

New Golden Gate Mine
Mathinna, northeast Tasmania

JORC Compliant Resource
&
Exploration Potential

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July, 2009

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Summary

Geology

Recent drilling around the abandoned New Golden Gate Mine at Mathinna in northeastern Tasmania has defined 3 separate high grade gold reef structures with estimable resources with a 4th structure showing potential.

The 3 reefs for which resources have been estimated are named Sophies Reef, Dylans Reef and the “Central” Reef. The other reef with the potential for a similar resource is the Upper West Reef.

Mineralisation is hosted within discrete gold-quartz reefs in the top 120m below the surface. The reefs are sub-vertical to steeply northeasterly dipping and strike between north-northwest to northeast.

Wireframes were created for each of the four structures based on sharp grade boundaries and the geological model defined by similar reefs which were mined in the New Golden Gate Mine (254,000oz at 26g/t Au).

Estimation

Limited statistical analysis was conducted due to the limited sample population. A top-cut was effectively applied to grades as repeat assays were significantly higher in a number of instances.

Composites were manually calculated for each intercept to give a reef grade at the point of intersection.

The block model created has dimensions 5m long (mN), 5m high (mRL) and 1m wide (mE) and was sub-blocked to 1.25m long (mN) x 1.25m high (mRL) x 0.25m wide (mE). Grade estimation was by Inverse Distance Squared. The search ellipse was 100m x 100m x 100m as each of the 4 reefs were coded within the database and only reef intercepts in the plane of the reef were sampled making the search ellipse effectively a 100m x 100m circle in 2D. A minimum of 1 sample and maximum of 60 samples were used in the estimation.

Resources

The resources estimated for the Dylans, Sophies and “Central” Reefs warrant inferred status on the basis of the quality of drilling, drill intercept spacing of 20m x 20m, demonstrable geological continuity (for the most part – reasonably confidently interpreted in those exceptions which are all low grade sections anyway). Points against an inferred status are the discrepancy between fire assay and screen fire assay reported by Jackson (2000) and associated lack of field repeats or umpire reassays and to some degree the estimation technique, however, these are considered to be within acceptable bounds.

The resource estimated for the Upper West Reef cannot be given Inferred status on the basis of paucity of drill intercepts. It is described as being a potential resource and cannot be reported.

At a break-even grade of 10g/t Au the Mathinna project has the following JORC compliant Inferred resources.

Reef	Tonnes (at cut-off grade)	Grade	Ounces
Dylans	11596 (@ 7.36g/t cut-off)	10	3729
Sophies	18766 (@ 6.51g/t cut-off)	10	6034
“Central”	11834 (@ 2.77g/t cut-off)	10	3805
Total	42,196	10	13568

At 8g/t Au the total resource is 79533t for 20548oz.

There is the potential to add a further 13942t (@ 6.73g/t cut-off) at 10g/t for 4483oz from the Upper West Reef with further drilling and to add perhaps 10,000+oz (averaging 1/5g/t) from the tailings resource once the volume/grade of material treated by the “Russians” can be calculated and subtracted from previous resource estimates.

Recommendations

Upgrading the resource from inferred to indicated status will require infill drilling to 10m x 10m. This increase in drilling density will allow the utilization of variography and thus kriging as the method of estimation. Whilst ultimately the kriging variance determined from the resulting work will have an influence on the level of confidence placed on the newly calculated resource it is expected that it will be sufficient to raise the resource status to indicated.

In doing this infill drilling attention should be paid to quality assurance/quality control measures. These should include separate standards, field duplicates, umpire reassays and some work on the gold’s deportment (grain size, distribution etc) as well as metallurgy.

Further drilling should allow the potential Upper West resource to become a JORC compliant resource. The “Central” Reef should be tested along strike to the south for further extension as well as drilling targeting the intersection of this reef with the Main and Second Slides.

The Dylans and Sophies Reef shoots appear to be analogous with the Loanes and Main Reef shoots in the New Golden Gate mine. Both of these latter structures contained ~50,000 ounces over vertical extents of 250m to 300m. It would appear reasonable to assume that similar potential exists in the Dylans and Sophies Reef shoots and further deeper drilling is recommended to extend the resource.

Lastly, only the northern half of the RL has been adequately tested. The southernmost 400m of the lease, largely obscured by alluvium and/or tailings, has only been cursorily tested on three sections and in each instance evidence for potentially favourable structures has been discovered. Further drilling is recommended in this southern part of the lease.

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1.0 Introduction

1.1 Scope of work

Cala Resources Pty Ltd, licence holder of Retention Licence RL 2/2009 (recently converted from ML 43M/89) which contains the workings of the old New Golden Gate and North Golden Gate Mines and the newly discovered resources in the Dylans, Sophies, "Central" and Upper West zones, commissioned Grant MacDonald, geological consultant of 105 Rowella Road, Sidmouth, Tasmania, to complete a JORC code compliant resource estimate, to detail that work required to upgrade and extend this resource, and to discuss the exploration potential of the rest of the lease and how this potential may be assessed.

1.2 Participants

The new resource was discovered and defined by exploration by Defiance Mining NL (Defiance) as operators of a JV between themselves and Connemarra Gold Mines Pty. Ltd. (Connemarra) testing geological concepts detailed in Colville (1998). The work is detailed in Jackson (1999 & 2000). Defiance (Jackson, 1999 & 2000) is responsible for the quality and nature of the drilling and sampling. Jackson (1999 & 2000) also carried out the initial resource estimation detailed later in this report.

The geological interpretative work and resource estimation work borrows from the work of Jackson (1999 & 2000) but is largely independent and has been carried out by the author based on the authors own knowledge of the geology of the area.

1.3 Principal sources of information

The data used in the estimation and recommendations for further work has come directly from Rod Holden, Cala Resources database, the authors own Mathinna dataset and Mineral Resources Tasmania's website.

1.4 Project location and access

The resource defined herein lies wholly within RL 2/2009. RL2/2009 lies in the centre of the Mathinna goldfield (see figure 1) on the Mangana-Lyndhurst gold lineament, in Tasmania's northeastern gold province. Mathinna is ~65km east of Launceston and is accessible by bitumen road via the Fingal Valley.

1.5 Tenure and land usage

The licence lies on Crown Land. There are no environmental nor aboriginal claims upon the land.

The underground resource defined herein lies directly beneath the tailings (see figure 2) from the New Golden Gate mine. These tailings themselves constitute a small resource though they are not subjected to estimation in this work.

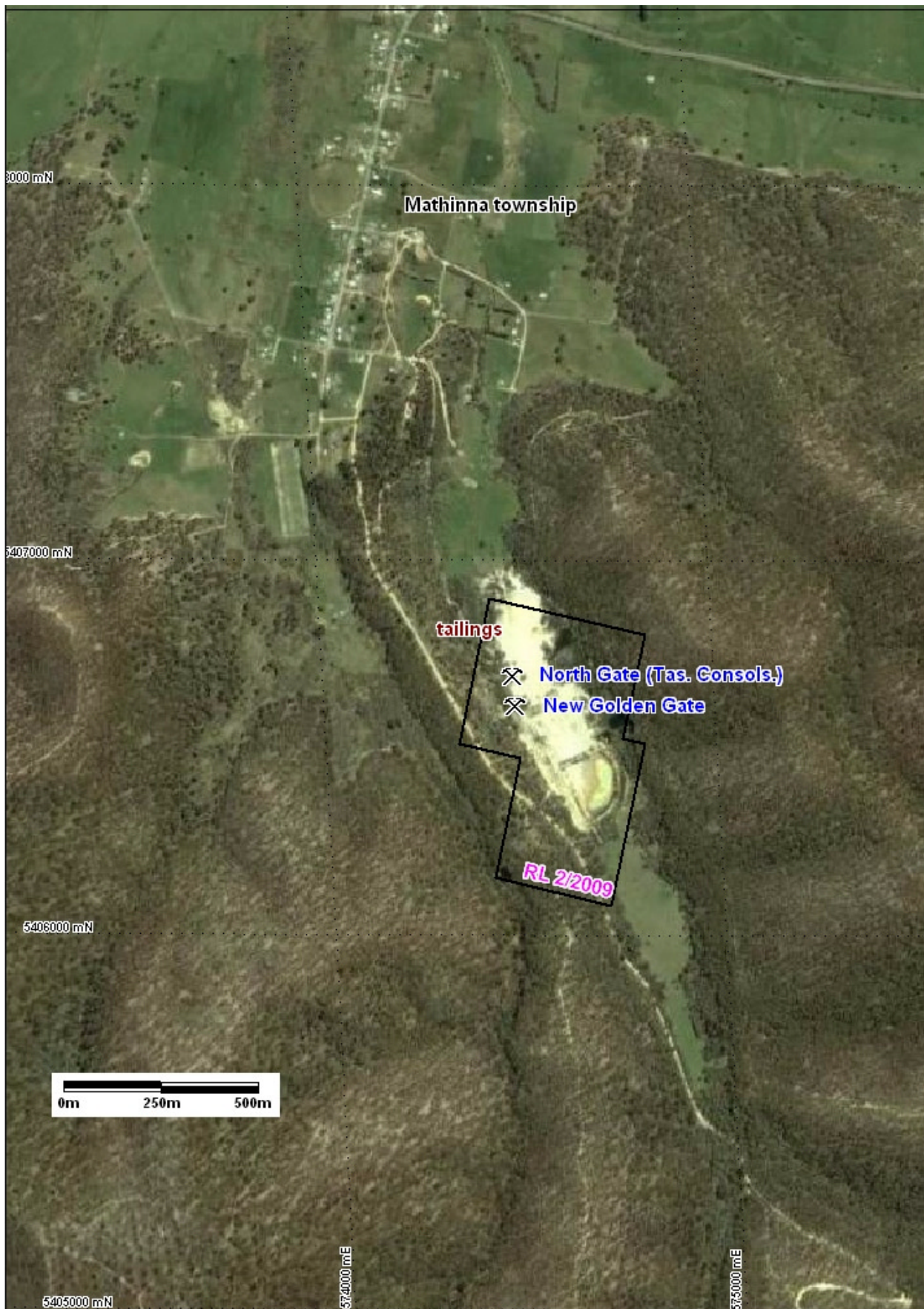


Figure 1: Location of RL 2/2009 Mathinna in Mathinna goldfield, northeastern Tasmania

2.0 Exploration and mining history

2.1 Discovery and early production

The New Golden Gate mine was originally discovered in the early 1880's and worked as the Golden Gate mine. Workings consisted of an adit and some stoping to surface on the old Upper Western Reef. After small production (around 128oz to 145oz from 350 to 450 tons at 10 to 11g/tAu) the mine became dormant until the late 1880's when a prospector named Loane chipped a 1½" vein from the floor of the adit closer to the portal which assayed over an ounce. This vein was the cap of Loane's Reef which was subsequently mined to a depth of ~250m with the mine renamed the New Golden Gate Mine. The sinking of the main shaft to exploit this Loane's Reef intersected a parallel shoot named the Main Reef which was worked to a similar depth (see figures 3 and 4).

Exploratory cross-cuts were driven periodically to the east and west of the main shaft and at the depth that the Loane's and Main Reefs petered out the Lower East Reef was fortuitously intersected in a crosscut on 9 level. This reef was subsequently worked to 550 metres in depth. The Lower West Reef was discovered in a cross-cut on 14 level (395m) and also worked to a depth 550 metres. An exploratory winze at the southern end of the Lower East Reef pushed the overall depth of the mine to 580m making the mine the then deepest gold mine in Tasmania's northeastern gold province, only surpassed in the early 2000's by the Beaconsfield Gold Mine on the Tasmania Reef which is still economic at over 1km depth.

A number of smaller reefs were also worked in the latter years of the mine's life, e.g. Zig-Zag Reef and Bolgers Stope under tribute before the mine finally closed in 1934 having produced 254,000oz at an average grade of 26.0g/t.

The North Golden Gate shaft, also worked as the Tasmanian Consolidated (Tas. Consols.), was 80m north of the New Golden Gate shaft and worked to a similar depth (480m) though significant production only came from the Lower West Reef. The North Golden Gate (referred to incorrectly in places in this report as the North Gate) was active from the late 1880's up until 1908 producing 10,000 ounces at 14.5g/t. Exploratory cross-cuts did intersect variably mineralized structures in other positions arguably contiguous with the other New Golden Gate reefs but these were not exploited.

2.2 Recent exploration

The Mathinna Goldfield has been explored sporadically since 1969. This work has been variably focused on the alluvials, tailings, shallow open-cuttable low grade hardrock and high grade underground reef potential but has been sporadic in nature. It is really only since the mid 1990's that serious exploration has been conducted systematically on the lease.

There have been only 7 drilling programmes in the New Golden Gate area of which 3 of which were carried out by Defiance and form the basis of this resource estimate.

The first of these 7 phases of drilling was three diamond drillholes drilled by the then Mines Department (now Mineral Resources Tasmania), two (GG1 and GG2) to the south of the New Golden Gate Mine and one (GG3) to the north. All three holes intersected reef style mineralization with the northern hole intersecting a narrow (0.3m downhole) 20g/t reef and one of the southern holes reportedly intersecting visible gold(?). This drilling lies spatially separate from the resources estimated herein. The results of the holes have been included in consideration of the potential to extend these resources or discover new ones.

In 1989 Epoch Minerals Exploration NL carried out an 11 hole for 825 metres open-hole RAB drilling programme around the upper workings. Favourable results around the New Golden Shaft included 8m (all results downhole) @ 10.7g/t Au and 2m @ 4.7 in PDH5, 2m @ 4.2 and 2m @ 3.9 in PDH6, 2m @ 5.4 in PDH9 and 2m @ 1.05, 2m @ 1.0 and 2m @ 1.2 in PDH10 were achieved, however, the method of drilling and potentially unreliable assay results have meant that the results of these holes have not been considered suitable for inclusion in the estimation of a resource (both in this work and in Defiance's).

In 1995 Resolute Samantha Limited (Resolute) carried out a 26 hole for 2025 metres RC (face-sampling bit) drilling programme in the Mathinna area focusing on soil geochemical anomalies with the target model a low tonnage surface open-cut (MacDonald, 1996). Only one hole was drilled near to the New Golden Gate/North Golden Gate workings. Results of holes elsewhere in the Mathinna Goldfield included; 1m (all results downhole) @ 2.46 in MT01, 7m @ 2.36g/t Au inc. 1m @ 13.6 in MT02, 1m @ 1.35 in MT07, 1m @ 4.95 and 1m @ 1.36 in MT22, 5m @ 1.42 in MT23B and 6m @ 1.91 in MT25).

From late 1998 to early 1999 Defiance Mining carried drilled 45 RC holes for 4246.5 metres around the New Golden Gate/North Golden Gate and also drilled some other prospects on the Mathinna Goldfield (Jackson, 1999). This drilling successfully intersected high grade reefs which were named Dylans and Sophies (after the geologists children) as well as further defining high grade reef mineralization in the vicinity of the New Golden Gate Shaft which had been intersected in the Epoch percussion holes. These intersections form the basis of the resource and are listed in Table 1.

In late 1999 to early 2000 Defiance drilled a further 23 RC holes for 2018 metres and a further 886.4 metres of NQ diamond core tails on 12 RC holes (8 from the previous programme) (Jackson, 2000). This drilling further defined the reef mineralization intersected in the earlier programme. Better results are listed in Table 1 and intersections used in the resource estimates are shown on the relevant long sections.

In 2004 Cala Resources carried out a small 8 holes (though 2 were effectively abandoned at 1m and 2m depths) for 180m's RC drilling programme straddling the northern boundary of the lease. Only MT104 and MT105 (68m's) lie within the ML. This drilling was technically poor with groundwater forcing the abandonment of many of the holes and hampering sample recovery.

Tailings

The tailings from the old New Golden Gate Mine constitute an obvious resource and have been investigated a number of times in the recent past starting with the Tasmanian Mines Department in 1948. These are not the principal subject of this report and are touched on briefly.

Geophoto Resource Consultants (1969 to 1974) carried out some limited auger sampling of the NGG tailings. Tasminex NL (1978 to 1982) carried out resource evaluation of the NGG tailings and estimated 265,000 tonnes at 1.5g/t (as opposed to the 1948 Mines Department's estimate of 323,000 tonnes). Epoch (1985) assessed the tailings metallurgy as did Connemarra. K.A. "Alex" White (1983 to 1990) as JV's with Tasmanian Alluvials, Alcaston Mining NL and Pegasus Gold Australia Limited.

In 1995 a Russian designed and built Carbon-in-Resin plant was constructed to treat the tailings. Due to financial difficulties the plant was in operation for only 6 weeks before being forcibly closed down. Remnants of the mill and the new tailings dam are still present. It is unclear as to how much material was treated in this period though visually the bulk of the tailings resource appears untouched.



