

**BURNSIDE OPERATIONS PTY LTD**

***ANNUAL EXPLORATION REPORT***

***BROCKS CREEK GROUP***

**YEAR ENDING JUNE 26<sup>TH</sup> 2003**

**MLN1139, MLN176  
MCN4689-4697, MCN4701-4703  
MCN4863-4871, MCN4895-4899**

**Pine Creek SD5208  
Batchelor 5172**

**Distribution:**

- 1. NT Dept of Mines and Energy**
- 2. Northern Gold NL, Perth**
- 3. Burnside Operations P/L Brocks Creek**
- 4. Burnside Operations P/L, Perth**

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John Shaw  
September 2003**

## SUMMARY

The Brocks Creek assets comprising the group tenements and mill were purchased from AngloGold (Brocks Creek) by Buffalo Creek Mines Pty Ltd (a subsidiary of Hill 50 Gold NL) in November 2001.

In April 2002 an agreement was finalised (Burnside Joint Venture) between Northern Gold NL and Buffalo Creek Mines P/L in equal shares. The agreement merged certain assets within a 30km radius of the Brocks Creek mill under the management of Burnside Operations Pty Ltd.

Ownership of Hill 50 Limited passed to Harmony Gold (Australia) Pty Ltd in mid 2002.

The principal objective of the Burnside joint venture is to bring any economic gold resources in the merged tenement holdings into production and treat them at the Brocks Creek Mill.

Most of the annual expenditure in 2001-2002 comprised refurbishing the camp, mill and mine site facilities and conducting pre-mine engineering and resource studies on the Zapopan deposit. Environmental control monitoring and basic refurbishment in preparation for the new operation was carried out during the wet season.

In September 2002 site preparations commenced at the small but high grade Zapopan gold resource in MLN1139. By May 2003 a decline access had been established from the bottom of the Zapopan open pit to the 980 level and a 12,000t stockpile of development ore was at grass.

Underground diamond drilling into the Zapopan deposit was carried out from the new development. This comprised 1,540.6m in 37 holes. This data was used to create an accurate structural and grade block model of the deposit.

Apart from some void probe holes within the Zapopan pit, no surface exploratory drilling was carried out in the Brocks Creek Group tenements during the report period, though intensive RC programs had been under way since July 2002 testing resources in adjacent joint venture tenements. This activity is the subject of separate reports.

Computer modelling and optimisation of the Rising Tide gold deposit near the northern boundary of MLN1139 was carried out along with a resource report.

All work reported was within MLN 1139. No exploration work was done in the remainder of the Brocks Creek tenement group.

In mid 2003 the Burnside JV partners resolved to suspend exploration activity in the region pending a turn around of adverse economic factors. Time was also required to complete a full economic analysis of the Zapopan deposit.

Exploration expenditure within the tenement group for the period ended 26<sup>th</sup> June 2003 totalled \$322,241.

Mining expenditure on Zapopan for the period totalled \$7,522,140.

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## **1.0 INTRODUCTION**

The Brocks Creek Project area comprises a group of mining tenements centred 140km south east of Darwin, NT. This report covers exploration and mining activity on the tenements in the year ended 26<sup>th</sup> June 2003.

Brocks Creek has historically been the focus of alluvial and underground gold mining and more recently gold production from open pits along the Brocks Creek-Zapopan (BKZ) structure

The Brocks Creek treatment plant was commissioned in April 1996 by Acacia Resources P/L to accommodate ore from several open pit gold deposits. The company was subsequently acquired by AngloGold Australia that continued open pit gold production until April 2000.

In November 2001 Buffalo Creek Mines P/L, a subsidiary of Hill 50 Limited purchased the Brocks Creek project from AngloGold Australia.

In April 2002 Buffalo Creek Mines P/L entered into a joint venture agreement (Burnside Joint Venture) with Northern Gold NL merging certain assets in the Brocks Creek region. The joint assets of the parties are presently managed through Burnside Operations Pty Ltd.

Ownership of Buffalo Creek Mines P/L passed to Harmony Gold (Australia) Pty Ltd in mid 2002 as a consequence of the takeover of Hill 50 Gold NL.

