	0.18	0.03	16.19

CMB 2601	0.25	0.22	0.03	10.79
CMB 2602	0.46	0.45	0.01	2.96
CMB 2603	0.18	0.16	0.02	13.08
CMB 2604	0.20	0.17	0.03	13.21
CMB 2606	0.15	0.13	0.02	11.15
CMB 2607	0.30	0.27	0.03	11.31
CMB 2608	0.25	0.22	0.03	12.47
CMB 2611	0.23	0.20	0.03	14.40
CMB 489	0.34	0.30	0.04	11.11
CMB 903	0.36	0.33	0.03	8.91
CMB 904	0.27	0.24	0.03	10.00
<b>Average</b>				<b>10.90</b>
<b>Source: Fronteer, 2005.</b>				

**Note: Activation Lab % U<sub>3</sub>O<sub>8</sub> values calculated from actual ppm U values.**

## **26 APPENDIX B**

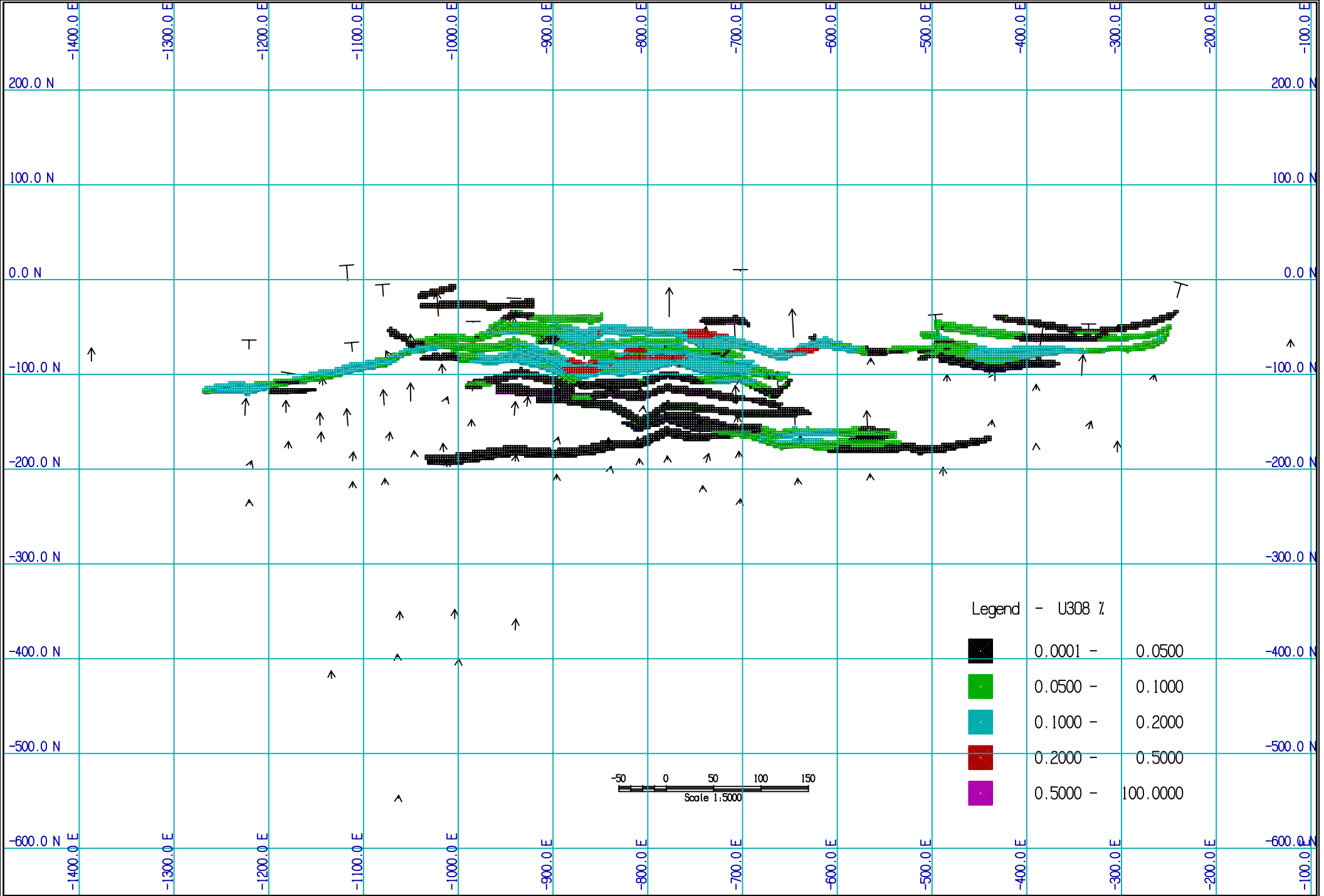
### **MICHELIN DEPOSIT RESOURCE BLOCK MODEL, LEVEL PLANS, CROSS SECTIONS AND LONGITUDINAL SECTIONS**



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Plan View = Drift (310 Elev) Figure 26-1  
 Michelin Deposit  
 Block Model Plan View

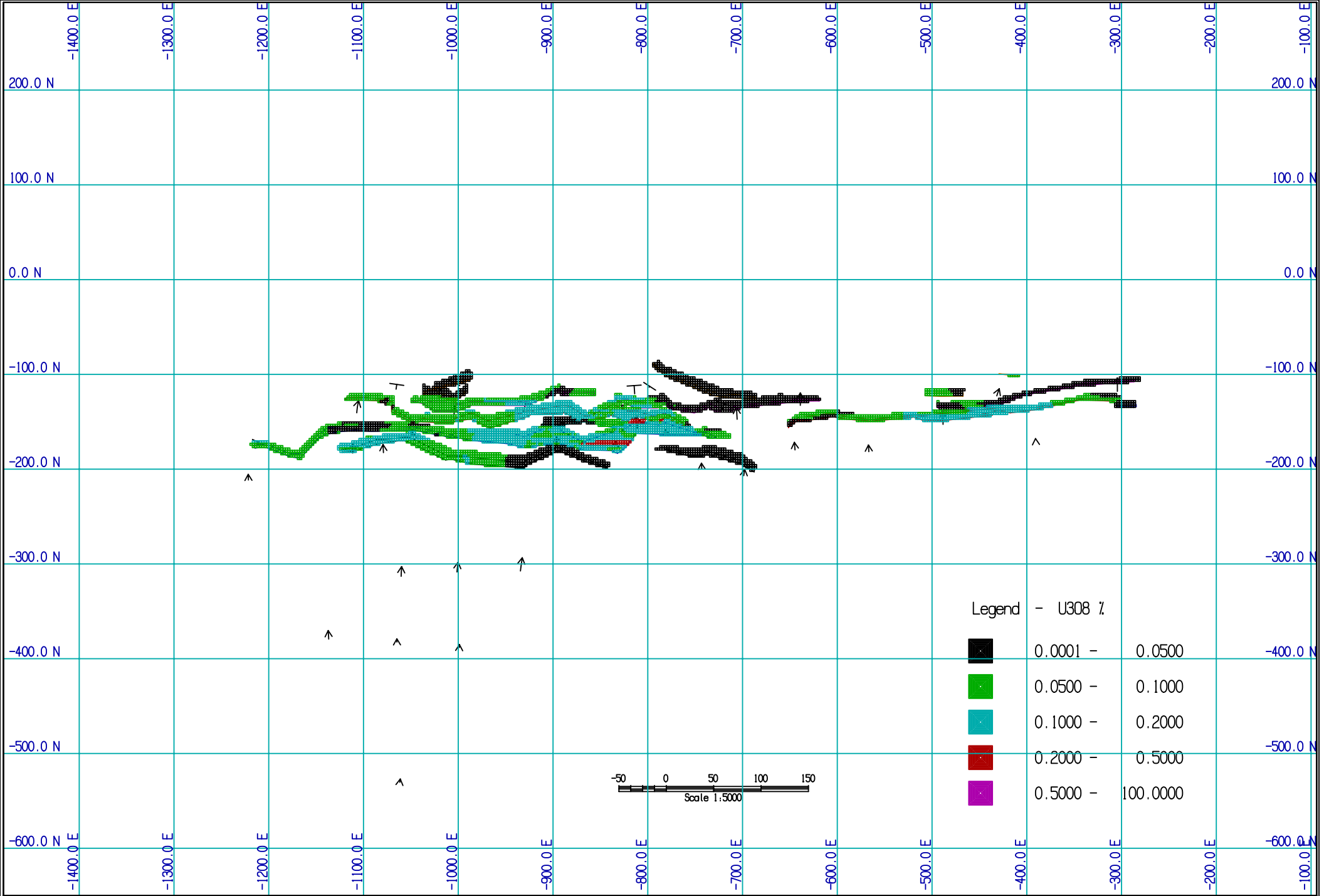
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Plan View = 200 Elev  
 Michelin Deposit  
 Block Model Plan View

Figure 26-2

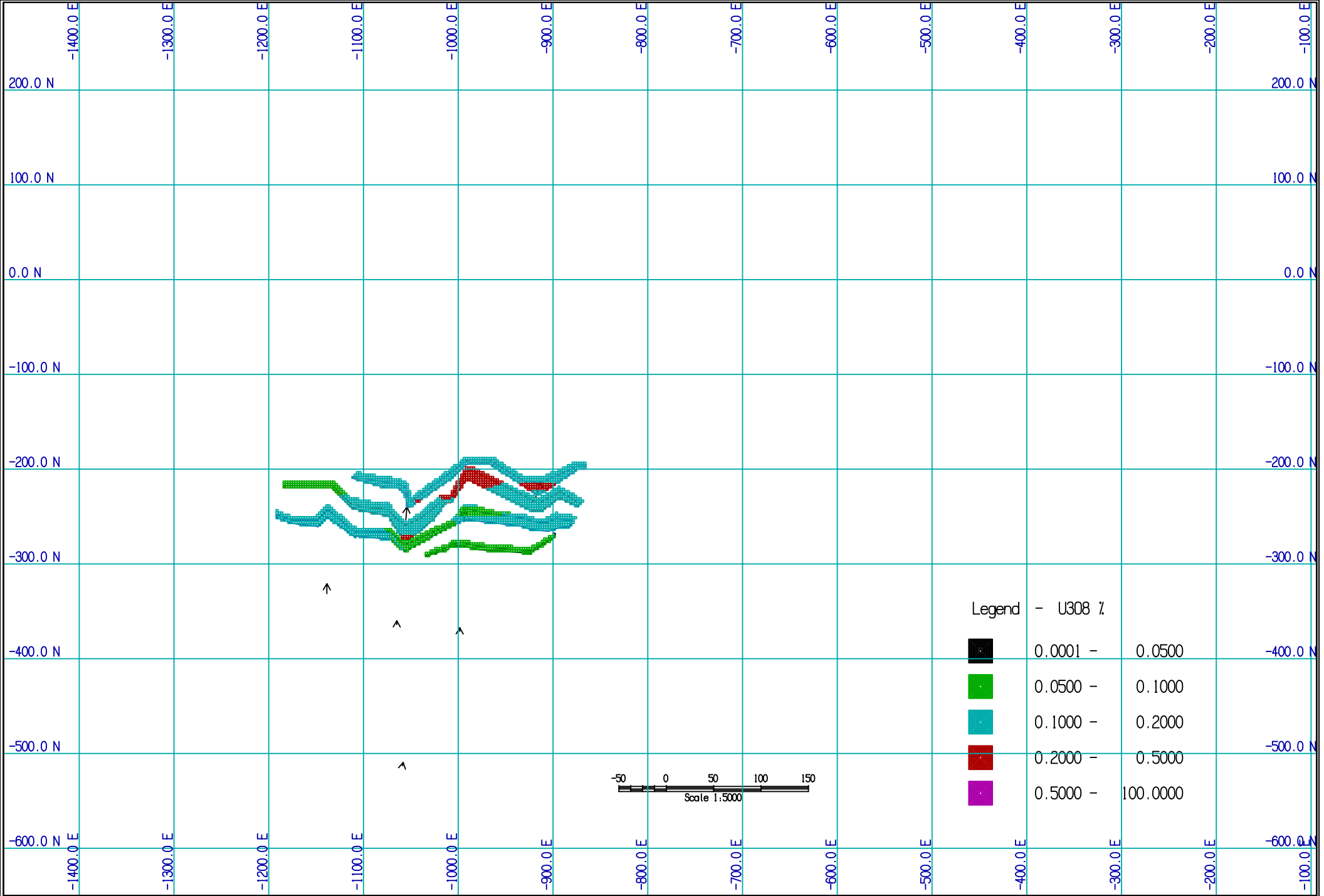


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Plan View = 100 Elev  
 Michelin Deposit  
 Block Model Plan View

Figure 26-3

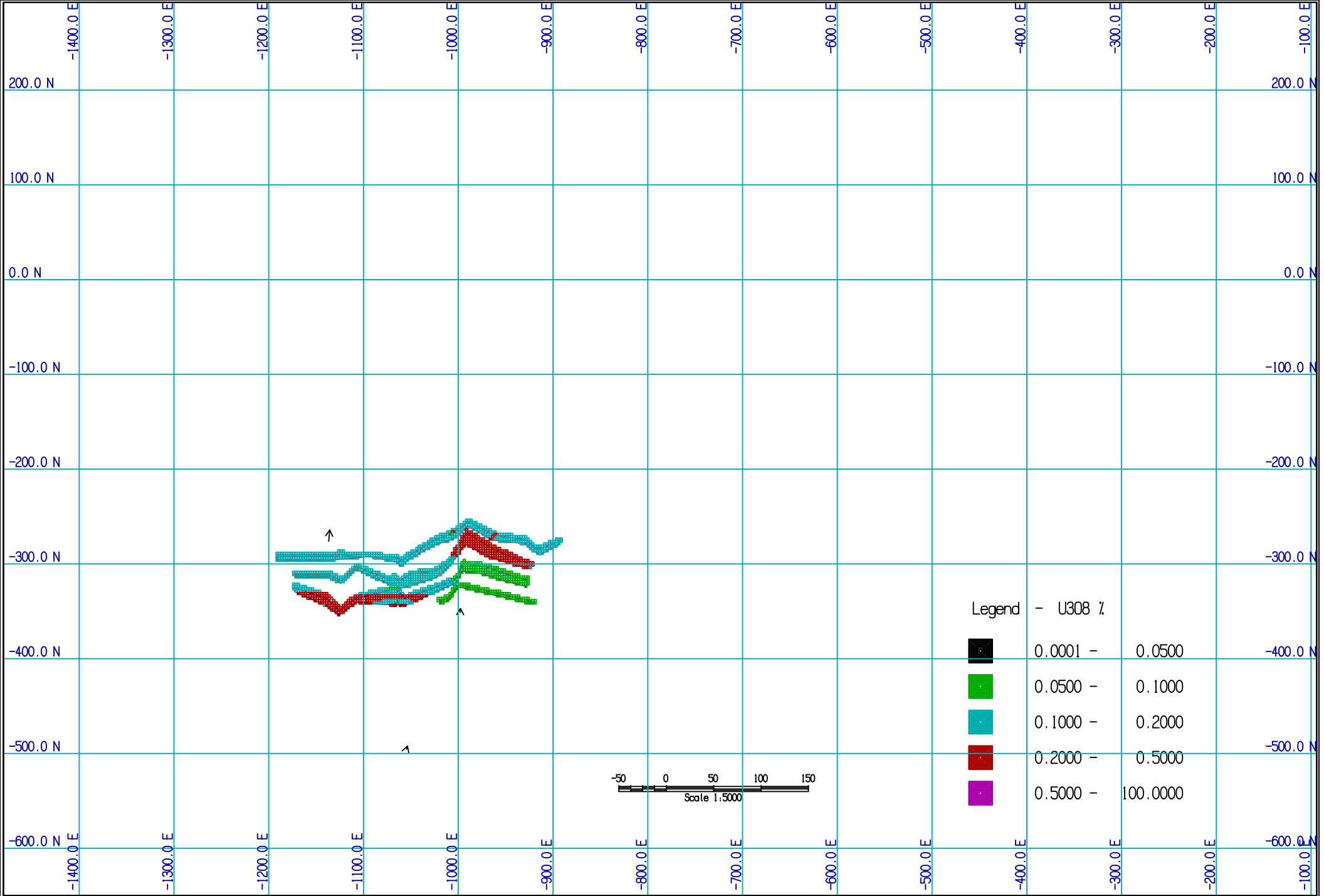




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Plan View = 0 Elev  
 Michelin Deposit  
 Block Model Plan View

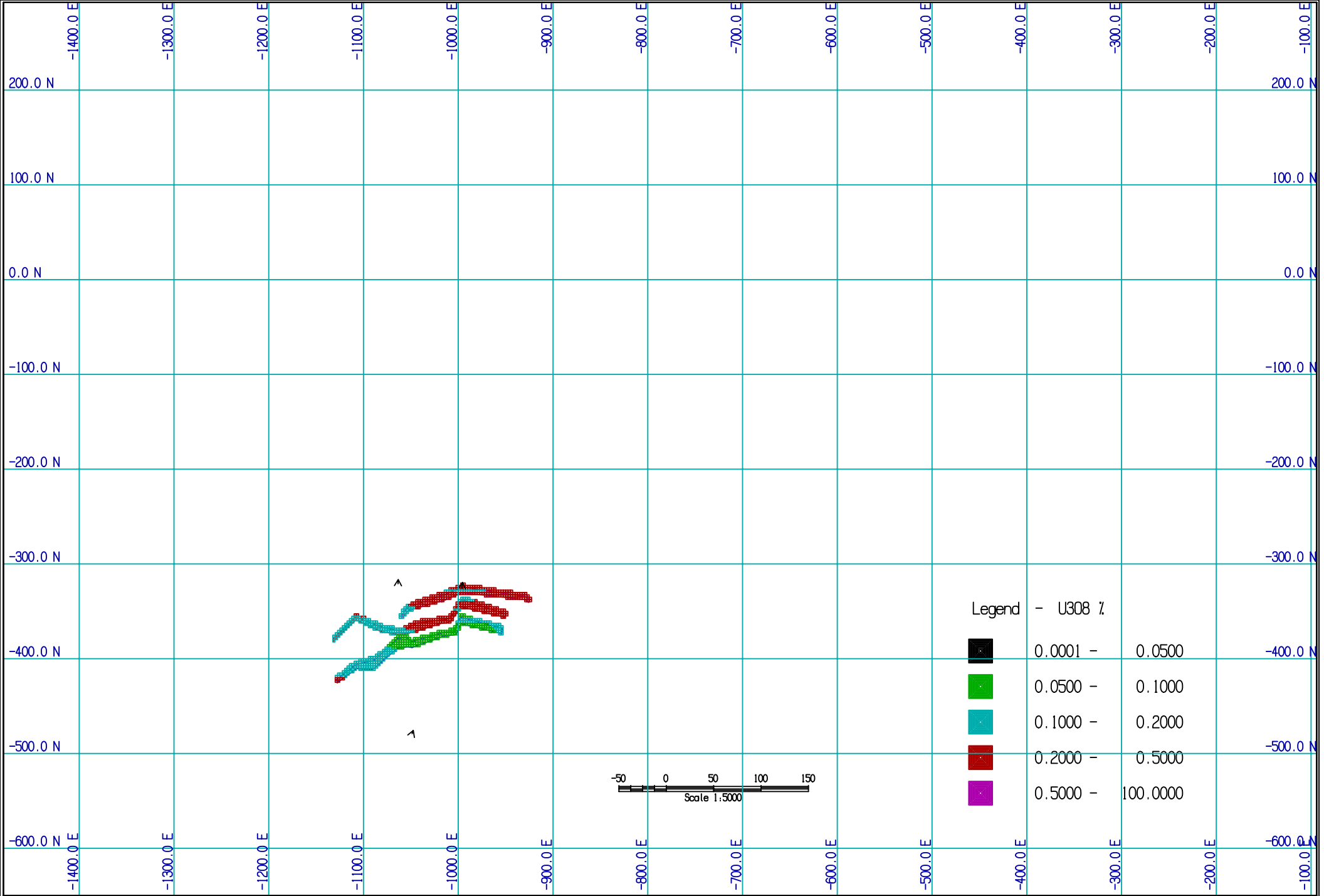
Figure 26-4



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Plan View = -100 Elev  
 Michelin Deposit  
 Block Model Plan View