Figure 2: RL 2/2009 lease area with old underground workings, drilling and newly discovered reefs projected to surface

2.3 Previous resource estimates

Defiance calculated a resource based on their drilling results (Jackson, 2000).

“Ore resource calculations were made for the Central Reef and shallow portions of the Upper Western Reef at a 0.5g/t gold cutoff and for Dylan’s and Sophie’s Reefs and the deeper portion of the Upper Western Reef at a 3g/t gold cutoff. It is anticipated that the former would be mined as an open pit and the latter as an underground operation. The resources are outlined in Table 1.

Reef	Grade Cutoff	Status	Tonnes	Grade	Ounces
Central	0.5g/t Au	Indicated	140,000	2.5	11,400
		Inferred	13,000	2.5	1,000
		Total	153,000	2.5	12,400
Dylans/Sophie	3g/t Au	Indicated	44,000	13.1	18,600
		Inferred	15,000	14.3	6,900
		Total	59,000	13.4	25,500

Table 1. New Golden Gate Ore Resource Statement

“Resources were calculated by the polygonal method with a sphere of influence of half way between sections (typically 20m) and 10m past the end sections. Ore blocks were drawn around each intersection and allocated the grade of that intersection. No cuts were made of high grade intercepts. Where multiple assays were available for a sample interval the results were averaged. A minimum value for a drill hole intersection of 6 metre grams was applied to the underground resource a 1 metre gram to the open pit resource. An assumed bulk density of 2.7t/m³ was used for the calculation”.

Defiance used a sectional interpretation method and have misinterpreted the structural continuity of a number of intercepts leading to a more favourable outcome. The polygonal method and lack of top cut will also increase block grade’s significantly. In a number of instances repeat assays were markedly higher than original assays. The use of averaged assays will also have led to a more favourable outcome. It is for these reasons that the resource calculated herein is significantly lower than Defiance’s (see further discussion later).

3.0 Geological setting

3.1 Introduction

The resources outlined here lie to the immediate environs of the New Golden Gate and North Gate mines which are located in the Mathinna goldfield in Tasmania's northeastern gold province. Whilst some gold mineralization in the northeast gold province is of disseminated style and spatially/genetically associated with granitoids, the bulk of the gold occurrences in the province are in discrete high grade quartz+minor sulphide (predominantly pyrite and arsenopyrite) reefs hosted in Ordovician to Devonian aged shale-siltstone-sandstone sequences of turbiditic origin. These reefs were emplaced structurally during the Middle Devonian Tabberrabberan Orogeny.

On the eastern margin of the province is the +2Moz Tasmania Reef which has averaged over 20g/t over the +1km depth which has been mined to date. The next largest deposit in the province is the New Golden Gate mine which produced over 250,000 oz at 26g/t.

3.2 Project geology

The New Golden Gate and North Golden Gate mines lie in the middle of the Mathinna goldfield. The Mathinna goldfield lies on the Mangana-Lyndhurst trend, a north-northwest trending zone which would account for numerically over half of the gold occurrences in Tasmania's northeastern gold province.

The New Golden Gate mine exploited 4 larger (and a number of smaller) steeply plunging shoots over a vertical extent of over 600 metres. These reefs are north-northeast striking and sub-vertical with the oreshoots generally <50m along strike. Smaller amounts of ore were taken from north-northwest striking reefs such as the Upper West and probable tensional structures around the No.6 level known as the Zig-Zag Reef. The North Gate mine was largely based on the northern extension of the Lower West Reef though cross-cuts appear to have intersected reef structures along strike from the Lower East and possibly Main/Loanes reef structures though without any production on these.

The New Golden Gate and North Gate reefs are hosted on the steep eastern limb of a west verging, north-northwest striking fold in a package of dominantly shale and siltstone. Structurally the reefs appear to be hosted in north to north-northeast striking faults which splay off north-northwest striking faults (specifically the steeply west-southwest dipping main and second slides). Shoots within these north to north-northeast striking structures are short strike length, large vertical extent (steeply south plunging), lensoidal "pipes" within these more laterally extensive faults. The main shoot of high grade and width in the New Golden Gate mine occurred where the Main and Loanes Reefs converged.

3.3 Resource geology

The discovery of further high grade gold mineralization by Defiance was based on pursuing the New Golden Gate structural control to the north of the current workings. It was also influenced by the reporting of gold bearing reef in exploratory cross-cuts in the North Golden Gate mine. Hence it is perhaps unsurprising that the structures intersected and defined by Defiance's drilling should show similar orientations and behaviour to those in the New Golden Gate/North Golden Gate mines.

The higher grade resources in Sophies and Dylans Reefs occur as discrete high grade shoots which occur over relatively shorter strike lengths along the hosting Sophies Reef and Dylans Reef Faults. The higher grade resource in the "Central" Reef is more broadly dispersed with significant mineralization intersected over most of the known strike of the structure. There have been very few intersections of the Upper West Reef to determine much about the hosting structures character.

Sophies Reef Fault

The Sophies Reef Fault is a subvertical, overall north-northeasterly striking structure which branches at its northern end with the eastern branch named Sophies East branch and the west branch named Sophies Main branch. Defiance's drilling has located two shoots on the Sophies Reef Fault known as the (well defined) northern and (less well defined) southern shoots.

The intersection node between these two branches plunges moderately steeply to the south and is considered to be a principal control on the location of the northerly shoot.

In the shallower intersections north of 5406765mN the Main part of the structure swings north-northwesterly with the East branch diverging in a north-northeasterly direction further north of this swing and the Main branch continuing in a north-northwesterly direction. Conversely, in the deeper intersections the node at which the two branches diverge corresponds with this swing in the Main branch. In this region it is the east branch which appears to be the northerly continuation of the Main structure south of the node.

The southern end of Dylans Reef approaches Sophies Reef at around the position of the more southerly shoot. It is possible that the two converge in the area of the southern shoot.

Dylans Reef Fault

Dylans Reef Fault also consists of a single structure in its southern part with two branches north of a moderately steeply south plunging node. In this instance the west branch has been named Dylans West branch with the east branch named Dylans Main branch though arguably the same ambiguity as with Sophies exists in which of the two branches is actually the continuation of the main structure south of the node.

South of the node Dylans Reef strikes north-northeasterly in the shallower intersections, swinging more northeasterly in deeper intersections. North of the node the Main branch continues to swing northeasterly and shallows its dip. The West branch continues on with a north to north-northwesterly strike.

The ore shoot occurs at the junction of the two branches.

There is a suggestion that Dylans and Sophies Reefs converge at depth and are contiguous with the Lower West Reef. This interpretation requires further drilling at depth.

Upper West Reef Fault

The Upper West Reef Fault is a subvertical, north-northwesterly striking structure which lies to the northeast of the Main Slide Fault. The structure also appears to have been driven on in the No.8 level of the North Golden Gate mine where it consists of two parallel walls, 1.5m apart with crushed quartz and slate between them (Finucane, 1934) and has been interpreted and modeled accordingly. The presence of this mineralized structure west of the main slide confirms the potential of this structural position

"Central" Reef Fault

The "Central" Reef Fault is actually the strike continuation of the old Upper West Reef worked from the adit level to surface, however, it is clearly not contiguous with the deeper Upper West Reef as defined by Defiance's drilling. It is parallel with the zone of stringers Defiance called their Central Reef (and which is called the Central Reef in old reports though I have mapped this adit and this "Reef" is actually a zone of tension veins) but is not the same structure. For this reason I have called the structure the "Central" Reef.

This reef strikes north-northwesterly and dips moderately steeply to the east-northeast. It lies on the southwestern side of the Main Slide Fault but northeastern side of the Second Slide. It is likely to stop at both faults though they probably don't offset the reef but rather control it.

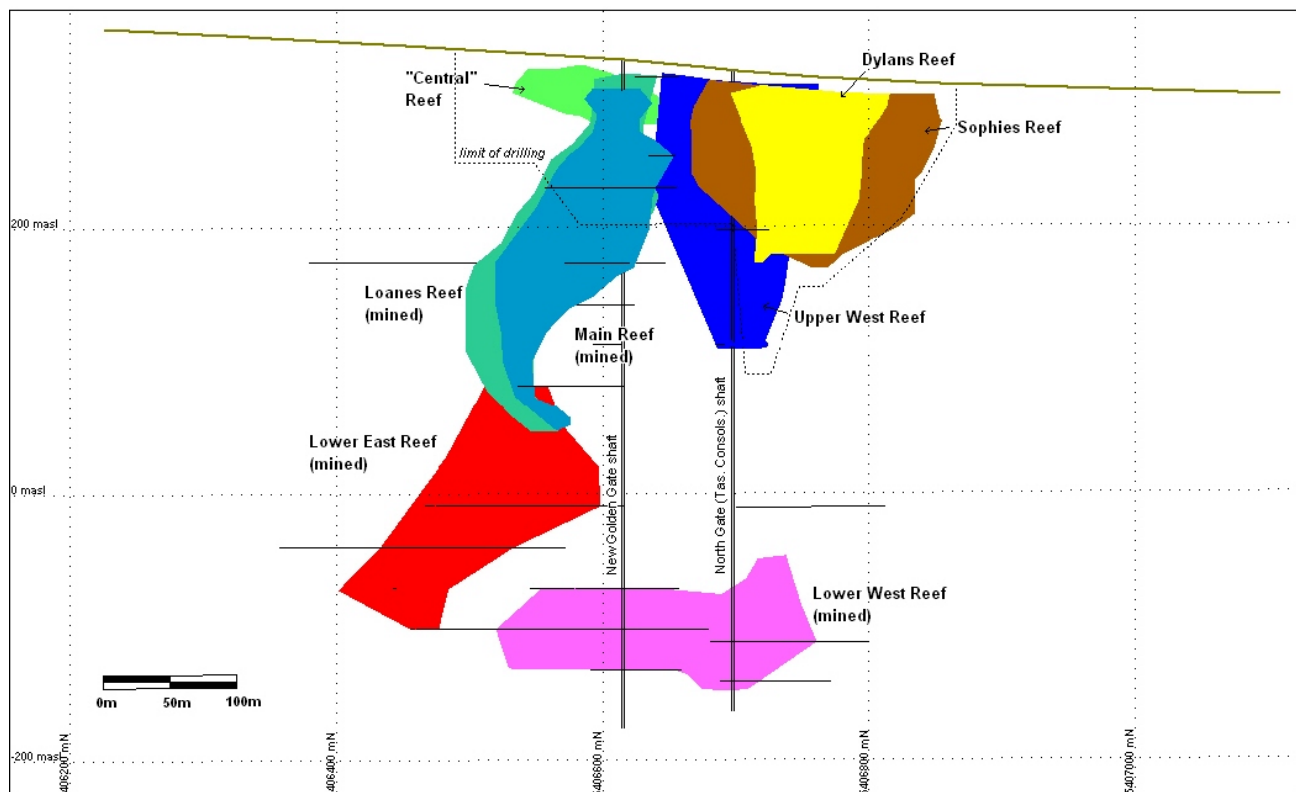


Figure 3: Longsection (looking west) showing mined New Golden Gate reefs and newly discovered reefs

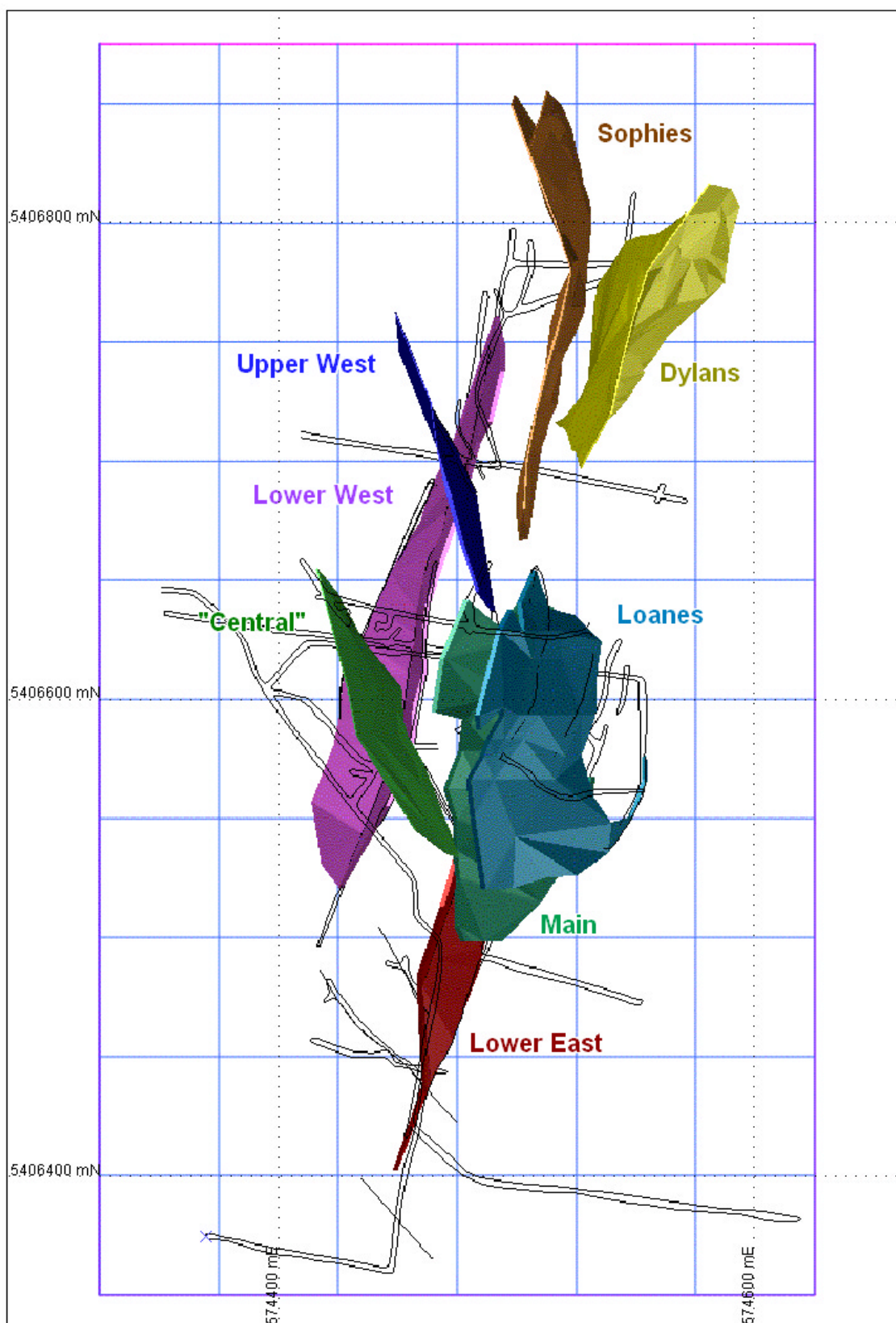


Figure 4: Plan view of New Golden Gate/North Golden Gate Reefs mined previously and newly discovered Dylans, Sophies, Upper West and "Central" Reefs

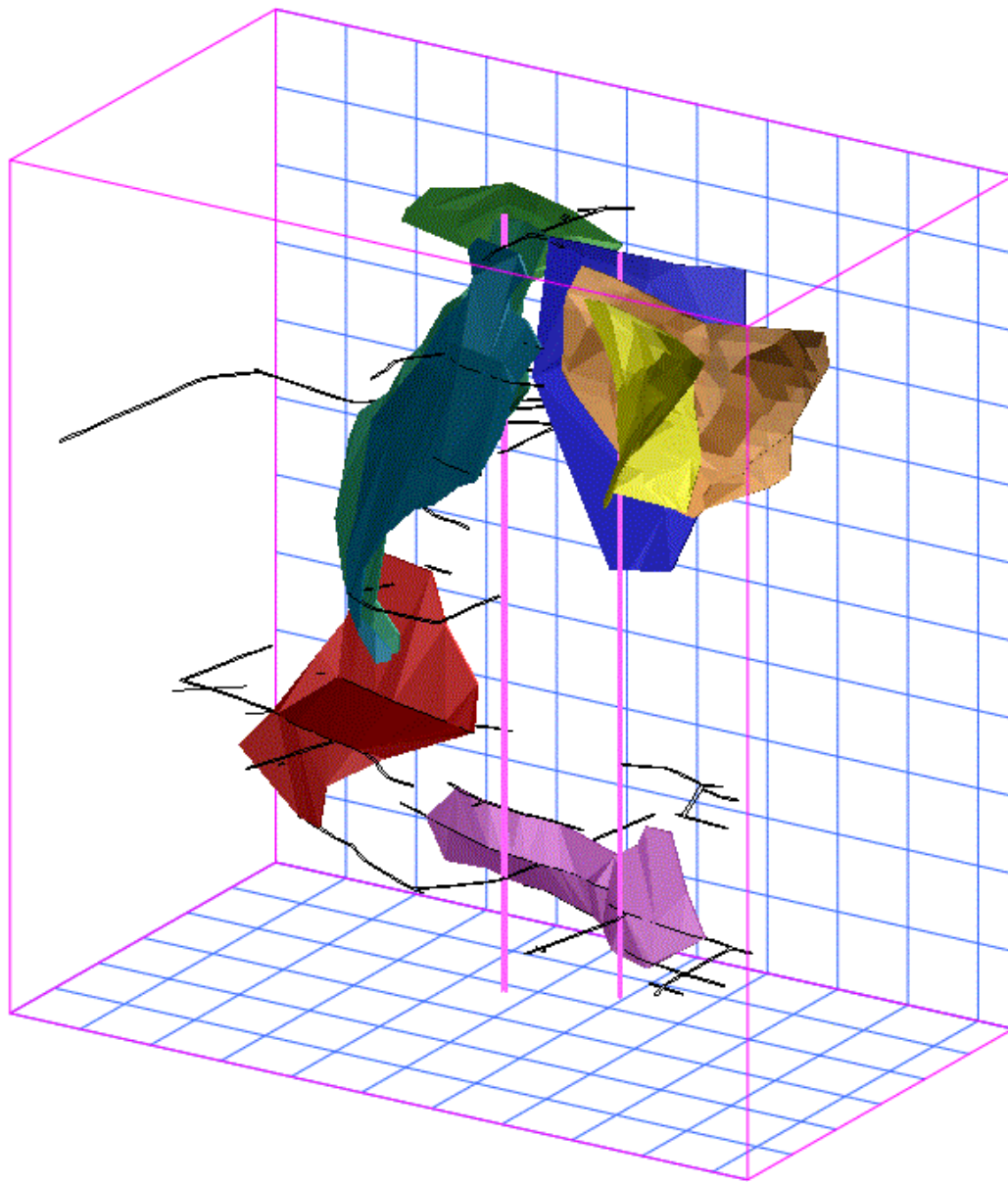


Figure 5: 3D models of mined New Golden Gate reefs and newly discovered reefs – for reef names see previous figure. View is looking roughly west-southwesterly.

