Technical Report
Mineral Resource and Mineral Reserve Update for the Youga Gold Mine Burkina Faso West Africa

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TABLE OF CONTENTS

Page

LIST OF TABLES

Page

LIST OF FIGURES

1.0 SUMMARY

The purpose of the following report is to update the mineral resources and reserves currently identified on the Youga Gold Mine ("Youga") and include the mineral resources identified at the Ouaré project. The Ouaré project is considered to be a satellite deposit to Youga and therefore is reported as part of this technical report. The report was prepared for Endeavour Mining Corporation ("Endeavour") by Mr. K. Kirk Woodman, P.Geo., General Manager of Exploration for Endeavour, Mr. Kevin Harris, CPG, Group Resources Manager for Endeavour and Mr. Adrian de Freitas, C.Eng., General Manager of Youga.

Youga and the Ouaré project are located in southern Burkina Faso approximately 180 kilometres south of Ouagadougou, the capital city, near the border with Ghana. The permits which comprise the two project areas are centred on 11º 10' north latitude and 00º 18' west longitude. Endeavour operates the producing Youga gold mine and mill, approximately 40 kilometres southwest of the Ouaré project.

1.1 OWNERSHIP

The Youga Exploitation Permit, which covers an area of 29km^2, was granted to Burkina Mining Company S.A. ("BMC") in April 2003. Etruscan Resources Incorporated ("Etruscan") acquired 90% of BMC through a wholly owned Cayman Islands subsidiary in 2003. In 2010 Endeavour completed the acquisition of a 100% interest in Etruscan. The remaining 10% interest in BMC is held by the government of Burkina Faso.

The Ouaré deposits are located within the Bitou 2 Exploration Permit held by Etruscan Resources Burkina Faso S.A. which is a subsidiary of Endeavour. This permit is in its final renewal period and will expire on November 21, 2015. Endeavour is in the process of applying for an exceptional renewal and anticipates it will be granted.

1.2 GEOLOGY

Endeavour's permits are underlain by rocks of the Archean-Proterozoic Man Shield which forms the southern half of the larger West African Craton. The permits cover the northeast extension of the Youga greenstone belt (known as the Bole-Navrongo belt in Ghana) that trends from Bole, in western Ghana, to the village of Bittou, in southern Burkina Faso, for a distance of some 400 kilometres. The greenstone belt is composed of weakly to moderately metamorphosed, lower Birimian mafic-volcanic flows, syn- to post- Birimian intermediate to felsic intrusions and subordinate Tarkwaian sediments comprised of arkosic sandstones. The belt is bounded by older Liberian basement rocks comprised of high-grade metamorphic assemblages and related intrusives. Younger, northwest-trending gabbro dykes cross-cut all lithologies.

The Youga greenstone belt is bounded to the north by the Bole-Navrongo shear zone which consists of a northeast-southwest trending deformation corridor that can be traced for more than 100 kilometres. The rocks have been overprinted by amphibolite grade metamorphism, possibly related to contact metamorphism. The metamorphic minerals are typically aligned along a pervasive foliation fabric. A weak retrograde alteration (calcite+/-chlorite-muscovite) overprints most of the rocks.

The Youga and Ouaré gold deposits can be described as epigenetic, mesothermal gold deposits, demonstrating a strong structural control with a brittle structural style. Gold mineralization is intimately associated with pervasive silicification, quartz veining and sulphidation (predominantly pyrite), although sulphide content is low to moderate (generally 1-5%).

1.3 EXPLORATION

Geochemical data, used in conjunction with the available geophysical surveys and geological mapping, has been effective in the delineation of significant gold mineralization targets within the project areas. This methodology continues to provide drill targets, however, given the deposits are clearly structurally controlled, improved understanding of these controls may lead to the discovery of additional "blind" deposits.

The permits have been completely covered with soil geochemistry and by detailed aeromagnetic and radiometric surveys. A gradient induced polarization/resistivity and ground magnetics survey has also been completed over an area covering the Youga and Ouaré deposits. Historical and recent exploration has been carried out under the supervision of technically qualified personnel applying standard industry approaches and procedures.