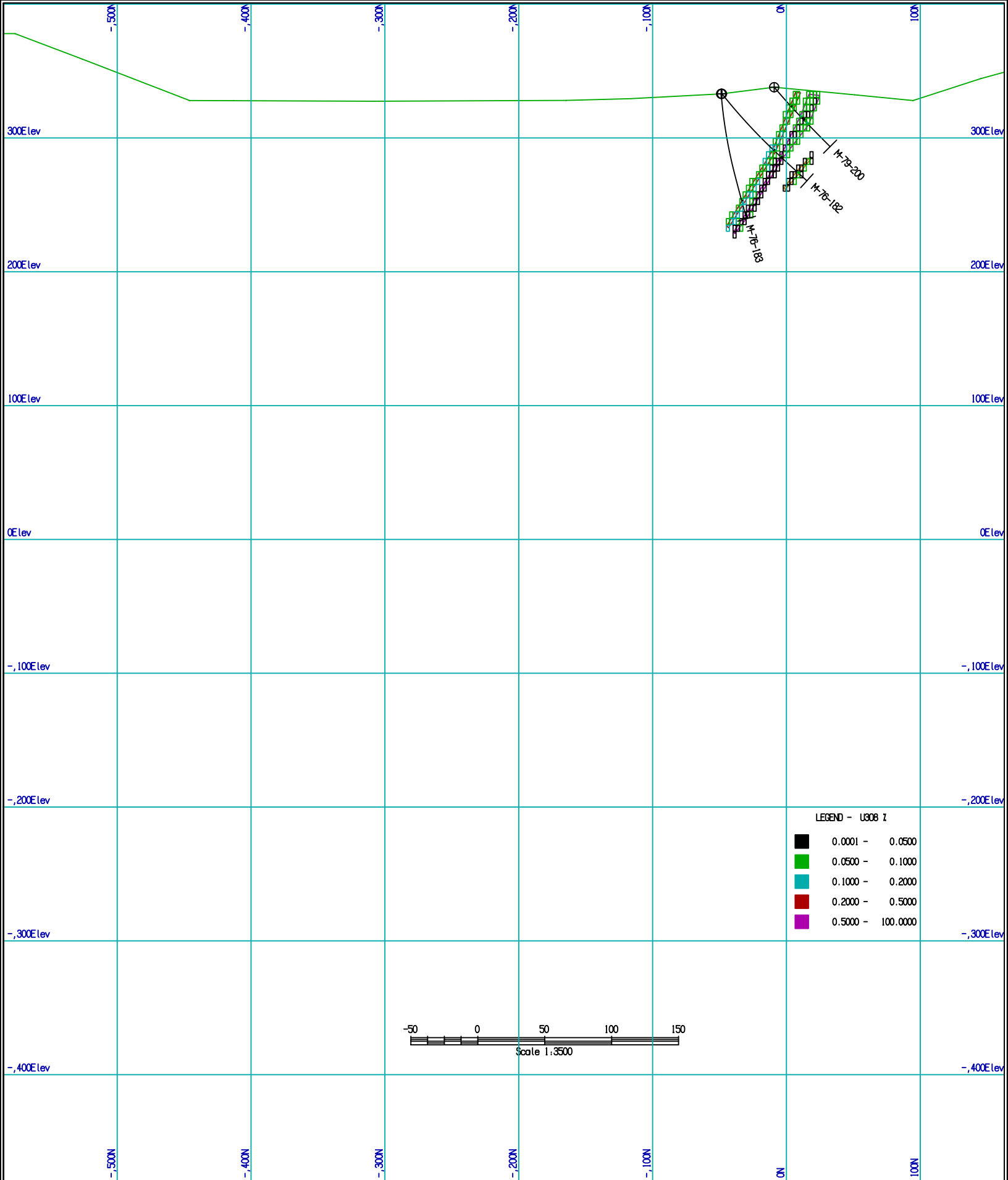
Figure 26-5



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Plan View = -200 Elev  
 Michelin Deposit  
 Block Model Plan View

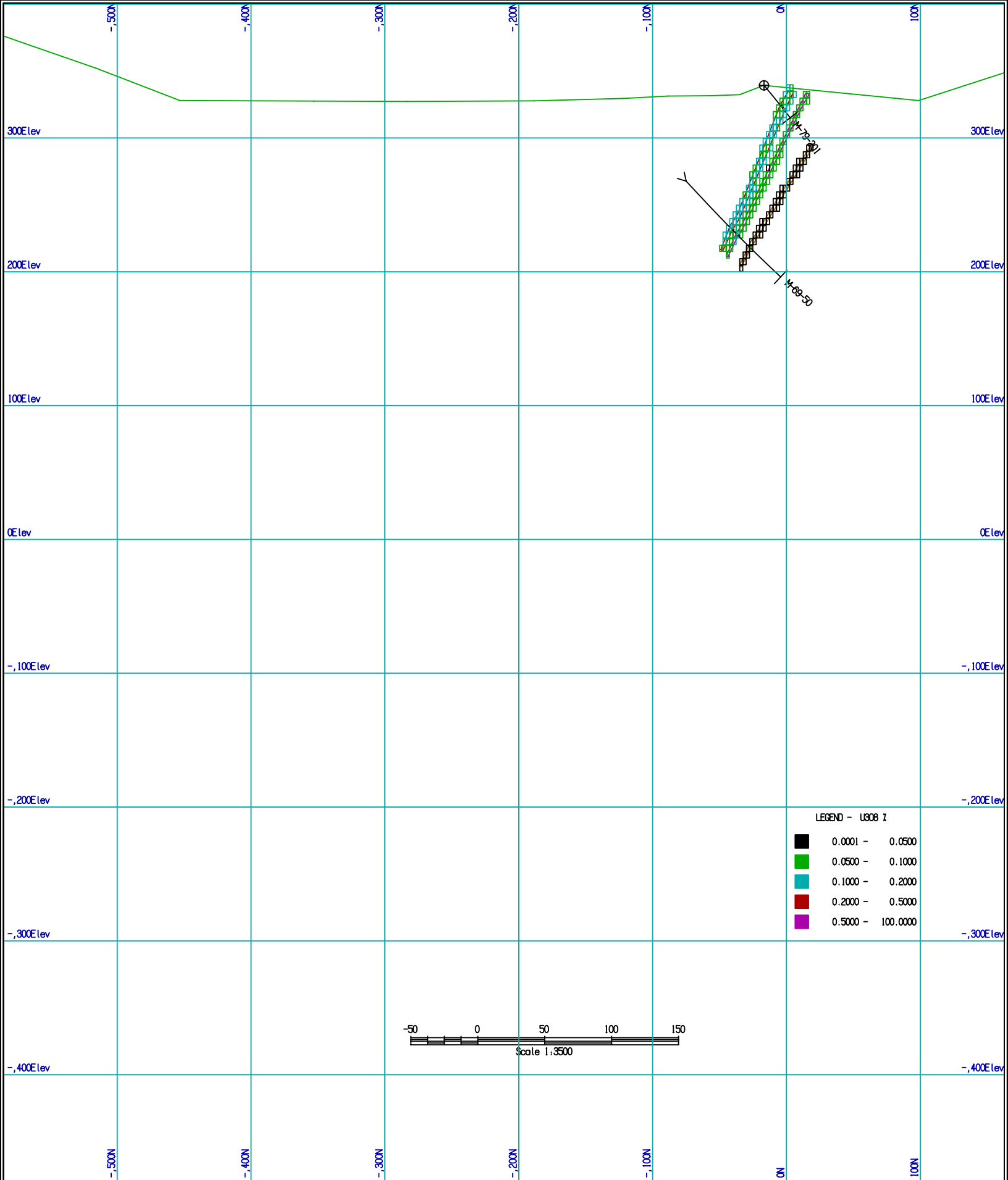
Figure 26-6



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Vertical Section 2+10W Figure 26-7  
 Michelin Deposit  
 Block Model Cross Section

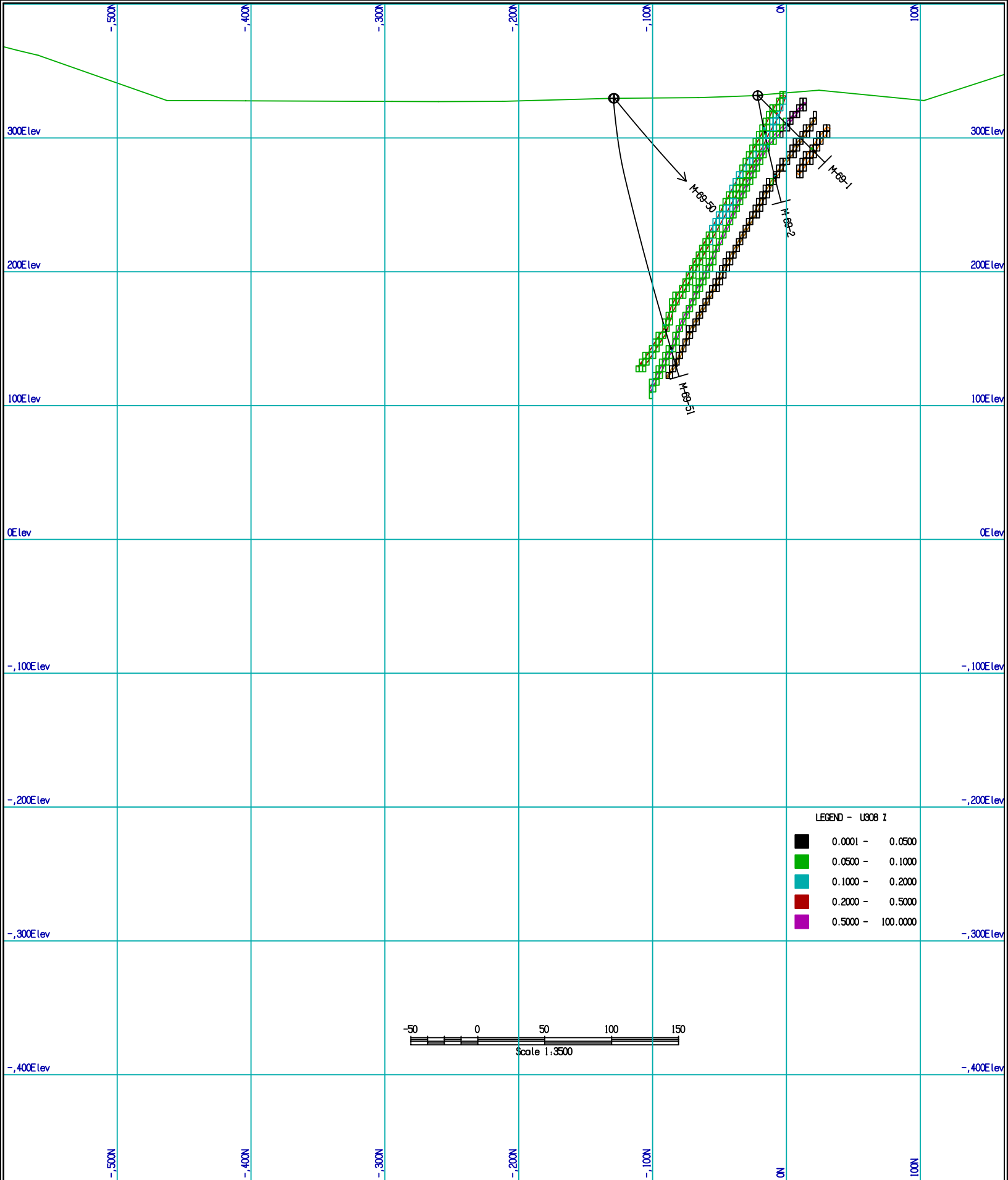
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Vertical Section 2+42W Figure 26-8  
 Michelin Deposit  
 Block Model Cross Section

UNITS : METRES DATE: 06/01/27 TIME: 11:35:51

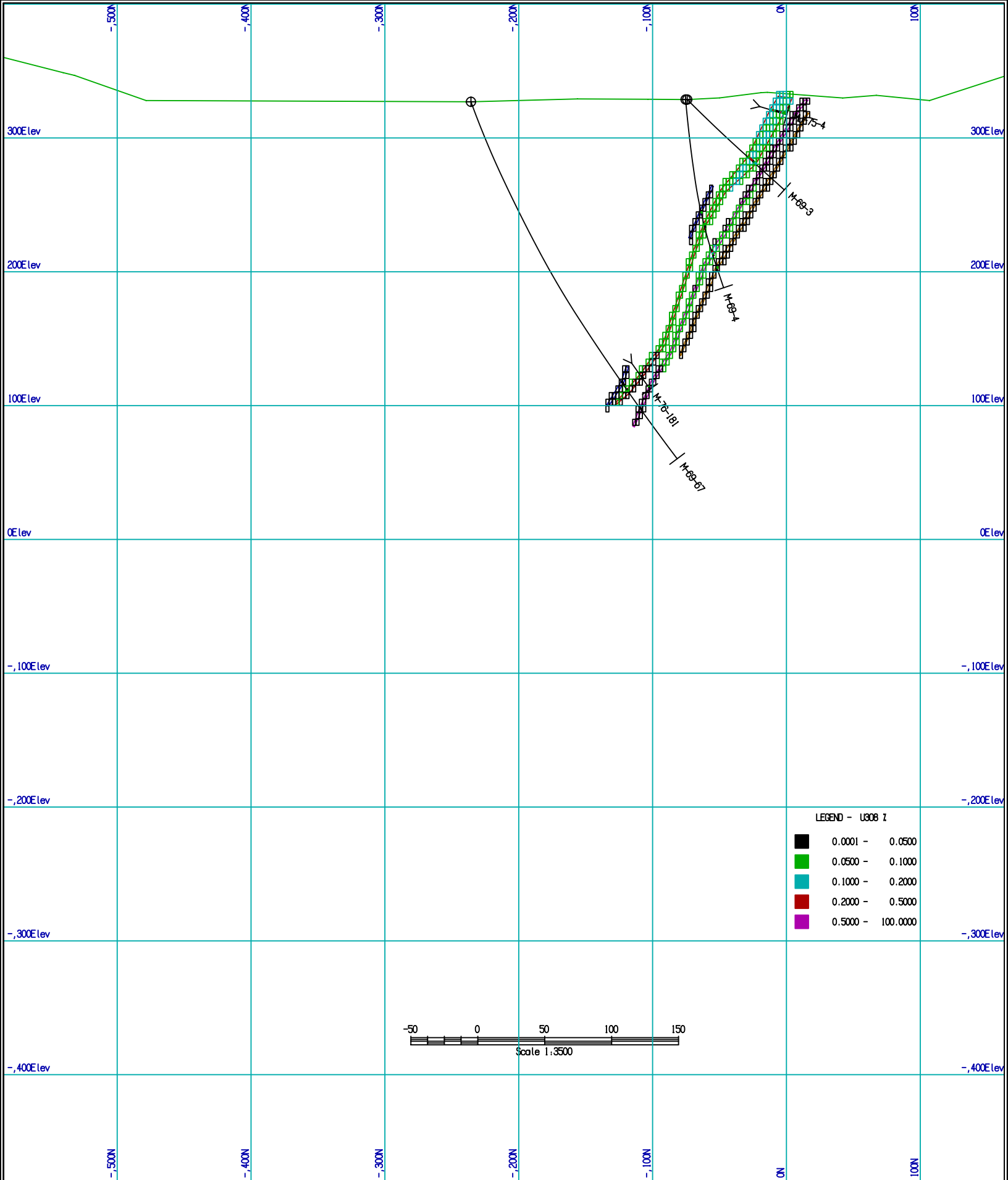


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Vertical Section 2+73W Figure 26-9  
 Michelin Deposit  
 Block Model Cross Section

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Software by Geocom Software International

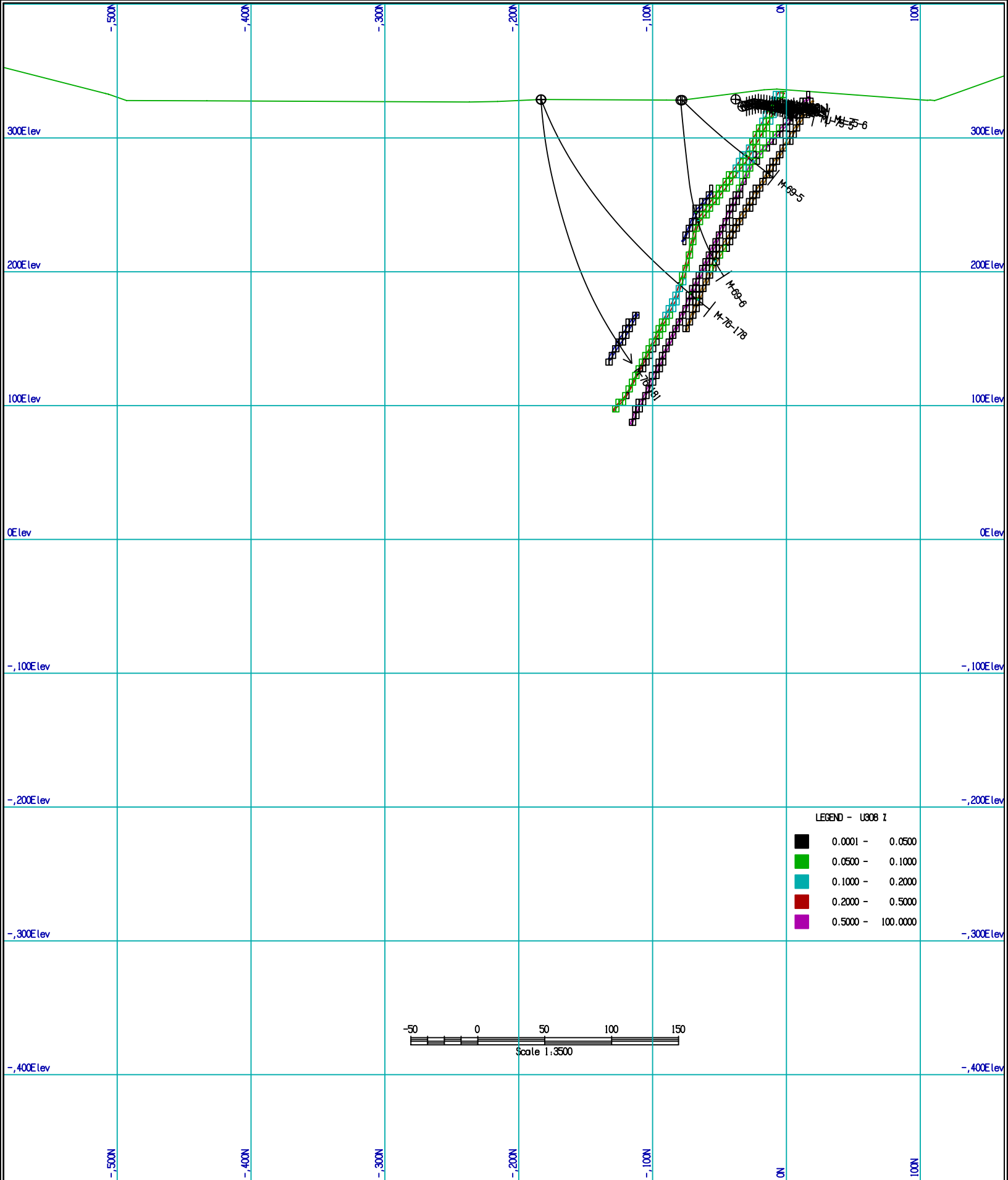


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Vertical Section 3+05W Figure 26-10  
 Michelin Deposit  
 Block Model Cross Section

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Software by Geocom Software International