Since the joint venture was formed a large amount of expenditure has been committed to prepare the Zapopan underground resource for production along with office, accommodation, workshop and related infrastructure. Most effort in the 2003 year again went towards this project.

In mid 2003, the JV partners resolved to suspend exploration activity in the region pending a turn around of adverse economic factors.

## **2.0 TENEMENT DETAILS**

The granted tenement package was consolidated between 1987 and 1995 by Cyprus Gold Australia and Solomon Pacific-Acacia Resources Pty Ltd.

The principal tenement covering the majority of known deposits at Brocks Creek is MLN1139 of 3949 hectares. The remainder comprise one other MLN and 26 MCNs plus two HLDNs. A freehold lot, No.10 at Brocks Creek townsite is also owned by the joint venture. See Table 1 for details.

The Burnside Joint Venture further extends the tenement package up to 30km from the Brocks mill. These other tenements are subject to separate annual report groupings.

**Table 1. Tenement Details Brocks Creek Reporting Group**

Ten. ID	Grant date	Date Expiry	Area ha
MLN176	4/03/1966	31/12/2006	16.18
MLN1139	27/06/1995	31/12/2019	3949
MCN4689	5/11/1995	3/11/2011	32.4
MCN4690	5/11/1995	31/12/2004	36
MCN4691	5/11/1995	31/12/2004	36
MCN4692	5/11/1995	31/12/2004	36
MCN4693	5/11/1995	31/12/2004	36
MCN4694	5/11/1995	31/12/2004	32.4
MCN4695	5/11/1995	31/12/2004	32.4
MCN4696	5/11/1995	31/12/2004	32.77
MCN4697	5/11/1995	31/12/2004	25
MCN4701	5/11/1995	31/12/2004	36
MCN4702	5/11/1995	31/12/2004	36
MCN4703	5/11/1995	31/12/2004	29.8
MCN4896	27/04/1995	31/12/2004	33.43
MCN4897	27/04/1995	31/12/2004	39.29
MCN4898	27/04/1995	31/12/2004	39
MCN4871	13/02/1995	31/12/2004	31
MCN4863	13/02/1995	31/12/2000	33.71
MCN4864	13/02/1995	31/12/2000	33.71
MCN4865	13/02/1995	31/12/2000	33.71
MCN4866	13/02/1995	31/12/2000	33.71
MCN4867	13/02/1995	31/12/2000	33.71
MCN4868	13/02/1995	31/12/2000	33.71
MCN4869	13/02/1995	31/12/2000	31
MCN4870	13/02/1995	31/12/2000	31
MCN4895	6/10/1995	31/12/2004	33.43
MCN4899	6/10/1995	31/12/2004	39
HLDN36	23/04/1981		1.98
HLDN49	18/02/1982		1.98

4849.32

### **3.0 LOCATION AND ACCESS**

The tenement group is centred some 140km south east of Darwin, NT.

Access is presently gained by road 160km south from Darwin along the Stuart Highway, thence north-easterly along the Fountain Head road for 12km. A graded dirt road connects westwards through to the gold operation. See Fig 1.

The terrain within the project area is undulating with ridges and flats vegetated with tall and mixed open savannah woodland. Towards the north the terrain is more elevated. Southwards the gradient flattens to the Howley Creek alluvial plain.

The climate is hot with periodic monsoonal rains between November and May. For the remainder of the year it is warm to hot and largely dry.

## **4.0 ABORIGINAL AREA PROTECTION AUTHORITY**

Certificates have been issued to allow exploration and extractive activity on the tenements. There are no registered sites of significance within the project.

## **5.0 GEOLOGICAL SETTING**

The project area encloses a tract of Lower to Mid Proterozoic sedimentary clastic rocks of the Pine Creek Inlier. Members of the South Alligator Group and the Finiss River Group have been identified. Rocks comprising these Groups host most of the gold occurrences in the Pine Creek region, in particular the Koolpin Formation, Gerowie Tuff and Mt Bonnie Formation. The boundaries of the Formations within South Alligator Group are gradational while the upper and lower boundaries of the Group are unconformable.

These three formations have been locally intruded and dilated by semi concordant pre orogenic sills of dolerite named the Zamu Dolerite. Only Koolpin Formation appears to have been intruded within the Brocks Creek project area. See Fig 1.

