

BURNSIDE OPERATIONS P/L
ANNUAL EXPLORATION REPORT
YEAR ENDING 14th APRIL 2004

EL 10347
GOLDEN DYKE DOME

Burrundie 1:50,000 (14/6-IV)

Title Holder Northern Gold NL

Distribution:

DBIRD Darwin NT

Northern Gold NL Perth WA

Burnside Operations P/L Brocks Creek NT

Burnside Operations P/L Perth WA

Compiled by:
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April 2004

SUMMARY

EL 10347 is located 145km SE of Darwin, NT and 14km SE of the Brocks Creek gold treatment plant. It covers metasediment and concordant dolerite sills of the Lower Proterozoic Pine Creek Inlier.

The tenement is centred on the Golden Dyke Dome, a faulted structural feature at the southern end of the Yam Creek-Golden Dyke gold-mineralised belt.

Several historic gold mines occur in the immediate region, preferentially hosted by cherty carbonaceous mudstones of the Koolpin Formation that comprise the lower part of the South Alligator Group. These include the Golden Dyke, Davies Nos 1 and 2, Black Rock Shaft, Fishers Lode-Afghans Gully and Langley's. Some of these prospects are excised from EL10347 under separate tenure, but still held by the Burnside Joint Venture. The exploration licence surrounds the better prospects and structural extensions or repetitions are thought to be present.

Modern exploration work commenced in the early the 1980s and included geological mapping, costeaning, soil sampling diamond drilling and RC drilling. This led to a phase of open pit mining in 1984 when Henry and Walker mined a total of 295,000t of ore at 4.0g Au/t from several of the above prospects.

Subsequent reviews indicated that some residual gold mineralisation was present. These were subjected to further drilling including diamond core work. Several extensions at low to moderate grades were defined, mostly over narrow widths.

Northern Gold NL acquired the prospects in the mid 1990s, conducted extensive technical reviews and did rehabilitation work in the vicinity of Golden Dyke open pit.

In April 2002 Northern Gold NL entered into a joint venture agreement with Buffalo Creek Mines NL that included a schedule of tenements and mining assets within a 30km radius of the Brocks Creek treatment plant. EL 10347 was granted soon after and was included in the gold ranking and review process that was carried out by Burnside Operations P/L on all of the joint venture tenements.

The joint venture has the objective of exploring, developing and mining known gold resources in the region. Concurrently the parties carried out underground mine development and diamond drilling at the nearby Zapopan Mine, carried out resource definition RC drilling programs at several properties and conducted diamond drilling and modelling at the Cosmo Howley mine.

The prospect ranking exercise gave an initial low priority to the gold resource potential of EL10347, and due to the adverse economic circumstances that prevailed for much of 2003, other more advanced resource locations within the Burnside JV were favoured.

During the year reporting, remote sensing analysis and review work on EL 10347 was costed at \$800.00.

LIST OF CONTENTS

SUMMARY

1.	INTRODUCTION	PAGE 4
2.	TENEMENT DETAILS	PAGE 4
3.	LOCATION AND ACCESS	PAGE 4
4.	GEOLOGICAL SETTING	PAGE 4
	4.1 REGIONAL GEOLOGY	
	4.2 LOCAL GEOLOGY	PAGE 5
	4.3 MINERALISATION	PAGE 5
5.	PREVIOUS EXPLORATION	PAGE 6
	5.1 Historical Exploration	
	5.2 Modern Exploration	PAGE 8
	5.3 Reported Resources	PAGE 24
6.	EXPLORATION YEAR ENDED 14TH APRIL 2004 (with expenditure)	PAGE 25
7.	PROPOSED EXPLORATION YE 14TH APRIL 2005 (with proposed expenditure)	PAGE 27
8.	REFERENCES	PAGE 28

LIST OF TABLES

TABLE 1	LIST OF GOLD RESOURCES GOLDEN DYKE AREA	PAGE 25
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LIST OF FIGURES

FIGURE 1	Tenement Location Plan and Activity	A4	1:250,000
FIGURE 2	Tenement with SPOT Image and Fault Linears	A3	1:25,000
FIGURE 3	Tenement with AGSO Geology	A4	1:50,000

LIST OF APPENDICES

APPENDIX 1	DIGITAL COPY OF THIS REPORT
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1. INTRODUCTION

EL10347 is part of the schedule of Burnside Joint Venture tenements, located 135km SE of Darwin.

It lies centrally on the Golden Dyke Dome, an important geological fold structure that exposes gold-prospective Koolpin Formation rocks, and is an area containing several historic gold prospects and small open pit mines.

Extensive historic exploration and mining literature dealing with the Dome was reviewed by Northern Gold NL prior to entry into the Joint Venture. Their work is summarised in this report and comprises part of the review activity carried out by the JV in the ELs first year.

2. TENEMENT DETAILS

EL 10347 comprises three contiguous blocks, enclosing three pre existing mining leases and one MCN. A small excision is generated by an overlap by EMPN1323 on the southern boundary.

The EL was granted on 15th April 2002 for a period of 6 years, expiring on 14th April, 2008. An application for a waiver on 50% reduction was pending at the time of writing. The EL has a second year expenditure covenant of \$750.00.

3. LOCATION AND ACCESS

The tenement is centred 145km SE of Darwin, NT and 14km SE of the Brocks Creek treatment facility.

It is accessed via the Stuart Highway a few km east of Hayes Creek roadhouse, taking a turnoff north towards the Grove Hill Siding and Mt Bonnie access road. The unsealed road crosses the EL just north of the Stuart Highway.

4. GEOLOGICAL SETTING

4.1 REGIONAL GEOLOGY

The Golden Dyke group tenements are situated within the Pine Creek Geosyncline, a tightly folded sequence of fine to coarse grained clastic basinal sediments of Lower Proterozoic age.

In the report area the sequence has been regionally metamorphosed to greenschist facies and has been intruded by late syn-orogenic to post orogenic granitoid intrusions. These intrusions imparted thermal contact metamorphic and metasomatic effects and contributed to the deposition of a range of economic minerals in structurally permissive sites.

There is a tendency for gold mineralisation to be focused in anticlines within strata of the South Alligator Group and lower parts of the Finniss River Group. This sequence evolved from initial low energy shallow basinal sedimentation to higher energy deeper water flysch

facies. A water-lain tuffaceous component is present and the prospective sequence has been intruded by pre orogenic mafic sills.

Less deformed Middle Proterozoic sedimentary and volcanic sequences unconformably overlie the Lower Proterozoic. To the SW of the region, Cambro-Ordovician lavas and sediments of the Daly River Group, as well as Cretaceous strata, onlap the older sequences.

Cainozoic sediments, laterite and Recent alluvium may obscure parts of the Pine Creek Geosyncline lithologies, but exposure of the more resistate units of the prospective sequence is generally good.

4.2 LOCAL GEOLOGY

The Golden Dyke Dome area contains a sequence of South Alligator Group rocks ranging up from Middle Koolpin Formation in the centre of the dome to the base of the Burrell Creek Formation on the flanks.