1.4 DATA

Drilling on the permits can be broadly separated into two campaigns: Ashanti/Echo Bay and Endeavour/Etruscan. Youga has in excess of 64,000m of diamond and 76,000m of reverse-circulation ("RC") drilling while the Ouaré project has nearly of 7,000m of diamond and 48,000m of RC drilling.

The reliability of the gold assay results was based on a well designed and implemented quality assurance and quality control protocol that entail the analysis of blind blanks, field duplicates and certified reference materials. The laboratory returned very good results for the certified reference materials, field duplicates and blanks. In addition, samples were submitted to umpire laboratories.

The authors believe the current quality control systems in place at Youga and Ouaré, to monitor the precision and accuracy of the sampling and assaying, are adequate and that the laboratory returned acceptable results for use in resource estimation.

1.5 MINERAL RESOURCES

Youga is an operating gold mine that has produced 537,621 ounces of gold since 2008, as of December 31, 2014. The mineral resource models supporting the current mineral reserve estimates for Youga were updated in 2014 by Endeavour personnel. Since 2006 four new resource areas, NTV, Zergoré, A2NE and LeDuc were the focus of drill programs and internal resource estimates at Youga. At Ouaré the current mineral resource areas are Main, Main NW and East.

Samples were composited to standard two-metre lengths, starting from the top of each hole. Statistical analysis was employed to define high-grade outlier gold assays, and all composites inside the grade shells were capped based on statistical analysis.

Gold grade interpolation has been completed using a combination of Ordinary Kriging ("OK") and Inverse Distance ("ID") methods.

The mineral resource estimate was prepared by conventional block modeling techniques. Grade shells were defined using a threshold assay of 0.5g/t Au as the lower limit for inclusion within the grade shell. Individual blocks within the block model were sized to approximate the size of the selective mining unit.

The most recent resource estimation for the Youga deposits was completed by Endeavour, under the supervision of Mr. Harris, effective December 31, 2014. The resource estimate for Ouaré was completed by AMEC International ("AMEC"), under the supervision of Mr. Woodman, effective

August 6, 2012, however, no additional drilling has been completed since this estimation and it remains current. A summary of the interpolated resources at 0.5g/t cut-off is provided in Table 1-1.

Table 1-1 Youga and Ouaré Mineral Resources at a 0.5 g/t Cut-Off

Deposit	Resources (including reserves)											
	Measured			Indicated			M + I			Inferred		
	kt	g/t	kozs	kt	g/t	kozs	kt	g/t	kozs	kt	g/t	kozs
A2 Main	432.4	2.36	32.8	513.3	2.24	37.0	945.7	2.29	69.8	81.5	2.23	5.8
A2 East	223.0	1.87	13.4	108.6	1.52	5.3	331.6	1.76	18.7	3.8	1.08	0.1
A2W Z1	24.0	2.08	2.0	25.0	1.45	1.0	49.0	1.90	3.0	6.0	2.00	0.4
A2W Z2	186.4	1.93	11.6	411.0	2.07	27.4	597.4	2.03	38.9	19.5	1.83	1.1
A2WZ3	133.6	2.45	10.5	87.9	3.31	9.4	221.5	2.79	19.9	44.0	2.53	3.6
Zergoré	1,700.3	1.63	89.3	1,480.8	1.43	67.9	3,181.1	1.54	157.2	969.7	1.60	49.9
NTV	1,605.1	1.13	58.3	596.0	1.20	23.0	2,201.1	1.15	81.3	219.4	1.26	8.9
A2NE	23.4	2.78	2.1	1,105.8	1.54	54.7	1,129.2	1.57	56.8	636.0	1.64	33.5
LeDuc	-	-	-	-	-	-	-	-	-	221.7	1.56	11.1
Ouaré	1,071.6	1.14	39.4	5,368.2	1.55	268.2	6,439.8	1.49	307.7	571.3	1.49	27.4
Stockpile	1,919.3	0.94	58.2	-	-	-	-	-	-	-	-	-
Total	**7,319.4**	**1.35**	**317.2**	**9,696.4**	**1.58**	**493.7**	**17,015.8**	**1.48**	**811.9**	**2,772.5**	**1.59**	**141.5**

The interpolation and classification of the resources are in accordance with the criteria set out in Canadian National Instrument 43-101 Standards of Disclosure for Mineral Projects of June 2011 and based on "CIM Definition Standards for Mineral Resources and Mineral Reserves" adopted by the CIM Council in May 2014.