A tight WNW trending asymmetric fold structure termed the Brocks Creek-Zapopan (BKZ) anticline has been subject to axial plane failure and reverse fault movement. It hosts the bulk of gold mineralised occurrences in the project tenements. The association of gold with failed asymmetric anticlinal axial zones in Finiss River Group is common in the Pine Creek Geosyncline.

The BKZ has formed within units of the Koolpin Formation, Gerowie Tuff, and Mt Bonnie Formation. Koolpin is typically dark pyritic mudstone-siltstone with rare iron formation and dolomitic horizons, and its presence is only locally inferred. At Zapopan the structure appears hosted near the interface between Gerowie Tuff and Mt Bonnie Formation. Gerowie Tuff comprises a silt-greywacke-arenite unit with frequent cherty tuff horizons, while the Mt Bonnie Formation is of siltstone, mudstone and greywacke with thin cherty horizons. The mine sequence is dominantly grey siltstone, a few thin cherty bands and sulphidic "iron formation" horizons. There has been extensive biotite spotting from the thermal aureole of the Burnside Granite to the north, and some calc-silicate concentrations parallel to bedding.

Syn to Post-orogenic granitoid intrusives such as the Burnside Batholith to the north of the tenements have imparted a thermal metamorphic aureole on the project area. Biotite-garnet-cordierite-amphibolite and calc silicates are the end members of this event. The alteration minerals decrease in abundance away from the contact zone. Biotite-lamprophyre dykes also cut the metasedimentary sequence.

## **6.0 GOLD MINERALISATION**

Gold was first discovered at Brocks Creek at the end of 1872 and alluvial mining, mainly carried out by Chinese immigrants, was intense until the turn of the century. Underground mining was also carried out at the Zapopan deposit up till 1915.

In the period 1980 to 1995 alluvial mining was resumed by small operators.

Companies such as Cyprus carried out modern gold exploration and identified significant widths of gold mineralisation at Faded Lily and Alligator on the BKZ.

The BKZ structure has been traced by mapping and magnetic interpretation for over 8km and hosts a group of significant gold deposits over a strike length of 2km. These include the Faded Lily, Alligator, Zapopan, Burgan and Homeward Bound. Outlying prospects include John Bull and Rising Tide that are on peripheral or separate structures.

The deposits comprise either bedding-concordant quartz-pyrite/pyrrhotite arsenopyrite bodies or steeper transgressive vein systems associated with the axial plane. The majority of the deposits have a steep to moderate southerly dip though some components lie on the northern limb of the BKZ. The axial zone where the concordant veins flatten is often higher grade and thicker. A moderate ESE plunge has been reported on the mineralisation at most of the open pits and at Zapopan.

There is a minor base metal association in the higher grade sectors of the deposits including arsenopyrite, chalcopyrite, sphalerite and galena. Tourmaline is also commonly present with the quartz.

### **6.1 Zapopan Deposit**

#### **Geological Features**

The Zapopan deposit is located on the BKZ east south east of the Faded Lily pit. In contrast with the other deposits that occurred on low rises or ridges, Zapopan occurred within a small creek drainage system of low relief.

Historically the deposit was mined from a series of shafts put down between discovery in 1888 and 1935. During this period gold production of 26,685oz from 41,000t of ore was reported. The average head grade of this ore was 20.0g Au/t. Mining was hindered by sulphide rich ore, inexperienced management, poor scheduling of funds, flood-prone underground development and the presence of two, parallel, 2m thick "slides", that are post-mineral shear zones comprising incompetent foliated rock.

The steeply dipping slides cut what was an originally a continuous bedding-concordant vein system, centred on the axial closure of the BKZ, into three separate units; Fissure Lode, Main Reef and Central Lode.

Historically, gold was mined from these three separate reefs of which the most productive was Fissure Lode that was on the southern fold limb and exposed at surface. Fissure lode dips south at 55-60 degrees and is a composite quartz vein structure striking 282 degrees. It is thought that as mineralisation passes down dip away from the axial plane, the grade and thickness fades out. Frequent parallelism with bedding, laminated quartz components and concordant pyritisation has led to previous incorrect theories of syngenetic origins for the gold. Multiple vein brecciation events aligned with the axial plane are associated with the best visible gold concentrations.