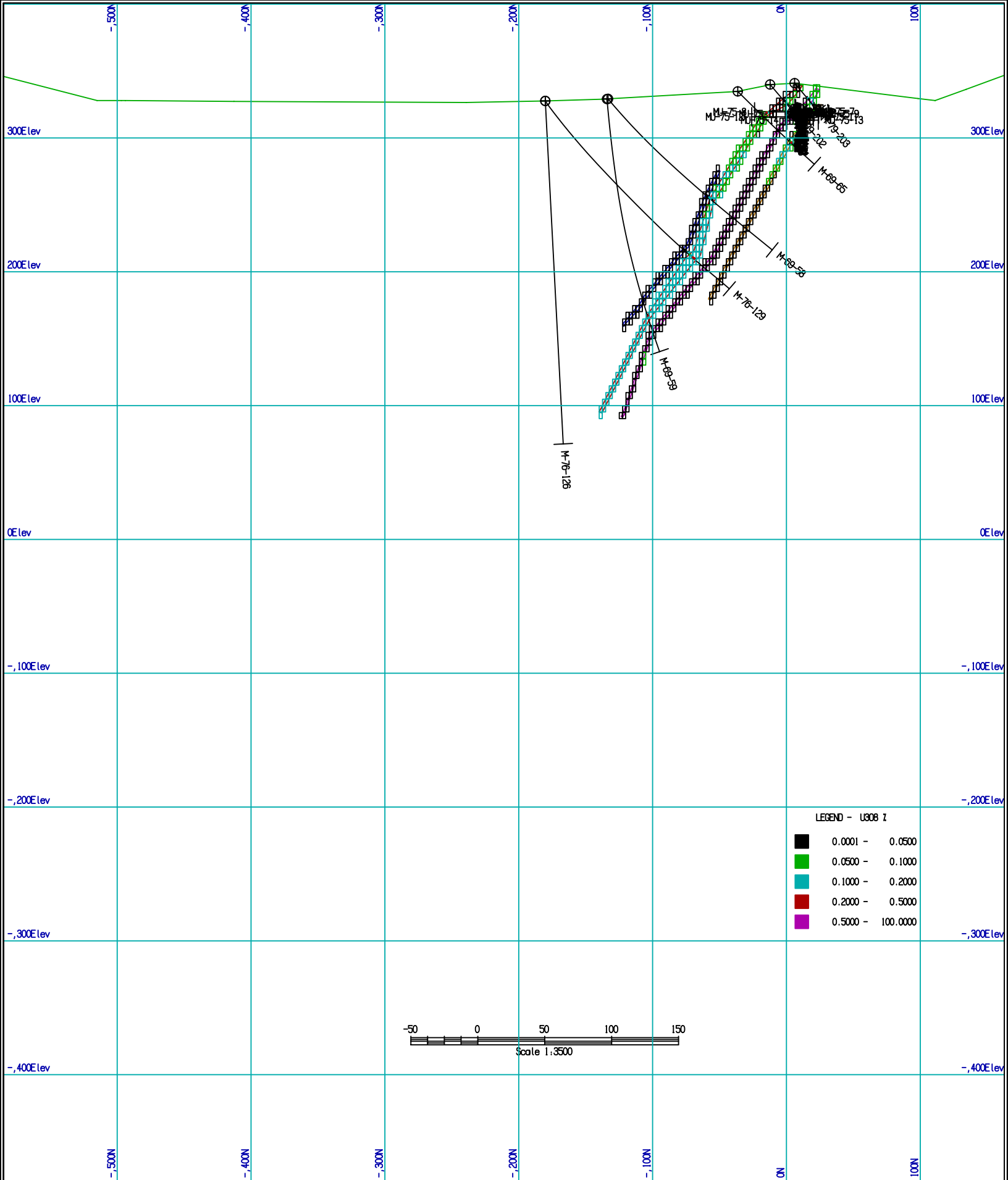


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Vertical Section 3+35W Figure 26-11  
 Michelin Deposit  
 Block Model Cross Section

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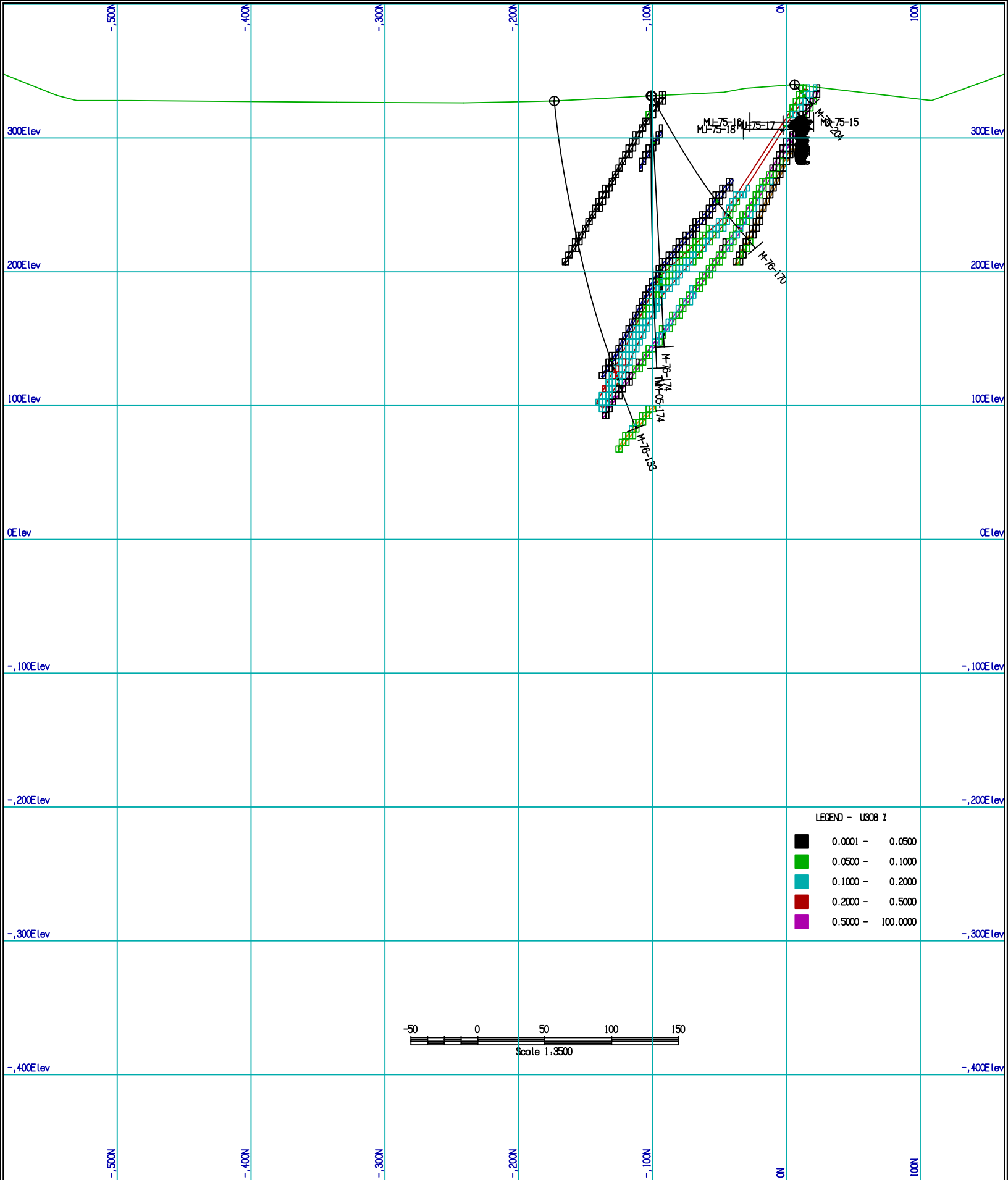


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Vertical Section 3+93W Figure 26-12  
 Michelin Deposit  
 Block Model Cross Section

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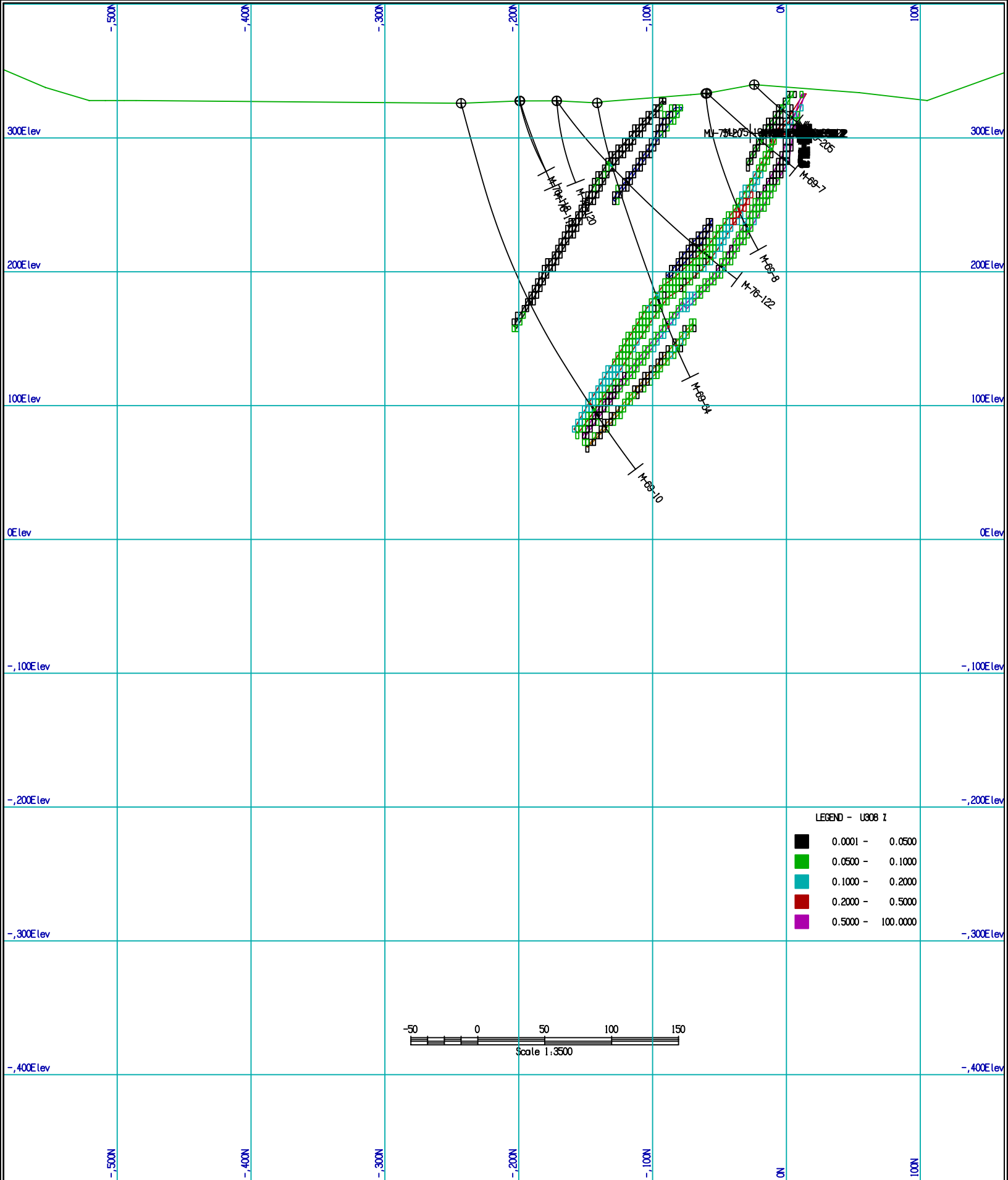
Software by Geocom Software International



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Vertical Section 4+36W Figure 26-13  
 Michelin Deposit  
 Block Model Cross Section

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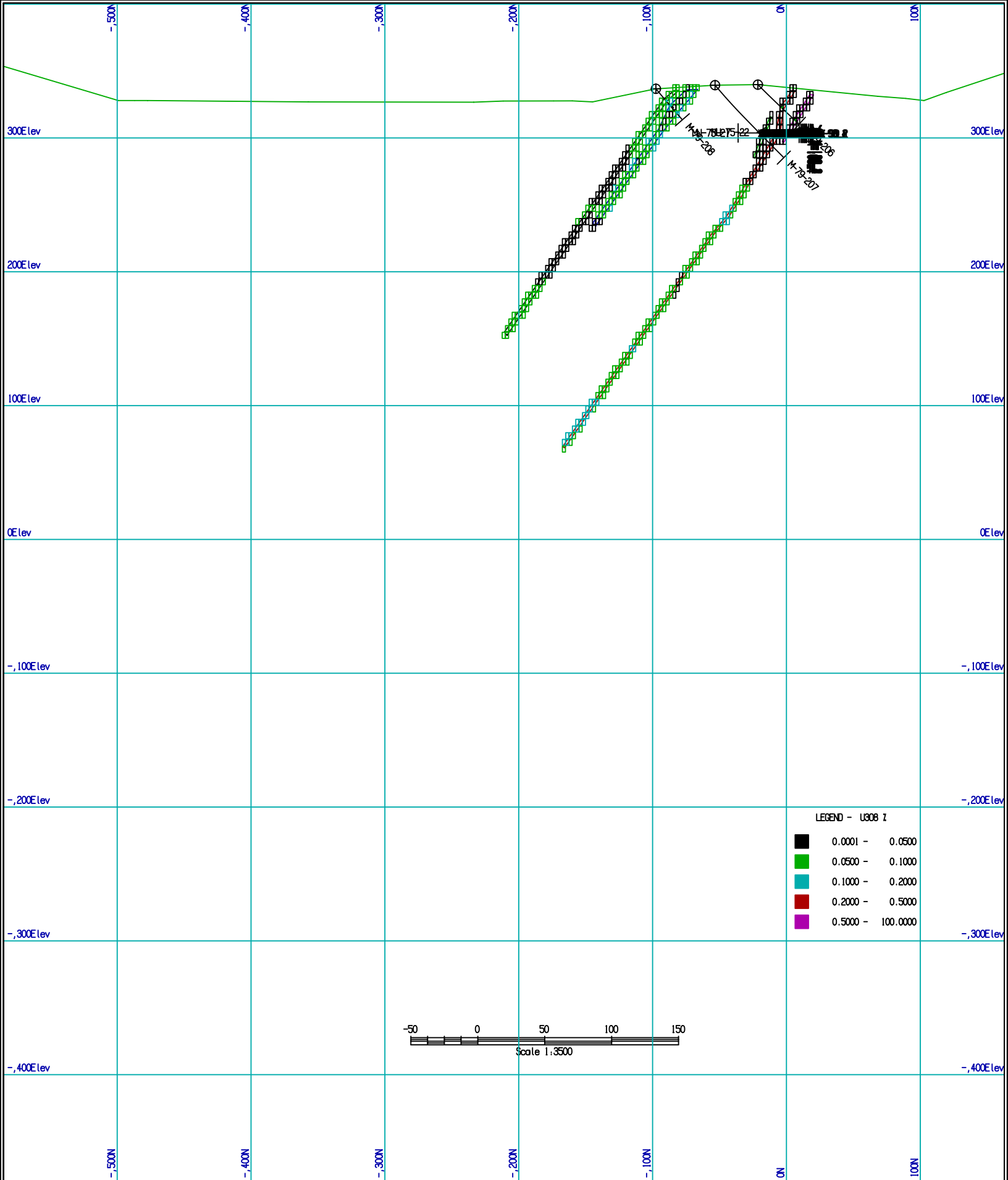


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Vertical Section 4+88W Figure 26-14  
 Michelin Deposit  
 Block Model Cross Section

UNITS : METRES DATE: 06/01/27 TIME: 11:36:00

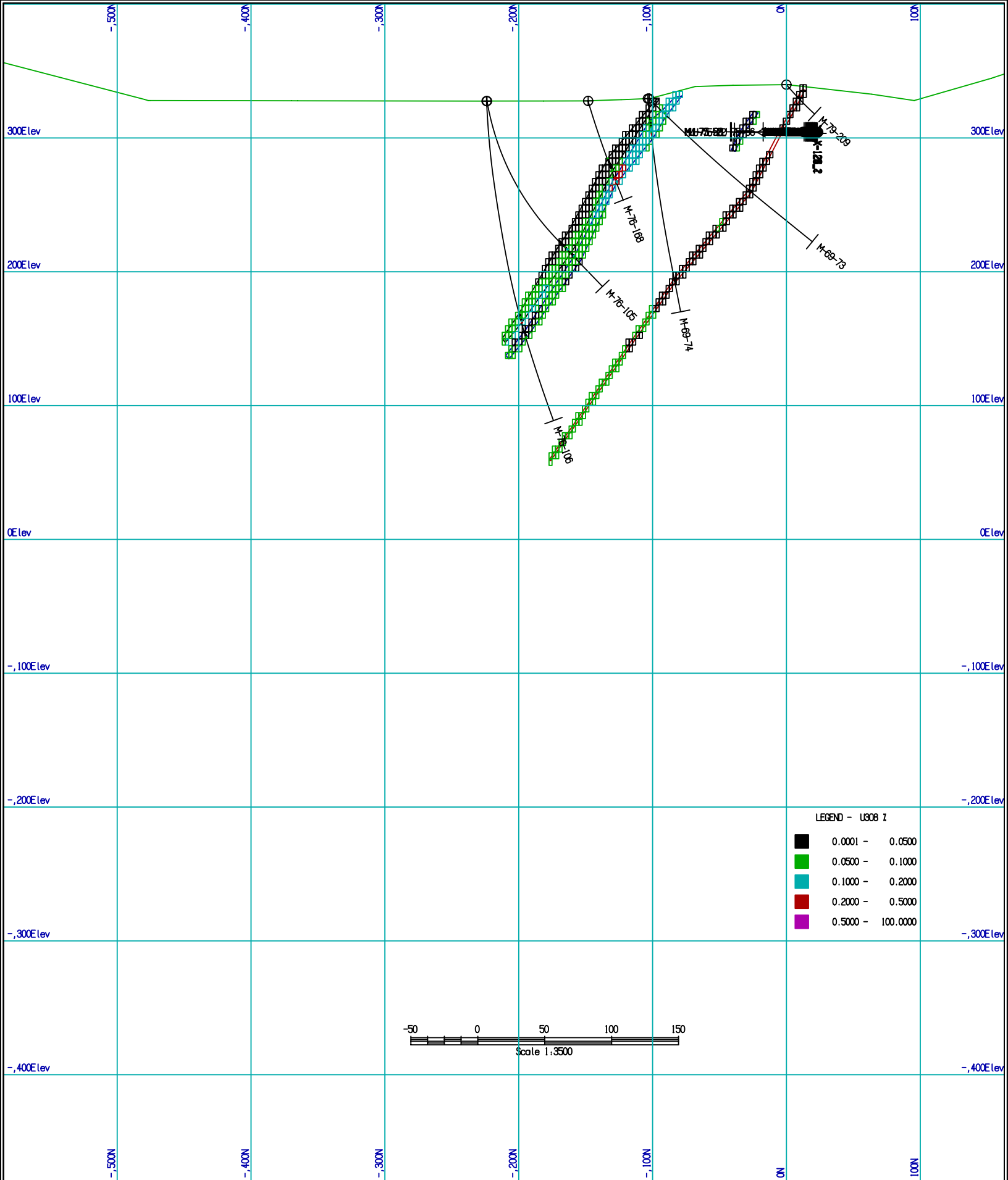
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Vertical Section 5+26W Figure 26-15  
 Michelin Deposit  
 Block Model Cross Section

UNITS : METRES DATE: 06/01/27 TIME: 11:36:02

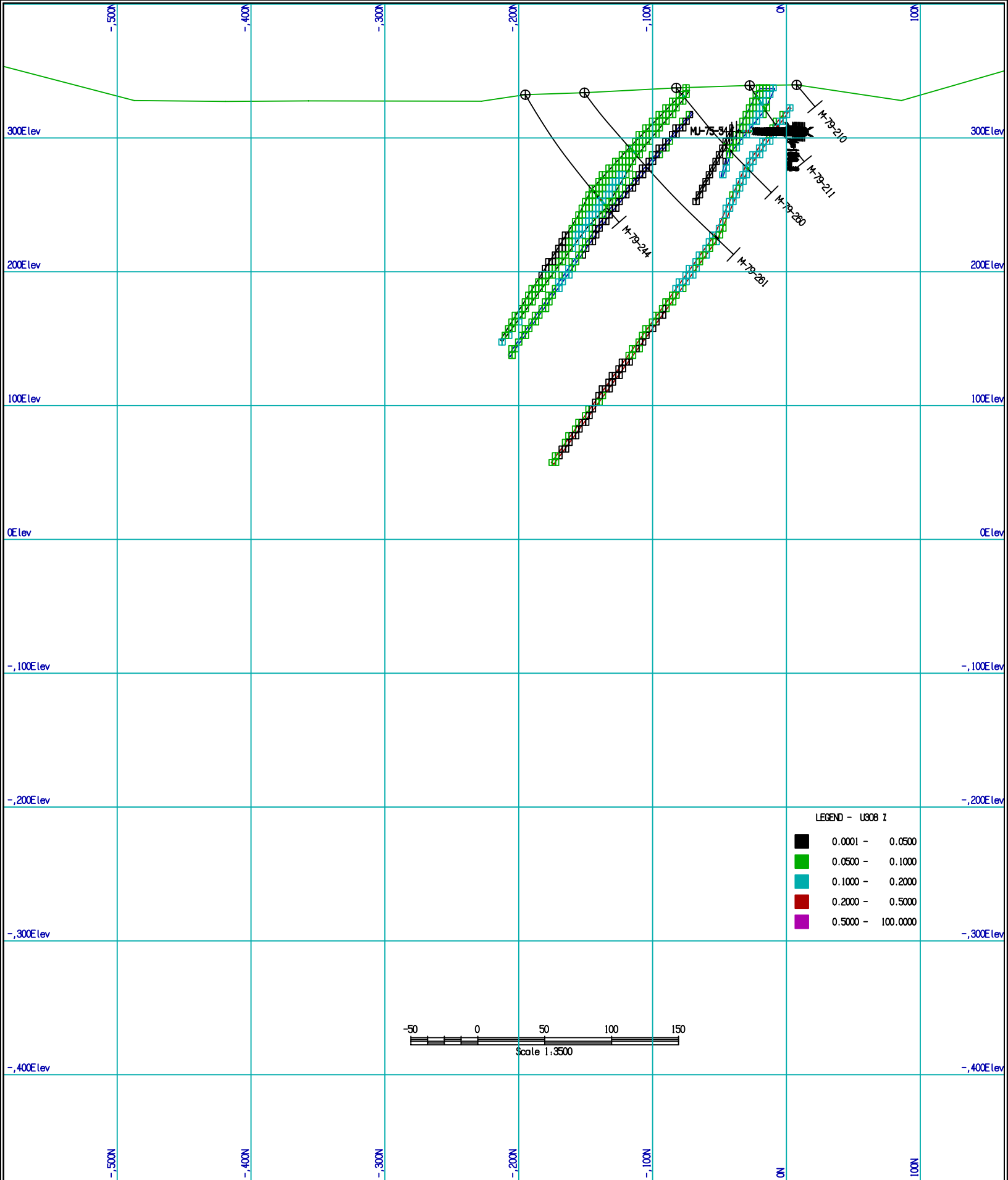


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Vertical Section 5+65W Figure 26-16  
 Michelin Deposit  
 Block Model Cross Section