1.6 MINERAL RESERVES

The Youga Mine end 2014 mineral reserve estimates stated in this report are based on the mineral resources reported above and updated by Endeavour personnel under the supervision of Mr. de Freitas, as of December 31, 2014.

The key modifying parameters upon which the mineral reserve estimates were made are summarized in Table 1-2.

Table 1-2 2014 Reserve Key Modifying Parameters

Applied Modifying Parameters	End 2014
New optimization	Yes
Gold Price	USD1250/oz
Royalty	4%
Process cost USD/t milled	24.3
Process recovery	92%
Mining cost	PW new contract(May 2014)
Mining Dilution	7%
Mining recovery factor	97%
Pit slopes degrees	46^{o} to 55^{o}
G&A cost USD/t milled	9.6
Other processing cost USD/t milled	3.5
Average COG applied across all pits	1.1g/t

Based on the updated Measured and Indicated mineral resources for the various mineral deposits at Youga, the Proven and Probable mineral reserves for the open pit operations, using a gold price of USD1,250/oz, as of December 31, 2014 are estimated to be 3,510kt at a grade of 1.79g/t containing 202,000oz of gold. This includes 777kt of ROM pad stockpile material at a grade of 1.35g/t containing 33,600oz of gold (Table 1-3).

Table 1-3 Estimated Reserves at Youga as of December 31, 2014

Deposit	Mineral Reserves								
	Proven			Probable			Total		
	kt	Au (g/t)	kozs	kt	Au (g/t)	k ozs	kt	Au (g/t)	kozs
A2 Main	92	2.50	7.4				92	2.50	7.4
A2 West 3	4	3.15	0.4	6	2.65	0.6	10	2.83	1
A2 West 2	209	2.27	15.2	220	2.20	15.6	430	2.23	30.8
Zergoré	808	2.07	53.8	277	1.95	17.4	1,085	2.04	71.2
A2NE	13	3.81	1.6	281	2.39	21.6	294	2.45	23.2
NTV	641	1.27	26.5	180	1.37	7.9	821	1.30	34.4
Total Pits	1,767	1.85	104.9	966	2.03	63.0	2,733	1.91	167.9
Stockpiles	777	1.35	33.6	-		-	777	1.35	33.6
Youga Total	**2,544**	**1.69**	**139**	**966**	**2.03**	**63.0**	**3,510**	**1.79**	**202**

There are currently no mineral reserves defined on the Ouaré gold project.

This reserve estimate has been determined and reported in accordance with Canadian National Instrument 43-101, ”Standards of Disclosure for Mineral Projects” of August 2011 and based on “CIM Definition Standards for Mineral Resources and Mineral Reserves” adopted by the CIM Council in May 2014.

1.7 MINING

Youga commenced operations in 2008 with open pit mining and gravity/CIL processing facilities and during the period to end 2014 a total of 537,621oz of gold had been recovered from the mining and processing of 6.38 million tonnes of ore from the A2Main, A2East, A2West1, 2 and 3 pits. During 2014 mining operations at Youga mined a total of 5Mt of material and delivered 1.16Mt of ore at an average grade of 2.47g/t containing 92,200oz of gold to the ROM pad.

Youga uses a conventional open pit, selective mining exploitation method, employing a mining contractor - PW Mining International Ltd. (“PW”).

1.8 METALLURGY AND PROCESS PLANT

The Youga processing plant uses the conventional gravity/CIL gold recovery process, and consists of three stage crushing, ball milling, gravity concentration and cyanidation by carbon-in-leach (“CIL”). Pressure Zadra elution is utilized for recovery of gold from loaded carbon; it is designed to process 1Mt per annum of gold ore.

The Youga mine has a dedicated Safety, Occupational Health and Environment department which operate under the guidance of a set of principles which define the regulatory and corporate governance commitments of the Youga mine in respect of the manner in which it conducts its business.

1.9 CAPITAL AND OPERATING COSTS

Capital expenditures at Youga in 2014 were USD2.1M and for 2015 are limited to USD2.0M and approximately the same for the subsequent years for miscellaneous minor capital requirements.

The 2014 cash operating costs for Youga was USD742/oz of gold sold, which includes all mining, treatment and general and administrative costs, and excludes depreciation, amortization, sustaining capital, royalties and corporate general and administration costs.