Central Lode and Main Lode are similar in appearance to Fissure Lode. As a result of 2003 underground drilling and exposures, Main Lode has been broken down into recognisable semi conformable vein styles that may be correlated along strike. (Harris and Gillman 2003). Most of the present resource lies within Main Lode, bracketed between the two slides, and largely pristine. The thicker and higher grade ESE plunging axial closure contains the bulk of the gold in Main Lode and the down plunge component of Main and Central Lode remain largely untested.

Work by Acacia Resources Ltd attributed an overall plunge to the anticlinal controlling structure of 38 degrees towards 122 degrees magnetic with the axial plane dipping steeply south at 75-85 degrees.

The more northerly of the two main "slides" is also referred to as the Axial Planar Shear but strikes slightly oblique to the axis. A reverse movement has been measured from drag folding and it is up to 2m wide. The south "slide" shows a north block west relative horizontal movement but is more diffuse over a 5m-10m width. Both are sub parallel and offset the axial plane and mineralisation.

A more detailed structural and grade analysis is now available as a consequence of the decline access to the deposit, put down in the 2002-2003 report period. The resource report of A.Gillman, based upon underground diamond and surface drilling plus exposures in the workings, is presented in the Appendix of this report. Underground mapping and core logging by P. Kastellorizos and P. Harris were instrumental in the understanding of the deposit.

### **Open Pit Mining at Zapopan**

Open pit mining was carried out by Acacia and completed over a 12 month period ending in November 1999. A total of 121,281t @ 1.92g Au/t was milled as high grade feed. Low grade feed totalling 11,880t @ 0.8g Au/t was milled in the same period. A low grade stockpile remained at the end of the operation totalling approximately 54,000t @ 0.8g Au/t. The open pit is thought to have been centred on the Fissure Lode, a steep south dipping shoot that had been the focus of historic stoping and comprised the fault-dislocated southern limb of the Zapopan vein system. The pit is close to 40m deep (1055m RL final flitch) The mine RL has had 1000m added to natural RL.



## **Previous Resource Studies at Zapopan**

Several resource estimates were made at Zapopan prior to Burnside Operations P/L management. Of these the most recent was by Mining and Resource Technology for Acacia Resources P/L in June 1999.

MRT estimated that indicated resources below the level of the old workings in Main Lode totalled **169,000t @ 18.55g Au/t**. This applied no cut off grade nor mining dilution and no allowance for minimum mining width.

Other lodes within the deposit comprised inferred resources totalling **116,000t @ 6.32g Au/t** using the same parameters.

The modelling work of Gillman, 2003, based on new underground drilling and exposures has updated the resource

## **Mine Design at Zapopan**

Underground development intended to access and extract this resource was designed and costed by R.Flanigan early in 2002. It comprised a decline access from a portal in the northern wall of the existing open pit and progressed to beneath the limits of historic stoping. This mining development with some modifications, was commissioned and completed to the 980 level in May 2003 by the Burnside Joint Venture. (See 8.1 below)

## **6.2 Rising Tide Deposit**

### **Geological Features**

The Rising Tide deposit is located 2.5km north of Faded Lily pit and has generated a well defined regional soil gold anomaly on a ridge near the northern boundary of the tenement group. The mineralised structures comprise shallow, south dipping reverse fault planes within Koolpin Formation that parallel the underlying contact with Zamu Dolerite.

The Koolpin host rocks comprise argillite, carbonaceous and pyritic/pyrrhotitic shale, chert bands, calc-silicates and possible iron formation. A prominent late stage, cross-cutting quartz vein on 330 degrees cuts the deposit.

Mineralisation is hosted by at least two thin sub parallel structures dipping at approximately 25 degrees to the south. These zones lie below and have the same orientation as a bedding-parallel quartz-pyrite rich sheared fault zone, interpreted to be the main thrust plane that transposed the Koolpin sequence to the north over Zamu Dolerite.