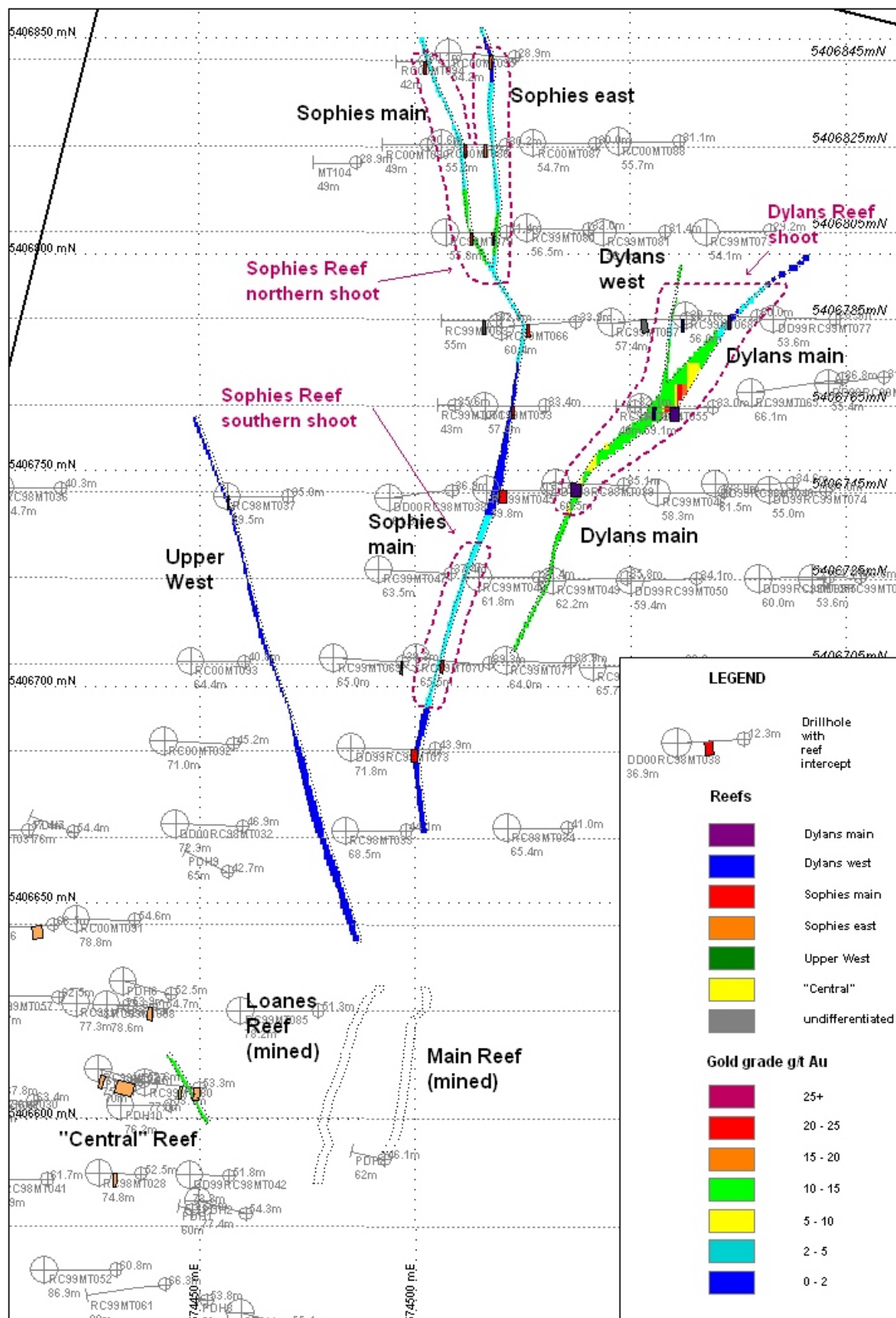


Figure 6: Representative horizontal slice through reefs and drilling – 270m.a.s.l. +/- 10m.a.s.l. showing positions of high grade shoots on Dylans and Sophies Reef faults

Sophies Reef Resource

Intersections which define the Sophies Reef shoots are listed in the following table and shown on figures 7 and 8.

Table 2: Sophies Reef Shoots Intersections				
Hole	Branch	From	To	assay_concat
Sophies Reef North Shoot				
RC00MT090	main branch	22	24.	2m @ 2.2
RC00MT094	main branch	30	31	1m @ 2.15
RC99MT079	main branch	45	46	1m @ 8.3
RC00MT086	main branch	46	47	1m @ 6.55
RC99MT080	main branch	74	76	2m @ 15.2
RC99MT081	main branch	102	103	1m @ 2.6
RC99MT068	main branch	109	110	1m @ 27.8
DD99RC99MT077	main branch	133.9	135	1.1m @ 3.25
RC00MT090	east branch	19	20	1m @ 3.95
RC99MT078	east branch	109	112	3m @ 9.62
RC99MT079	east branch	36	37	1m @ 4.8
Sophies Reef South Shoot				
DD99RC99MT050		111	113	2m @ 34.33
DD99RC98MT040		137.25	138.9	1.65m @ 10.54
RC99MT047		33	35	2m @ 2.47
RC99MT069		26	27	1m @ 2.2
RC99MT070		56	57	1m @ 3.25

Dylans Reef Resource

Intersections which define the Dylans Reef shoot are listed in the following table and shown on figures 9 and 10.

Table 3: Dylans Reef Shoots Intersections				
Hole	Branch	From	To	Assay
Dylans Reef North Shoot				
DD99RC99MT074	west branch	138	139.5	1.5m @ 10.3
RC99MT046	west branch	92	94	2m @ 26.8
RC99MT055	west branch	54	55	1m @ 10.7
RC99MT046	main branch	82	84	2m @ 2.2
DD99RC98MT039		51	55	4m @ 15.37
DD99RC98MT040		97	98	1m @ 4.27
DD99RC99MT075		139.9	141	1.1m @ 1.73
RC99MT053		8	10	2m @ 2.59
RC99MT054		30	32	2m @ 11.2
RC99MT055		46	49	3m @ 23.05

"Central" Reef Resource

Better intersections which define the "Central" Reef Resource are listed in the following table and shown on figure 11.

Table 4:"Central" Reef better intersections			
Hole	From	To	Assay
RC98MT027	23	24	1m @ 13.3
RC98MT041	23	24	1m @ 41.4
RC99MT052	27	28	1m @ 30
RC99MT059	33	34	1m @ 5.6
RC99MT060	61	62	1m @ 4.7
RC99MT062	28	29	1m @ 4.4

Upper West Reef

Better intersections from the Upper West Reef are listed in the following table and shown on figure 12.

Table 5: Upper West better intersections			
Hole	From	To	Assay
DD99RC99MT050	188.7	191.9	3.2m @ 4.52
DD99RC99MT075	220	222	2m @ 25.4
RC98MT033	76	79	3m @ 2.15
RC99MT047	109	112	3m @ 3.1

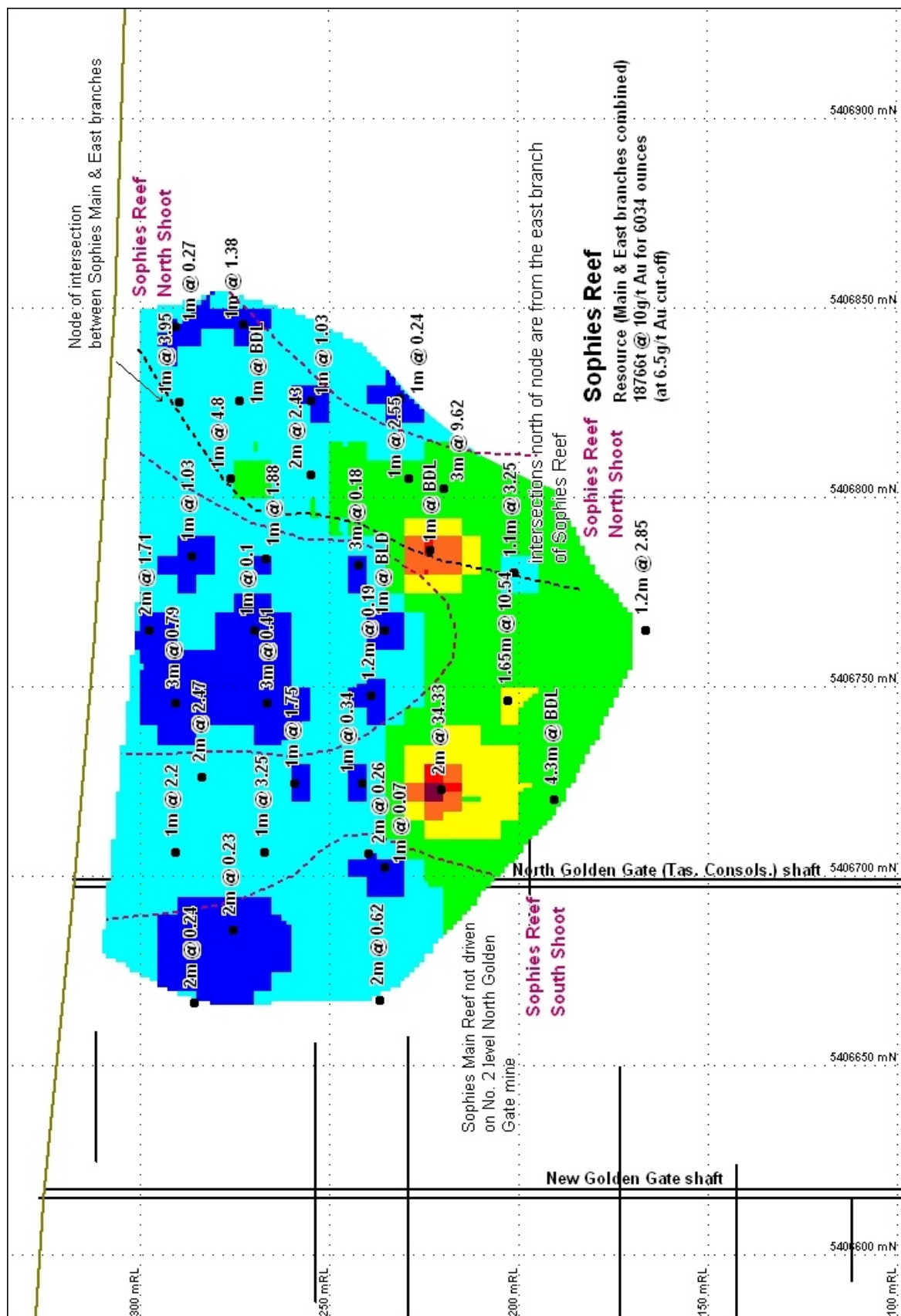


Figure 7: Longsection (looking west) Sophies Reef intersections and colour coded block model- for colour key see figure 4

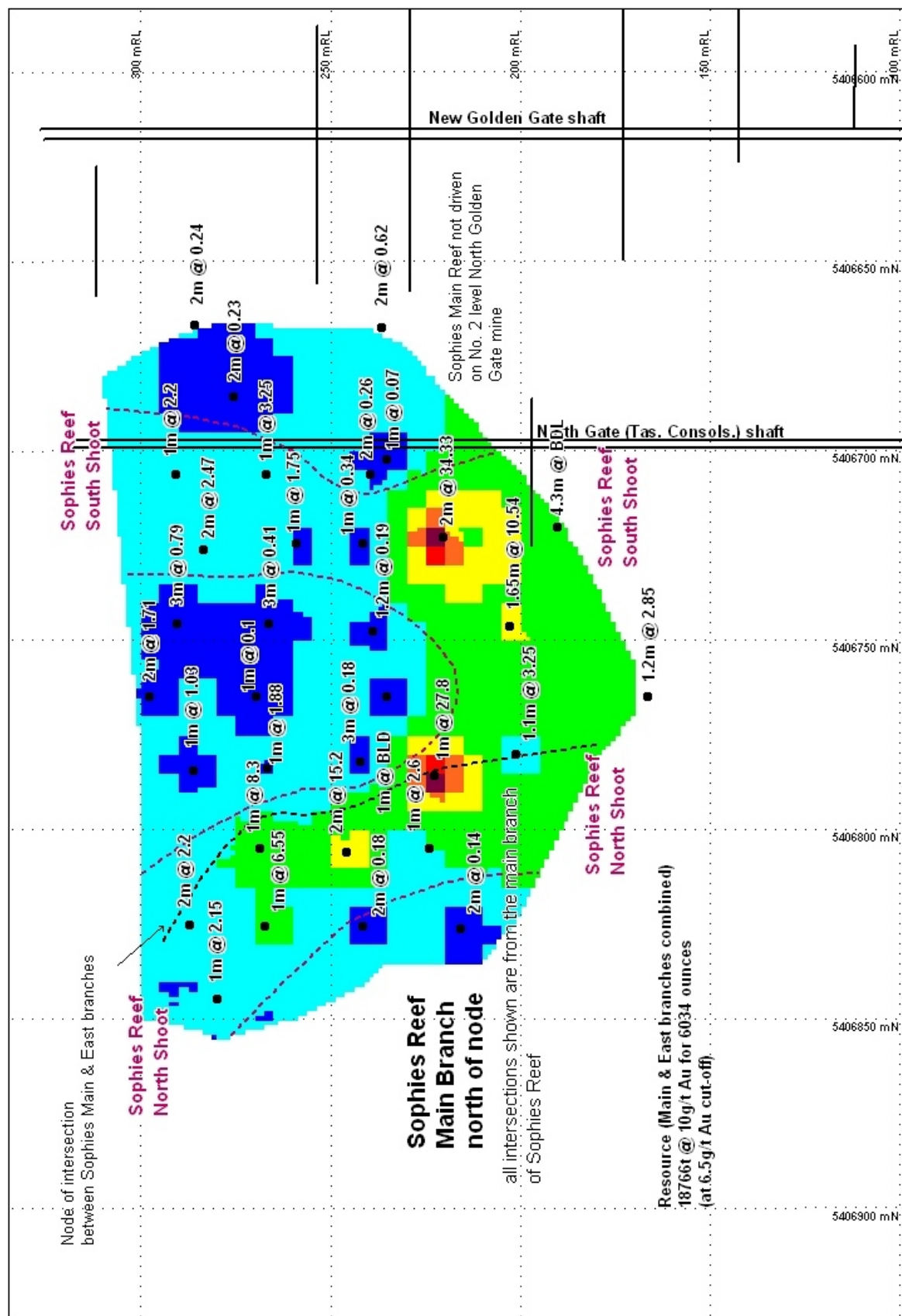


Figure 8: Longsection (looking east) Sophies Reef intersections and colour coded block model- for colour key see figure 4