These include mudstone, carbonaceous mudstone, and iron formation of the Koolpin Formation, felsic cherty tuff and siltstone of the Gerowie Tuff, and siltstone-greywacke-mudstone lithologies of the Mt Bonnie Formation. Several sills of the Zamu Dolerite are interleaved with these sediments.

These rocks have been tightly compressed into a series of north-south trending folds with west limbs generally shallower dipping than the east. North east striking faults including splay off the important Hayes Creek Fault, have truncated parts of the Golden Dyke Dome and have played a part in localising gold mineralisation.

The topography of the area comprises a series of low hills with sub-crop present on the flanks and ridges. Seasonal creeks forming the headwaters of the Margaret River have incised the area.

4.3 MINERALISATION

Gold deposits are associated with the Middle Koolpin Formation of the South Alligator Group on the western side of the Golden Dyke Dome. The bulk of mineralisation is considered to be epigenetic but stratabound, and is hosted mainly by dark, nodular, cherty, chloritic and magnetic iron formation horizons thought to correlate with the same strata at the Cosmopolitan Howley Mine 16km to the west. There gold appears to be preferentially emplaced in the same carbonate-silicate facies iron formation packages

Several gold bearing localities, within or close to the tenement, have been worked intermittently since 1872. These are listed as the Golden Dyke Mine, Davies No.1, Fishers Lode, Corbetts, Black Rock Shaft and Afghans Lode.

Other deposits in the area include the Moaner Mine and Davies No.2, to the east, and the Good Shepherd Mine to the north.

Base metal occurrences have been recorded near the eastern boundary of the EL and along the Golden Dyke trend. Heatley's Prospect includes lead-zinc and copper occurrences. The Davies Creek Prospect is a reported lead-zinc occurrence.

Gold is associated with disseminated pyrite, arsenopyrite, chalcopyrite, chloritisation and quartz-sulphide veins. Some workers have advanced a syngenetic or syngenic origin for the gold. Vein quartz is not as prominent as in gold deposits in Mt Bonnie Formation or Burrell Creek Formation.

Pyrite is the most abundant of all the sulphides varying between 2 and 50 vol%. It occurs as discontinuous laminae or as granular aggregates, both of which are commonly concordant with bedding, and may be as primary and secondary types. Pyrite in the “BIF”s within iron formation diagnostically occurs as elongate anastomosing networks. It may also occur as transgressive veins rich in siderite and as inclusions in arsenopyrite and in chert pods.

Arsenopyrite is the second most abundant sulphide within the BIF lithologies. It occurs as euhedral to subhedral crystals ranging 0.2-10mm in diameter. The larger crystals occur in sparse bedding parallel bands, but may distort the bedding that surrounds them and have pressure shadows of siderite or quartz. It also may have two forms, but unlike pyrite, the secondary form does not occur as laminae and instead forms aggregates. Cataclastic features in arsenopyrite crystals are commonly healed by silicates, pyrite and chalcopyrite, and may be fractured by later tourmaline.

Chalcopyrite is a minor phase and rarely exceeds 2% by volume. It seems to be evenly distributed as disseminations through the host iron formation facies as blebs averaging 1mm. It also populates fractures in arsenopyrite and pyrite and small siderite veins.

Pyrrhotite also rarely exceeds 2% of the sulphides by volume. It always occurs as inclusions in arsenopyrite, pyrite and chalcopyrite, averaging 0.01mm in diameter.

Gold is rarely macroscopic in the iron formation facies. It occurs as minute inclusions of 1-20 microns within arsenopyrite crystals or quartz. Coarser gold occurs with quartz vein networks and has shed into Recent alluvial creek systems.

5. PREVIOUS EXPLORATION

5.1 Historical Exploration

The Golden Dyke area, containing some of the earliest worked gold deposits in the Northern Territory, was first prospected in 1872, after the initial discovery of alluvial gold. Early production, estimated at approximately 1,000t for 300oz was largely derived from auriferous reefs and alluvial deposits.

In **1915**, using costean excavation, Jack Davis reported an auriferous lode, with an average of half an ounce per ton for a length of 275m and a width of 4.5 to 7.6m. The peak costean results obtained were 102.6 g/t Au and 13.5 g/t Au (Hossfeld, 1936). Following the favourable results, a shaft was sunk at the Shackle, the former name for the Golden Dyke Mine.

From **1924 to 1925** additional shafts were sunk to test for mineralisation at depth. Battery treatment of open cut ore also commenced, yielding 80.0oz of gold from 275t of ore (9.0g Au/t) (Hossfeld, 1936)

In **1934**, the Golden Dyke Mine (No Liability) took over the mine from Davis, deepening the main shaft to 33m. Only one payable ore-shoot was tested, identified as dipping 68 degrees south-west.

The Golden Dyke Mine Company developed and worked the ore-shoot, averaging 10.8 to 12.4gAu/t gold in the Main Reef. The Main Reef was found to be 762m in length and was cut only by 3 costeans outside the actual mine developments.

A large number of parallel to sub-parallel reefs, continuing in a zone between two hornblendite horizons, for a distance over 6.4km were identified, however, due to the limited exploration at the time, consisting of only a few costeans, very little was known about them.

Based on the lack of thorough and systematic testing of the mineralised zone, and the primary focus on only the main ore-shoot, the 1936 A.G.G.S.N.A. report concluded that the mine would never become a large scale producer (Hossfeld, 1936).

Between **1934 and 1937**, it is estimated that the Golden Dyke Mine (No Liability) treated 6,100t for 1600 ozs (Nicholson, 1985a).

Anglo-Queensland Mining Pty. Ltd. investigated the previous sampling of the Golden Dyke ore-shoot and surrounding prospects with the hope of finding commercial ore-shoots additional to that at the Golden Dyke Shaft (Blanchard, 1937).

Their costeaning and rock chip sampling programs focused on the Golden Dyke ore-shoot. Their checks of previous sampling generally returned lower results than the original sampling (Blanchard, 1937).

Costeaning and rock chip sampling check programs were also completed over Davies No. 1, Davies No. 2 and the Corbett workings, as the previous work completed over these prospects was seen as unreliable. Anglo-Queensland Mining Pty. Ltd. also obtained lower results over these areas, down grading their potential. One of the discrepancies encountered was at Davies No. 2. The previous costean channel sampling returned 4.8m @ 36.0g/t Au, however, check sampling of this costean resulted in 6m @ 1.3 g/t Au (Blanchard, 1937).

Anglo-Queensland Mining Pty. Ltd. concluded that commercial ore was confined to Golden Dyke main ore-shoot (Blanchard, 1937).

Later periods of production were estimated to have been carried out in 1940, by Waggaman Gold Mining Co. Ltd. (2,240t for 190ozs), and in 1970, by Casey (Nicholson, 1985a) . Recorded production totals 10,900t for approximately 2,100 ozs (Nicholson, 1985a).

5.2 Modern Exploration – Golden Dyke Dome (after Northern Gold NL 1997)

1980

During the 1980 field season, Geopeko completed a preliminary appraisal, rock chip sampling and diamond drilling over Golden Dyke, Davies No. 1, Black Rock and Good Shepherd. The aim of the programs was to identify stratabound BIF type and tourmalinite-associated gold bodies with supergene enriched caps (Geopeko, 1980).