UNITS : METRES DATE: 06/01/27 TIME: 11:36:04

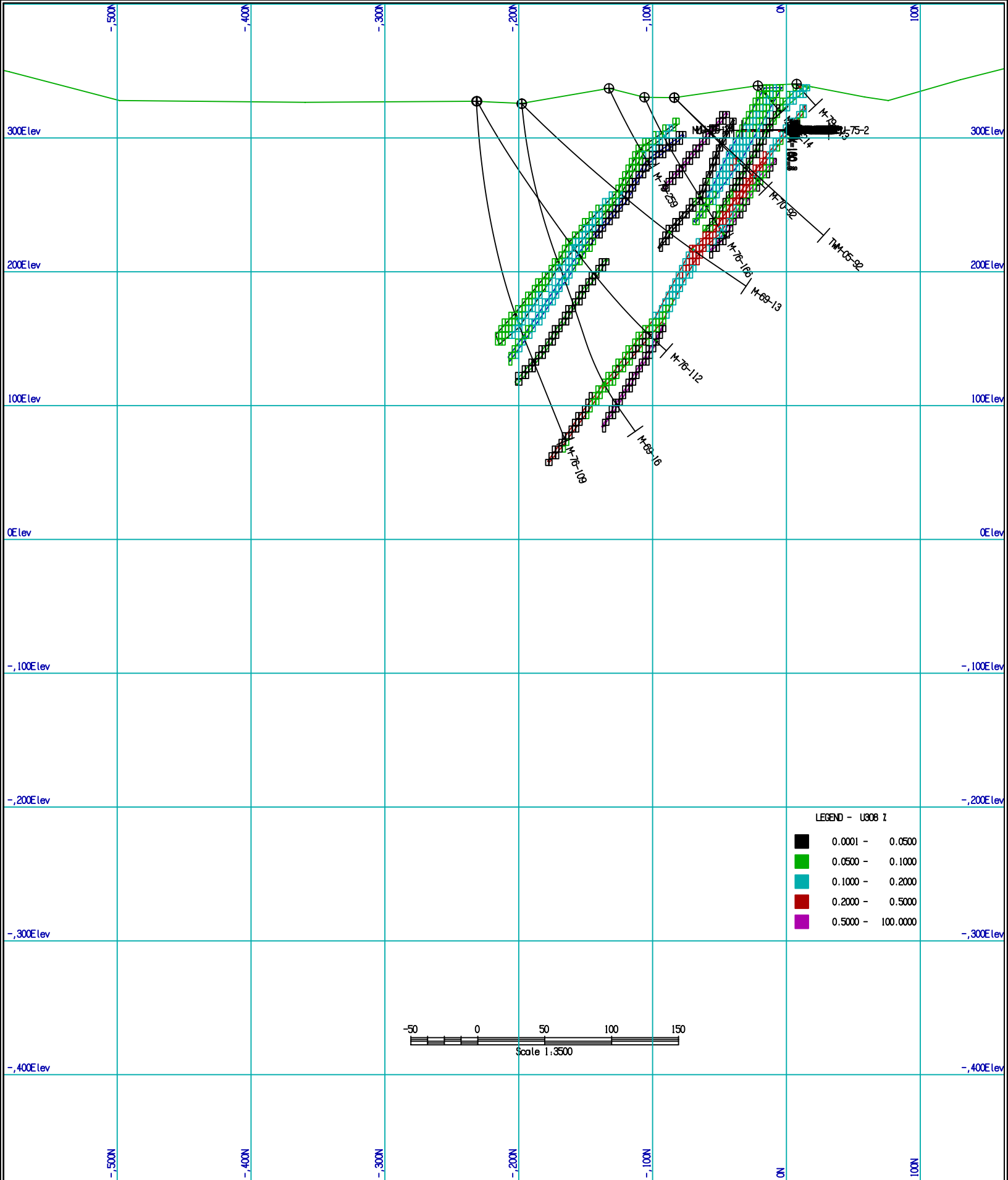
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Vertical Section 6+02W Figure 26-17  
 Michelin Deposit  
 Block Model Cross Section

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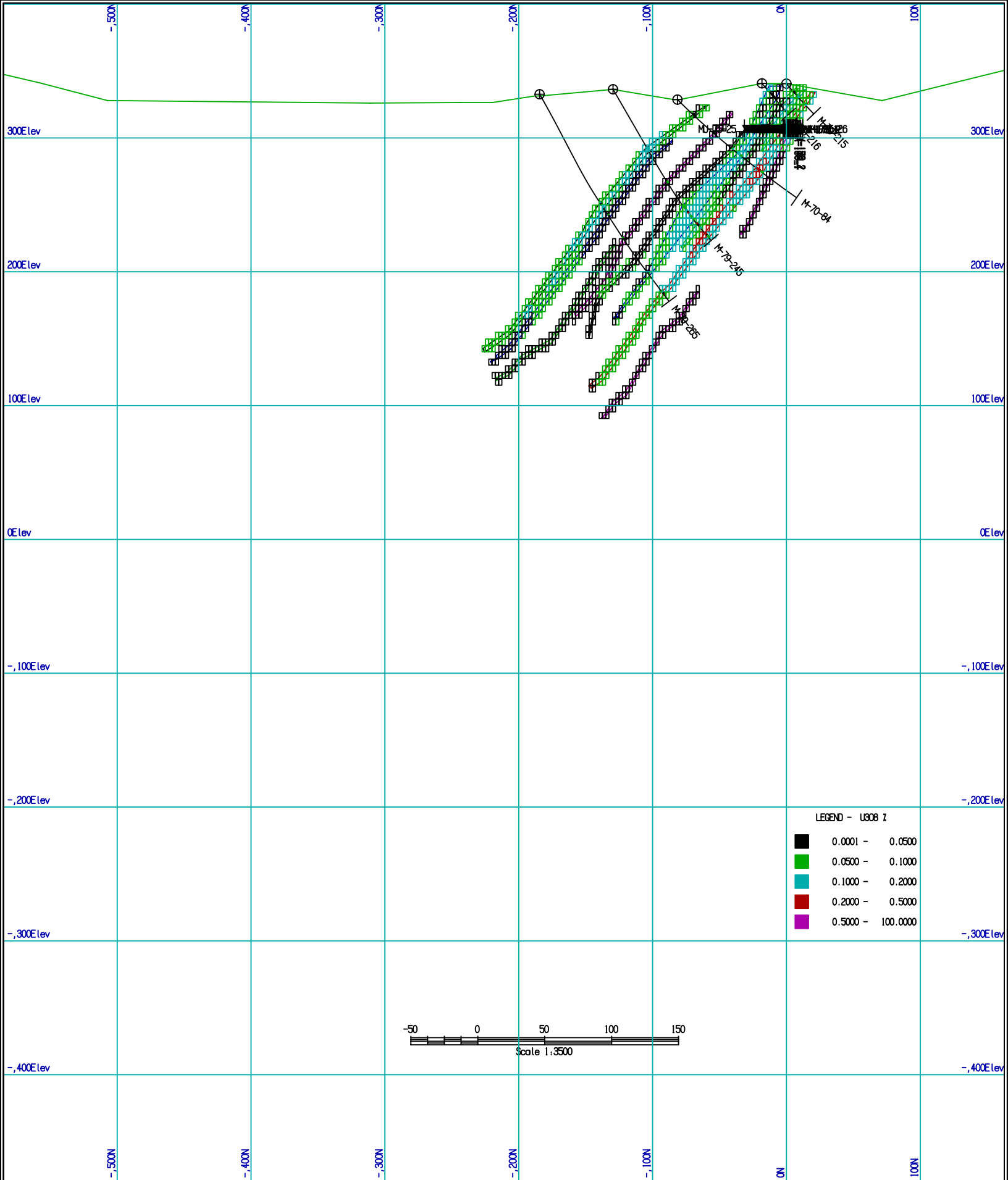


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Vertical Section 6+40W Figure 26-18  
 Michelin Deposit  
 Block Model Cross Section

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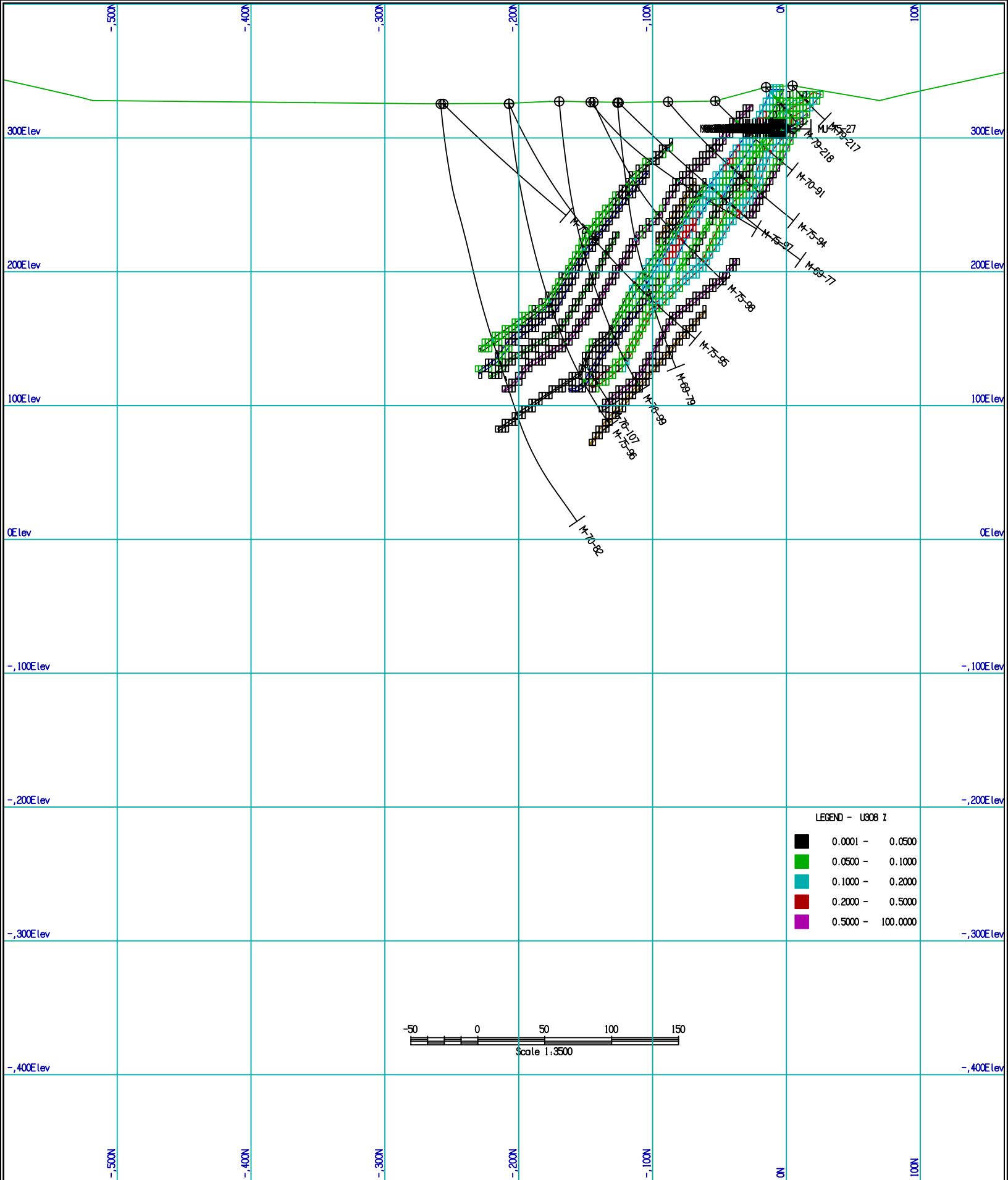


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Vertical Section 6+71W Figure 26-19  
 Michelin Deposit  
 Block Model Cross Section

UNITS : METRES DATE: 06/01/27 TIME: 11:36:11

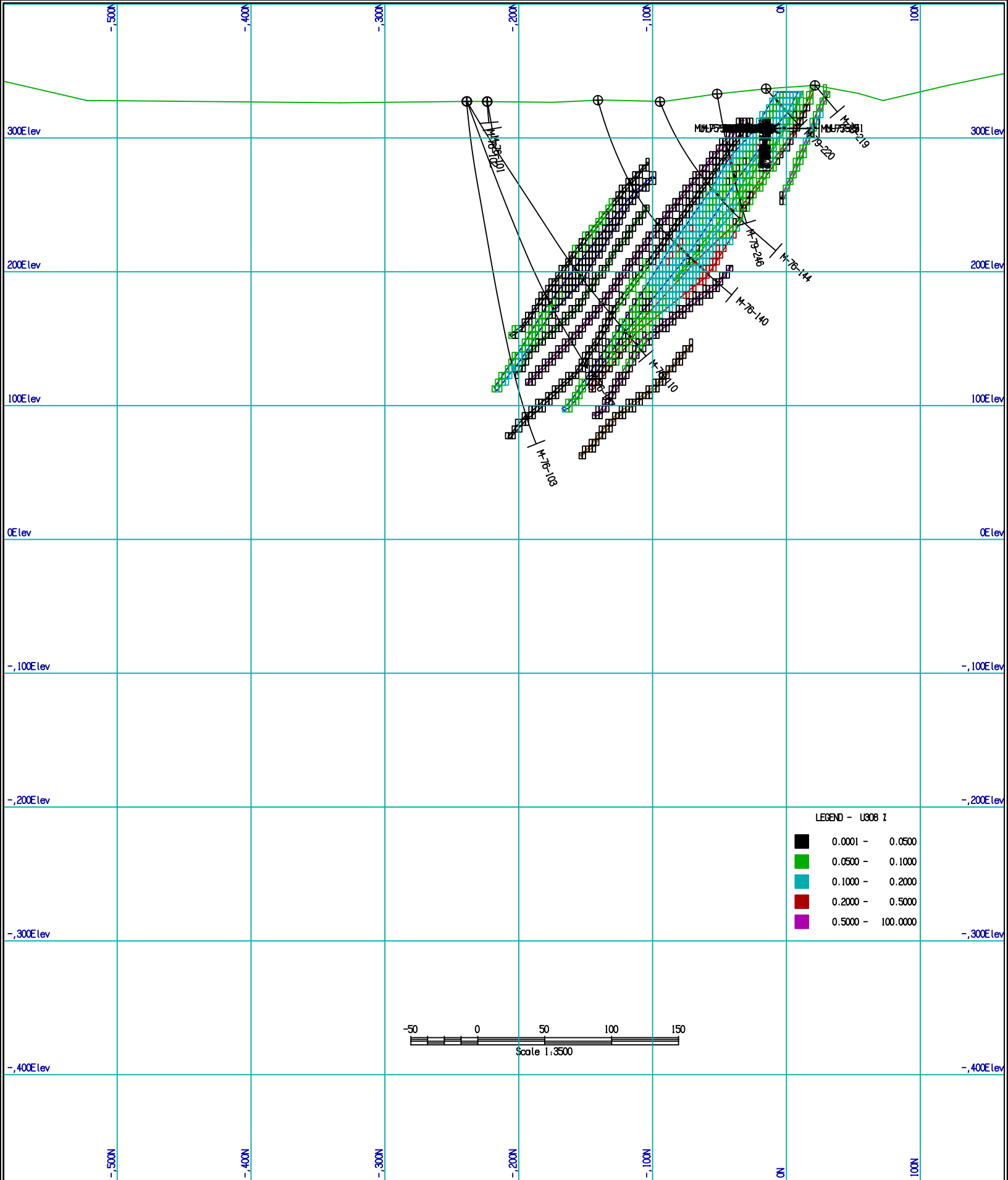




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Vertical Section 7+09W Figure 26-20  
 Michelin Deposit  
 Block Model Cross Section

UNITS : METRES DATE: 06/01/27 TIME: 11:36:14

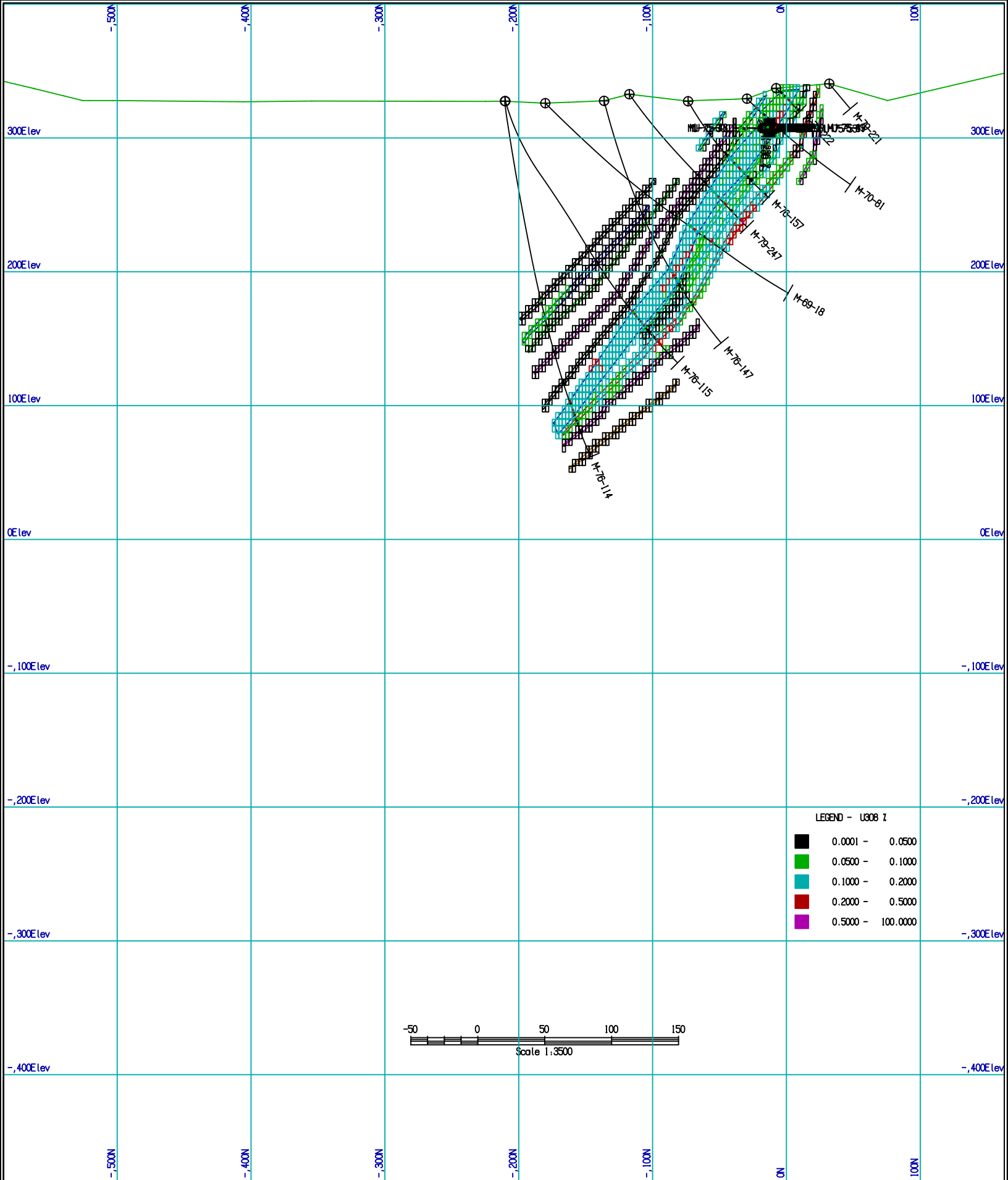


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Vertical Section 7+41W Figure 26-21  
 Michelin Deposit  
 Block Model Cross Section