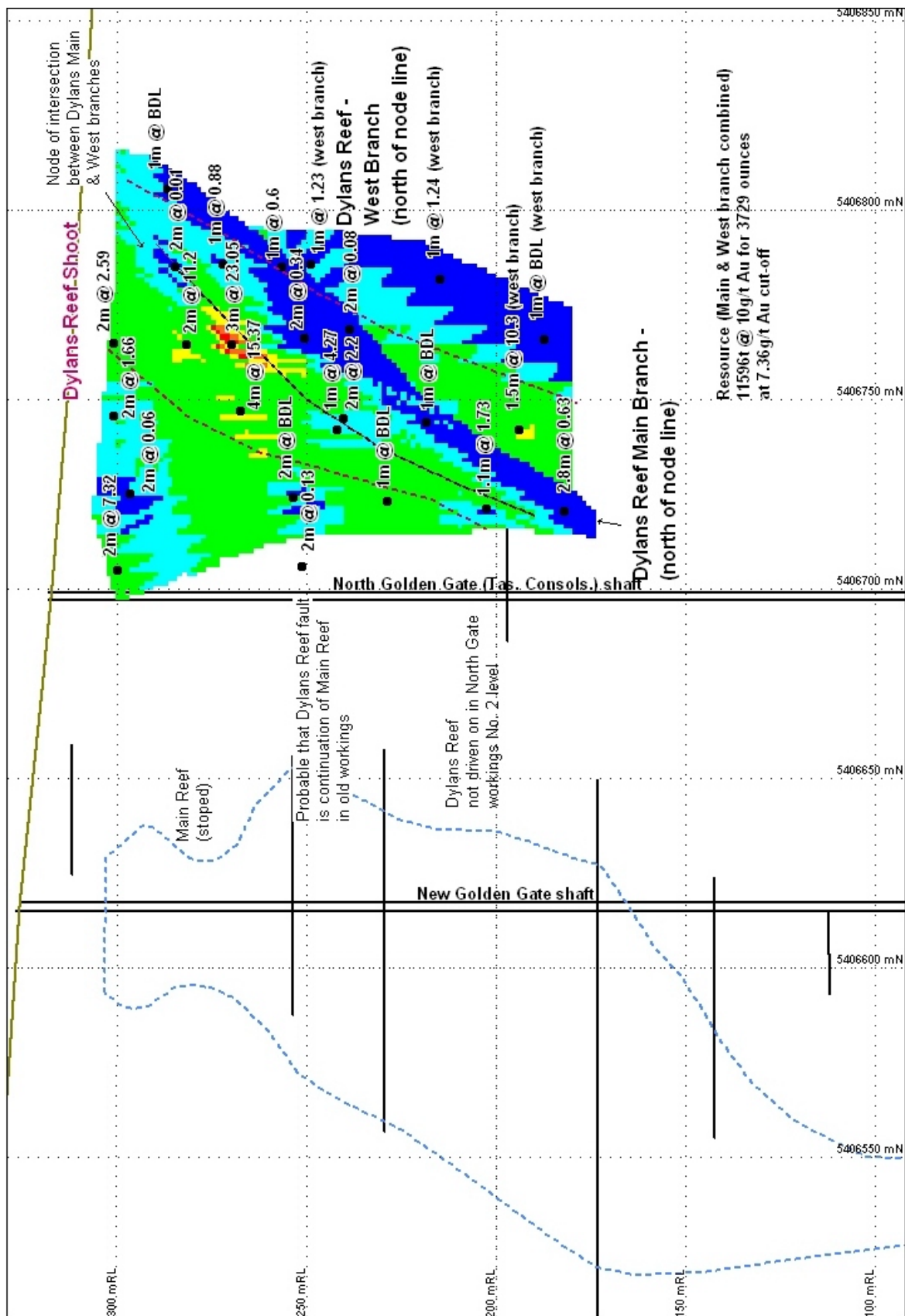


Figure 9: Longsection (looking west) Dylans Reef intersections and colour coded block model- for colour key see figure 4

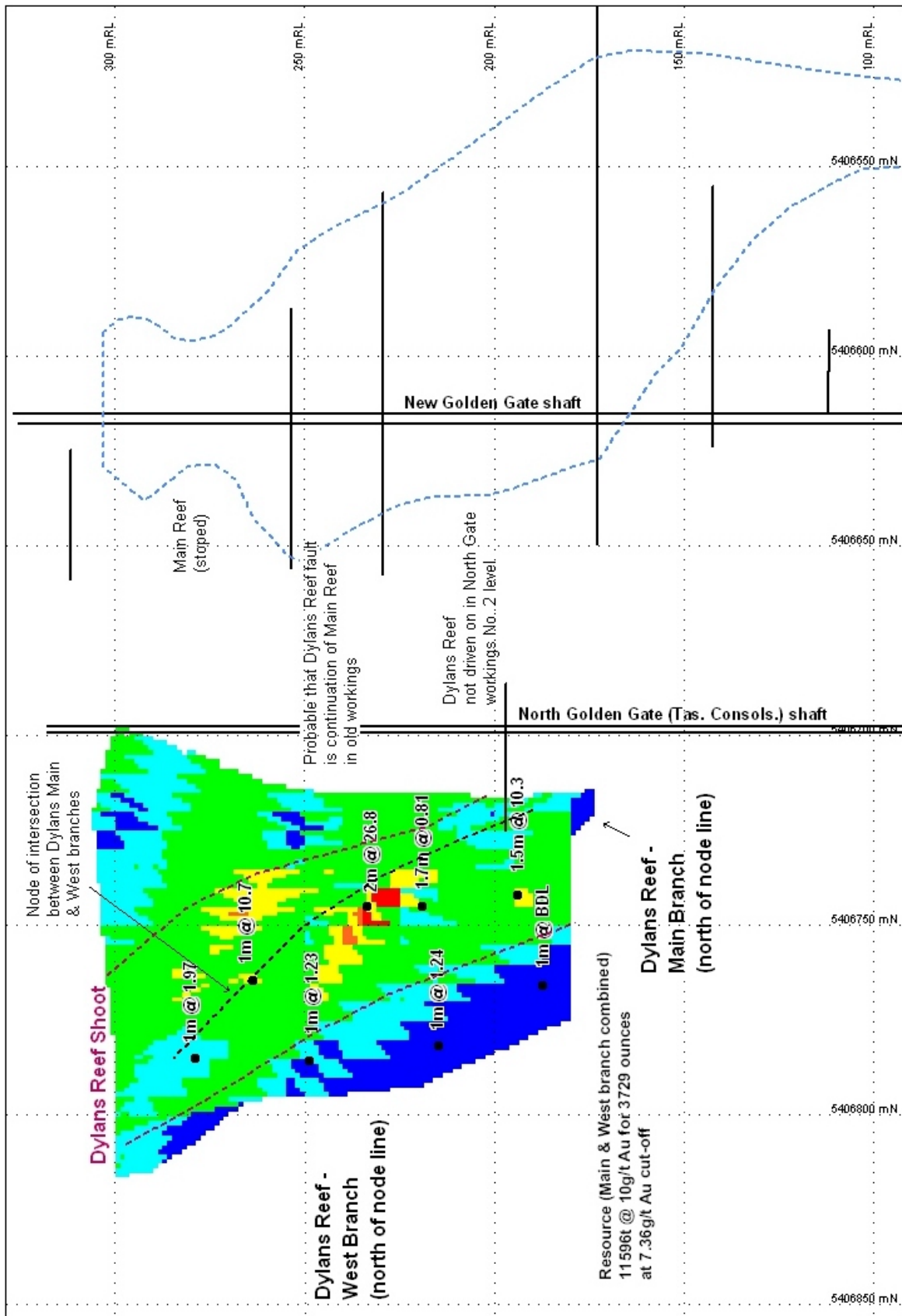


Figure 10: Longsection (looking east) Dylans Reef intersections and colour coded block model- for colour key see figure 4

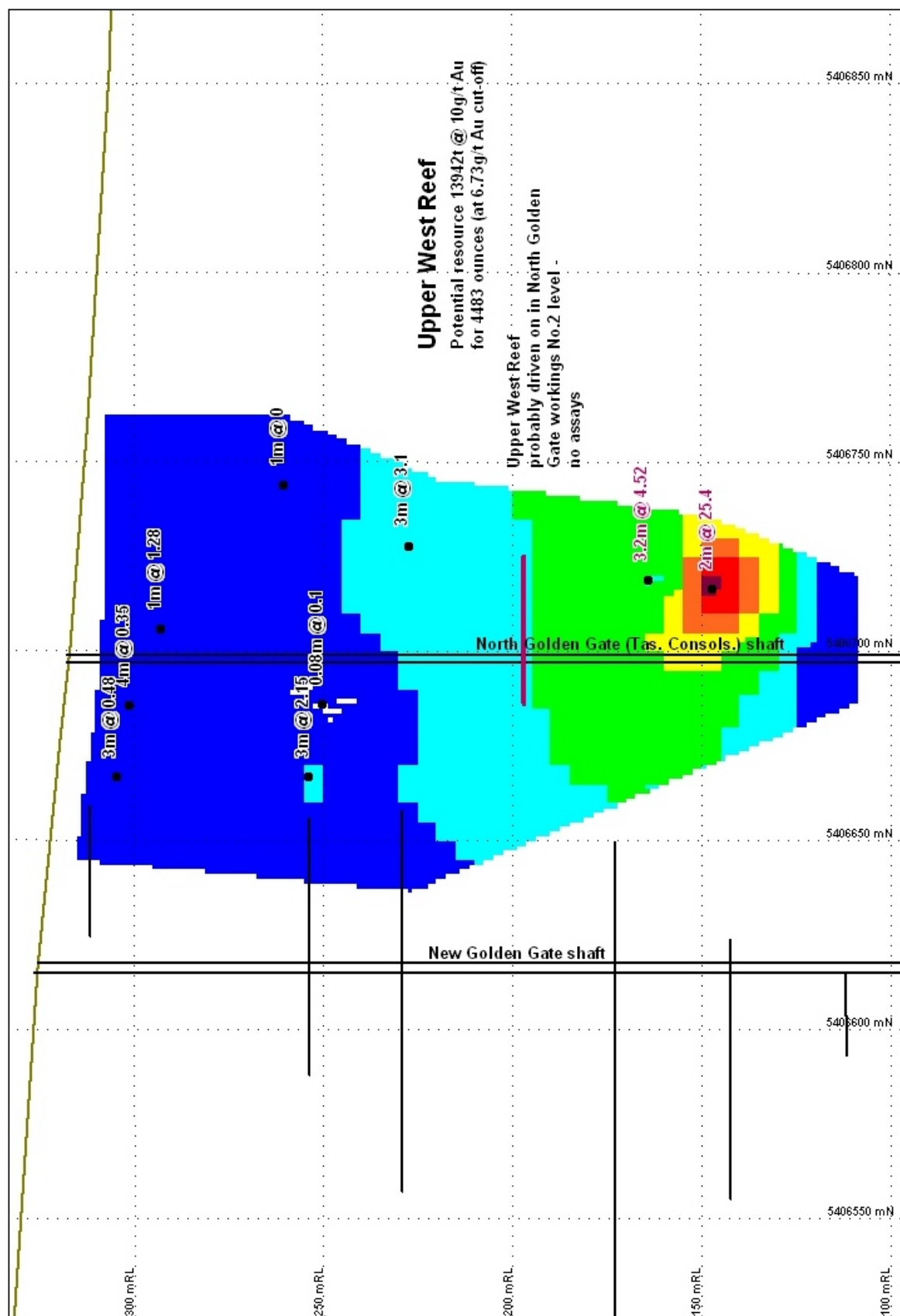


Figure 12: Long section Upper West Reef intersections and colour coded block model- for colour key see figure 4

4.0 Data collection

4.1 Drilling

The Defiance drilling was carried out by Diamond Drilling Tasmania using a UDR650. RC drilling was done with a 6½" face sampling bit. Diamond tails are NQ core.

The collars of all Defiance holes were conventionally surveyed by East Coast Surveying of St Helens tied into existing control. AMG AGD84 coordinates of all collars are listed in appendix 7 of Jackson (2000).

Downhole surveying was carried out on a number of RC holes at 30m intervals and showed some moderate variation in dip and strike. Diamond tails were surveyed using an Eastman single shot camera at similar intervals. The survey tool was calibrated against a handheld compass with consistent differences (interpreted to be due to the magnetic attraction of the alkaline batteries) compensated for.

4.2 Logging

Defiance's logging was done by geologists D.G. Jackson and T.C. Downs. Cala Resources logging was done by geologist S. Dawes.

Core orientations were attempted on nominally 30 metres. Oriented bedding, cleavage and vein readings were taken and presented on stereoplots. Interpretations of reef intersections from RC drilling were made on the basis of quartz, pyrite and arsenopyrite content and Au and As assays. Interpretations of reef intersections from diamond tails were based on lithological mapping.

Cala Resources then geologist, Mike Quayle, reportedly questions (Rod Holden pers. comm.) the existence of the brittle fault interpreted by Jackson (2000) to probably offset Dylans and Sophies Reefs at depth.

4.3 Sampling

"Diamond core was lithologically logged and sample intervals were selected on the basis of vein quartz, sulphide and visible gold content. In zones not containing significant quantities of quartz or sulphide, samples were not collected. Samples were collected to geological boundaries and generally ranged in length from 0.5m to 2m. An on site core saw was used to collect half core samples" (Jackson, 2000).

"RC samples were collected in a large plastic bag from the drill cyclone at 1m intervals. Following lithological logging, samples of barren material with no quartz or sulphides present, were collected at 2m or 4m (rarely 1m or 3m) intervals using a 50mm poly spear. In zones of moderate interest, based on lithological logging, poly speared samples were collected every metre. In samples containing significant amounts of quartz and/or sulphides, samples were collected every metre using a riffle splitter." (Jackson, 2000)

"Where poly speared RC samples reported anomalous gold the samples were reassayed at 1m spacings using a riffle splitter." (Jackson, 2000)

Defiance

Defiances drilling was carried out in a number of discrete programmes with a range of analyses and a variety of check assaying.

In Defiance's first drilling programme (in their first year of exploration) all samples were sent to Analabs, Burnie and assayed for Au using fire assay (10ppb detection limit), Cu (to 2ppm detection limit), Pb (to 3ppm), Zn (to 2ppm) and Ag (1ppm) using triple acid digest and AAS finish. Samples were assayed for As using a triple acid digest with an AAS vapour hydride finish, however, the detection limit for the first 461 samples of this programme was only 50ppm with the subsequent samples assayed down to a 1ppm detection limit.

92 Au anomalous samples (0.5 to 40g/t range) from this first drilling programme were check assayed using screen fire assaying. Jackson (1999) reported that "the comparison between the two techniques is very good below 10g/t Au but is not as good above 10g/t Au where (based on a limited sample population) the screen fire assays are generally lower than the corresponding fire assay values." (Jackson, 1999)

Samples from the second round of drilling were assayed for Au (to 10ppb) by fire assay and As (to 1ppm) using a triple acid digest with an AAS vapour hydride finish.

"Following lower than expected Au results based on the amount of visible gold present in samples from holes MT047 and MT042 in the second programme, 18 samples from these holes were re-sampled and five kg of material was submitted for bulk leach extractable gold (BLEG). The residues of the BLEG samples were also assayed twice for gold by fire assay to a detection

limit of 10ppb. In summary, while individual samples showed a range of differences from 64% to 197% extraction in the BLEG samples compared to the 50g fire assays the overall average increase in grade was only 3/9% by the BLEG technique.” (Jackson, 1999)

In Defiance’s third drilling programme (in their second year of exploration) all RC and core samples were assayed by Analabs, Burnie for Au using fire assay to a detection limit of 10ppb and As using aqua regia (triple acid digest) with AAS vapour hydride finish to a detection limit of 1ppm.

4.4 Quality control procedures

There is no indication in Jacksons reporting nor assay result sheets of external standards (other than Analabs internal standards which are not reported). Nor has there been any umpire reassaying.

4.5 Specific gravity

No specific gravity measurements have been made on RC chips or drillcore. Defiance used 2.7g/cm³ in their resource calculations and the same number has been used in this estimation.