The preliminary appraisal showed that further potential existed, based on the fact that the Cosmo Howley deposit occurred within the same horizon. It was believed that there was potential for several other gold occurrences around the Golden Dyke Dome as, unlike the Cosmo Howley area, the region had not been the subject of systematic investigations.

It was found that proven reserves of 27,000t @ 10.0g/t Au from surface to 40m existed at the Golden Dyke Mine, with a probable resource of 37,000t @ 10.0g/t Au above 70m.

Geopeko research also concluded a probable resource at Black Rock of 27,000t @ 7.6 g/t Au.

A total of 23 diamond drill holes were completed for 3,859.9m. Half metre samples were submitted for fire assay.

Ground magnetics and down-hole logging was also carried out at Golden Dyke, Black Rock and Davies No. 1. The rock chip sampling programs consisted of the collection of a total of 102 samples for gold assay.

Rock chip sampling over Black Rock resulted in the collection of 25 samples. The peak value obtained was 1.4 g/t Au. Eight diamond drill holes (S10, S16, S21, S23, S24, S27, S28, S29) were completed for 1,415.18m. The best intersections are listed below.

1980 Black Rock Diamond Drilling Best Intersections

Hole Number	From (m)	To (m)	Width (m)	Grade (g/t Au)
S10	61	61.5	0.5	12
S10	86	88	2	1.8
S16	58	62	4	5.5
S16	150	151	1	1.3
S23	16	18	2	1
S23	97.5	98.5	1	2.6
S24	41	43	2	2.08

S24	92	94	2	1.6
S28	19	20	1	1.7
S29	51	53	2	2.6

At the Golden Dyke Prospect, located on late GML 128B, a total of 7 drill holes (S7, S8, S9, S11, S13, S14, S15) were completed for 1,454.07m. The best intersections obtained were, 5m @ 6.7 g/t Au from 93m in S7, 1.4m @ 5.6 g/t Au from 173.4m in S9, 0.5m @ 4.4 g/t Au from 164.5m in S11, and 1m @ 1.4 g/t Au from 99m in S13 (Nicholson, 1981).

1981

Initial stream sediment sampling was completed by Geopeko, in the 1981 field season. Eighty two sites were sampled, with 2, +30# size fraction, samples being collected for analysis from each site. The sample sites were located at approximately 50m intervals down selected streams. Each sample was analysed for As, Cu, Pb, Zn, Sn, Fe, Mn, Au, Sb and Bi (Radford, 1982).

Twenty four samples were collected from 12 sites in the Davies No. 2 area (Radford, 1982). This sampling returned a peak value of 156 ppb Au (Sample No. 6373/4, 8499010N : 772435E).

Fifty six samples were collected from 28 sites in the Black Rock/Afghans Gully area (Radford, 1982), returning results of 372 ppb Au (Sample No. 5937/8, 8499616N : 772885E) and 301 ppb Au (Sample No. 5943/4, 8499500N : 772885E).

A total of 48 samples were collected from 24 sites in the Northern Costeans area and SE of Davis Camp. A peak result of 11 ppb Au (Sample No. 6411/2, 8500520N : 773885E), was returned (Radford, 1982).

Further stream sediment sampling was completed, by Geopeko, over the entire Golden Dyke Dome, at the end of the 1981 field season, with the aim of following up peak results from initial stream sediment sampling and to identify new anomalous areas.

A total of 593, 290 gram, stream sediment samples, sieved to +30 mesh and -30 mesh size fractions, were collected at a sample density of approximately 20 per sq/km.. The -30 mesh fraction was analysed for Cu, Pb, Zn, Fe, Mn, As and Sn, and the +30 mesh heavy mineral concentrate was analysed for Au, Bi and Sb (Nicholson and Radford, 1982). The following table lists the peak results from the stream sediment sampling, with approximate references to the (now relinquished) tenure.

1981 Follow Up Stream Sediment Sampling Results

Prospect Area	Approximate Location	Au ppb
Langley's/Shady Camp	MCN 3760	150.1

East of Three Peaks	MCN 3759	17.3
Golden Dyke	MLN 798	61.5
Golden Dyke	MCN 1039	853.2
West of Golden Dyke	MCN 4527	587.7
Telegraph Ridge	MCN 1473	784.5
Central Dome	MCN 2100	114.8
Central Dome	MCN 3754	26.5
Central Dome	MCN 3755	9.6
Fisher's Lode/Black Rock	MCN 1464	33.5
South of Davies No. 2	MCN 1469 and 2101	14.4 and 40.5
Sandy Creek	MCN 633	214,099.1
Sandy Creek/Fisher's Lode	MCN 2096	867.2 and 44.3

1982

The 1982 exploration program, completed by Geopeko, concentrated on the Black Rock to Northern Costeans section, in the north-west of the Golden Dyke Dome, and on Langley's Prospect, south of the Golden Dyke Mine. The stream sediment sampling programs completed in the previous year identified gold and arsenic anomalism in these regions.

The soil sampling programs, completed over the Black Rock area and the Langley's Prospect, consisted of the collection of 1,063 samples over 100 to 200m spaced lines. Samples were collected at 10m centres, over areas of prime interest, and 20m centres elsewhere (Radford and Rolfe, 1983).

A total of 730, 'C' horizon, soil samples were collected at 10m intervals from fourteen, 100m spaced lines, at the Black Rock Prospect. Further soil sampling resulted in an additional 186 samples being collected). The pulped +2mm fraction samples collected from the Black Rock area, were analysed for Au, As, Cu, Pb, Zn, Fe, V, Mn and Cr, by Analabs.

Over the Langley's Prospect, a total of 147, 'C' horizon, soil samples were collected at 10m intervals, over five, 100m spaced lines. The -80 mesh size fraction soil samples, from the Langley's Prospect area, were analysed by AAL, Kalgoorlie, for Au, As, Cu, Pb, Zn, Fe, Mn and V.

The results from the soil sampling identified three areas of possible economic interest within the Golden Dyke Dome; Northern Costeans and the Good Shepherd Anticline, the Black Rock Flexure, and Langley's Prospect.

Soil sampling results from the Good Shepherd Anticline, in the Black Rock area, indicated peak anomalous results up to 1.5g/t Au, associated with dolerites intruded into tourmaline-bearing mudstone. The anomalous values decreased southwards from the hinge zone of the Good Shepherd Anticline. Arsenic results ranged from 250 ppm to 600 ppm, with values in excess of 500 ppm coinciding with higher gold values.

The soil sampling results returned from the Black Rock Flexure showed anomalous gold values to 0.4 g/t Au and corresponding As values to 2,450 ppm, associated with banded iron formation along the western limb. Samples collected from areas containing quartz-tourmaline veins hosted by dolerites, contained up to 5.12 g/t Au, and 500 to 1,000 ppm As (Radford and Rolfe, 1983, Rolfe 1983). East of the hinge zone, northwards towards Northern Costeans, gold values were generally low and sporadically distributed.