1.10 CONCLUSIONS

Grade control reconciliation has confirmed the mineral resources and mineral reserves as previously stated for Youga. The results of this update to the mineral resource and mineral reserve evaluation confirm the continued economic viability of exploiting the Youga Gold Deposit.

In 2014 Youga produced 76,560oz at an all-in sustaining cost ("AISC") of USD824/oz. The 2015 production is estimated to be 60,000 to 65,000oz at an AISC estimated in the range of USD975 to USD1,025/oz produced and includes all mining, treatment, general and administrative costs, sustaining capital and royalties, which are incurred at the mine site. The mine level AISC costs exclude depreciation, amortization and corporate general and administrative costs.

Based on current reserves and mine planning, the Youga LOM production schedule extends from 2014 through to 2018, with a total of 3.5Mt of ore at 1.79g/t containing 202,000ozs of gold being mined and delivered to the ROM pad for processing during this period.

The risks to the Youga Mine LOM plan and operations are currently considered to be low, with outcomes being sensitive to negative commercial trends that might develop in respect of the gold price and the impact of inflationary effects on power, fuels, labour and spare components because of the global economic situation. Recent fuel prices and foreign exchange rates have positively impacted the cash cost for the mine.

Opportunities to increase the current resources and reserves for Youga include;

- Developing the Ouaré deposits and trucking to the Youga plant;
- Infill drilling of the Inferred resources identified at the LeDuc deposit, and;
- Exploration drilling on a number of targets within the Youga exploitation permit, such as the western extension of A2NE and the Gassore trend.

1.11 RECOMMENDATIONS

In 2015 the key objectives of Youga are:

- Operate on a “Zero Harm” safety and environmental tolerance basis;
- Develop the skills base of Youga’s employees;
- Continue to improve productivities and reduce operating costs;
- Exceed LOM budget expectations year on year;
- Extend the life and increase the asset value of the Youga mine and the company’s other mineral assets through a process of development and re-engineering and the addition of additional ore reserves from exploration of its land holdings, and;
- Achieve the above objectives in a socially responsible manner.

Reserves on the Youga Exploitation Permit are coming to an end and for operations to continue, additional reserves would need to be developed from the current Youga and Ouaré resources.

2.0 INTRODUCTION AND TERMS OF REFERENCE

Endeavour, through wholly owned subsidiaries, holds a 90% interest in Youga and 100% in the Ouaré project, both located in southern Burkina Faso, West Africa. Youga commenced production in 2008.

The purpose of this report is to update the mineral resources and reserves currently identified on Youga and include the mineral resources identified at the Ouaré project which is considered to be a satellite deposit to Youga.

This report was prepared for Endeavour by Mr. K. Kirk Woodman, P.Geo, General Manager of Exploration for Endeavour, Mr. Kevin Harris, CPG, Group Resources Manager for Endeavour and Mr. Adrian de Freitas, C.Eng., General Manager of Youga.

The authors are qualified persons ("QP") by virtue of their experience, education and professional standing relative to the portions of the reports that they are responsible for. The QP professional designations and sections of the report that they are responsible for are listed in Table 2-1. The individual QP certificates are provided at the end of this report. None of the authors are independent of Endeavour.

Table 2-1 List of Authors, Professional Designations and Report Sections

Author	Designation	Sections	Site Visits
K. Kirk Woodman	P.Geo.	1-12, 14.2, 14.3, 20.3, 23, 24 & 27	Numerous visits between 2003 and 2014, most recently September 14 to 15, 2014
Kevin Harris	CPG	14.1	November 25 to 28, 2014
Adrian de Freitas	C.Eng.	13, 15-19,20.1, 20.2, 20.4, 21, 22, 25 & 26	Based at site since 2010

The main sources of information and data contained in this report or used in its preparation include:

- Technical Report and Update of Mineral Resources and Mineral Reserves for Youga Gold Mine, Burkina Faso, West Africa, dated March, 2011, prepared by Endeavour Mining Corporation;
- Youga Mining Study - October 2006 Update, Youga Gold Project, Burkina Faso, West Africa, dated October, 2006 ("Youga Feasibility Study Update"), prepared by RSG Global Consulting (Pty) Ltd. and MDM Engineering (Pty) Ltd.;
- Youga Feasibility Study Report, Youga Gold Project, Burkina Faso, West Africa, dated January, 2005 ("Youga Feasibility Study"), prepared by RSG Global (Pty) Ltd. and MDM Ferroman (Pty) Ltd.;
- Technical Report and Preliminary Economic Assessment on the Ouaré Gold Project, Burkina Faso, West Africa, dated April 2013, prepared by Micon International Limited;
- Ouaré Deposit – Resource Estimate 2012, dated December 2012;
- Youga production data; and
- Results of exploration drilling completed on the Youga Exploitation Permit.