The mineralised zones display quartz-limonite veining in schistose, sericitic and tourmaline-altered argillite (carbonaceous graphitic shale), pyrite-pyrrhotite veining in fine grained amphibolite with accessory garnet and fluorite, and quartz-pyrite pyrrhotite veining in garnetiferous amphibolite. The

gold is thought to be supergene enriched and associated with structures leading to the Burnside Granite that carry accessory copper, lead and zinc.

### **Technical Studies at Rising Tide**

A feasibility study was carried out by Acacia at Rising Tide in mid 1998. This included 1592m of grade control density drilling.

Resource modelling was carried out by Mining and Resource Technology later in the year. They estimated an inferred resource of 1.94Mt @ 1.72g Au/t using an 0.7g/t cut off grade and an upper cut of 10.0g/t.

The Burnside Joint Venture also conducted interpretation and modelling on the deposit in mid 2002 (Gillman A.J.) Using a 10g/t top cut he created a block model with a global 719,390t @ 1.64g Au/t. Whittle optimisation was carried out on this by C.Skelton.

**In 2003 Gillman and Dyer** further refined the Rising Tide model using a geostatistical approach and created a new resource report. It was concluded that the deposit comprises an indicated and inferred resource of 826,206t @ 2.2g/t Au using a lower cut off of 0.7g/t Au. It was recommended that infill and extension drilling be carried out to increase the confidence levels on strike extrapolations. See Appendix Two for details and the CD that is Appendix 3.

## **7.0 PREVIOUS EXPLORATION ACTIVITY**

Gold was discovered in the Brocks Creek field in 1872 and by 1874 there was a rush of 400 Chinese miners along the line of reef between John Bull and Brocks Creek conducting alluvial and reef extraction. By 1895 there were several established reef mining operations and a population of 311. The Zapopan mine was being established in 1897 with the importation of heavy machinery from the UK. It was severely over capitalised, poorly managed and changed hands frequently with few successes and many failures. Most of the historic production of 40,674t for 26,685oz recovered was made before 1915.

Since 1975 when alluvial gold mining again became profitable, there have been in excess of 100 different tenements within the area covered by this report. In view of this a summary of the main activity carried out will be given.

CRA Exploration P/L, Geopeko, Zapopan Consolidated P/L, Pacific Goldmines NL, CSR Ltd, and Cyprus Australia were among the first modern explorers to evaluate the primary gold sources that gave rise to the alluvials in the vicinity of Brocks Creek. Cyprus identified significant vein hosted resources at Faded Lily and Alligator. Their work included detailed drilling, geological mapping, geophysical traverses (IP), and soil sampling.

In **1992** Solomon Pacific acquired a 25% interest in a group of Cyprus tenements and purchased the balance in 1994. SolPac undertook a feasibility study of the Faded Lily and Alligator deposits.

**In the year to June 26<sup>th</sup> 1996** Acacia-SolPac undertook gridding, hole surveying, IP surveys, gradient IP at Rising Tide, 1823.25m of HQ3 diamond core drilling, 14,737.5m of RC drilling, 130m of RAB drilling, 2657m of vacuum and auger geochemical drilling, geological mapping at John Bull and Alligator, plus feasibility studies at Faded Lily and Alligator.

The Brocks Creek treatment plant with capacity of 1Mt per annum was constructed and commissioned in April of this period using Faded Lily ore.

**In the year to June 26<sup>th</sup> 1997** Acacia completed 48line/km of gradient IP, ground magnetic survey at Faded Lily pit, 151 RC holes for 12,779m, diamond core drilling 888m in 11 holes, 1262m of vacuum and 2099m of post hole RAB.

**In the year to June 26<sup>th</sup> 1998** Acacia drilled extensively, comprising 27,342m of RC drilling, and 2184m of diamond core drilling at Rising Tide, Zapopan and Burgan, 4075m of vacuum drilling completed geochemical coverage, 38 rock chip and niche samples, 3096m of costeans at Howley Creek and Homeward Bound, Pit and surface geological mapping at Faded Lily, Alligator and Howley Creek, plus aeromagnetic, radiometric and gravity surveys.