UNITS : METRES DATE: 06/01/27 TIME: 11:36:17

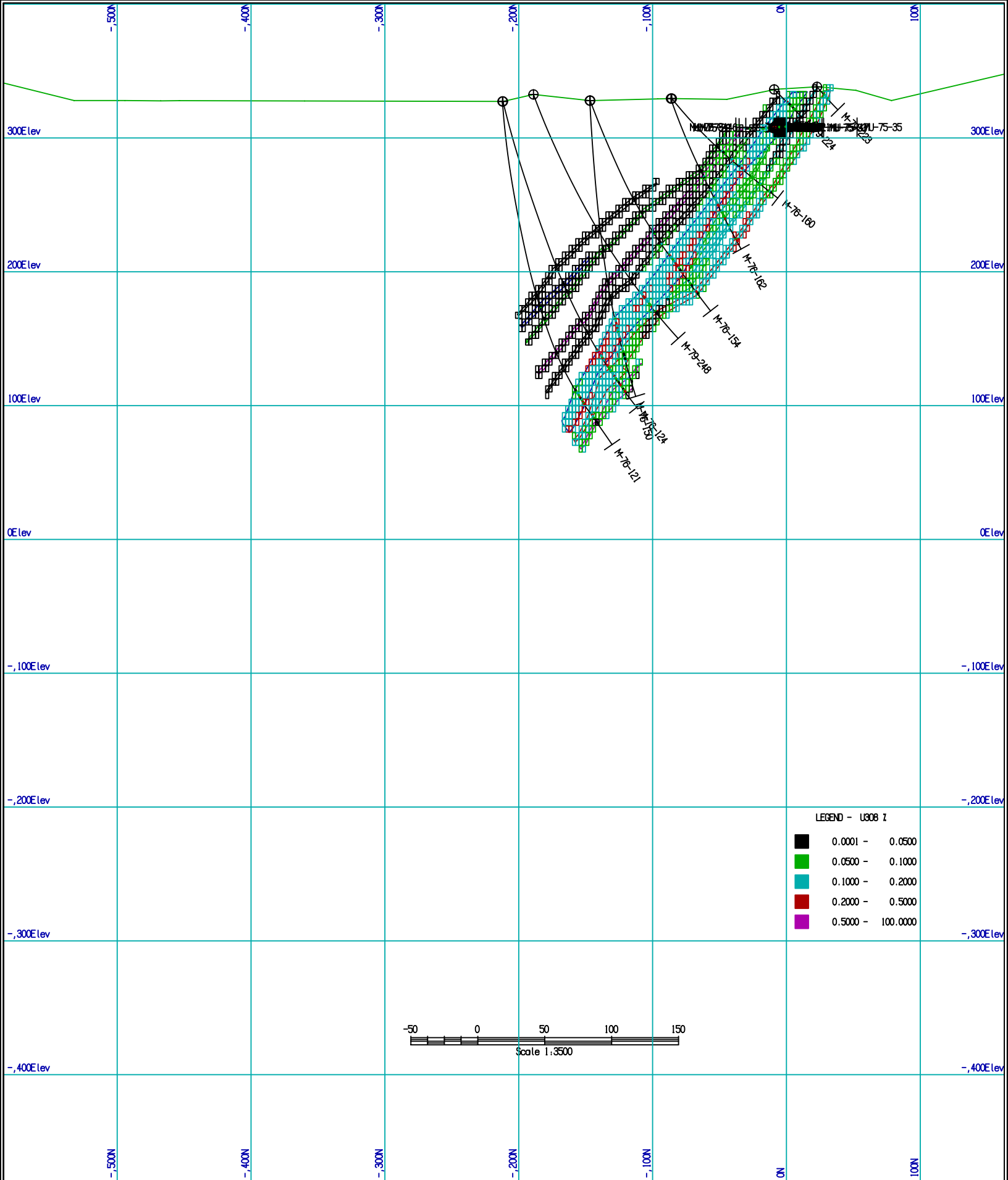
Software by Geocom Software International



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Vertical Section 7+76W Figure 26-22  
 Michelin Deposit  
 Block Model Cross Section

UNITS : METRES DATE: 06/01/27 TIME: 11:36:19

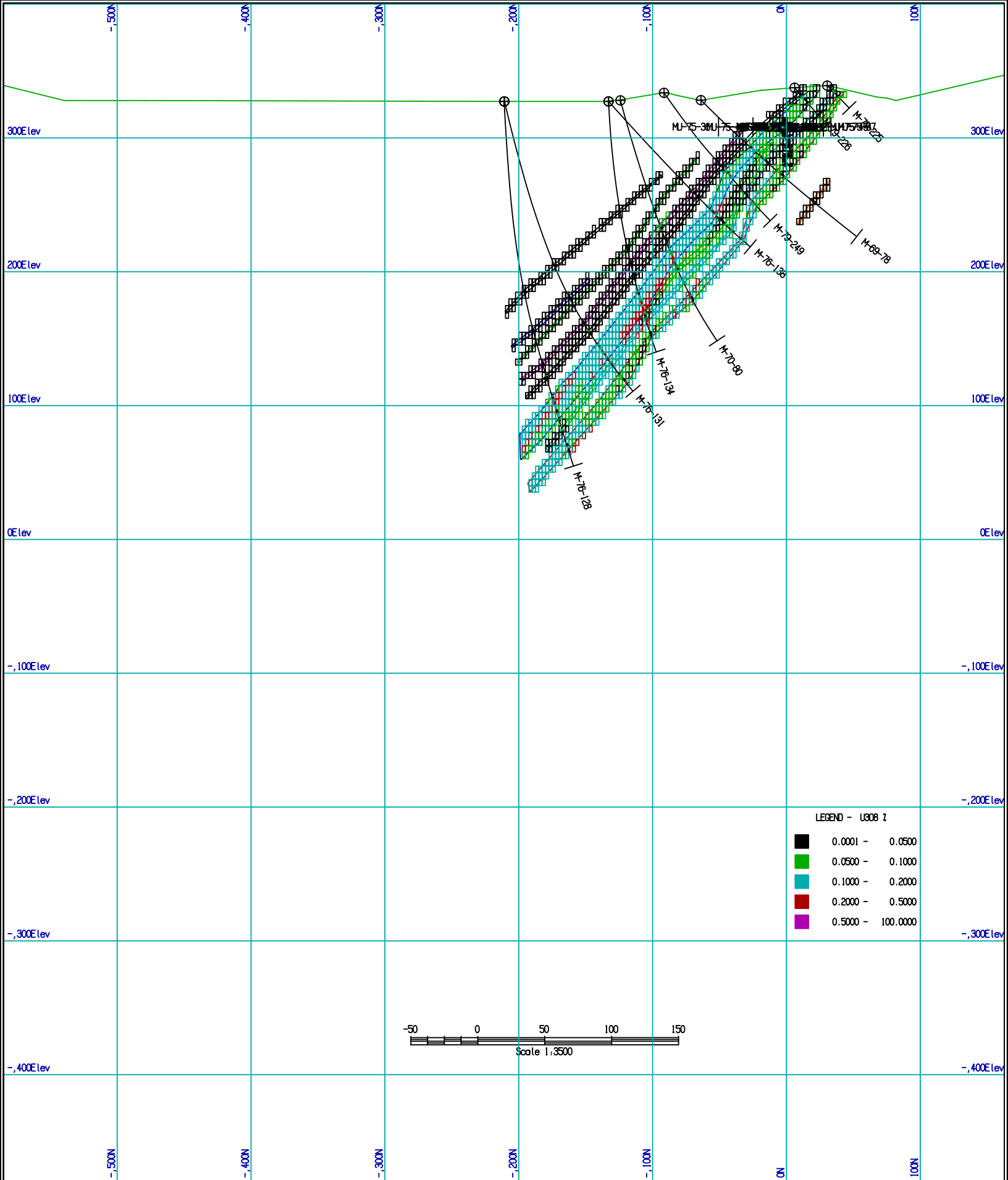


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Vertical Section 8+06W Figure 26-23  
 Michelin Deposit  
 Block Model Cross Section

UNITS : METRES DATE: 06/01/27 TIME: 11:36:22

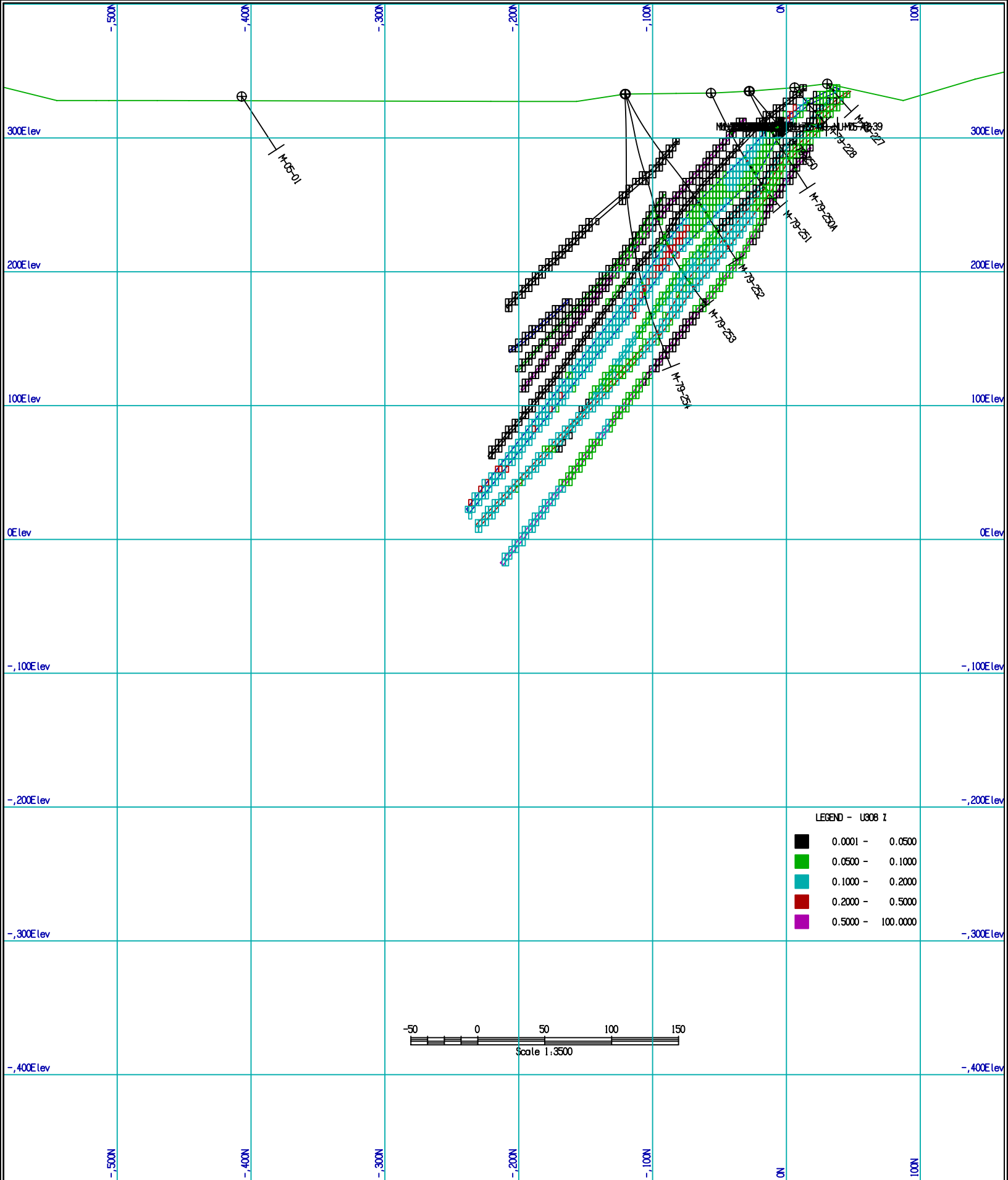
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Vertical Section 8+40W Figure 26-24  
 Michelin Deposit  
 Block Model Cross Section

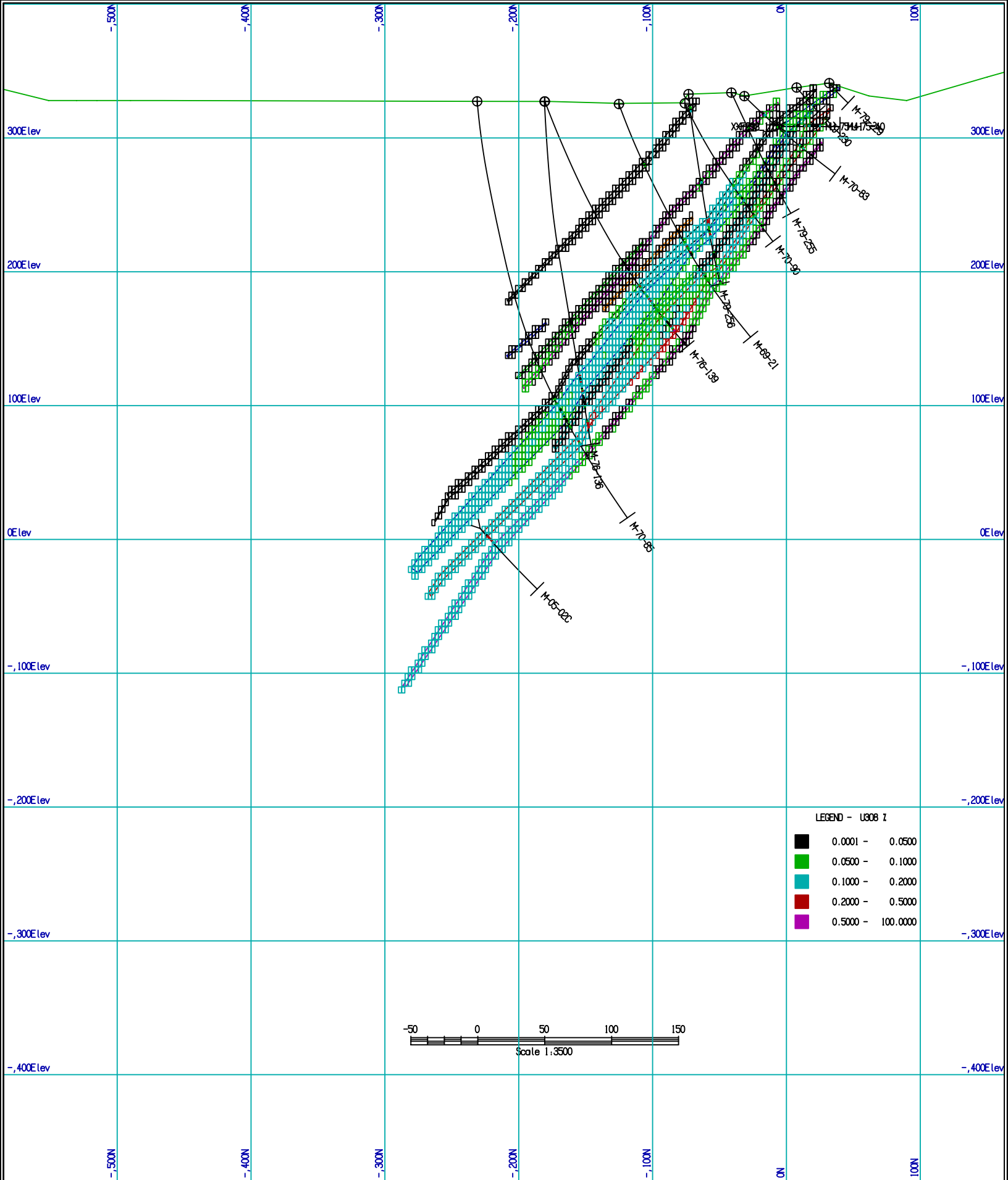
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Vertical Section 8+67W Figure 26-25  
 Michelin Deposit  
 Block Model Cross Section

UNITS : METRES DATE: 06/01/27 TIME: 11:36:26

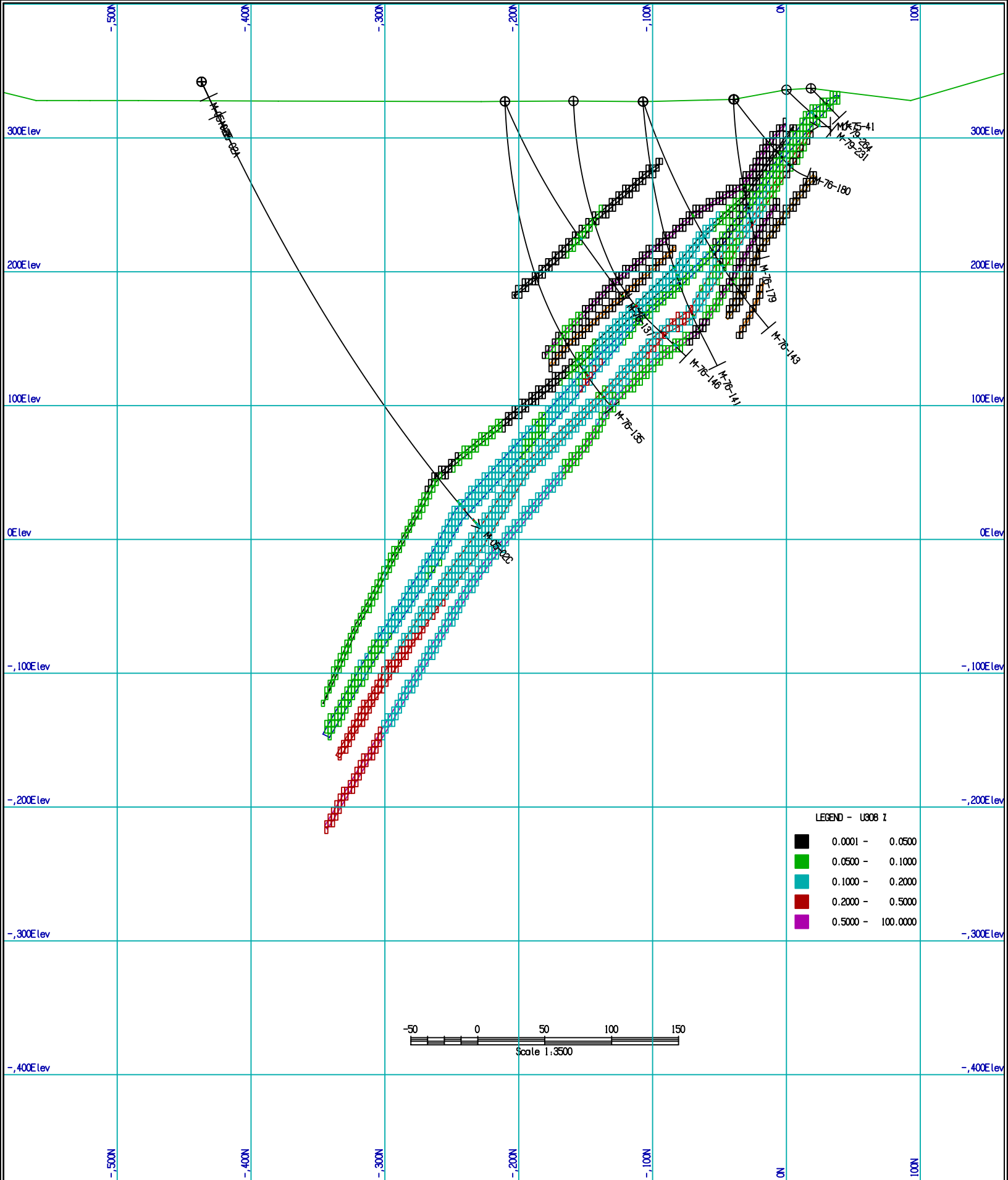


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Vertical Section 8+96W Figure 26-26  
 Michelin Deposit  
 Block Model Cross Section