A complete list of references is provided in Section 27.

A full listing of abbreviations used in this report is provided in Table 2-2 below.

Table 2-2 List of Abbreviations

Abbreviation	Description	Abbreviation	Description
USD	US dollars	M	Million
a	Years	m	Metres
Au	Gold	cfa	African Financial Community Franc
bcm	Bulk cubic metres	MIK	Multiple indicator kriging
CDN	Canadian dollars	mm	Millimetre
cm	Centimetre	N (Y)	Northing
E (X)	Easting	OK	Ordinary Kriging
G	Billion	oz	Troy ounce
g	Gram	ppb	Parts per billion
g/t	Grams per tonne of gold	ppm	Parts per million
ha	Hectare	QA	Quality assurance
ID	Inverse distance	QC	Quality control
JV	Joint venture	RAB	Rotary air blast
k	Thousand	RC	Reverse-circulation
kg	Kilogram	RQD	Rock quality designation
km	Kilometre	SG	Specific gravity
km^2	Square kilometre	T	Tons
LOM	Life of Mine	t	Metric tonnes

The coordinate system used on most maps included in this report is Universal Transverse Mercator (“UTM”), WGS 84 datum in zone 30N.

3.0 RELIANCE ON OTHER EXPERTS

The authors of this report have relied on other experts for the information on legal title, permitting, geotechnical, environmental and social issues associated with Youga.

A summary of the legal title and permitting information was prepared by Ms. Nathalie Bernard of Endeavour. Copies of the mine permit documents are held in Endeavour's Ouagadougou office and at the Youga Mine. The permits were issued by the Ministry of Mines of Burkina Faso. The authors of this report did not verify the legality of these permits or any underlying agreement(s) that may exist concerning the permits or other agreement(s) between third parties.

The assessment of data pertaining to the geotechnical sections relies on information provided by Golder Associates in the report titled "Phase 2 Geotechnical Study in Support of Feasibility Study – Youga Project – Burkina Faso" (August 2004), which has not been independently verified by the authors. SRK and Knight Piesold have been providing technical reviews of the operations in respect of mining and tailings storage management since 2010.