**In the year to June 26<sup>th</sup> 1999** Acacia drilled 40m of vacuum samples at John Bull, 4 costeans at Howley Creek for 1,004m, two costeans at John Bull for 446m, resource drilling at Britannia, Zapopan, John Bull/Crocodile, Alligator, and Burgan comprised 44 holes for 3,809m, 5 diamond core holes were drilled at Zapopan for 396m and 484m of precollars. A feasibility study was carried out at Rising Tide and 1592m of grade control drilling completed. Resource modelling was done by MRT.

**In the year to June 26<sup>th</sup> 2000** work was limited to mining the remaining open pit resources at Zapopan and Burgan. Mining ceased in April 2000 after a total treatment of 4,834,287t @ 1.67g Au/t and 485,209t of low grade ore @ 0.71g Au/t. Fine ounces recovered totalled 254,741.

**In the year to June 26<sup>th</sup> 2001** no field work was carried out apart from care and maintenance of the mill and surface infrastructure.

The Brocks Creek assets were acquired by Buffalo Creek Mines P/L (Hill 50 Gold NL) in November 2001 and in April 2002 the Burnside Joint Venture with Territory Goldfields NL (Northern Gold NL) was finalised.

**During most of the period ending 26<sup>th</sup> June 2002** the project was under the management of the Burnside Joint Venture through Burnside Operations P/L

The Joint Venture has the objective of bringing the Zapopan and surrounding gold resources in the district into production using the Brocks Creek mill facility. Exploration in this period comprised preliminary computer modelling of the Rising Tide deposit and preparatory planning for the Zapopan mine.

Most expenditure was committed to refurbishing the Cosmo camp and Brocks Creek office and workshop infrastructure. Environmental monitoring of the Brocks Creek open pits and wetland areas was continued through the wet season.

Substantial exploration in the form of RC drilling was committed to the Yam Creek and North Point projects as well as the Mottram's and Chinese South targets north of Cosmo Howley. This work falls outside the scope of this report and has been reported separately in its appropriate tenement group.

## **8.0 EXPLORATION DURING YEAR ENDED 26<sup>th</sup> JUNE 2003**

Since acquisition of the Brocks Creek tenements, Buffalo Creek Mines P/L and later Burnside Operations P/L have carried out resource reviews on the Rising Tide and Zapopan gold deposits. During the year underground mining commenced at Zapopan, accessing the vein systems on two levels. A stockpile of development ore is awaiting treatment.

A diamond drilling program was commissioned from the underground workings comprising 37 holes for an advance of 1,540m. See Appendix One.

An updated resource block model and report was created from the results. See Appendix One and Appendix Four.

The Rising Tide deposit was subjected to further modelling and a geostatistical consultant was commissioned to estimate a new resource total. See Appendix Two and Appendix Four.

### **8.1 Mining Activity**

The small but high grade Zapopan underground gold resource was developed by spiral decline access from the bottom of the Zapopan open pit during the year. (The pit was about 40m deep below the natural surface of 100m ASL). The flooded pit was drained and a portal established a few metres above the pit floor, in the north wall. Barmingo was the mining contractor. The decline development progressed to beneath what is believed to be the limit of historic stoping on Main Lode.

In the upper sector, near to the pit, the rock quality was poor, requiring shotcrete, cable bolts and meshing to stabilise the backs and walls. The ground quality improved gradually with depth. Water ingress was heavy, initially but decreased steadily with depth and as the aquifer drained and water was diverted to Faded Lily pit, further away. On suspension of mining, in May 2003, water intake was down to 18 litres per second.

An E-W level was established off the decline on the footwall of Main Lode at 1000RL. (~100m below natural surface, or close to sea level) This was driven to the strike limits of the veins, exposing both the north and south slides (confining faults). On exposing the south slide, overbreak of the shear material exposed a void possibly accessing Fissure Lode. The 1000RL drive

was less than ideal being up to 2m wider than design and taking overbreak dilution from its footwall position and fretting from the south slide.

A further E-W ore drive was installed on 980RL, this centred on the lode and was driven to both the south and north slides. This drive averaged 5m in width.

Development ore totalling a truck-counted 12,215t at a calculated grade of 7.40g/t was taken from both drives and stockpiled at surface in preparation for treatment.

For details of the development in relation to the vein system see A.Gillman's resource report in the Appendix, and more fully in the CD provided.