The Langley's Prospect soil sampling, returned sporadic anomalous arsenic and gold values to 310 ppm As and to 0.2 g/t Au, from Lower Koolpin Formation, tourmaline bearing soils. Peak gold and arsenic anomalism, in the north of the lease (MLN 866), was found to be associated with Lower Koolpin Formation, banded iron formation (I₄), with values up to 1.02 g/t Au and 880 ppm As. At the southern end of the lease, values decreased to 0.1 g/t Au and 300 ppm As.

Rock chip sampling of the region resulted in the collection of 17 samples from Langley's Prospect, 209 samples from Black Rock, and 200 samples over the Black Rock/Northern Costeans area. The BIFs and tourmalinites were continuously sampled on sections approximately 100m apart.

Due to the lack of outcrop in some areas, costeans were excavated to allow mapping and sampling of prospective BIF units. A total of 50 costeans were completed in the Black Rock, Northern Costeans/Davis Camp and Langley's Prospect areas. In areas of anomalous soil sampling results, the costeans were spaced at 100 to 200m intervals over various BIF units (Geopeko, 1982).

The rock chip sampling and costeaning program completed over the Northern Costeans area returned BIF rock chip values up to 1.5 g/t Au. Two of the costeans excavated at this locality returned results of 7m @ 0.68 g/t Au, including 2m @ 0.9 g/t Au, from Costean 82/3, and 4m @ 0.9 g/t Au from Costean 82/4. Costeaning of a soil anomaly in the hinge zone of the Good Shepherd Anticline resulted in 5m @ 1.12 g/t Au, from Costean 82/40. The rock chip sampling over the hinge zone returned values to 0.6 g/t Au.

The comprehensive rock chip and costean sampling in the Black Rock area returned favourable results. The rock chip sampling of the BIF units, completed to the south-west of the Black Rock shaft, on the western limb, returned gold values up to 5.34 g/t Au. Costean 82/20, excavated in this vicinity, contained 4.2m @ 2.0 g/t Au, however, the gold values decreased to the south to 0.2 g/t, in Costean 82/17. Rock chip sampling completed at the portal of Fisher's Adit, returned results of 2m @ 6.44 g/t Au. Quartz-tourmaline

veins, within carbonaceous mudstone and dolerite, were investigated by costean excavation between Davies No. 2 and Black Rock, resulting in 2m @ 2.85 g/t Au, from Costean 82/27.

Rock chip samples of BIF collected from the Langley's Prospect returned values ranging from 0.04 g/t Au to 1.6 g/t Au, indicating increasing anomalism to the south-east. Four of the costeans excavated at this location returned results of 2 to 4m averaging 5.3 g/t Au.

Geopeko concluded that there was little potential for large tonnage gold mineralisation in the Black Rock/Good Shepherd and Langley's areas of the Golden Dyke Dome.

1983

During the 1983 field season, Geopeko completed stream sediment sampling, followed by soil sampling, rock chip sampling and reconnaissance mapping, over EL 4010, which covered the Golden Dyke area.

Approximately 438 stream sediment samples were collected from selected drainages, at a density of 20 samples/sq.km. Four anomalies were defined at Three Peaks, Telegraph Ridge, Central Dome and Langley's Extension. The peak results were 6,509 ppb Au at Telegraph Ridge, and 1,100 ppm As at Central Dome.

Soil sampling programs were completed over Central Dome, Three Peaks and Telegraph Ridge, to follow up the elevated gold and arsenic values returned from the stream sediment sampling. 'C' horizon, soil samples, sieved to a -80 mesh size fraction, were collected at 10 to 20m centres, and submitted for analysis of Au, As, Cu, Pb, Zn, Mn and Cr.

At the Central Dome Prospect, a total of 125 soil samples were collected over 5 lines, from areas of elevated As and detectable Au, identified by the stream sediment sampling. The peak results returned were 128 ppb Au, with a corresponding As value of 420 ppm, and 240 ppb Au, with an As value of 530 ppm, located at latitude 13°34' south and longitude 131°31'25" east.

Fifty soil samples were collected over 3 lines from the Three Peaks Prospect, targeting a low amplitude arsenic stream anomaly and gold in stream samples up to 17 ppb Au. The peak soil sampling results returned were 304 ppb Au and 152 ppb Au, from the northernmost line, associated with Lower Koolpin Formation tourmalinite.

The soil sampling over Telegraph Ridge, targeting sporadic gold values in streams, consisted of the collection of 24 samples from 1 line. The results returned were disappointing with all samples returning results under 5 ppb Au. The peak result obtained was 4 ppb from the eastern end of the line.

Seven rock chips were collected from BIF and tourmaline-bearing quartz veins at the Three Peaks Prospect. One sample returned peaks of 1.1 ppm Au and 1,200 ppm As, while all other samples were below detection.

A total of 9 rock chip samples were collected from outcrop and scree on the west limb and fold axis zone of a south-east plunging anticline at Langley's Extension. The peak values returned were 0.46 ppm Au and 778 ppm As.

The combination of soil sampling, rock chip sampling and reconnaissance mapping showed the areas to have no obvious economic potential.

Geopeko also completed 2 lines of soil sampling over MLN 794, Afghan's Gully, during 1983. A total of 42 samples were collected and submitted for Au and As analysis. The peak result of 0.391 ppm Au, was obtained from a sample collected in the north-west corner of the lease .

1984

In 1984, after the major companies concluded insufficient potential and withdrew, Henry and Walker Ltd. acquired tenements within the Golden Dyke area and developed four, small open-cut operations at Fisher's Lode/Afghan's Gully, Golden Dyke, Davies No. 2 and Langley's. A total of 295,000 tonnes of ore at 4.0 g/t Au was produced and treated through the Mount Bonnie Plant (Dominion Gold Operations Pty. Ltd., report 1993).

Mount Bonnie Gold Unit Trust completed close-spaced costeaning along the main lode at the Langley's Prospect, during 1984. A total of 12 costeans were excavated for 250m. The results defined patchy, moderate to low grade, mineralisation along length of main lode (Nicholson, 1988a).

1985

In 1985, Geopeko completed costeaning and rock chip sampling over late EL 4010, under a joint venture agreement with Anaconda Australia. Henry and Walker Ltd. farmed into the licence, and Anaconda sold its interest to Dominion Gold Operations Pty. Ltd.

Exploration was focused on the Sandy Creek area. This region was seen to contain some of the most concentrated and extensive alluvial diggings in the Pine Creek Geosyncline.

Initial bulldozer costeaning was completed over old basement workings for 700 m, in the Sandy Creek area. The costeans were mapped, and approximately 170 rock chip samples were collected. The results indicated spotty gold distribution in quartz veins as values ranged from 60 grams of coarse gold, dollied from less than 20kg of quartz, to less than 1 g/t Au in the same vein (Nicholson, 1986a).

Further work at Sandy Creek consisted of an area, approximately 30m by 130m, being stripped to bedrock. The quartz veins were mapped and 23 samples were collected. No significant assays were returned. Several additional areas were scraped back to bedrock, approximately 0.3m in depth, identifying a zone 125 m long by 10m wide, with quartz veins assaying to 6.0 g/t Au.