4.6 Assessment of data quality

Drillhole collar and downhole accuracy is good. Face sampling RC drilling with riffle split 1m samples is industry standard. Assaying by fire assay (50g charge) by a NATA accredited laboratory is also industry standard. The lack of independent standards or umpire reassaying is a deficiency.

Assay and drilling data was obtained directly from Defiance’s database. Original assay result sheets are not included in open file reporting but are held by Rod Holden. A random check of a number of higher grade intersections was made.

The database was constructed from original .csv assay result files and so has not been independently verified though considerable care was taken in transferring data from these .csv files into the access database.

Data quality is considered to be good apart from the lack of umpire reassaying and independent standards.

5.0 Geological interpretation and modelling

Geological modelling was carried out in 3D using SURPAC. Reef intercepts were colour coded and triangulated hangingwall and footwall wireframes snapped directly to these intersections. Interpretation was aided by the generation of a series of 2D sections and plans included herein. Defiance’s 2D sectional interpretation was also imported into 3D and assessed. With the benefit of 3D visualization not available to Defiance it was apparent that some of Defiance’s interpretation was unlikely.

The 3D modelling of Defiance’s drillhole intercepts was influenced by the authors knowledge of the structural control of the known New Golden Gate reefs. In most instances intersections on adjacent drill sections were compelling.

A base of tailings wireframe was constructed and used to define the top of the Dylans and Sophies Reefs. The Upper West was truncated near surface as in part it should outcrop but there is no surface evidence for this. The “Central” Reef was truncated midway between the uppermost intersection and the surface as it does not appear to have outcropped.

6.0 Statistical analysis

Reef intersections were composited manually to define a single reef grade at each intersection point.

Assessment of assay data showed that most outliers were in the repeat assays and while it is arguable the top-cutting should have been applied this would only have affected the “Central” Reef resource.

Variography was attempted but the small sample population meant that variograms were messy and hence Inverse Distance Squared was chosen as the estimation method.

7.0 Block model construction and grade interpolation

7.1 Block model construction

The block model was generated from the 3D solids modeled in SURPAC.

Blocks in the block model were 5m long (mN), 5m high (mRL) and 1m wide (mE) sub-blocked to 1.25m (mN) x 1.25m (mRL) x 0.25m (mE). Each of the 4 reefs were coded separately in the block model.

7.2 Grade estimation

Grade estimation was by Inverse Distance Squared. The search ellipse used was a sphere 100m x 100m x 100m which effectively becomes a circle in the plane of the reef as only assays coded with the relevant reef name were sampled. A minimum sample of 1 and maximum of 60 was used in the estimation.

Whilst it would have been preferable to use kriging it was felt that there was insufficient data points to generate meaningful variograms. There is a reasonable chance that this methodology may have enhanced grades estimated into blocks though nowhere near as much as a polygonal estimation.

Future modelling should attempt to use variography to quantify the likely steeply southerly plunging control on mineralization.

The block model was validated visually by colour coding block model blocks, exporting these as .gif's onto sections and plans with similarly colour coded drillhole assay information superimposed.

Volumes were also calculated from the 3D solids and tonnages compared with those generated from block model reports.

8.0 Resource reporting and conclusions

The total gold resource in RL 2/2009 is made up of 5 discrete resources. One of these, the surface tailings, has not been addressed in this report. A problem with including this is the unknown volume of material treated by the "Russians" in the six weeks or so they were in operation. Whilst this is likely to be a small number it is unknown to the author.

Defiance estimated an open pittable resource based on intersections of their Central Reef and "shallow portions of the Upper Western Reef". As mentioned before their "shallow portion of the Upper Western Reef" = "Central" Reef in this report.

There is considerable geological uncertainty regarding the geological continuity of the intercepts of the actual Central Reef and so it has not been included in this estimation. The other part of Defiance's open-pittable resource is their shallow portion of the Upper Western Reef = "Central" Reef. This reef has been estimated as a stand-alone resource.

The four discrete resources estimated herein each have different levels of confidence based largely on the density of drill intercepts in each. There is a greater level of confidence in the Dylans, Sophies and "Central" Reef resources than the Upper West resource.

The resources estimated for the Dylans, Sophies and "Central" Reefs warrant inferred status on the basis of the quality of drilling, drill intercept spacing of 20m x 20m, demonstrable geological continuity (for the most part – reasonably confidently interpreted in those exceptions which are all low grade sections anyway). Points against an inferred status are the discrepancy between fire assay and screen fire assay reported by Jackson (2000) and associated lack of field repeats or umpire reassays and to some degree the estimation technique, however, these are considered to be within acceptable bounds.

The resource estimated for the Upper West Reef cannot be given Inferred status on the basis of paucity of drill intercepts. It is described as being a potential resource and cannot be reported.

At a break-even grade of 10g/t Au the Mathinna project has the following JORC compliant Inferred resources.

Reef	Tonnes (at cut-off grade)	Grade	Ounces
Dylans	11596 (@ 7.36g/t cut-off)	10	3729
Sophies	18766 (@ 6.51g/t cut-off)	10	6034
"Central"	11834 (@ 2.77g/t cut-off)	10	3805
Total	42,196	10	13568

At 8g/t Au the total resource is 79533t for 20548oz.

There is the potential to add a further 13942t (@ 6.73g/t cut-off) at 10g/t for 4483oz from the Upper West Reef with further drilling and to add perhaps 10,000+oz (averaging 1/5g/t) from the tailings resource once the volume/grade of material treated by the "Russians" can be calculated and subtracted.

9.0 Grade tonnage report

Tonnes and grade for each resource are detailed in the following pages with tabulated and graphic data. The Upper West Reef data is included though no resource has been attributed to the reef.

9.1 Sophies Reef

Table 6: Sophies Reef (Main & East branches combined) - tonnes & grade

cut-off grade	tonnes	grade	ounces
1	66731	5.1	10942
2	57935	5.62	10468
3	40222	7.01	9065
4	31029	8.07	8051
5	25357	8.87	7231
6	20886	9.6	6446
7	16559	10.42	5547
8	13270	11.16	4761
9	10204	11.98	3930
10	5994	13.75	2650
11	4117	15.24	2017
12	3294	16.2	1716

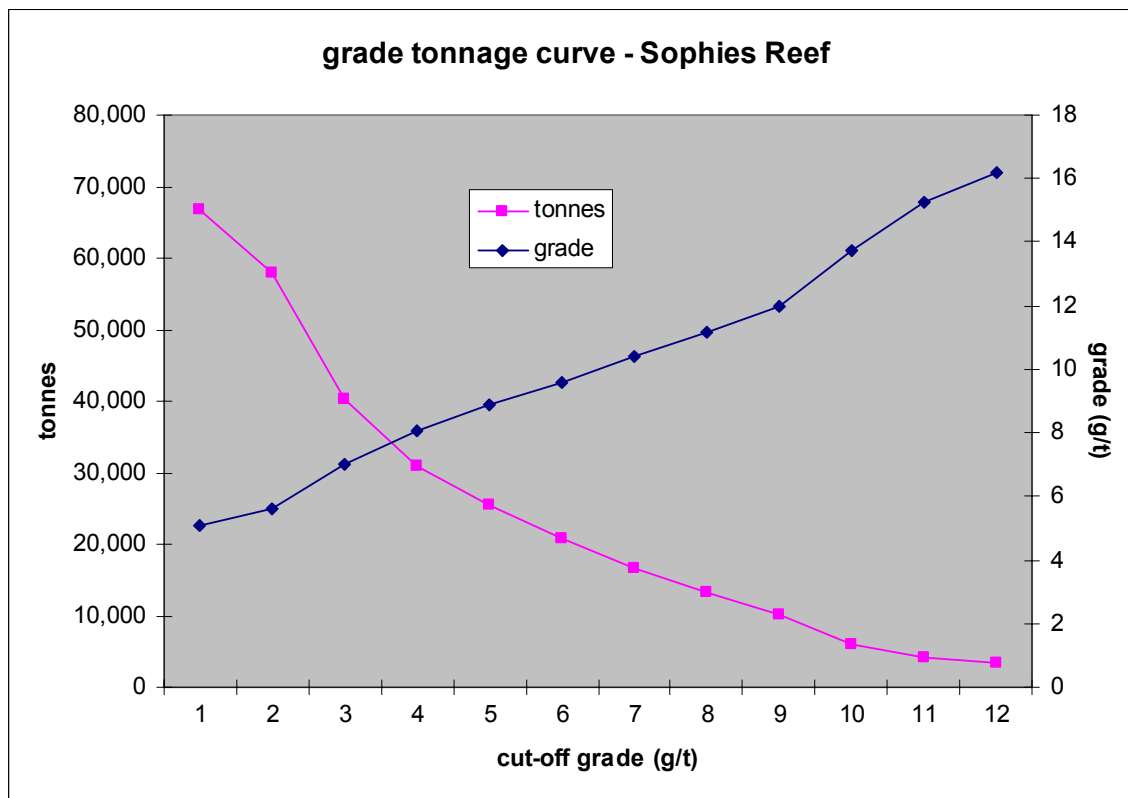


Figure 13: Sophies Reef – grade tonnage curve

Table 7: Dylans Reef (Main and West branches combined) - tonnes & grade			
cut-off grade	tonnes	grade	ounces
1	36774	6.24	7377
2	32986	6.79	7201
3	30394	7.16	6997
4	28083	7.46	6735
5	23683	8	6091
6	18371	8.73	5156
7	13121	9.63	4062
8	8920	10.65	3054
9	5434	12.04	2103
10	3359	13.61	1470
11	2628	14.52	1227
12	2082	15.33	1026

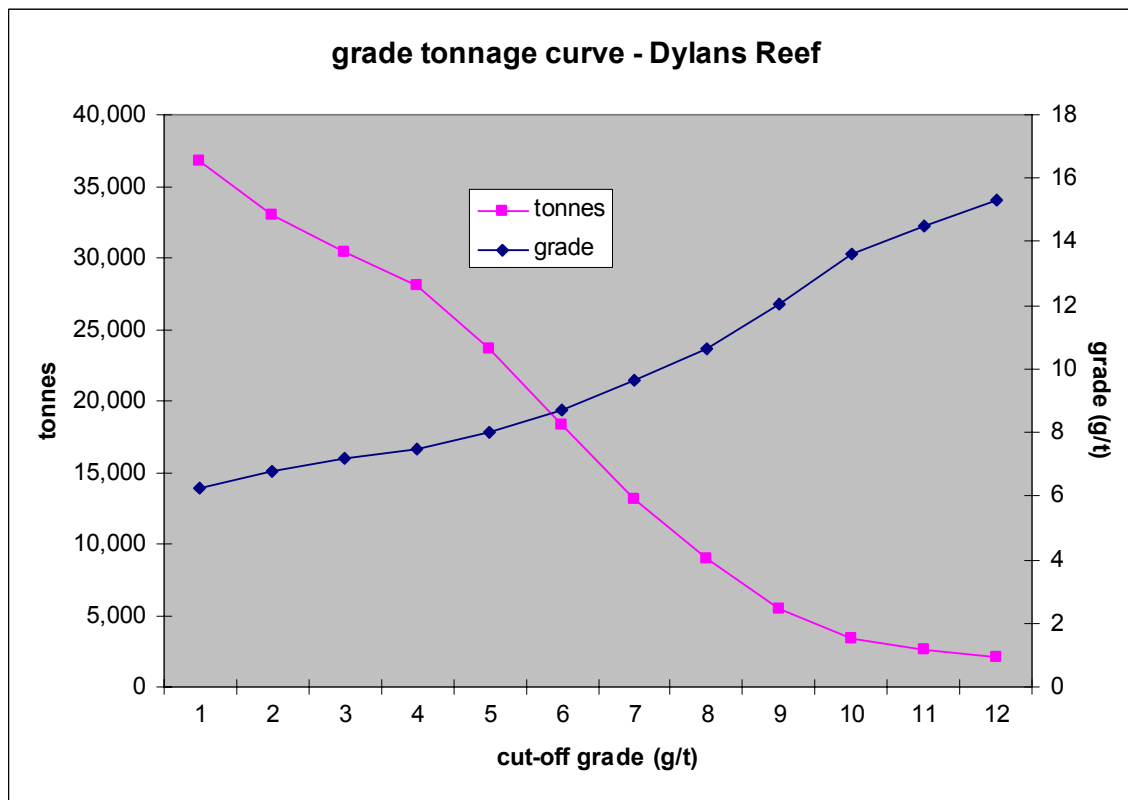


Figure 14: Dylans Reef – grade tonnage curve

9.3 "Central" Reef

cut-off grade	tonnes	grade	ounces
1	12837	9.41	3884
2	12702	9.49	3876
3	11579	10.15	3779
4	9470	11.64	3544
5	8879	12.12	3460
6	7646	13.18	3240
7	6435	14.45	2989
8	5214	16.08	2695
9	4323	17.63	2450
10	3597	19.27	2229
11	3104	20.66	2061
12	2779	21.74	1942

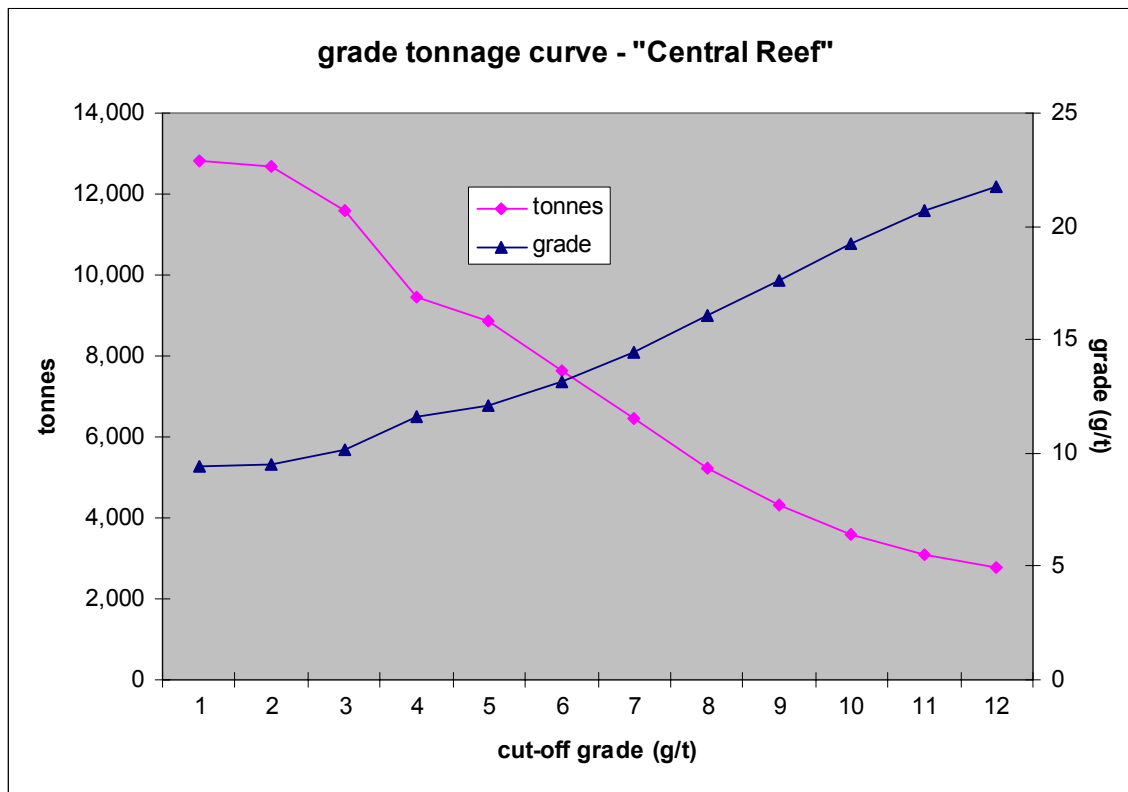


Figure 15: "Central" Reef – grade tonnage curve

9.4 Upper West Reef

cut-off grade	tonnes	grade	ounces
1	53294	4.97	8516
2	40251	6.12	7920
3	34930	6.66	7479
4	27666	7.52	6689
5	21028	8.45	5713
6	15512	9.52	4748
7	9699	11.32	3530
8	6844	12.93	2845
9	5456	14.06	2466
10	4443	15.11	2158
11	3832	15.84	1951
12	3195	16.7	1715