## 8.2 Underground Diamond Core Drilling

A program of diamond core drilling comprising 36 holes for 1,535m was completed from the drives. (UZ01-UZ19, UZ29-UZ36, UZ39-UZ42 plus drainage hole SDH1 and UZ30B)

The drill logs, assays and survey information is provided in the CD. A summary table is provided below.

**Table 2 Zapopan Underground Core holes 2003**

HOLE-ID	Grid East	Grid North	Mine RL	Azim	Dip	Hole Length (m)
UZ01	11390.06	1412.16	1000.37	180.1	29.8	14
UZ02	11390.06	1412	999.75	177.6	6.7	19.7
UZ03	11390.05	1411.86	999.32	178.3	-8.2	6.4
UZ04	11395	1414.91	1000.62	182.5	38.74	21.7
UZ05	11395.04	1414.65	999.82	180.4	8.4	22.3
UZ06	11395.07	1414.84	999.09	179	-21.1	32
UZ07	11399.96	1416.33	1000.52	181.4	28.46	8
UZ08	11399.96	1416.45	999.75	181.5	3.5	25.9
UZ09	11399.98	1416.65	999.46	181.2	-10.3	22
UZ10	11405.04	1415.88	1001.13	179.5	39.05	8
UZ11	11405.03	1416.08	999.56	180.1	-6.5	8
UZ12	11405.02	1416.27	998.96	180.3	-29.33	13.5
UZ13	11410.08	1415.14	1000.77	180.16	34	7.9
UZ14	11410.07	1415.07	999.79	180.3	0.98	7.9
UZ15	11410.07	1415.34	999.12	179.51	-26.98	9.8
UZ16	11415.02	1415.25	1000.67	182.2	31.34	7.7
UZ17	11415.06	1415.14	999.89	180.37	2.27	9.1
UZ18	11415.07	1415.43	999.35	181.1	-21.1	8.7
UZ19	11381.13	1430.88	999	181.1	24.14	92.1
UZ25	11410.99	1422	999.05	327	-24	28.5
UZ26	11410.9	1421.95	999.22	306	-19	25
UZ27	11410.97	1421.95	999.06	316	-23	27.7
UZ28	11410.99	1422	999.06	340	-26	29.5
UZ29	11421.66	1443.22	978.02	132	-20	103.5

UZ30	11421.56	1443.27	977.77	142	-23	62.8
UZ30B	11421.01	1443.2	977.9	142	-23	111.9
UZ31	11421.05	1443.16	977.93	149	-25	110.4
UZ32	11421.56	1443.29	978.15	143	-15	80.8
UZ33	11421.49	1443.32	978.03	162	-18	77.7
UZ34	11420.92	1443.05	978.09	186	-18	80.5
UZ35	11421.49	1443.37	978.38	140	-7	86.8
UZ36	11421.48	1443.37	978.39	159	-7	92.1
UZ39	11421.7	1443.09	977.75	148.5	-22	121
UZ40	11421.54	1443.31	977.83	141	-24	124.5
UZ41	11432.87	1402.18	982.32	180.5	19	10.2
UZ42	11432.9	1402.2	981.37	180.5	-20	12
SDH1	11381.1	1436.01	998.83	338	-54	5.5
Totals						1,540.6

Coordinates local mine grid.

The machine that was used for the drilling was a Kempe with core size 35.5mm. Drilling conditions caused slow progress with an average of 24m per day (12m per shift). Broken ground in the slides was difficult to recover.

No exploratory surface drilling was carried out in the report period, though intensive RC programs have been under way since July 2002 testing resources in adjacent joint venture tenements. This activity is the subject of separate annual reports.

### 8.3 Resource Reports 2003

A new resource report on **Zapopan** was generated by A. Gillman (Harmony) and F. Dyer (Geostatistical Services P/L) using all previous drilling combined with the new underground drilling data and exposures. Technical and interpretive data from underground was provided by P.Harris of Harmony..

It was concluded that Main Lode contained the bulk of the resource that comprised an undiluted total of 298,438t @ 15.12g/t Au for 135,096oz (measured, indicated plus inferred). Some of the total is contributed by Central Lode and Fissure Lode. The increase in the resource from previous estimates is partly attributed to a statistically justified elevation of the upper grade cut, and the presence and frequency of visible gold. The nugget effect was reduced by the increased drill density. Details may be reviewed in Appendix One and Four.