At the Good Shepherd Prospect, 9 costeans were channel sampled (42 samples) at 1m intervals, west and south of the main shaft, targeting a body of quartz-gossan/sulphide-

tourmaline-talc hosted by carbonaceous mudstone. The best intersection returned was 4 m @ 8.3 g/t Au from a costean south-west of the main shaft. The other costeans sampled only returned economic values over restricted strike lengths.

In **1985** Exploration Enterprises completed resource estimates over the Fisher's Lode and Afghan's Gully Prospects, on behalf of Harlock Pty. Ltd. All previous sampling and drilling data was used to complete the estimates.

These studies estimated a proven reserve of **62,000t @ 4.07 g/t Au**, at a cut off of 1.5 g/t Au, within the proposed pit at **Fisher's Lode** (Nicholson, 1985b).

Probable reserves of **1,500t @ 3.5 g/t Au (Afghan's South), 2,700t @ 6.0g/t Au (Central Pit) and 3,600t @ 5.0g/t Au, (Northern Pit)** were estimated to occur within the existing, and proposed pits. These estimates were based on a cut off grade of 2 g/t Au (Nicholson, 1985b).

1986

During the 1986 exploration season, Geopeko concentrated their work programs over the Fisher's Lode deposit, in the Black Rock area of EL 4010, as C.R.A.E. relinquished their leases. The programs included the excavation of 5 costeans, 10 percussion drill holes and 12 diamond drill holes (Nicholson, 1986b).

The costeans were excavated to lengths of 18 to 31m, spaced at 17 to 35m, both north (C1 and C2) and south (C3 – C5) of the Fisher's Lode adit portal. Channel samples, approximately 10kg, were collected at 1 to 2m intervals. A total of 61 channel samples were collected and submitted for gold analysis.

The best intersections returned are listed in the following table.

1986 EL 4010 Costean Intersections

Costean No.	From (m)	Width (m)	Grade (g/t Au)	Rock Type
C1	17.5	2	1.53	Iron Formation/mudstone
C2	12	4	2.55	Iron Formation/mudstone
C3	11	4	3.41	Iron Frm/mudstone/sugary quartz
C4	8	2.2	2.8	Iron Frm/mudstone/sugary quartz
C5	5	2	1.7	Iron Formation/mudstone

The programs identified potentially economic stratiform mineralisation within banded iron formation.

Ten percussion drill holes (P3 to P12) were completed for 541m, on the west side of the Fisher's Lode adit. Approximately 5 to 10kg samples were collected at 2m intervals from each hole. The best intersections returned were, 12m @ 2.1 g/t Au from 30m in P3, 4m @

4.55 g/t Au from 32m in P4, 2m @ 2.51 g/t Au from 24m in P5, 2m @ 5.26 g/t Au from 38m in P6, and 2m @ 1.55 g/t Au from 36m in P7 (Nicholson, 1986b).

Diamond drilling was also carried out, with 12 holes drilled for 751m. Percussion precollar samples were taken at the top of the holes and split to 10kg. All core was cut and half submitted for assay. Some analysis was done at Mount Bonnie Plant, however, due to poor repeatability and random errors, these results were discarded. The following lists the best intersections returned from the diamond drilling program.

1986 EL 4010 Diamond Drilling Best Intersections

Hole No.	From (m)	To (m)	Width (m)	Grade (g/t Au)
D1	24.8	25.8	1	2.65
D2	16	20.5	4.5	3.5
D3	23.95	24.95	1	8.5
D4	31.1	33.2	2.1	13.5
D4	36.5	37.8	1.3	3.4
D5	25.8	30.1	4.3	2
D6	34.2	39	4.8	3.6
D6	53.5	54.7	1.2	4.3
D7	31.5	41.5	10	5.7
D7	62.5	66.5	4	2.41
D10	5.1	8.4	3.3	5.6
D10	29.7	33	3.3	5.4
D12	64	72.9	8.9	2.5

Based on the work completed, it was estimated that **Fisher's Lode** body contained a proven reserve of **60,000 t @ 4.0 g/t Au**, above 55m depth, at a cutoff grade of 2.0g/t Au. A probable resource of **17,000t @ 6.1 g/t Au** was also estimated.

During **1986** detailed mapping and soil sampling was completed by Oceania Exploration and Mining N.L., over EL 4841, with the aim of identifying stratabound gold deposits similar to those at Golden Dyke and Black Rock..

EL 4841, held by C.S.R. Ltd. and managed by Oceania Exploration and Mining N.L. under joint venture agreement, was situated on the SE margin of the Golden Dyke Dome. It covered the area held as MCN 3754 to MCN 3763 inclusive.

These programs identified anomalous gold and arsenic associated with banded iron formations at three localities. This raised the possibility of mineral deposits similar to those mined at Golden Dyke and Black Rock, which occur at the same stratigraphic position on the west side of the dome.

1987

In 1987, Eupene Exploration Enterprises, on behalf of Kintaro Resources Ltd., completed percussion drilling over EL 4010, which was located between latitudes 13°33' and 13°34' south, and longitudes 131°31' and 131°32' east.

A total of 28 percussion holes were completed for 1,625m, at Davies No. 2, Black Rock, Fisher's Lode and Northern Costeans. Samples were collected at 2m intervals, and submitted to Australian Assay Laboratories, in Pine Creek, for Au analysis.

Eighteen holes (P13-18, 21-30, 35 and 36) were drilled over a tight grid, oriented along strike in a NE-SW, near Black Rock. The peak intersections obtained were 4m @ 2.3 g/t Au from 34m, 2m @ 3.56 g/t Au from 36m and 6m @ 1.7 g/t Au from 12m.

A total of 6 drill holes (P19, 20, 38-41) were completed at Northern Costeans. The best intersection was 4m @ 4.1 g/t Au from 26 metres (Hickey, 1987).

At the Davies No. 2 Prospect, 4 holes (P31-34) were drilled. The best results returned were 8m @ 1.6 g/t Au from 30m and 4m @ 2.65 g/t Au from 10m.

One percussion drill hole (P37) was completed near Fishers Lode. The best intersection was 2m @ 1.08 g/t Au from 38m.

Fourteen diamond drill holes (DAV1 – 14) were completed over Davies No.2 for 516m of diamond drilling and 346m of precollars. The peak intersections are listed below.

1987 Davies No.2 (EL 4010) Diamond Drilling Intersections

Hole Number	From (m)	To (m)	Width (m)	Grade (g/t Au)
DAV1	12.5	21.5	9	2.6
DAV2	22.9	27.3	4.4	2.7
DAV2	33.3	36.3	3	2.8
DAV3	16	19.5	3.5	2.8
DAV4	39	51	12	3.5
DAV4	42	46.5	4.5	6.46
DAV6	24	34.9	10.9	2.5
DAV7	8	12	4	4

DAV7	20	27	7	2.7
DAV8	30	35	5	7.32
DAV11	50.2	61.2	11	2
DAV13	60	61	1	17.2

The drilling programs over Black Rock and Davies No. 2 identified three main geological units, similar to the tight geological sequence at Fishers Lode. These units consist of interbedded iron formation and mudstone, carbonaceous mudstone and metadolerite.