UNITS : METRES DATE: 06/01/27 TIME: 11:36:29

Software by Geocom Software International

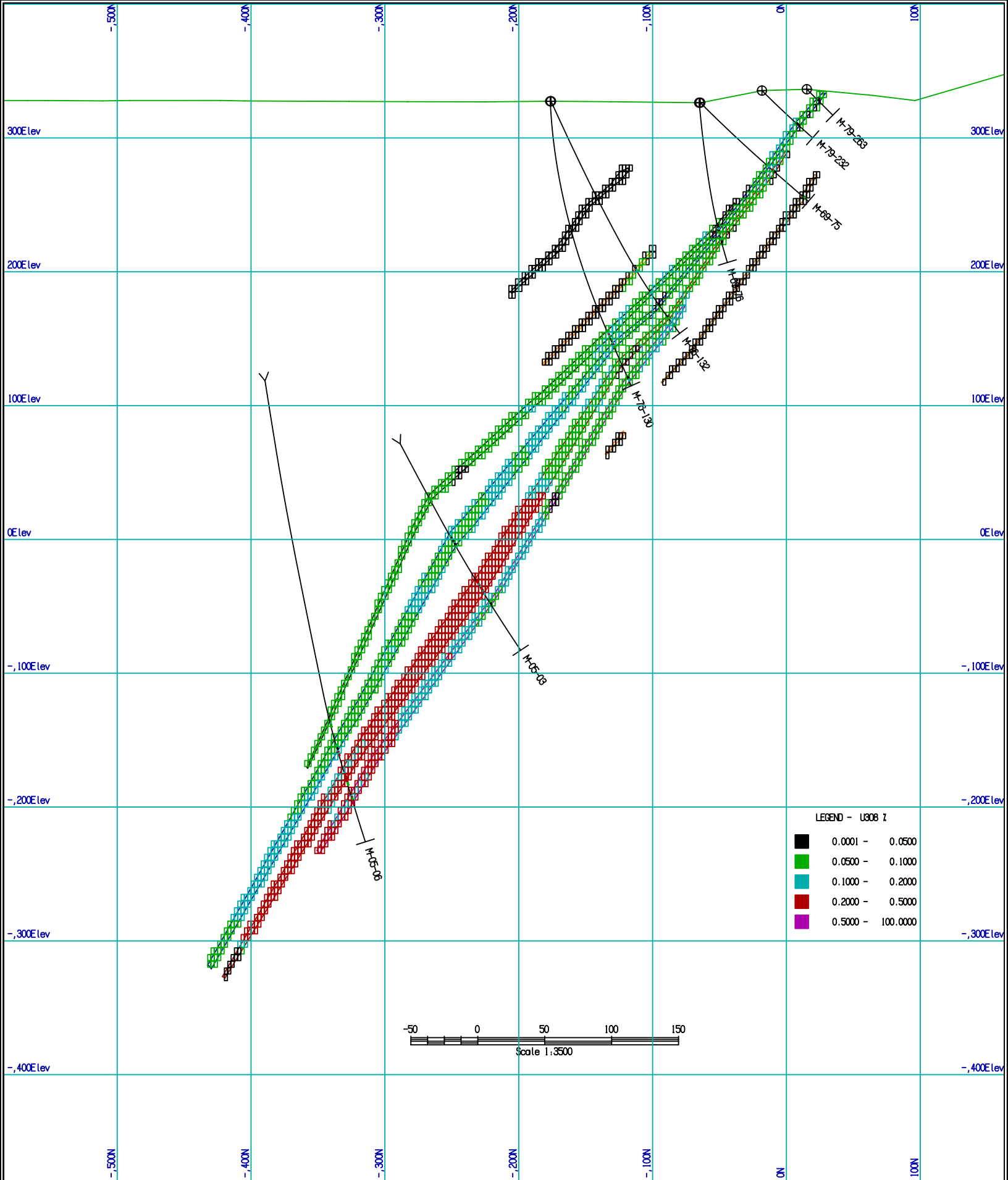


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Vertical Section 9+40W Figure 26-27  
 Michelin Deposit  
 Block Model Cross Section

UNITS : METRES DATE: 06/01/27 TIME: 11:36:31

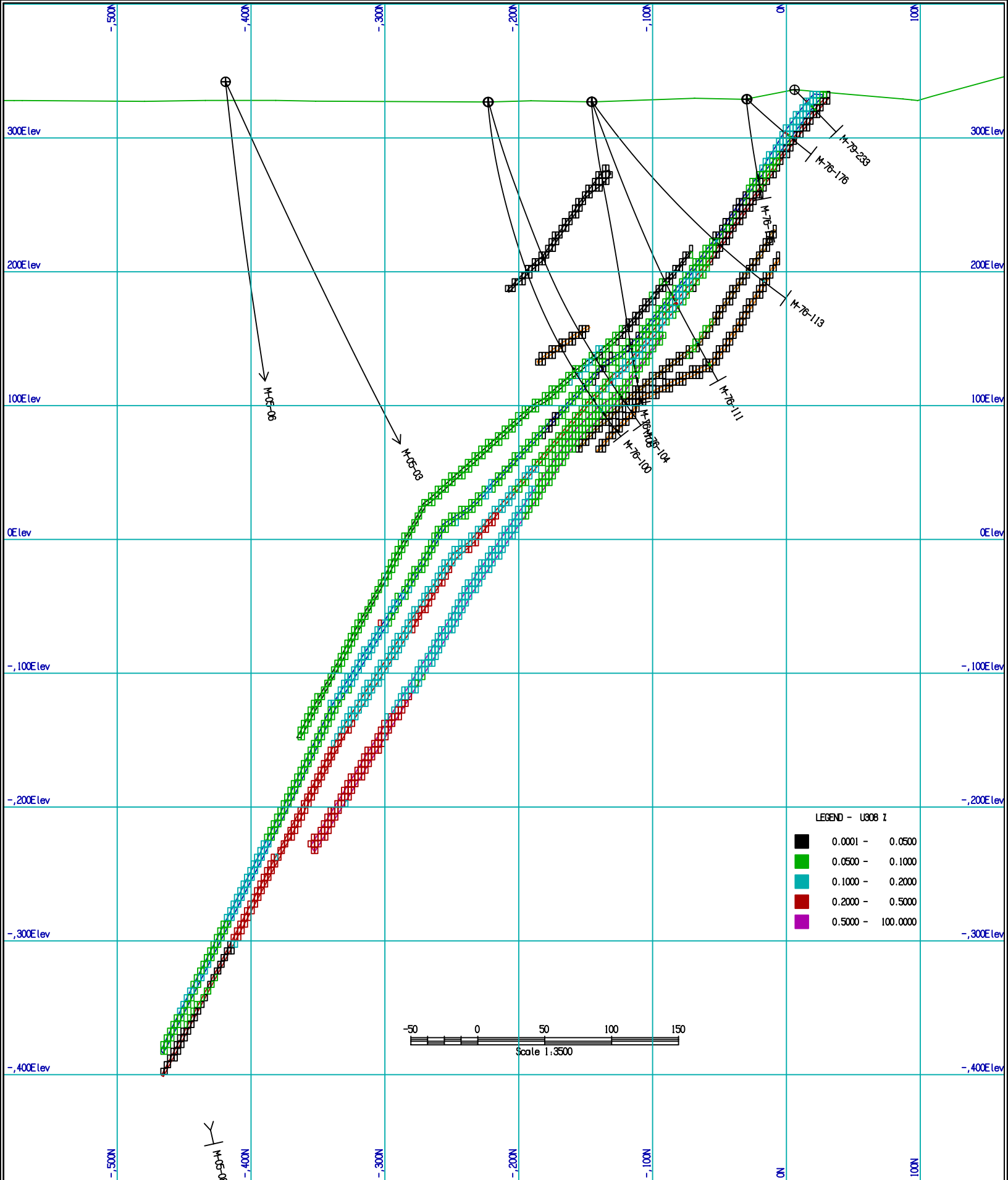




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Vertical Section 9+85W Figure 26-28  
 Michelin Deposit  
 Block Model Cross Section

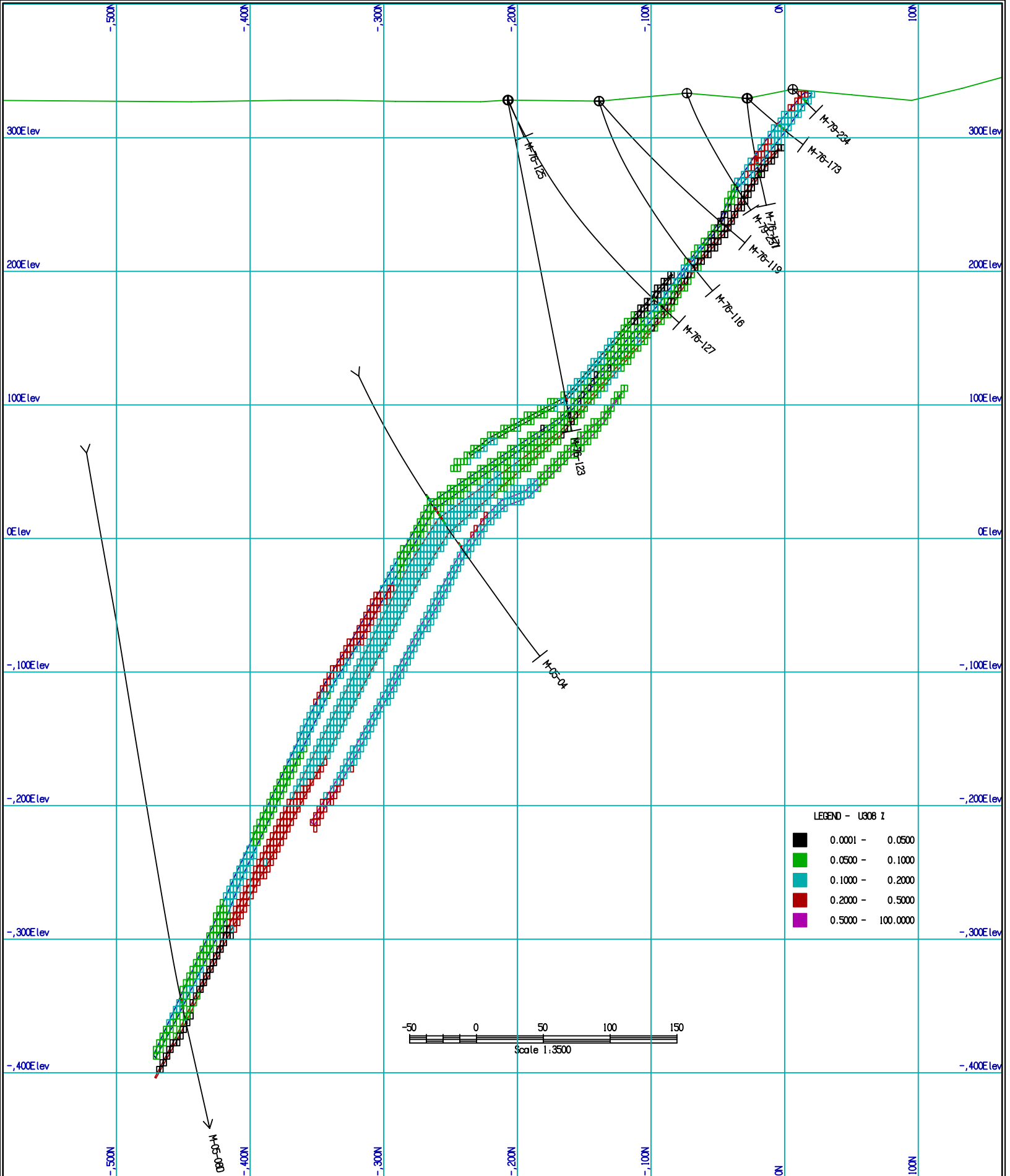
UNITS : METRES DATE: 06/01/27 TIME: 11:36:33



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Vertical Section 10+13W Figure 26-29  
 Michelin Deposit  
 Block Model Cross Section

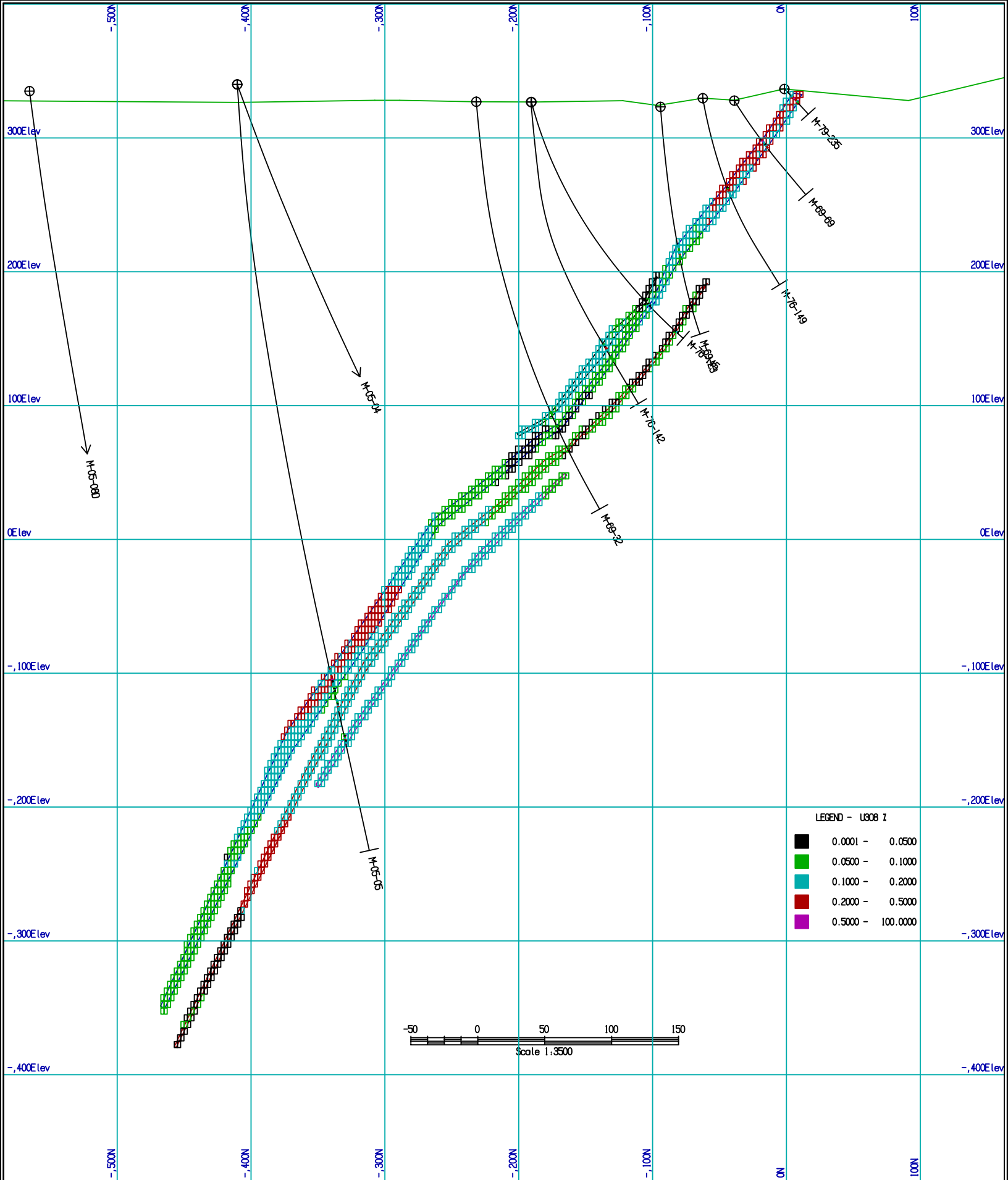
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Vertical Section = 10+45W Figure 26-30  
 Michelin Deposit  
 Block Model Cross Section

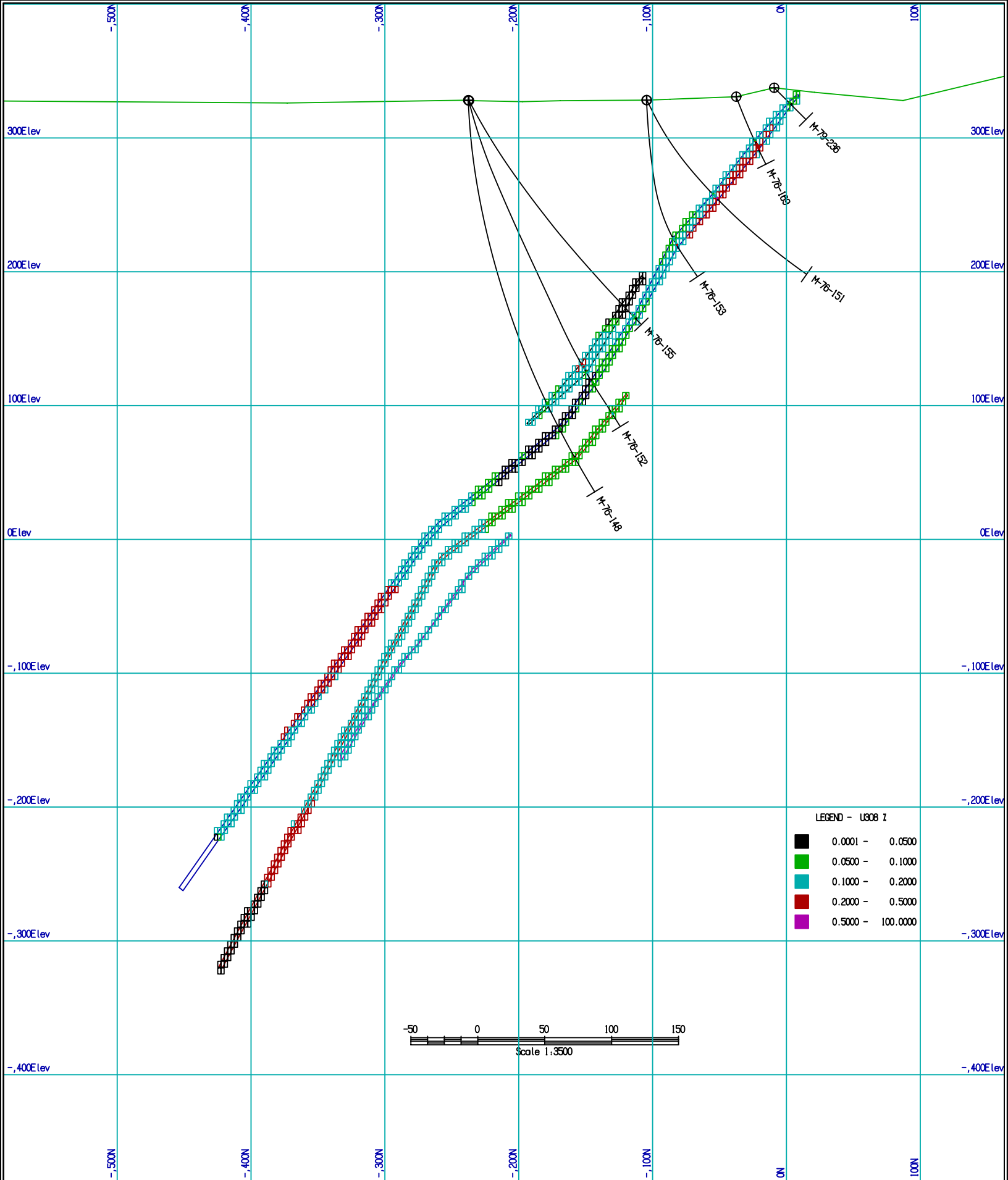
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Vertical Section 10+76W Figure 26-31  
 Michelin Deposit  
 Block Model Cross Section

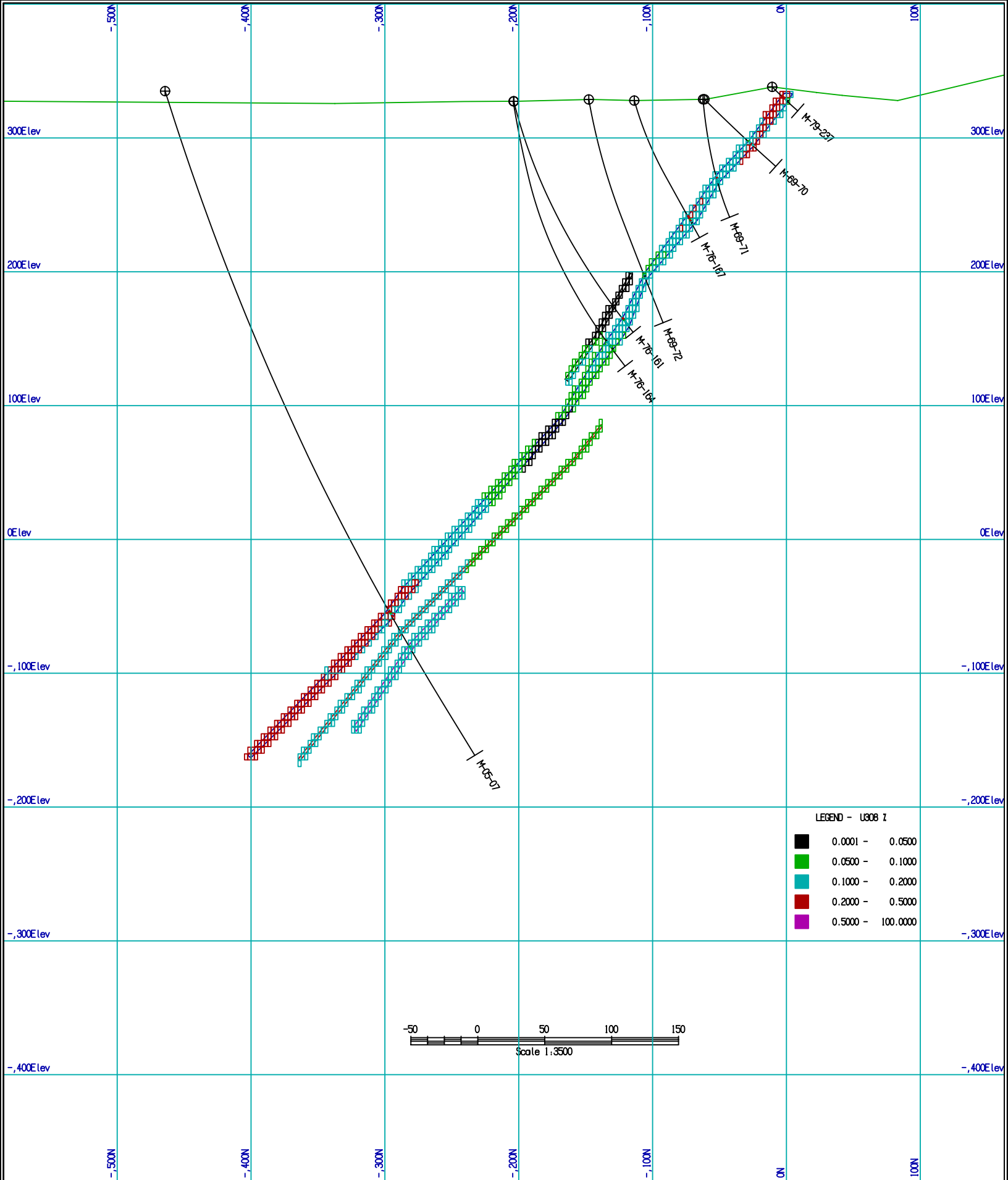
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Vertical Section 11+09W Figure 26-32  
 Michelin Deposit  
 Block Model Cross Section