The **Rising Tide** deposit was also subjected to a revised resource estimate. Gillman and Dyer conducted a geostatistically controlled estimate that improved the average grade of the deposit compared to the previous year. Details may be seen in Appendix Two and Four.

A total resource (indicated plus inferred, undiluted, at 0.7g/t lower cut off) was estimated at 826,206t @ 2.2g/t Au.

## **9.0 EXPLORATION EXPENDITURE REPORT ENDING 26<sup>TH</sup> JUNE 2003**

Salaries, wages, site administration	\$ 27,684
Consultants geological	\$ 14,847
Underground diamond drilling	\$211,964
Core assays	\$ 13,888
RC drilling (void probes)	\$ 7,000
Assay	\$ 2,684
Computer support	\$ 42,150
Consumables	\$ 969
Tenement administration	\$ 1,055
	-----
<b>TOTAL EXPLORATION</b>	<b>\$322,241</b>

### **MINING COSTS, ZAPOPAN**

Power	\$ 77,462
Power supply	\$ 1,430
Contract Mining	\$7,046,815
Ore Cartage	\$ 55,262
Grade Control sampling	\$ 58,728
Auxiliary services u/g	\$ 282,443
	-----
<b>TOTAL MINING</b>	<b>\$7,522,140</b>

**PROJECT TOTAL** **\$7,844,381**

## **10.0 FORWARD PROGRAM 2003-2004**

Following completion of the Zapopan mine development to the 980 level the Burnside Joint Venture opted to suspend exploration and mining in the region pending a turnaround of unfavourable economic factors.

Time was needed to fully assess the economics of the Zapopan deposit and its optimal relationship to adjacent gold resources (Rising Tide, Fountain Head, Yam Creek) and to await signs of a sustained improvement in the Australian gold price.

For much of the remainder of 2003 it is expected the mine will be held on a care and maintenance basis along with the exploration offices and accommodation at Cosmo Howley. Zapopan ore at grass is to be trucked for toll treatment in this period.

A geologist and caretaker will be on site for much of the period, the geologist conducting reviews, reporting and resource estimation.

It is hoped that a renewal of activity will occur late in 2003 and early 2004 with a turn around of economic circumstances. Exploration work comprising reviews, logging, mapping and database work, plus logistical support specific to Brocks Creek project is estimated at \$30,000.

## 11 REFERENCES

Acacia Resources (Brocks Creek) Pty Ltd Brocks Creek Project Report for Exploration on MLN1139 etc. Period 27<sup>th</sup> June 1998 to 26<sup>th</sup> June 1999. (P.Large, M.Dunn, J.Ham, D.Stephens)

Brocks Creek Gold Mine, End of Mining Report April 2000. M.Dunn, M.Wright.

Preliminary Resource estimation of the rising Tide Deposit. MRT Oct.1997. For Acacia Resources (R.Webb, R.Gaze.)

Update of Estimate of Resources for the Zapopan Gold Deposit, NT, March 1999. MRT, for Acacia Resources Ltd. (S.Khosrowshahi, M.Young)

'Rising Tide Modelling', Internal Memorandum Report, Gillman A. 25/2/02

A Summary of the Geology and Economic Potential of the Zapopan-Brocks Creek area, Adelaide River region, NT. (Archibald N.J., Bettenay L.F).

Shaw J. (2002) Annual Exploration Report Brocks Creek Project. Two year period, ending 26<sup>th</sup> June 2002. To NTDME.



## **APPENDIX ONE**

The Zapopan Gold Mine, MLN1139  
Resource Report A.Gillman, F. Dyer 2003  
Printout of report text.

## **APPENDIX TWO**

Resource Report Rising Tide Deposit  
Brocks Creek MLN1139. A statistical treatment.  
A.Gillman, F.Dyer. 2003  
Print out of report text.

## **APPENDIX FOUR**

### **CD-ROM**

2003 report text

Zapopan resource report

Rising Tide resource report

Zapopan underground core drilling, logs, assays.

## **APPENDIX THREE**

Copy of original underground  
Diamond core logs  
UZ1-UZ41