The drilling confirmed the host geology at Black Rock, and identified some significant gold assays at Davies No. 2 (Hickey, 1987).

Also during the 1987 exploration season, Oceania Exploration and Mining N.L., completed surveying, gridding, ground magnetics, geological mapping, soil sampling and diamond drilling over MLNs 497, 866, 867, 896, 900, 914, 915, 917, 1039 and MCNs 319 and 320, under an agreement with the Langleys, Tapp and the Forscutts.

The magnetic survey data collected was discarded as it was not considered to be useful (Orridge, 1987).

Systematic soil sampling was completed to identify new zones of mineralisation. A total of 200, -80 mesh size fraction, soil samples were collected from a depth of 20 to 30cm at 12.5m intervals along 50m spaced traverses. The samples were submitted to Amdel for analysis of Au, Ag, Cu, Pb, Zn, Mn and As by AAS methods.

The peak results returned were 1.12 ppm Au and 1,800 ppm As, from the main reef south of the Golden Dyke Open Pit, values up to 0.11 ppm Au and 480 ppm As, from the Western Reef, 0.6 ppm Au and 390 ppm As from the Buck Reef, and values up to 0.55 ppm Au from the Eastern reef.

Six diamond drill holes (KD-1 to KD-6) were also completed for 608m, over MLN 866, MLN 867 and MLN 896. All holes were drilled east.

The lode intersections identified in KD-6, returning a peak of 2.49 g/t Au over 4 m, contained abundant haematite

From July to October, Oceania Exploration and Mining N.L. completed more extensive work, which included trenching and diamond drilling, over MLN 866 and MLN 798. The programs were aimed at defining a near surface gold resource on Langley's claim (MLN 866), and testing for deep extensions of the main orebody in Forscutt's claim (MLN 798), immediately SE of Henry and Walker's open pit.

Data research indicated that approximately 20 trenches and 7 diamond drill holes had been previously completed over MLN 866, indicating a potential for 90,000 to 150,000 tonnes of low grade oxidised ore above 30m.

Oceania increased the depth of 12 old trenches, within MLN 866, to between 2 and 3m to expose banded iron formations. The trenches were chip sampled at 1m intervals along the south-east walls, resulting in the collection of approximately 4kg of sample per metre. All samples were fire assayed for gold. The highest results from the trenching program are listed below.

1987 Langley's Prospect Trenching Program Results

Trench Number	Width (m)	Grade (g/t Au)
Trench 1	1	1.23
Trench 2	7	10.58
Trench 3	5	12.72
Trench 4	1	1.35
Trench 6	4	2.33
Trench 9	6	0.93
Trench 11	12	1.68

Eleven diamond drill holes (KD7 – 17), were also completed for 476.36m in MLN 866. The holes were precollared to between 10 and 24m, and were completed with HQ and NQ core. The core from each hole was halved, and selected mineralised intervals were submitted to Amdel for gold analysis.

The best intersections returned are presented below.

Exploration was also completed by Oceania Exploration and Mining N.L. over MLN 798, during 1987.

A single drill hole (KD21A) was completed for 149.92m, to test the extension of the main reef immediately south-east of Henry and Walkers open pit. The only mineralisation intersected was 1m @ 2.39 g/t Au from 96.8m.

1987 Langley's Diamond Drilling Program Best Intersections

Hole No.	Hole Depth (m)	From (m)	To (m)	Width (m)	Grade (g/t Au)
KD7	40.05	25.5	30.41	4.91	2.02
KD8	43.4	22.4	29.66	7.26	1.8

KD11	39.2	22.4	27.4	5	3.18
KD12	51.9	37.7	45.7	8	4.44
KD13	40.6	19	24.5	5.5	1.49
KD15	38.34	17	24	7	2.47

During March 1987, Dominion Gold Operations Pty. Ltd. collected 15 aggregate rock chip samples from the northern part of Sandy Creek (MCN 632).

Samples were collected from discontinuous, poorly exposed and brecciated, quartz veins, 50cm to 2m in width, around the pits. The peak assays returned ranged from 2.1 to 6.4 g/t Au. The samples of gossanous, BIF reefs, on the ridge further south returned values of 0.04 to 0.45 g/t Au).

Follow up programs of detailed grid surveying, mapping, soil sampling, rock chip sampling and trenching were carried out by Oceania Exploration and Mining N.L. over EL 4841, in 1987. These programs targeted anomalous gold and arsenic results, obtained from the previous soil sampling programs over the SE margin of the Golden Dyke Dome, at the Rockwall, Marchfly Hill and Shady Camp Prospects (Orridge, 1988a).

The regional topofil/compass grid survey from 1986 was extended to cover projected northerly extensions of prospective horizon in the north-east of the licence. Infill pegging at Shady Camp and Marchfly Hill was also completed.

Soil sampling programs were completed at Rockwall, Shady Camp and Marchfly Hill. A total of 44, -80# size fraction, 'C' horizon, soil samples, were collected from northerly extensions at Rockwall at 25m intervals on 100m spaced lines. A total of 75, -80# size fraction, 'C' horizon, soil samples were collected from Shady Camp and 85, -80# size fraction, 'C' horizon, soil samples were collected from Marchfly Hill at 12.5 metre intervals over 100m spaced lines. All samples were analysed for Au and As.

Composite rock chip samples of gossan and ironstone were collected over 25 metre to 50 metre intervals along the soil sampling traverse lines. Grab samples were also taken. A total of 23 grab samples were collected from Rockwall, 20 composite rock chips and 7 grab samples from Marchfly Hill, and 17 composite rock chips and 9 grab samples from Shady Camp.

A trenching program was also completed. Channel samples were collected over 1 metre intervals, and submitted to Amdel for fire assay analysis of Au in ppm. A total of 5 trenches were excavated at Shady Camp for 109 samples, and 3 trenches at Rockwall for 45 samples.

The detailed soil and rock chip sampling at Shady Camp returned anomalous values up to 484 ppm As and erratic high gold values up to 0.24 ppm Au, in the soil sampling, and 0.63

ppm Au, in the rock chip sampling. These results were obtained on the western limb of a south plunging anticline, over a length of at least 200m. Three of the trenches, spaced 100m apart, exposed a Zamu Dolerite/BIF contact zone. The best intersections for Trenches 1 to 3 were as follows.

Trench 1	7 metres @ 1.39 g/t Au
Trench 2	19 metres @ 0.25 g/t Au
Trench 3	7 metres @ 0.37 g/t Au
	5 metres @ 0.18 g/t Au

Trenches 4 and 5 tested the same horizon on the eastern anticlinal limb, however, gold values were low, with a maximum of 0.11 g/t Au returned over a 1 metre sample width (Orridge, 1988a).

The soil sampling and rock chip sampling at Marchfly Hill confirmed moderately anomalous As values to 136 ppm in the soil sampling, however, no significant Au was returned... This was believed to be due to colluvium coverage.