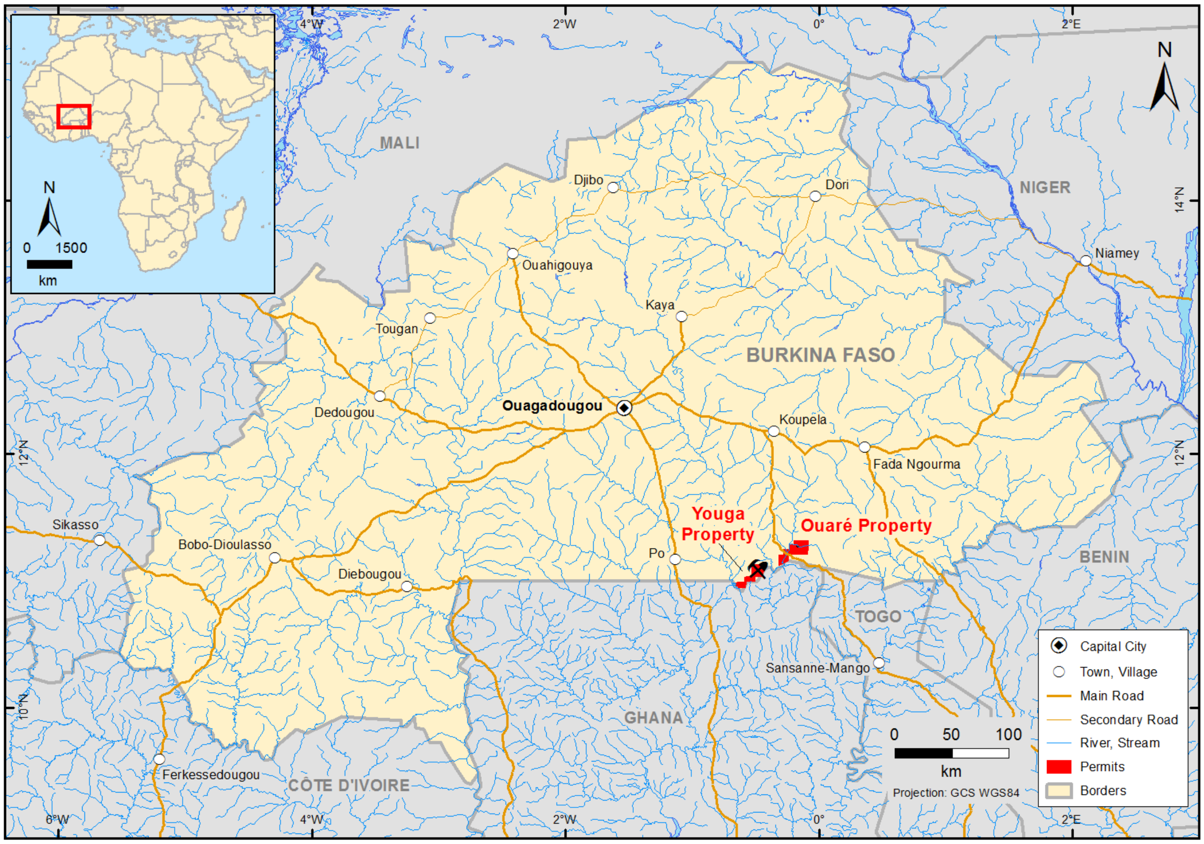
The original and updated environmental impact assessment studies for Youga have been prepared by SGS Environment, a Division of SGS Laboratory Services Ghana Limited ("SGS"), in partnership with Société de Conseil et de Réalisation pour la Gestion de l'Environnement ("SOCREGE"), a local consultancy firm based in Ouagadougou (February 2005). The latter was responsible for both local coordination and collection of most baseline data and information. The assessment of data pertaining to this discipline relies heavily on information provided in these reports, which has not been independently verified by the authors.

The discussion of the environmental and socio-economic considerations associated with the potential development of the Ouaré project, as presented in Section 20 of this report, has been summarized from a report prepared for Endeavour by SOCREGE.

4.0 PROPERTY DESCRIPTION AND LOCATION

The Youga Property consists of one Exploitation Permit (Youga) and two Exploration Permits (Songo and Zerbogo II) while the Ouaré project is comprised of four Exploration Permits (Bitou 2, Bitou Sud, Bitou Nord and Bitou Est), all situated in the province of Boulgou, Burkina Faso, West Africa, about 180 kilometres southeast of Ouagadougou, the capital city (Figure 4-1). The Permits are centered on 11^0 10' North latitude and 00^0 18' West longitude. The two project areas are separated by the Nakambé River.

Figure 4-1 Location Map, Youga, Burkina Faso, West Africa



The Youga Exploitation Permit covers an area of 29km^2, and was granted to Burkina Mining Company S.A. by Decree no.2003-186\PRES\PM\MCE on April 8, 2003 and is valid for 20 years with five-year renewal periods. BMC is held 90% by Cayman Burkina Mines Ltd., which is in turn held 100% by Endeavour Mining Corporation and 10% by the State of Burkina Faso. In Burkina Faso, exploitation permits encompass the right to enter and use the land covered by the exploitation permit and no specific surface rights agreements are required. However, compensation of customary land users has been effected by BMC.

Initially BMC was subject to a 3 percent royalty on the gold produced but by Amending Decree no.2010-819 dated December 31st, 2010, with effect on December 1st, 2010, the royalty has been modified as follows: 3 percent if the price of gold is less than USD1,000, 4 percent if the price of gold is between USD1,000 and USD1,300 inclusively, and 5 percent if the price of gold is more than USD1,300. This royalty is payable within 60 days from the date of signing of weighing and packing statement.