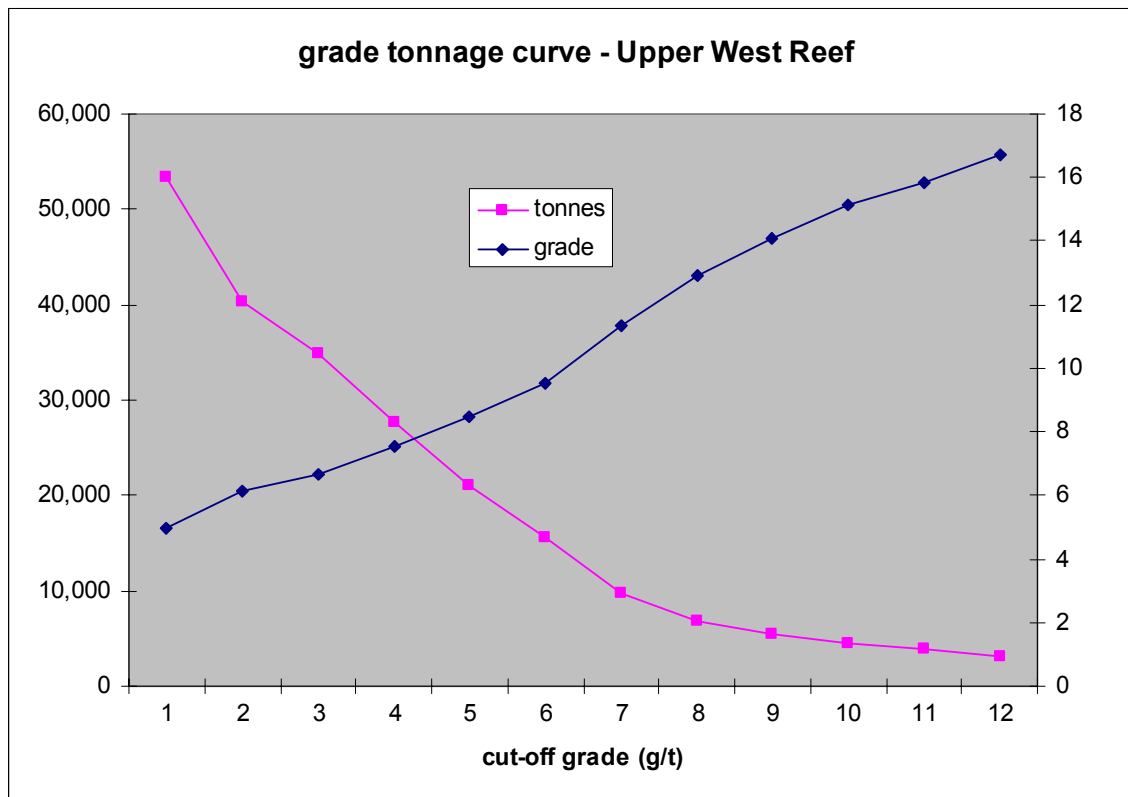


Figure 16: Upper West Reef – grade tonnage curve

10.0 Recommendations

There are three aspects to recommending further work at the New Golden Gate, they being to (1) upgrade the status of the existing resource from inferred to indicated, (2) to extend the current shoots, and (3) to discover additional high grade shoots.

10.1 Upgrade resource

The major deficiency in the dataset from which the resources detailed herein have been estimated is the density of data i.e. drill spacing. Whilst 20m x 20m is quite dense for most ore types, in nuggety gold environments 10m x 10m is required. This increase in drilling density will allow the utilization of variography and thus kriging as the method of estimation. Whilst ultimately the kriging variance determined from the resulting work will have an influence on the level of confidence placed on the newly calculated resource it is expected that it will be sufficient to raise the resource status to indicated.

In doing this infill drilling attention should be paid to quality assurance/quality control measures. These should include separate standards, field duplicates, umpire reassays and some work on the gold's deportment (grain size, distribution etc) as well as metallurgy.

Infill drilling should not be confined just to the shoot positions but should step out away from the shoots some distance as the current shoot boundaries may well be artifacts of unlucky drill intercepts just missing nuggety gold.

Whilst this is a subjective comment and should be read accordingly, it is the authors experience in mining mesothermal gold reefs in Tasmania's northeastern gold province that gold resources defined by drilling are commonly enhanced by 25%-50% by samples collected during sill driving.

At least some of the drilling should be oriented diamond drill core and preferably HQ diameter in order to confirm the structural interpretation.

10.2 Extending the current shoots

The 250,000+ ounces which were mined from the New Golden Gate mine were predominantly contained in four main shoots of the order of 50,000 ounces each (estimate), each of which had a vertical extent of between 150m and 300m.

Both Dylans and Sophies Reef have been only tested in their upper 120m. Based on the clear analogies with the Main and Loanes Reef shoots in particular both of these structures have excellent potential for additional resources to be added with extensional drilling.

Sophies Reef

The target zone for extending Sophies Reef is shown on figure 17 and essentially follows the Northern and Southern Shoots down their steep southerly plunge.

Dylans Reef

Similarly the target zone for extending the Dylans Reef resource is to follow the steep southerly plunge (see figure 18).

In the cases of both Dylans and Sophies Reef's Jackson (2000) refers to a fault structure intersected below the current resource boundaries, however, Cala geologist Mike Quayle relogged the diamond tail drillcore and could find no evidence to support this interpretation.

"Central" Reef

The "Central" Reef must intersect the Main Slide a short distance below its currently modeled depth and so its depth potential is limited. However, further drilling is recommended to extend the "Central" Reef resource to the south-southeast (where one fence of drillholes may have tested a more poorly mineralized part of the structure) and with further 3d modelling to specifically target the intersection with the Main (and Second Slides) which are perhaps more likely to be zones of dilation and thus metal accumulation than unfavourable offsets.

"Upper West Reef"

The Upper West Reef remains untested to the north-northwest and has only seen a few intersections at depth. This structure requires considerable drilling to upgrade the resource to inferred and then to indicated. Further drilling at depth is also justified on this structure.

10.3. Discovering further new structures/shoots

The New Golden Gate/North Golden Gate mines lie on a major north-northwest trending structural corridor of reef style gold deposits which is essentially continuous (some right lateral jogging) from Mangana to the south through to Lyndhurst on the north coast. The New Golden Gate mine was the richest gold deposit on this trend with over 250,000 ounces.

The favourable structural corridor is shown on figure 19. The corridor is well constrained on its western side by intense deformation in the Golden Hinges adit to the west of the New Golden Gate mine. The eastern edge of the corridor is less clear but would include the Dylans Reef zone.

To the south of the New Golden Gate mine shearing and discrete slides are reported from the South Golden Gate mine, drillholes GG2 and GG3 and in the two southerly cross-cuts in the New Golden Gate mine.

The eastern portion of this favourable structural corridor is obscured by tailings and/or alluvium.

Defiance's drilling pursued a well defined structural model based on knowledge of the New Golden Gate reef system. Their drilling tested the broadly north striking faults which splay off north-northwest structures (e.g. Main and Second Slides) at sufficient density to pin down short strike length, steeply (southerly) plunging high grade shoots.

Their drilling focused in the northwestern corner of the lease along the northerly projection of the New Golden Gate structures and up-dip from reported intersections in cross-cuts in the North Golden Gate mine.

Figure 19 shows the currently known reefs, drilling to date and the approximate position of the favourable structural corridor. The southern 400m strike length of the favourable structural corridor within the RL has been tested on only three east-west lines these being the drillholes GG1 and GG2, the southern cross0cuts of the New Golden Gate mine and the cross-cuts of the South Golden Gate mine. Reported structures in these drillholes and cross-cuts and old workings should be drill tested along strike with further RC drilling.

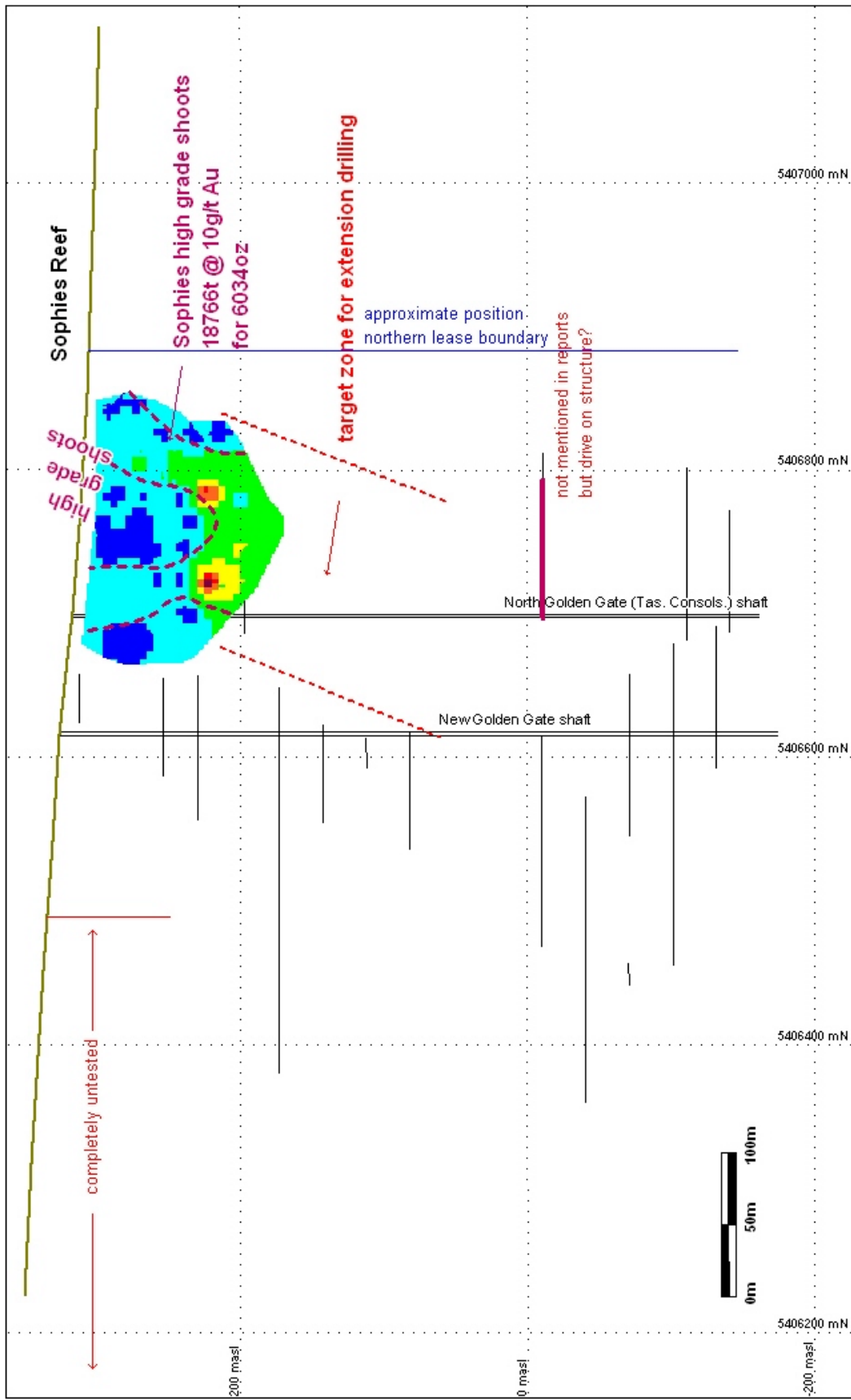


Figure 17: Sophies Reef longsection showing target zones for resource extensional drilling.

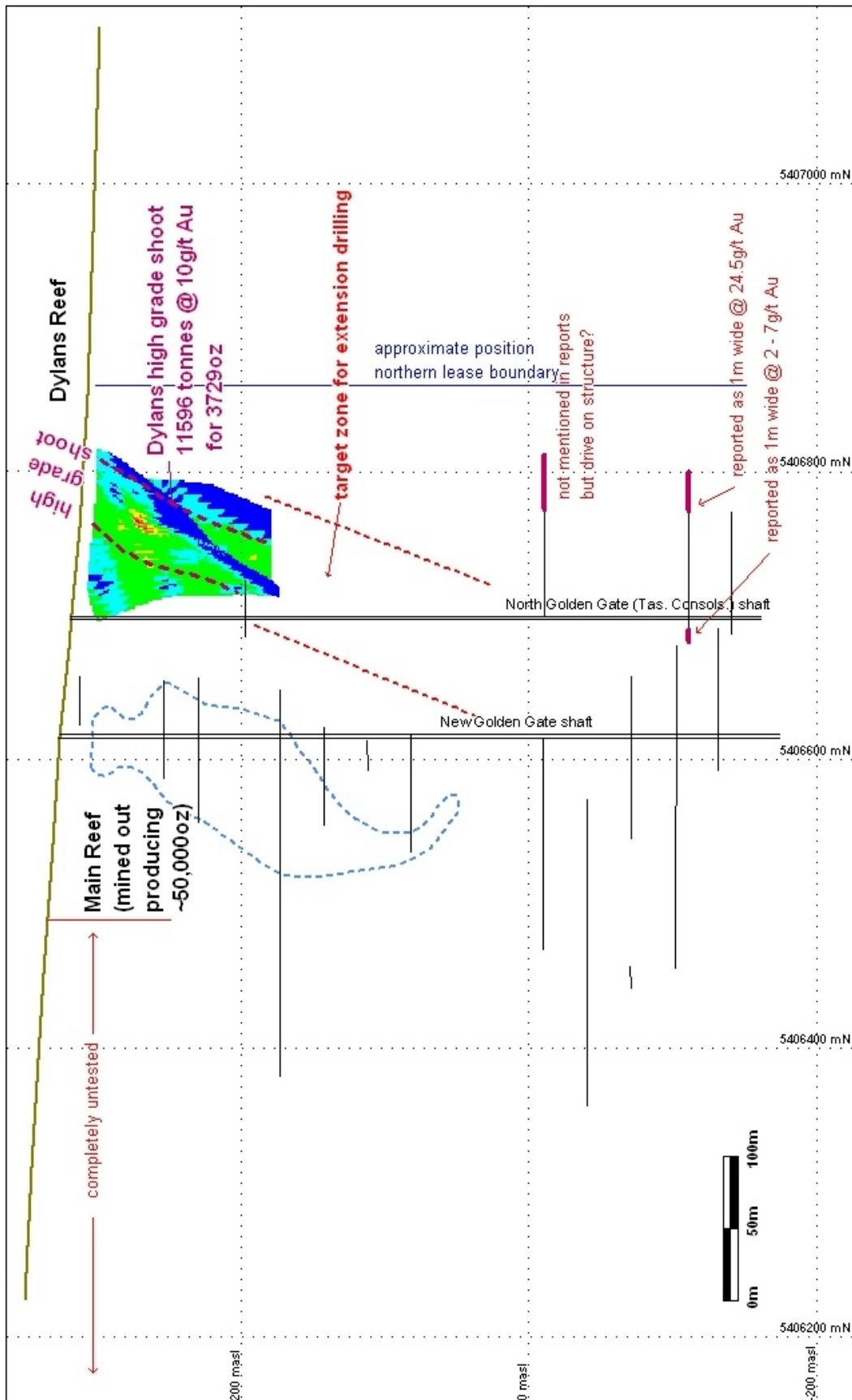


Figure 18: Dylans Reef longsection showing target zones for resource extensional drilling.