At the Rockwall Prospect, the soil sampling returned erratic, anomalous gold values to 0.45 ppm, with low As values (up to 66 ppm). The gold values weakened northwards. The rock chip sampling of the banded iron formation horizon returned disappointing results, with a maximum gold value of 0.013 g/t. The trenching program also returned low results, with only 3 of the channel samples, all in the southern-most trench (No. 3), exceeding 0.1 ppm Au. The maximum result was 0.31 g/t Au.

1988

During 1988, Zapopan N.L., on behalf of the Tanami Joint Venture, completed follow up soil sampling, rock chip sampling and costeaning, over the central region of the Golden Dyke Dome, within EL 4010. The aim of this program was to explain the source of an anomalous stream sediment sample (114.5 ppb Au, 8498896N : 772929E) located approximately 200m NW of Central Dome, identified during the 1983 sampling program.

The area considered most likely to be shedding the anomalous stream sediment was firstly rock chipped. A total of 20, five to ten kg rock chip samples of gossanous or veined outcrops were collected and submitted for fire assay analysis of Au. The peak result returned was 0.42 g/t Au, 260m SE of the stream sediment location (Nicholson, 1989).

A total of 54, -40# size fraction, soil samples were collected from a depth of 10 to 20cm, at 20m intervals, over six, 50m spaced lines, parallel to strike. Samples were submitted to Australian Assay Laboratories and analysed by low level fire assay for Au. The highest result obtained was 0.16 g/t Au, from sample number 29609, approximately 110m south of the stream sediment value (Nicholson, 1989).

Three costeans, spaced approximately 35m apart, were excavated to the south-east of the anomalous stream sediment. The costeans were mapped and sampled at 2m intervals, resulting in the collection of 191 channel samples from gossanous quartz veins. The peak costean results were as follows (Nicholson, 1989):-

Costean 1 0.4 g/t Au over 2 metres

0.27 g/t over 4 metres

Costean 2 0.43 g/t Au over 2 metres

The follow up exploration programs failed to explain the source of a 114.5 ppb Au stream sediment anomaly (Nicholson, 1989).

In 1988, Eupene Exploration Enterprises completed ore reserve studies over the Langley's Gold Prospect, on behalf of Zapopan N.L., and the Davies No. 2 Gold Prospect, on behalf of Kintaro Resources Ltd. All previous sampling and drilling data was used to complete the estimates.

The ore reserve estimates over the **Langley's Prospect** proved an insitu ore reserve of **64,000t @ 3.7g/t Au**, within the proposed pit limits, at a cut off grade of 1 g/t Au. Probable reserves of **16,000t @ 3.3g/t Au**, at a cut off grade of 1 g/t Au, were also estimated to occur within the pit (Nicholson, 1988a).

The study over Davies No. 2 estimated a proven insitu ore reserve of **58,000t @ 2.95g/t Au**, within the proposed pit limits. An additional probable/possible resource of **60,000t @ 3.25g/t Au**, was estimated to occur to the north of the pit (Nicholson, 1988b).

During the 1988 exploration season, 12 percussion drill holes, SCD1 – 12, were completed by Oceania Exploration and Mining N.L. for 277m over EL 4841, to test the banded iron formation at Shady Camp.

The holes were drilled at 60°, along seven, 50m spaced profiles. Samples were collected at 1m intervals and submitted to Australian Assay Laboratories, in Pine Creek, for fire assay analysis of Au (Orridge, 1989).

The majority of the holes were stopped before target depth due to poor sample recovery in moist ground. Holes SCD1 – 6 were drilled in the south-east of the area, near Trench 3 (Orridge, 1989). The significant intersections are listed below

1988 Significant Drilling Intersections at Shady Camp

Hole No.	From (m)	To (m)	Width (m)	Grade (g/t Au)
SCD9	9	13	4	0.22
SCD10	1	13	12	0.16

SCD10	19	23 (EOH)	4	3.09
SCD11	1	12	11	0.21
SCD11	25	28 (EOH)	3	0.32
SCD12	5	13	8	0.19

1989

In 1989, Oceania Exploration and Mining N.L. pegged MCNs 3754 to 3763 over the ground held as EL 4841. The exploration licence was subsequently allowed to expire.

The previous exploration programs at Shady Camp encountered, what was considered to be, the same formation as that containing the Golden Dyke resource, situated 700m to the north-west. The mineral claims allowed the prospectivity of the area to be further tested (Oceania Exploration and Mining N.L., 1990).

Aeromagnetic data was obtained by Oceania Exploration and Mining N.L. This data delineated the Golden Dyke Dome (Oceania Exploration and Mining N.L., 1990).

The mineral claims were not granted until 1991. At this time they were transferred to Zapopan N.L.

1993

Zapopan N.L. completed soil sampling, stream sediment sampling, rock chip sampling and geological mapping over MCNs 3754 to 3759, during 1993.

The soil sampling program consisted of the collection of 'B' or 'C' horizon, 1.5 kg samples at 25m intervals, composited to 50m, along 100 to 200m spaced lines. A total of 80, -6mm to +2mm size fraction, were collected and submitted to Assaycorp, in Pine Creek, for analysis of Au, As, Cu, Pb and Zn (Pevely, 1994).

The peak gold result returned was 275 ppb Au, with a corresponding As value of 1,100 ppm, from the central area of MCN 3755. All other gold values were generally disappointing. Other peak results included 213 ppm Cu, just to the north-east of MCN 3759, and 356 ppm Pb and 533 ppm Zn, in central east of MCN 3754.

Six BLEG streams sediment samples were also collected, returning peak values of 20.3 ppb Au and 28 ppb Au, in the north-west of MCN 3755.

Three rock chip samples were taken from the north central region of MCN 3755. This sampling returned a maximum result of 200 ppb Au.

Geological studies indicated that the northern claims lie within Lower Koolpin hornfelsed micaceous mudstones (phyllites) with thin, poorly exposed tourmalinite horizons and concordant gossanous quartz veining, which is weakly auriferous but strongly anomalous in arsenic, and to a lesser extent, base metals (Pevely, 1994).

The programs were unsuccessful in detecting economically significant gold anomalies, however, prospectivity within the area was previously confirmed by the drilling program completed over the Shady Camp Prospect in 1988 (Orridge, 1989).

4.3 REPORTED RESOURCES

The Golden Dyke Mine was first mined by Jack Davis, in 1925 (Hossfeld, 1936). Following this, mining periods occurred from 1934 to 1937, 1940 and in 1970. This period of production was estimated to total **10,700t for 2,100 oz** (Nicholson, 1985a) by Golden Dyke Mine N.L., Waggaman Gold Mining Co. Ltd. and Casey.

In 1984, Henry and Walker Ltd. developed four, small open-cut operations at Fisher's Lode/Afghan's Gully, Golden Dyke, Davies No. 2 and Langley's. The Golden Dyke Mine was the main producer, with the open cut reaching a depth of approximately 50m. The other open cuts were stopped in the oxidised zone, at depths of 20 to 30m. A total of **295,000t of ore at 4.0 g/t Au** was produced (Dominion Gold Operations Pty. Ltd., 1993).