UNITS : METRES DATE: 06/01/27 TIME: 11:36:41

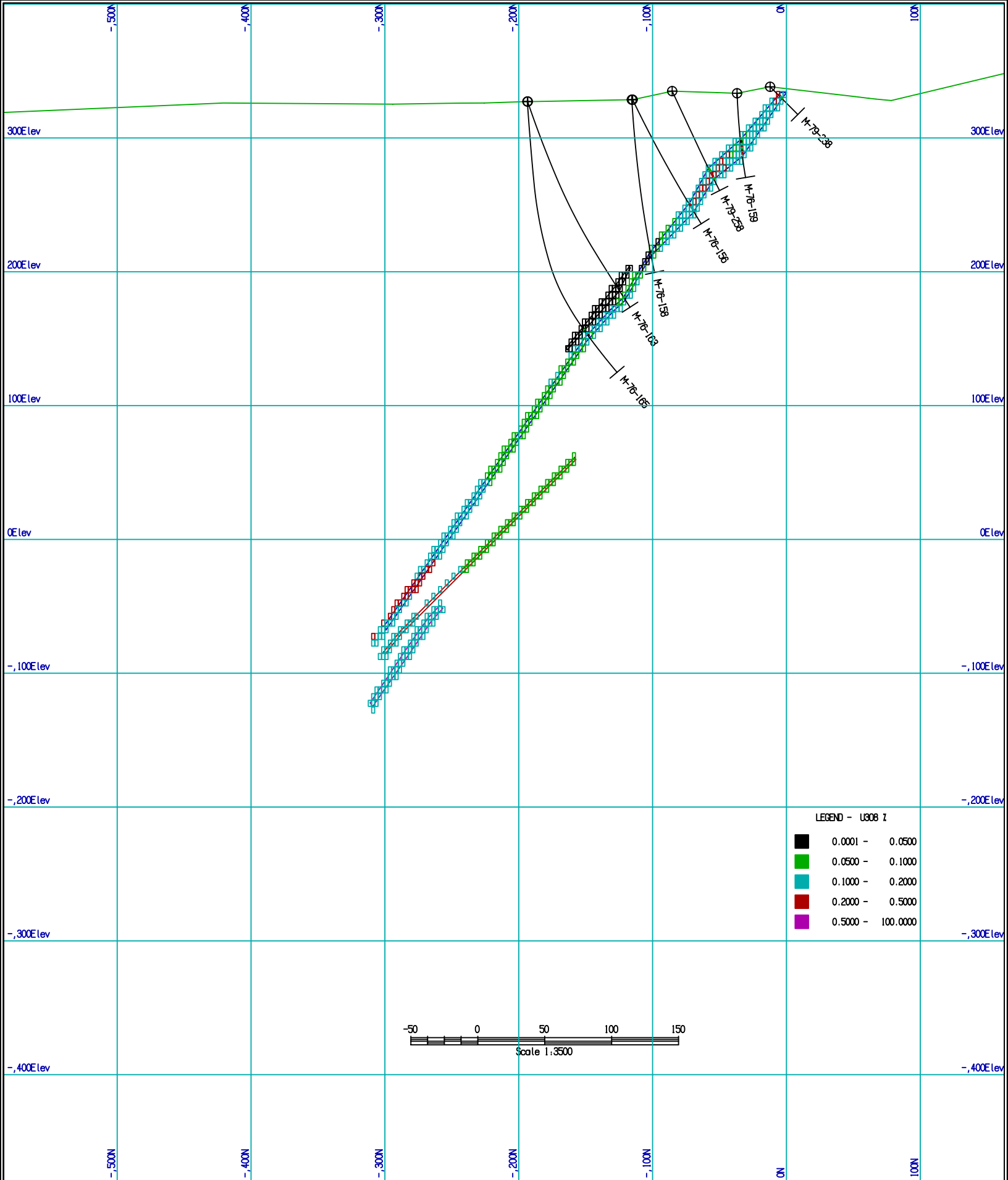


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Vertical Section 11+41W Figure 26-33  
 Michelin Deposit  
 Block Model Cross Section

UNITS : METRES DATE: 06/01/27 TIME: 11:36:42

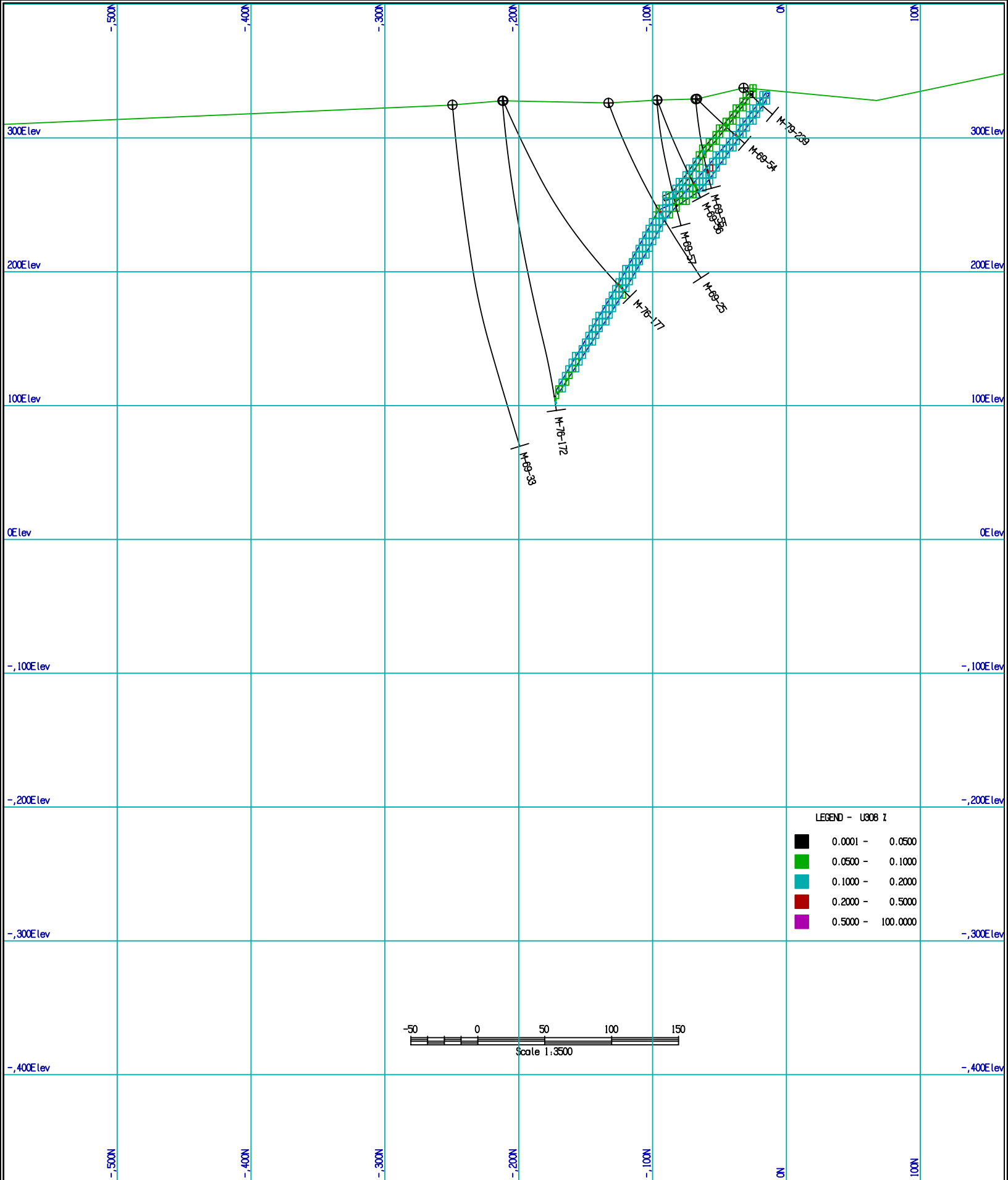
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Vertical Section 11+80W Figure 26-34  
 Michelin Deposit  
 Block Model Cross Section

UNITS : METRES DATE: 06/01/27 TIME: 11:36:43

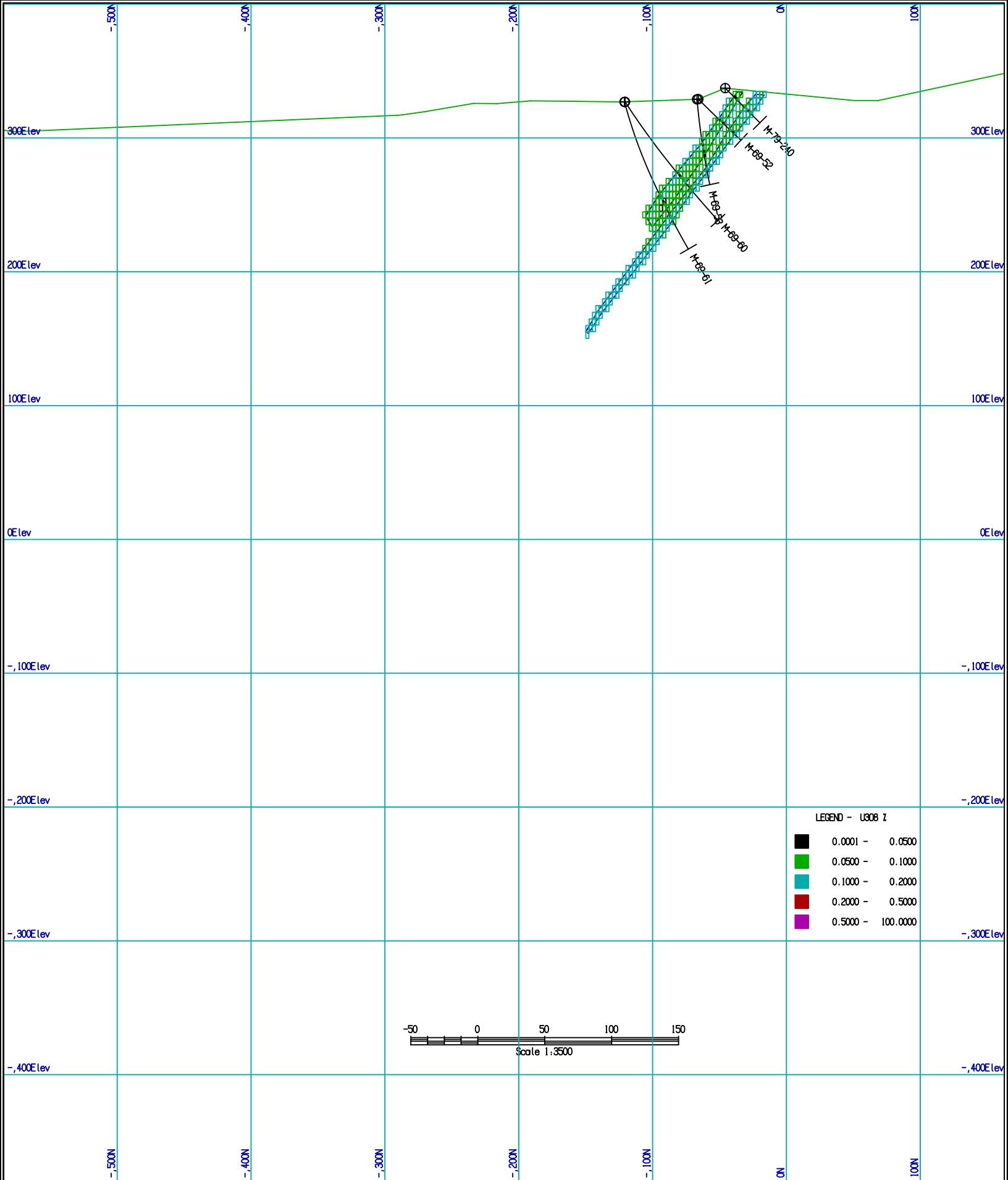


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Vertical Section 12+21W Figure 26-35  
 Michelin Deposit  
 Block Model Cross Section

UNITS : METRES DATE: 06/01/27 TIME: 11:36:45

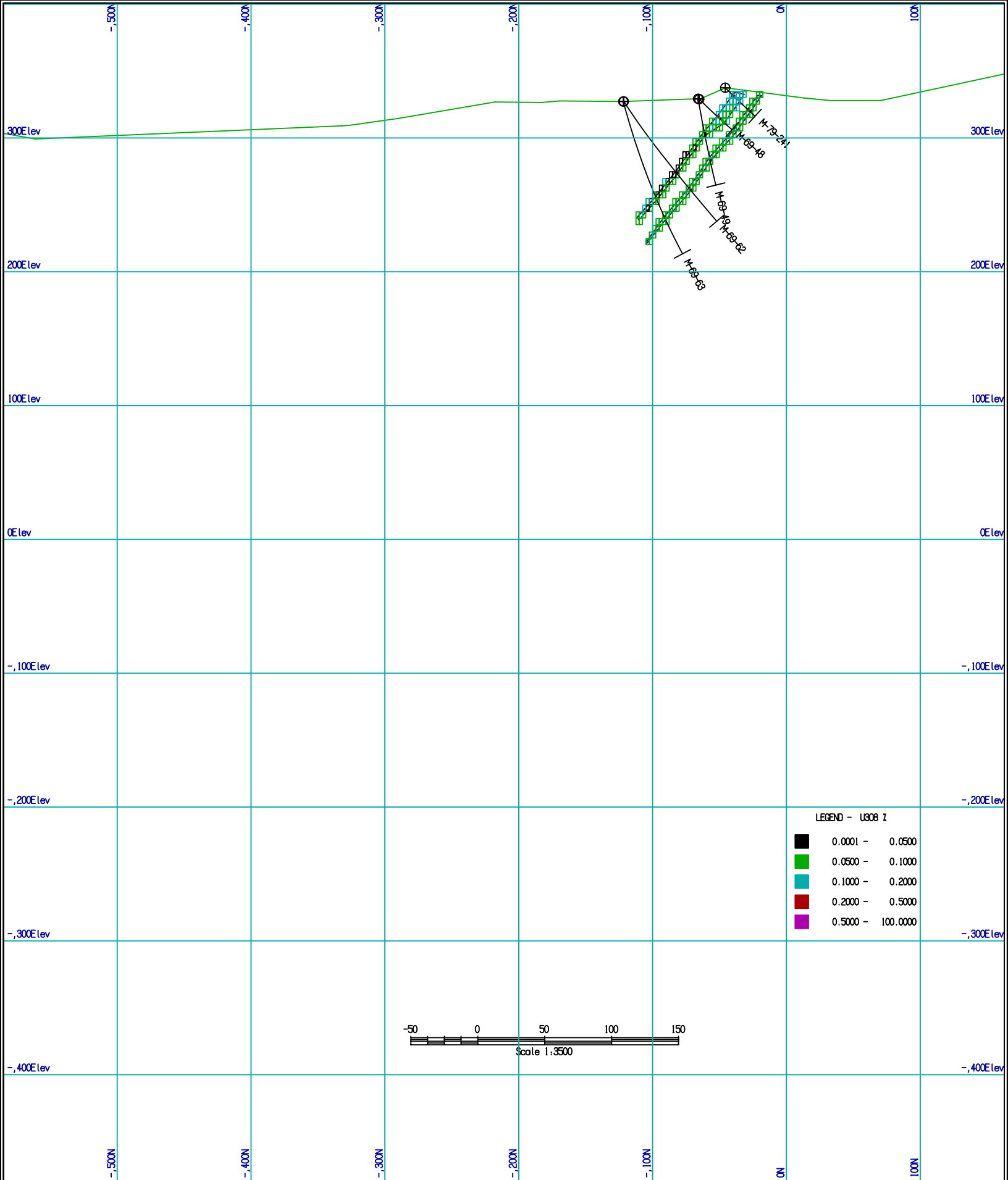




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Vertical Section 12+48W Figure 26-36  
 Michelin Deposit  
 Block Model Cross Section

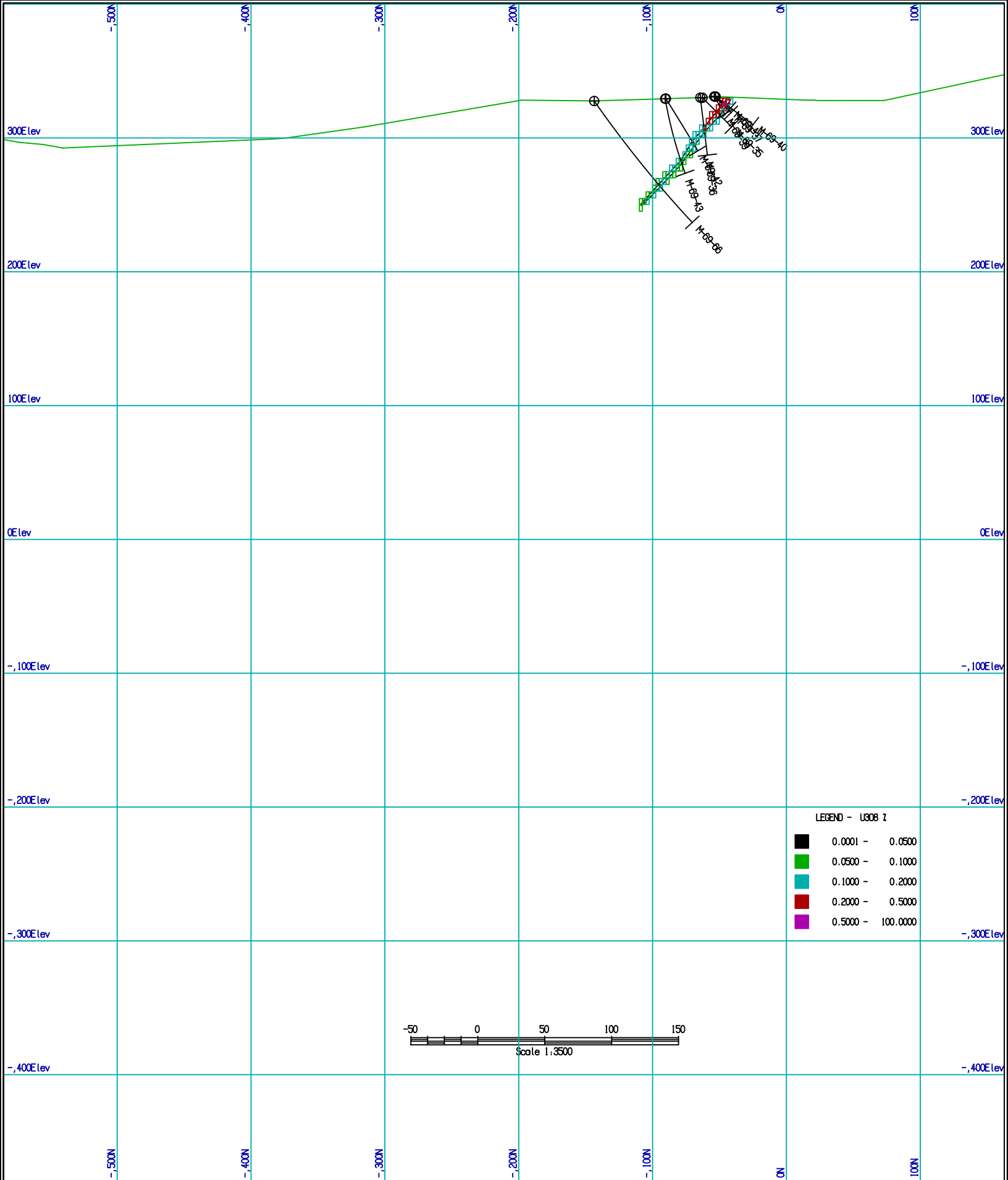
UNITS : METRES DATE: 06/01/27 TIME: 11:36:46