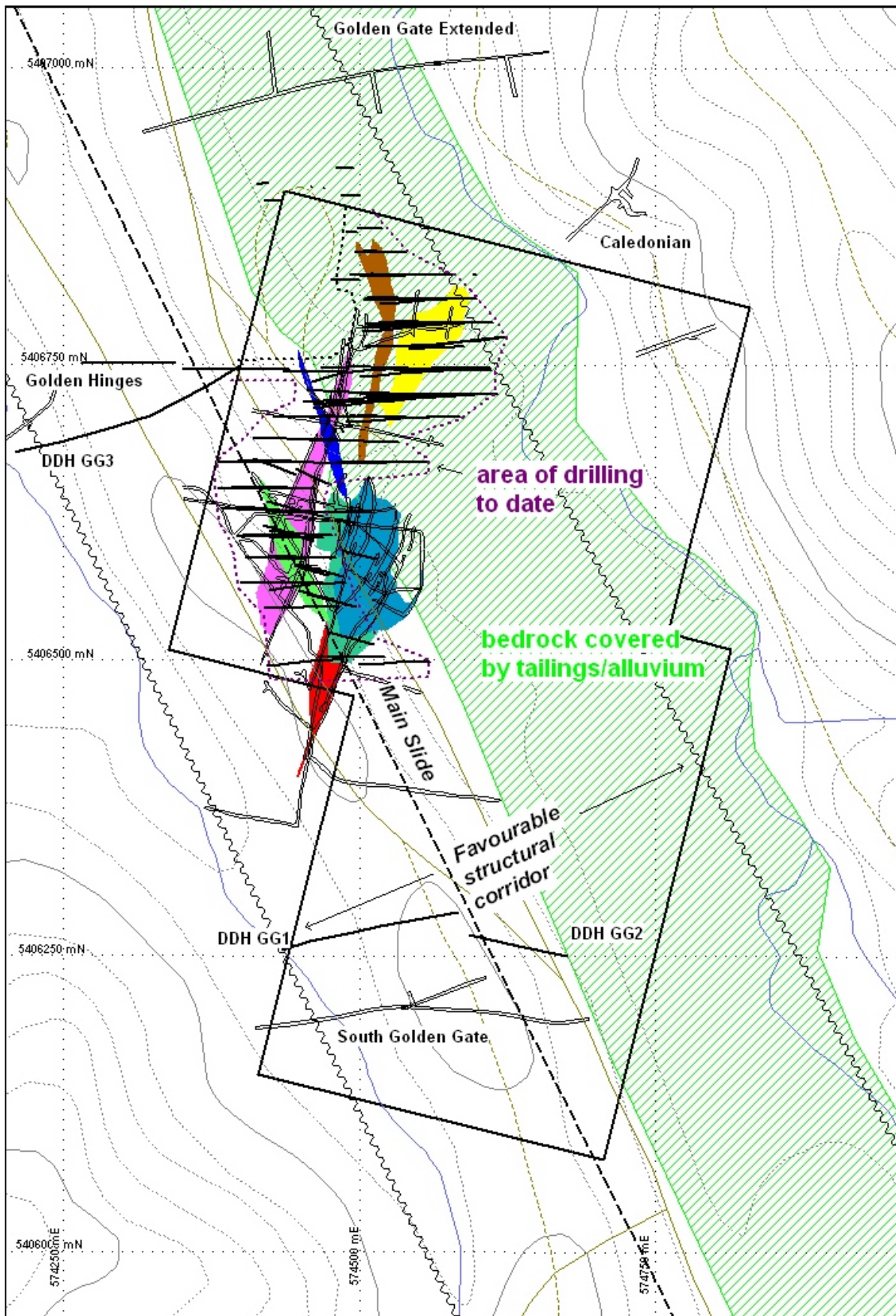


Figure 19. Mine lease with reefs known to date, drilling to date and location of favourable structural corridor.

11.0 References

Colville, R. (1998) Connemarra Gold Mines Pty. Ltd. Mathinna Gold Project Annual Report on Exploration Licence 3/97 for the 12 months ending 19th September 1998

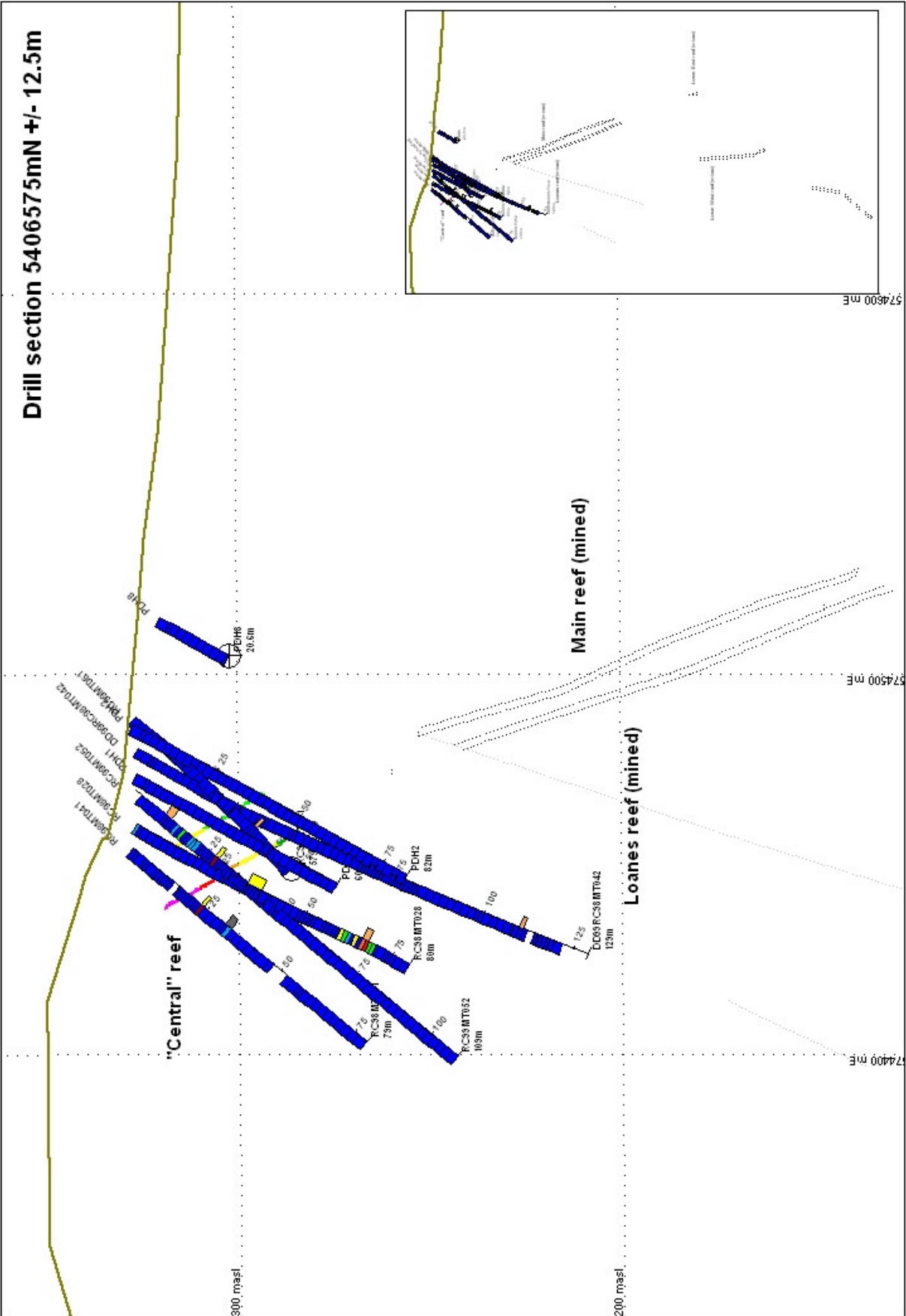
Jackson, D.G. (1999) Interim Report for the Period 2 October 1998 to 31 April 1999 for ML 43M/89 – Mathinna. Unpub. Rept. For Defiance Mining NL

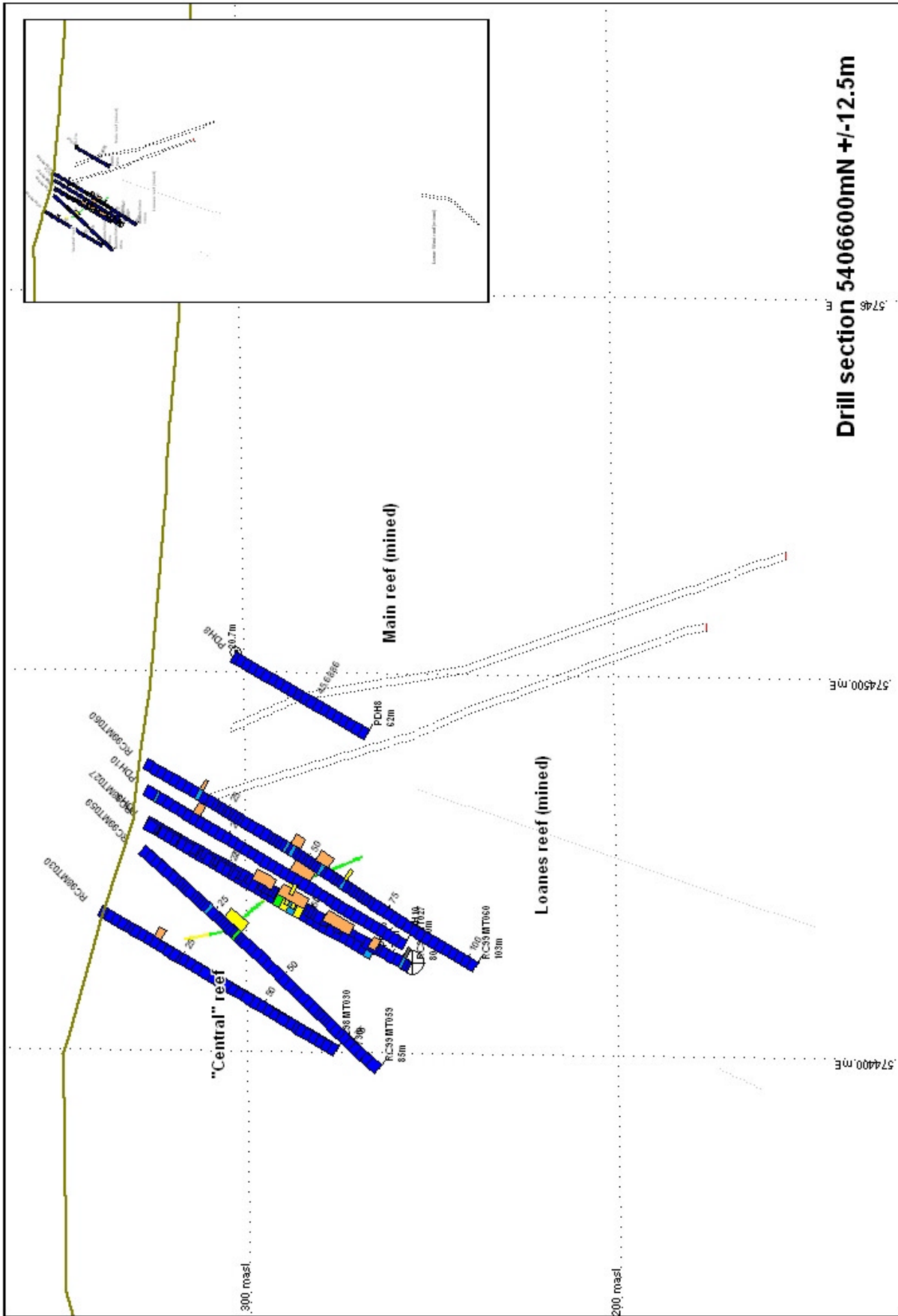
Jackson, D.G. (2000) Interim Report for the Period 2 October 1999 to 31 April 2000 for ML 43M/89 – Mathinna. Unpub. Rept. For Defiance Mining NL

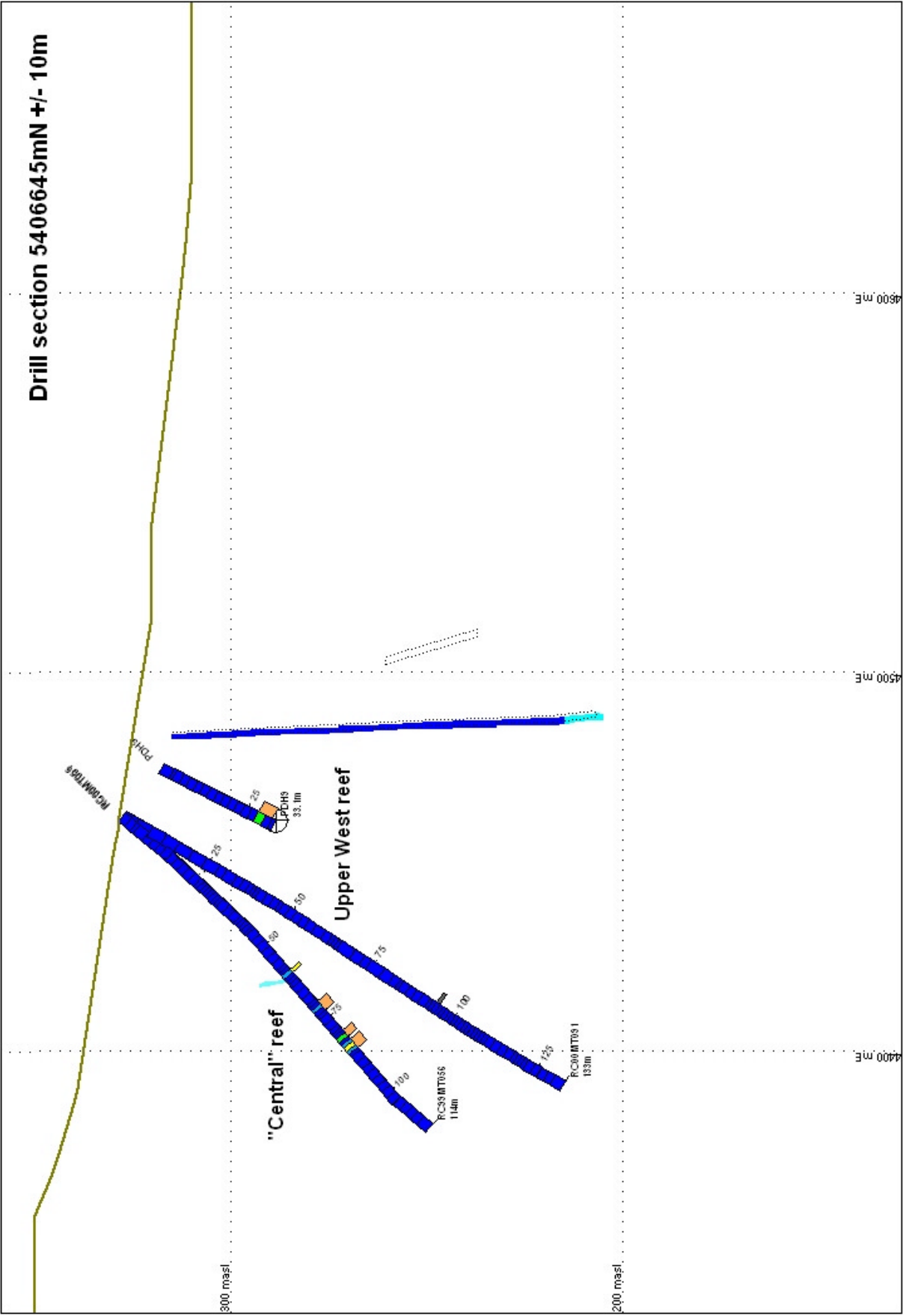
MacDonald, G. (1996) Resolute Samantha Limited Annual Report 1995 EL 17/92 “Mathinna”