Resource estimates have been calculated throughout the years over numerous prospects within the Golden Dyke Dome. Many of these prospects have already been mined. Table 12 lists the most recent resource calculations encountered during the review over the Golden Dyke Dome.

TABLE 1 List of Gold Resources Golden Dyke Area (1996-7)

Prospect	Proven Insitu Reserve Remaining	Probable Reserve Remaining	Bottom Cut (g/t Au)	Bottom Limit of R.L.	Reference	Status of Prospect
Black Rock		27,000 tonnes @ 7.6 g/t Au			1980, Geopeko	
Golden Dyke	25,600 tonnes @ 9.25 g/t Au			30 metres	1985a, Nicholson	Mined
Golden Dyke		37,000 tonnes @ 10 g/t Au		70 metres	1980, Geopeko	Mined to 50 metres
Golden Dyke		91,350 tonnes @ 8.94 g/t Au		Between 30 – 145 metres	1985a, Nicholson	Mined to 50 metres
Afghan's Gully South		1,500 tonnes @ 3.5 g/t Au	2		1985b, Nicholson for Harlock Pty. Ltd.	Mined
Afghan's Gully Central		2,700 tonnes @ 6 g/t Au	2		1985b, Nicholson for Harlock Pty. Ltd.	Mined
Afghan's Gully North		3,600 tonnes @ 5 g/t Au	2		1985b, Nicholson for Harlock Pty. Ltd.	Mined
Fisher's Lode	60,000 tonnes @ 4 g/t Au	17,000 tonnes @ 6.1 g/t Au	2	55 metres	1986b, Nicholson for Henry and Walker Ltd.	Mined to about 30 metres
Langley's Prospect	64,000 tonnes @ 3.07 g/t	16,000 tonnes @ 3.3 g/t Au	1		1988a, Nicholson for Zapopan N.L.	Mined (30 metres)
Davies No. 2	58,000 tonnes @ 2.95 g/t Au	60,000 tonnes @ 3.25 g/t Au (north of proposed pit)			1988a, Nicholson for Kintaro Resources Ltd.	Mined (proven insitu)
Davies No. 1	49,490 tonnes @ 2.58 g/t Au		0.7		1996, Glassock	

In **1997** Northern Gold N.L. completed a comprehensive literature review of all previous work on the Golden Dyke Dome (summarised above), and carried out rehabilitation in the vicinity of the Golden Dyke open pit area.

They concluded that the gold resources within the area were likely to be small, narrow or largely worked out to below 30m.

Rehabilitation 1997

Rehabilitation was also carried out on MLN 798, at the abandoned Golden Dyke Mine.

Two bund walls were constructed to ensure that no further surface water, other than from the immediate pit surrounds, could flow into the pit. Care was taken so as not to create a damming effect upstream of the bund walls.

To enable the surface water to flow away, a shallow drain was excavated in a northerly direction, to connect with an existing drain.

The main bund wall is approximately 114m long, parallel to and about 5.5m away from the bitumen road. The bund was constructed from road cutting to road cutting, thus totally eliminating any surface water run off from the road into the pit. This wall was constructed of soil, oxidised rubble and rock material, taken from within the tenement.

A barbed wire fence, with warning signs, approximately 435m in length was also constructed.

Monitoring pegs were placed to the north of the pit to enable the detection of possible slippage.

During **1996**, a program of alluvial prospecting was completed by J. Braybon, under an agreement with Northern Gold N.L. The prospect did not provide significant amounts of gold, and the area was fully rehabilitated later that year.

In **1998** Northern Gold N.L. completed their comprehensive literature review and rehabilitation within the Golden Dyke area.

In **2002**, the first year of grant, the joint venture conducted a data review to allow a relative ranking of the tenement.

6. EXPLORATION YEAR ENDED 14TH APRIL 2004

Following formation of the Burnside Joint Venture in April 2002, EL10347 was incorporated into the wider schedule of JV tenements centred on the Brocks Creek gold treatment plant.

During the year work on EL10347 comprised reporting, remote sensing analysis and review.

This ranking remote sensing and annual reporting exercise was costed at \$800.00.

Discussion of Relative Ranking EL10247

The following sets out the current view of the relative ranking of the licence when compared to other exploration/development projects in the Burnside Region.

The tenement was ranked in light of previous work carried out since 1980 and compared with more advanced gold properties managed by Burnside Operations P/L. It was found to rank lower than targets at Yam Creek, Chinese South, Rising Tide. Most recently there has been intensive exploration at Cosmo Howley and Zapopan where diamond drilling and computer resource modelling were carried out during the year. Also at Zapopan considerable expenditure was incurred sinking a decline access to the high grade resource. At Cosmo Howley diamond core drilling of the deposit has continued through the 2003-2004 wet season.

The low to intermediate ranking of the Golden Dyke deposits has led to a continued focus on the priority properties listed in the previous paragraph.. The rate of advancement of the Golden Dyke area through exploration is to a degree dependent on the economic viability of Zapopan and Cosmo Howley plus the refurbishment of the Brocks Creek mill.

Remote Sensing and Fracture Analysis

As part of the 2003-2004 technical review of EL10247 a SPOT image of the tenement and surrounding area was reproduced and interpreted. (See Fig. 2) and AGSO Geology Fig. 3.

The image shows the triangular domal structure termed the Golden Dyke Dome by previous workers. The north western side of the triangle is marked by the Hayes Creek Fault that strikes north easterly. The southern side of the triangle is marked by another strong fault separating granitoid intrusive rocks to the south from the South Alligator sequence. The eastern side of the triangle is marked by north striking Gerowie Tuff and Koolpin Fm intruded by Zamu Dolerite sills. A hillock in the centre of the dome reflects the exposure of Wildman Siltstone of the upper Mt Partridge Group.

Faults that have been interpreted from the image are presented as pale blue-green lines. Important fractures include a splay on the south side of the Hayes Creek Fault and a second north easterly trending structure passing close to Mt Bonnie on the eastern boundary of the image.

A swarm of small displacement faults transect the Dome and strike north westerly. These are considered important in localising gold mineralisation in favourable host lithologies, particularly when they are in conjunction with NE structures related to the Hayes Creek Fault set. The relationship between excised tenements and open pits and these fracture sets may be clearly seen in the image.

Further data including ground mapping and soil geochemistry is needed to further pursue this line of analysis.

7. PROPOSED EXPLORATION YEAR ENDED 14TH APRIL 2005

Since April 2002 the Burnside Joint Venture has been actively exploring advanced stage gold resources within an economic trucking radius of the Brocks Creek treatment plant. The Zapopan gold deposit has been developed to -100m RL and a trial parcel of ore treated at Union Reefs. Diamond drilling and economic evaluation of the Cosmo Howley mine has been concurrent and is still in progress.

Increased levels of work on EL10347 is to a degree dependent on an economic outcome for present exploration and development work on the Zapopan-Cosmo Howley deposits and the refurbishment of the Brocks Creek Mill. Integral to this is sustained strength in the Australian gold price and continued favourable drilling results.

With further reviews and compilations, to be advanced by use of the extensive archived but unsorted data at Brocks Creek, this year's work is estimated to cost a total of \$750.00.

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