The Exploration Permits for the Youga and Ouaré projects are held by two companies: Etruscan Resources Burkina Faso S.A. ("ERBF") and ER Burkina Exploration S.A. ("ERBE") which are in turn held 100% by Endeavour (Table 4-1) and cover a total area of 367km².

Table 4-1 Youga and Ouaré Exploration Permit Details

Permit		Arrêté			Original	Annual Payments (USD)	
Name	km²	Number	Renewal	Expiry	Holder	Surface Tax	Expenditures
Zerbogo II	54	2012/12/231	First	09-Jun-15	ERBE	810	29,160
Songo	77.9	2012/12/225	First	09-Jun-15	ERBE	1,169	42,066
Bitou 2	101.3	2013/000115	Final	21-Nov-15	ERBF	1,519	54,675
Bitou Sud	44.2	2014/000082	Exceptional	19-Oct-16	ERBF	664	23,890
Bitou Nord	40	2014/000081	Exceptional	19-Oct-16	ERBF	600	21,600
Bitou Est	50	2012/12/207	First	07-Apr-15	ERBE	750	27,000
Total	**367.4**					**5,511**	**198,391**

Figure 4-2 shows the concession outlines to the current exploration permits also held by Endeavour, along the Youga Belt and Table 4-2 lists the co-ordinates.

Figure 4-2 Youga Belt Exploration and Exploitation Permits

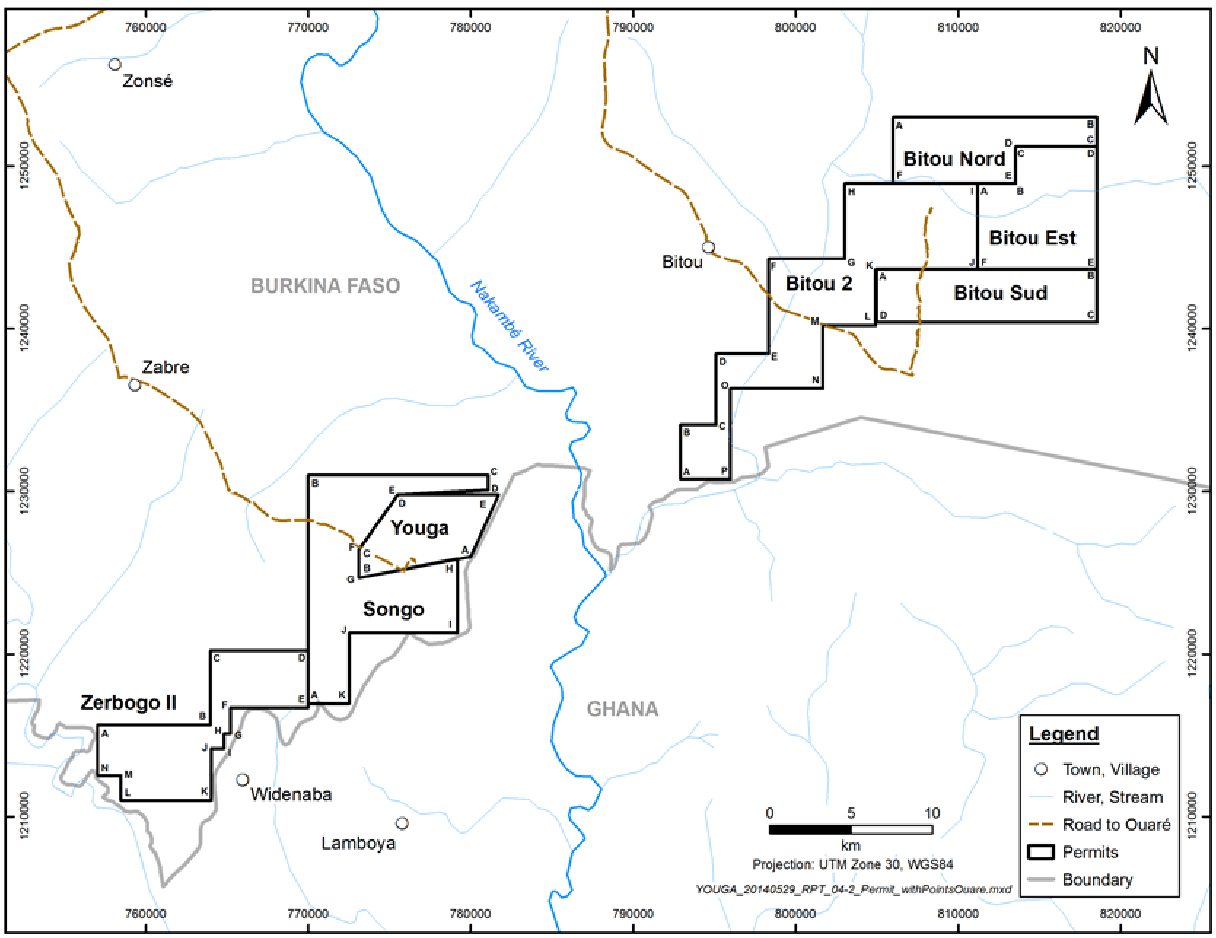
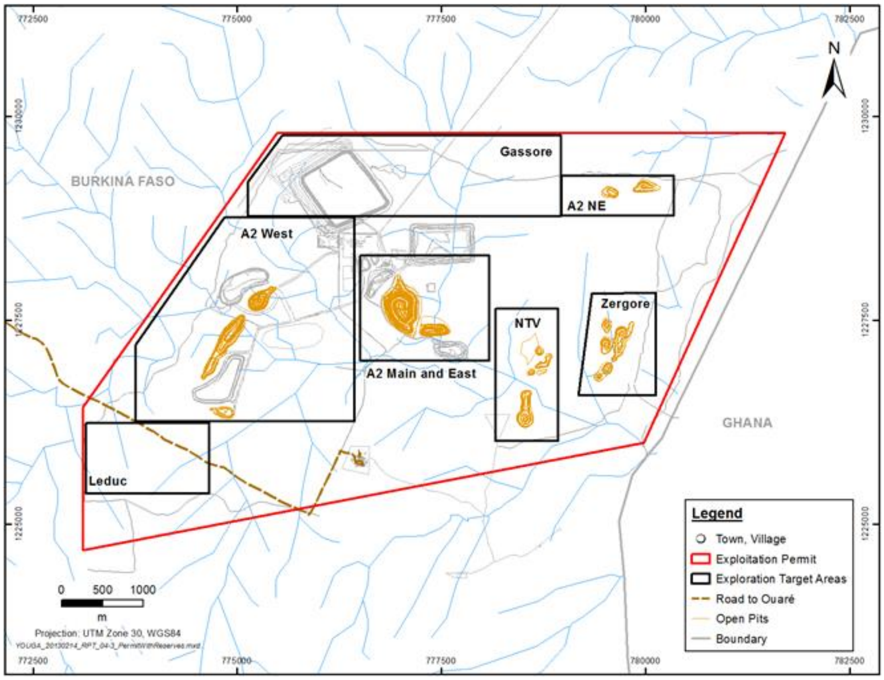