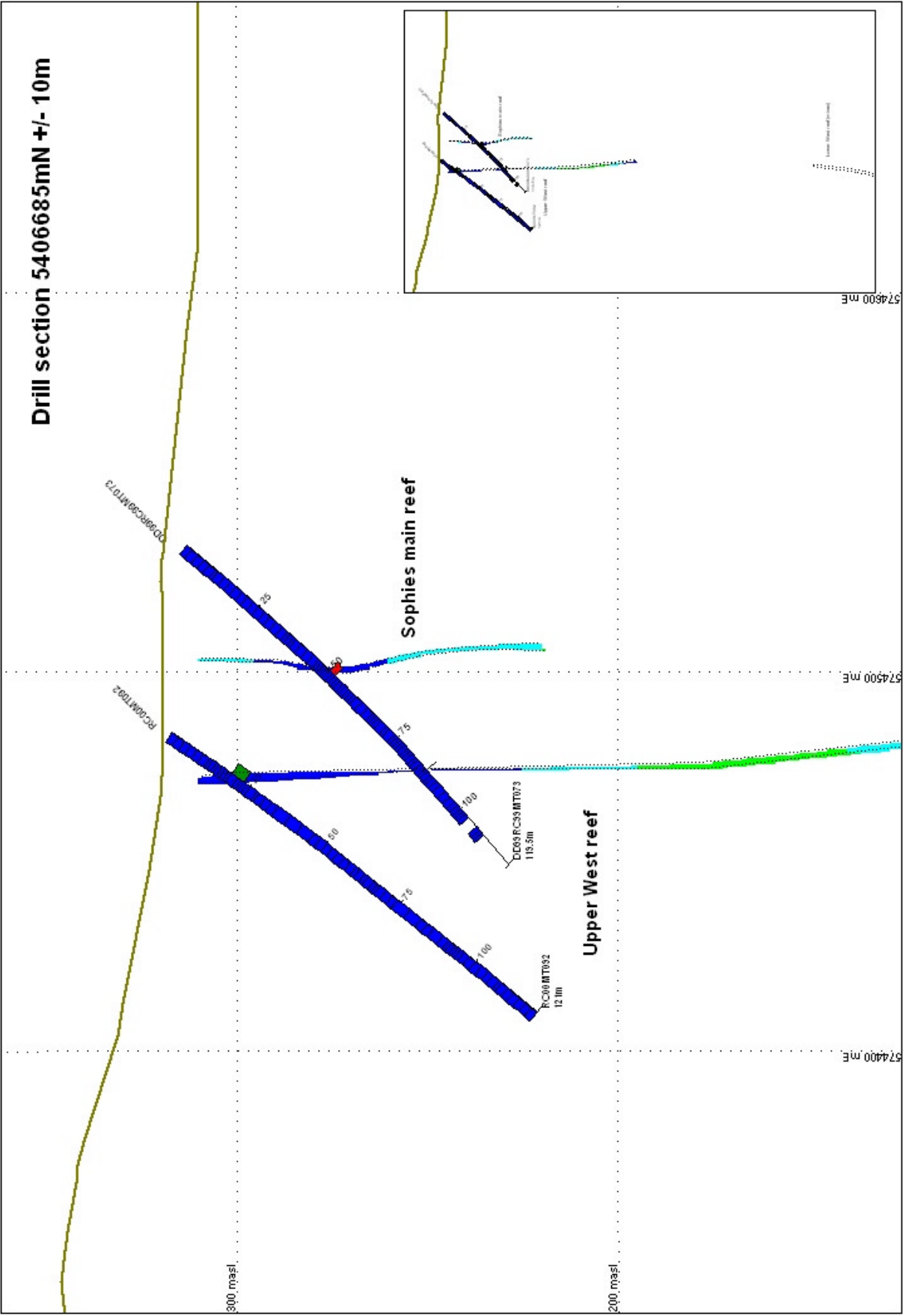
Appendix A – drill sections







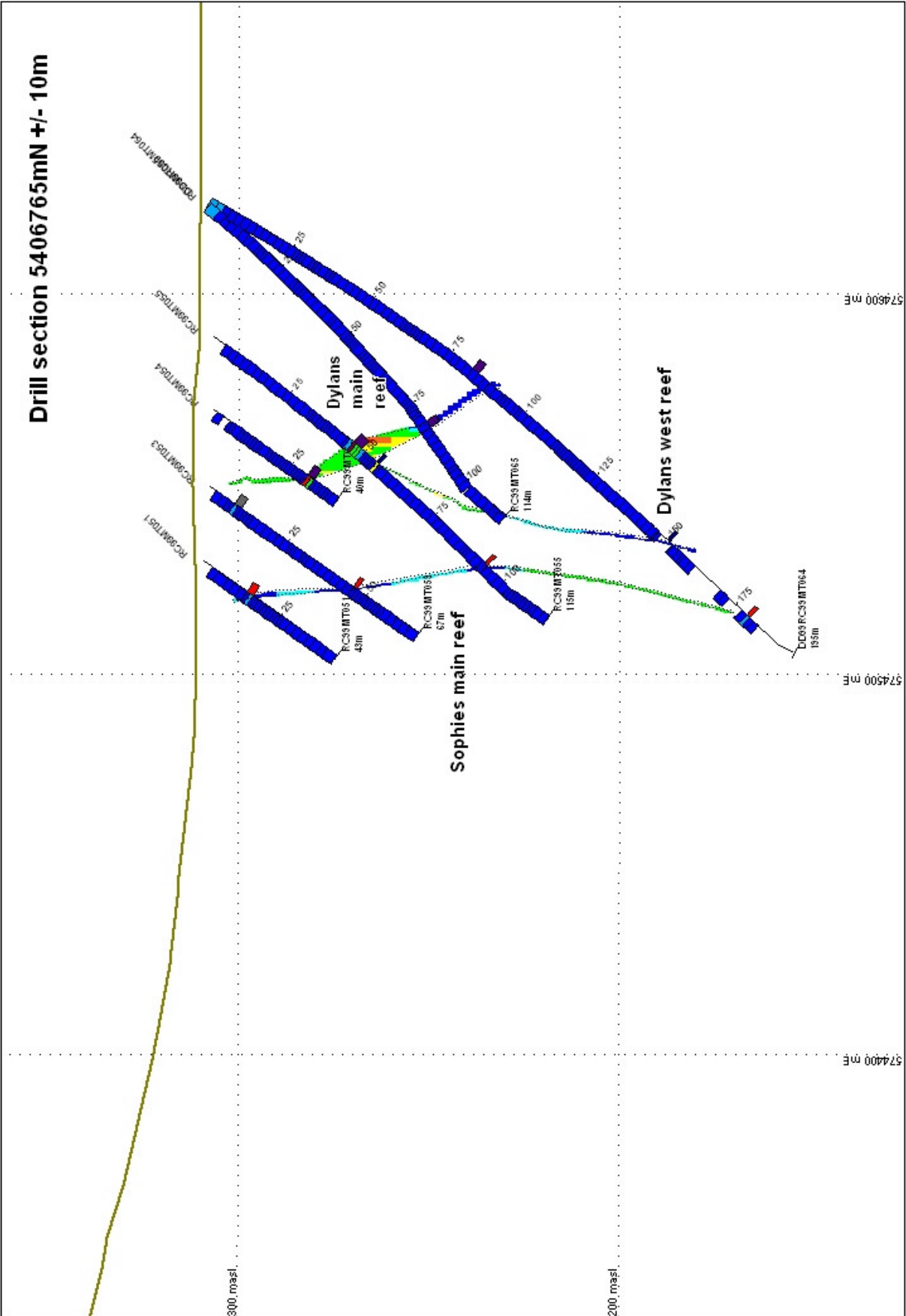


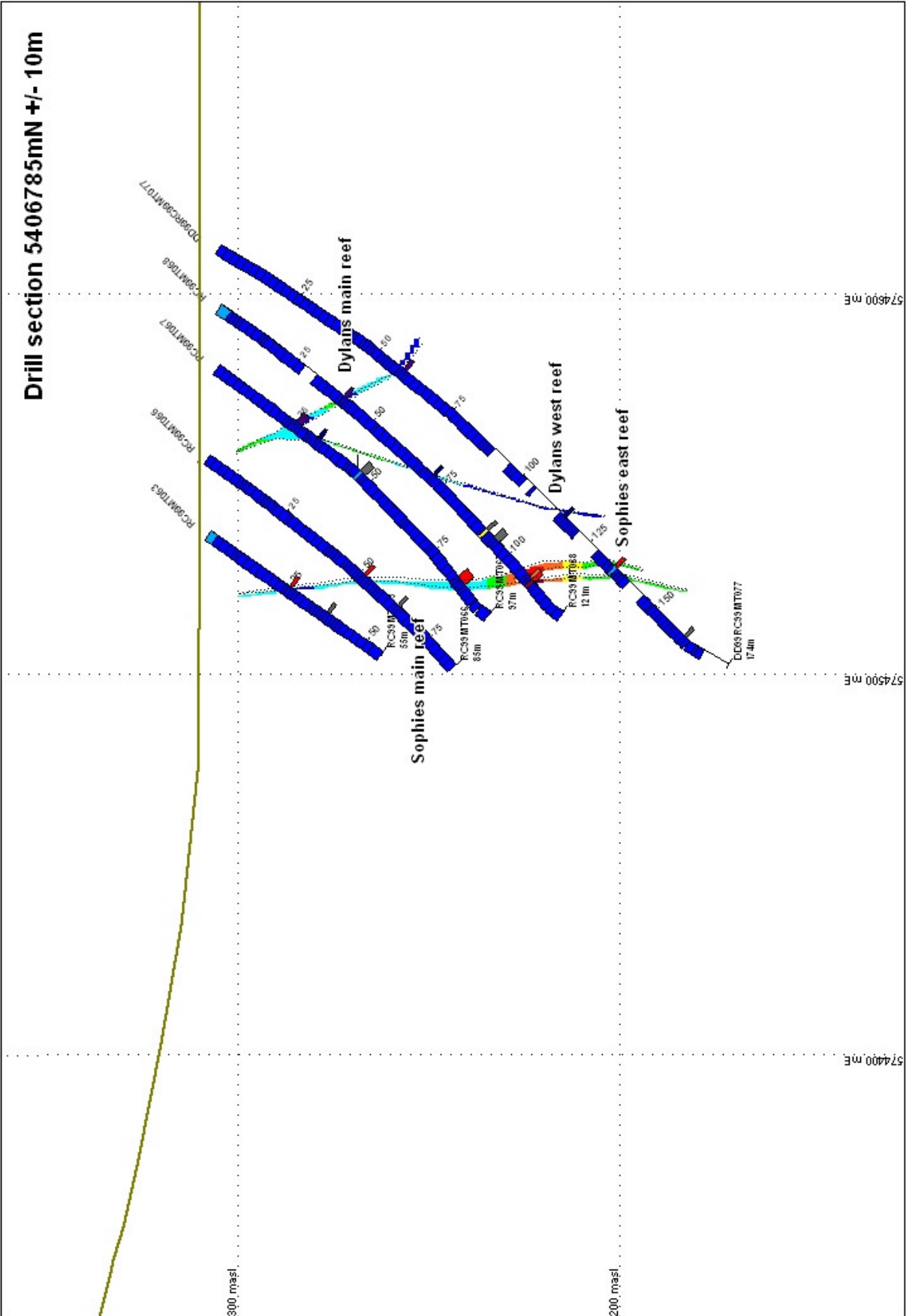




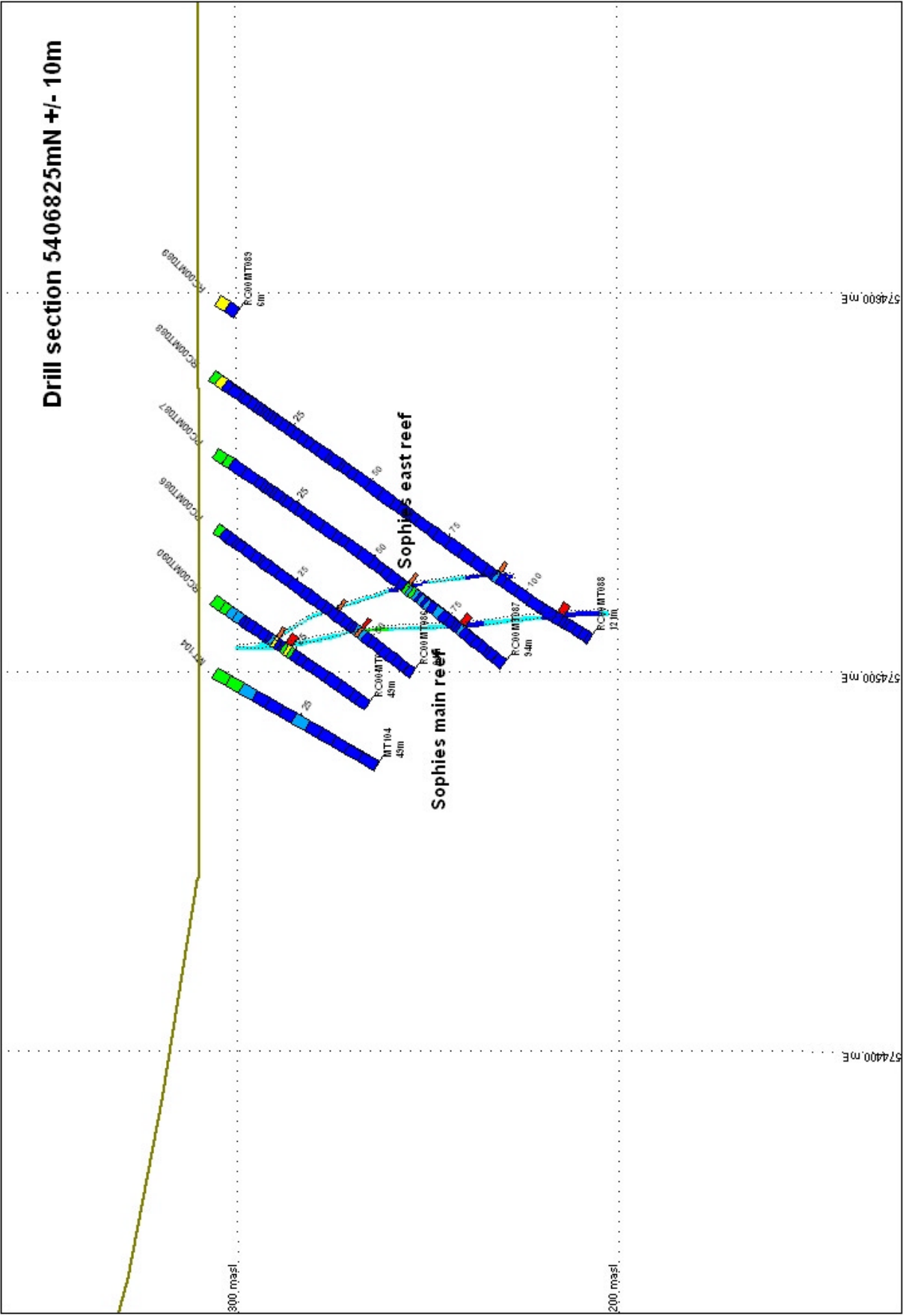


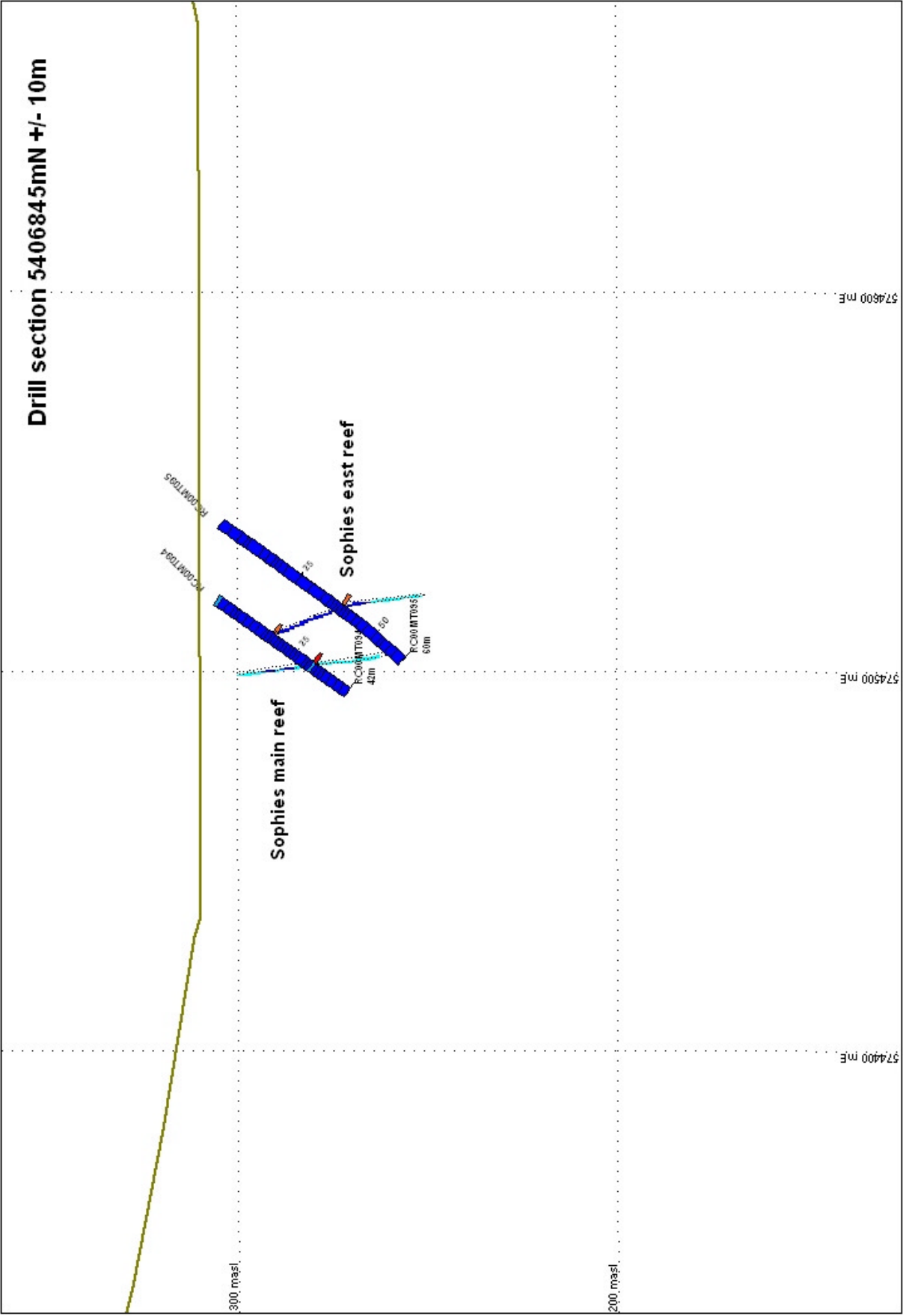












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Appendix B – drill plans