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Vertical Section 12+76W Figure 26-37  
 Michelin Deposit  
 Block Model Cross Section

UNITS : METRES DATE: 06/01/27 TIME: 11:36:47

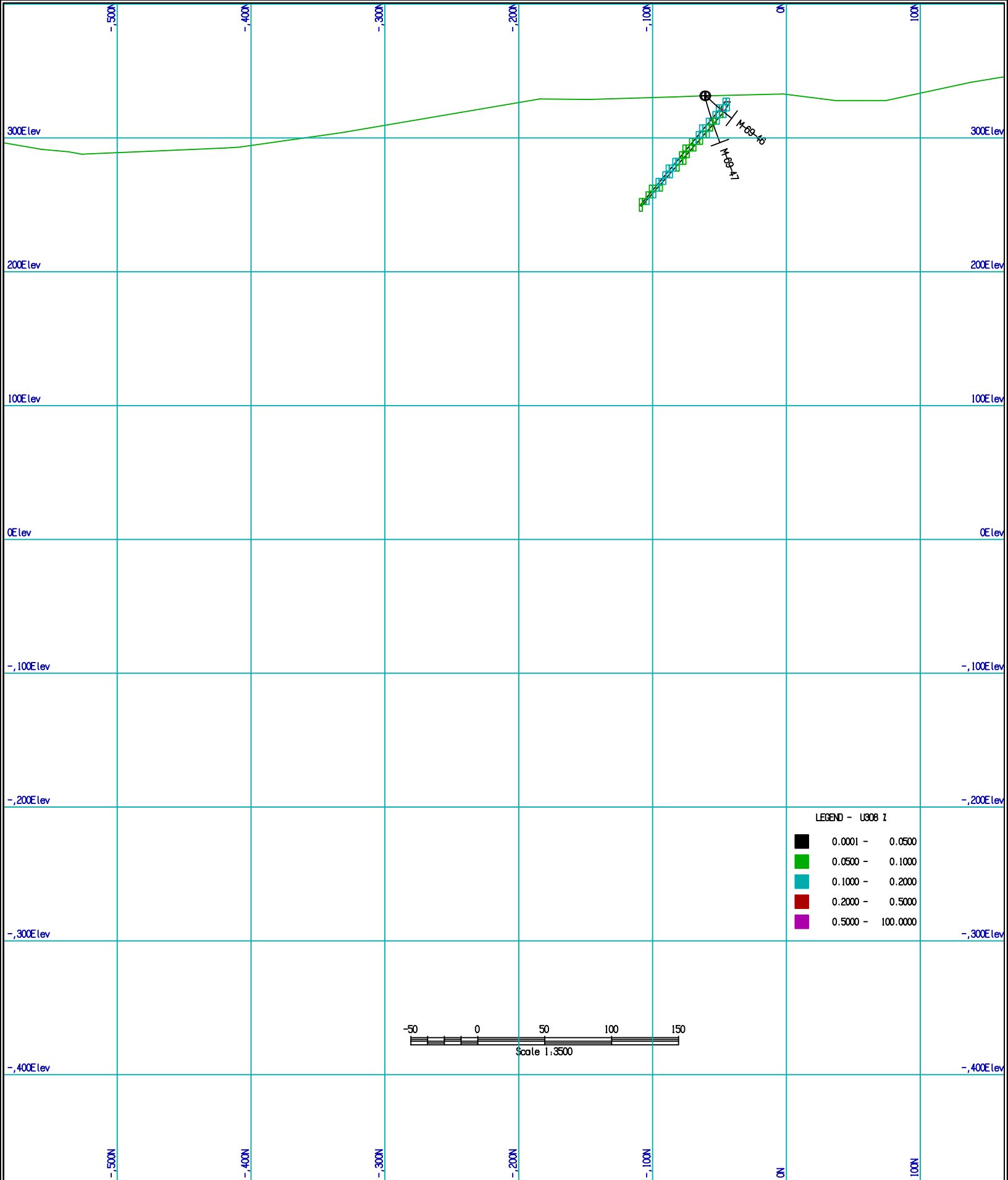


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Vertical Section 13+11W Figure 26-38  
 Michelin Deposit  
 Block Model Cross Section

UNITS : METRES DATE: 06/01/27 TIME: 11:36:49

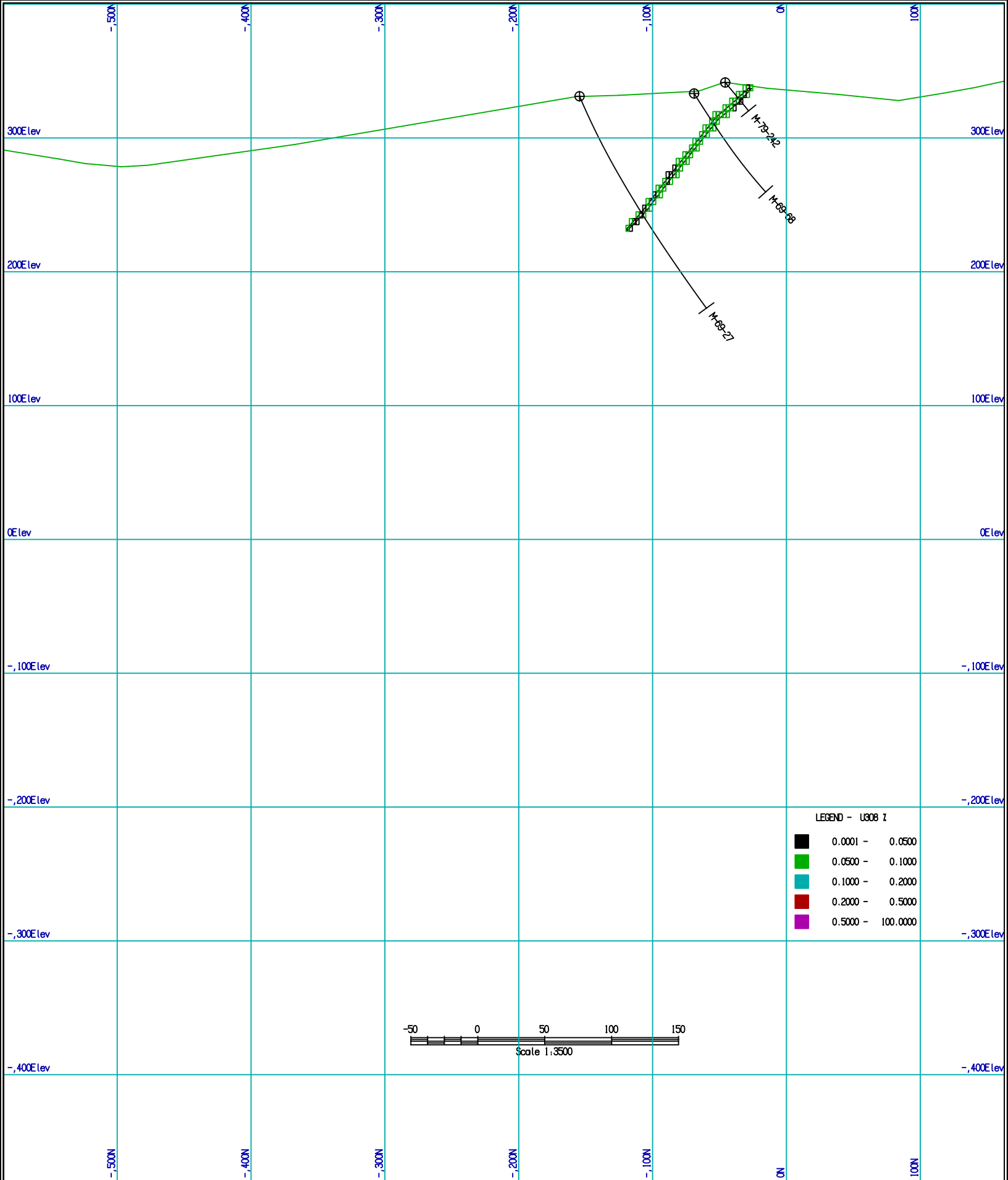
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Vertical Section 13+35W Figure 26-39  
 Michelin Deposit  
 Block Model Cross Section

UNITS : METRES DATE: 06/01/27 TIME: 11:36:51

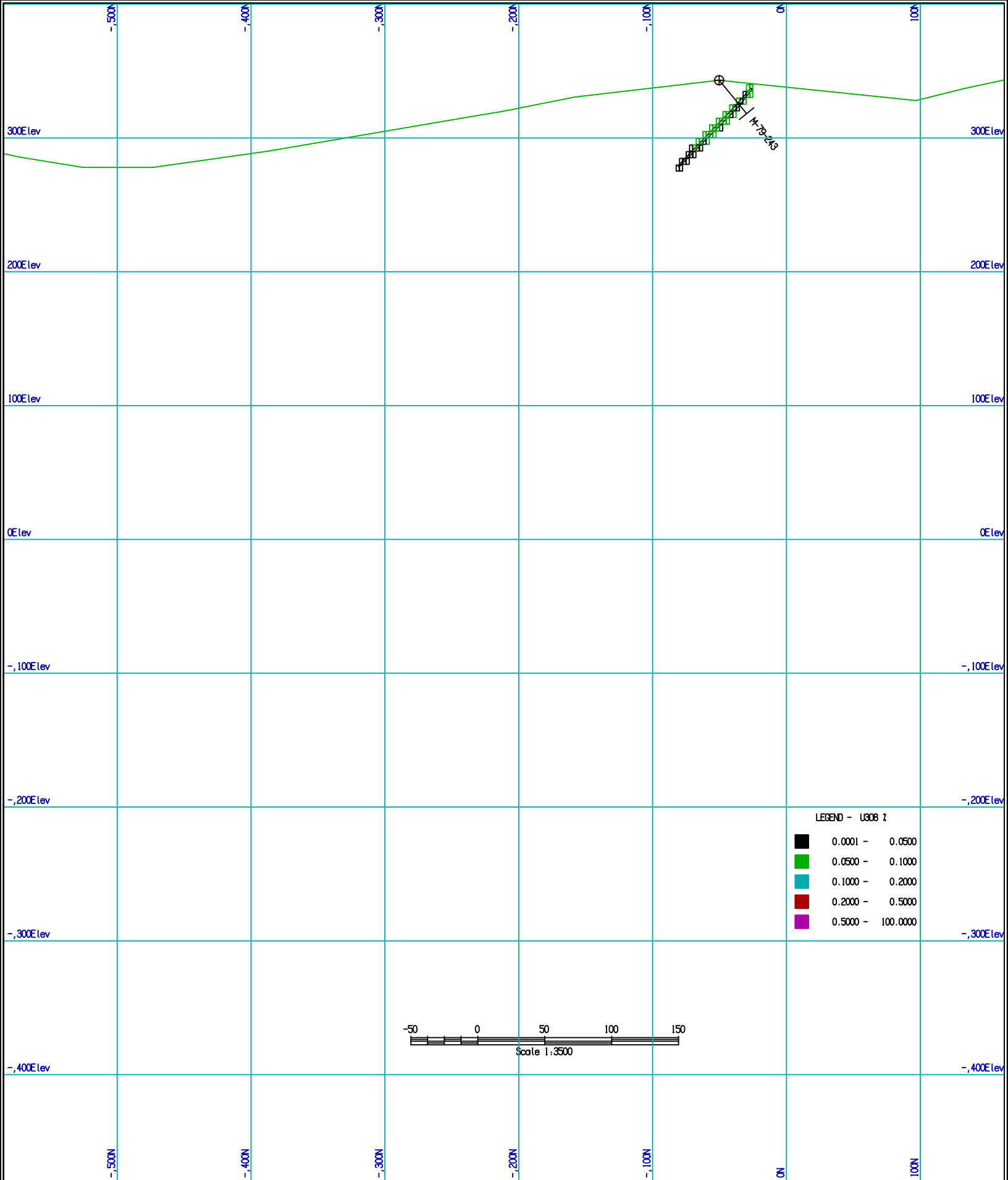


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Vertical Section 13+84W Figure 26-40  
 Michelin Deposit  
 Block Model Cross Section

UNITS : METRES DATE: 06/01/27 TIME: 11:36:52

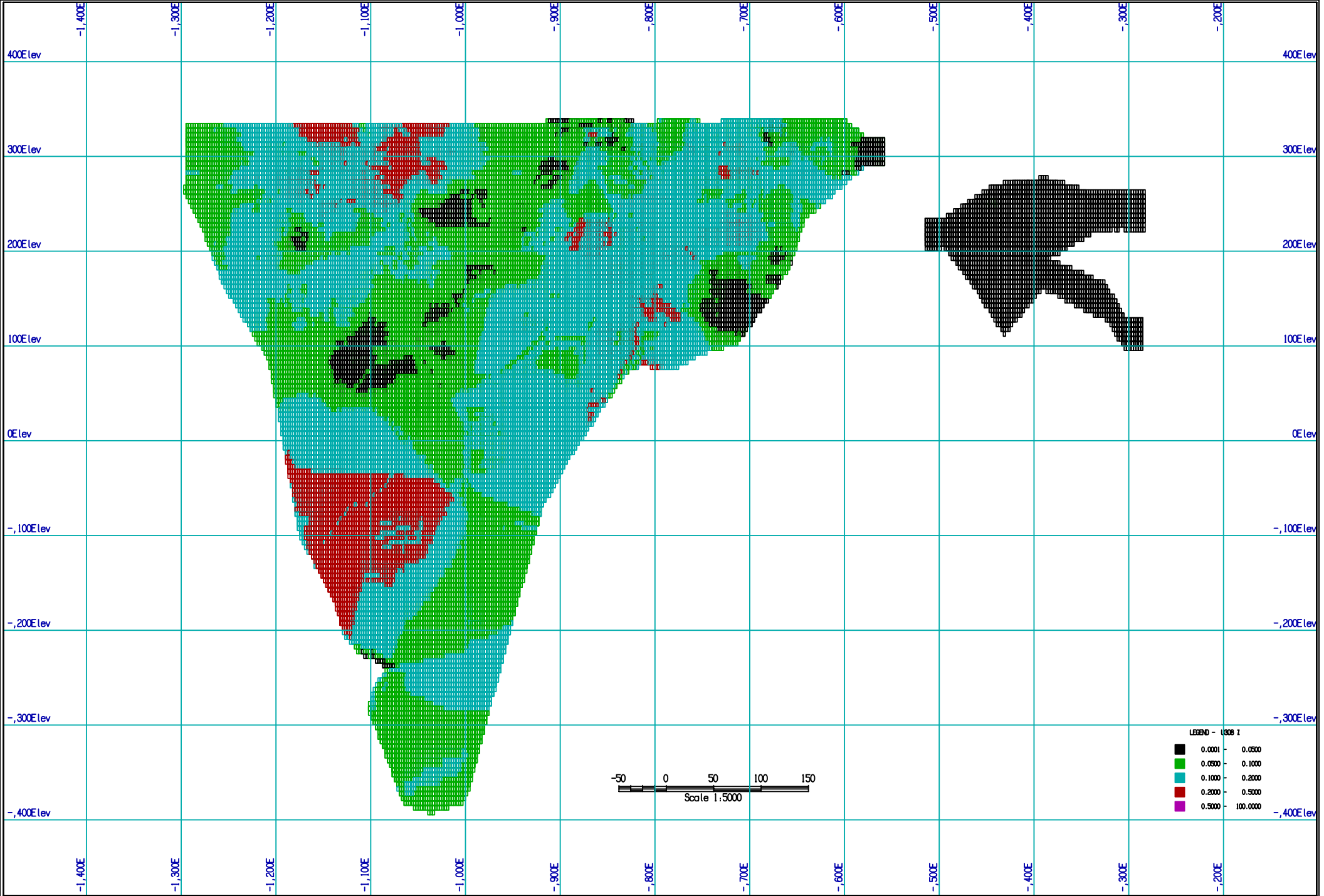
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Vertical Section 14+11W Figure 26-41  
 Michelin Deposit  
 Block Model Cross Section

UNITS : METRES DATE: 06/01/27 TIME: 11:36:54

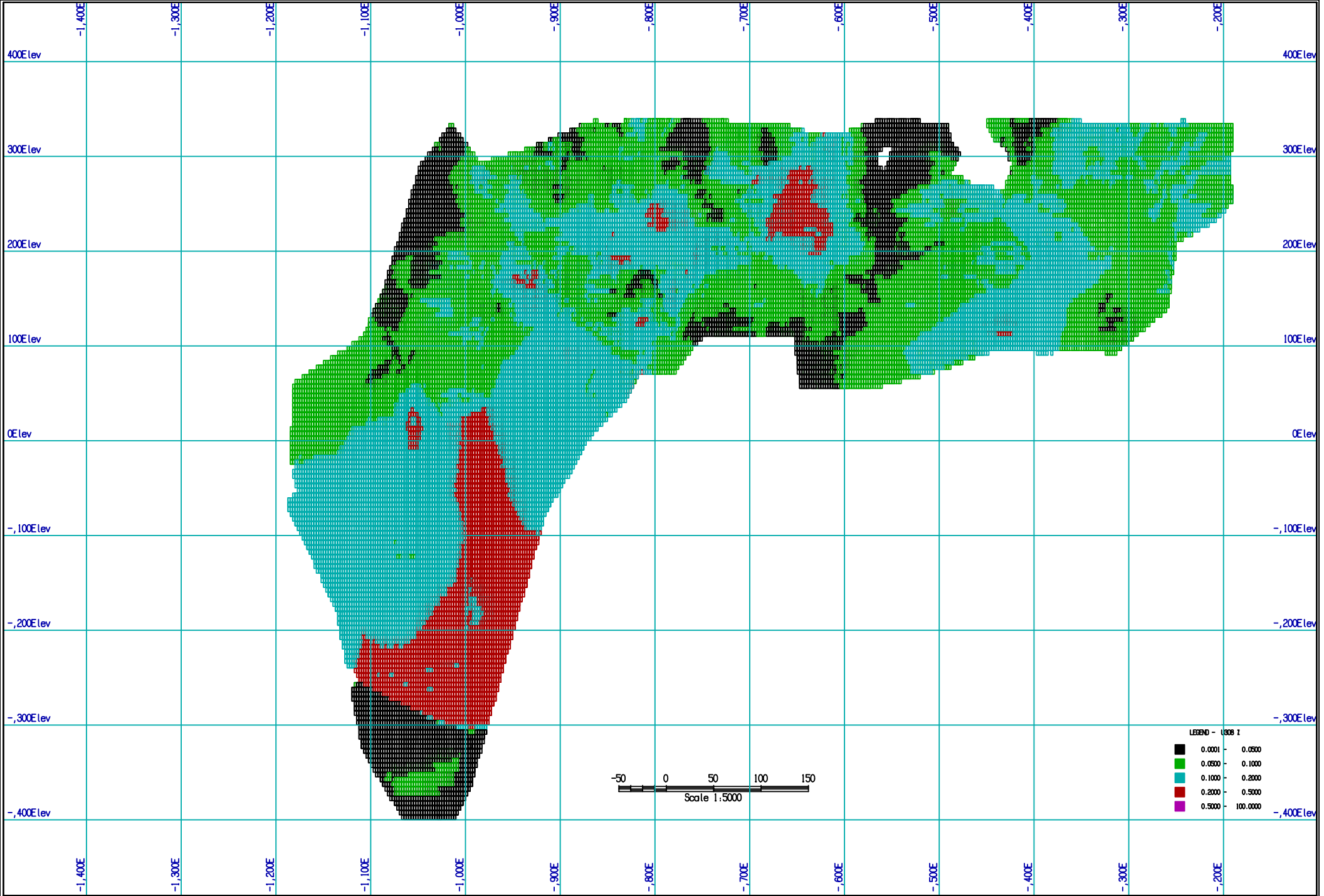


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UNITS : METRES DATE: 06/01/27 TIME: 12:43:23

Section = LONG  
 Michelin Deposit Lens 2  
 Block Model Vertical Longitudinal Section

Figure 26-42



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UNITS : METRES DATE: 06/01/27 TIME: 12:47:29

Section = LONG  
 Michelin Deposit Lens 3  
 Block Model Vertical Longitudinal Section

Figure 26-43