Table 4-2 Geographic Coordinates of the Youga Belt Permits

Permit	Point	Easting	Northing	Permit	Point	Easting	Northing
Youga	A	780001	1225783	Bitou 2	A	792911	1230536
	B	773134	1224464		B	792911	1240010
	C	773134	1226217		C	796963	1240010
	D	775505	1229580		D	796963	1244998
	E	781729	1229580		E	801990	1244998
Songo	A	770000	1216744		F	801990	1248733
	B	770000	1230769		G	811220	1248733
	C	781081	1230769		H	811220	1243460
	D	781081	1229864		I	804933	1243460
	E	775505	1229580		J	804933	1239999
	F	773134	1229580		K	801684	1239999
	G	773134	1224464		L	801684	1236100
	H	779186	1225644		M	795979	1236100
	I	779186	1221094		N	795979	1230536
	J	772533	1221094	Bitou Sud	A	804993	1243460
	K	772533	1216744		B	818563	1243460
Zerbogo II	A	757056	1215444		C	818563	1240200
	B	764000	1215444		D	804993	1240200
	C	764000	1219999	Bitou Nord	A	806021	1252800
	D	770000	1219999		B	818563	1252800
	E	770000	1216500		C	818563	1251000
	F	765231	1216500		D	813540	1251000
	G	765231	1214894		E	813540	1248733
	H	764821	1214894		F	806021	1248733
	I	764821	1213974	Bitou Est	A	811220	1248733
	J	764046	1213974		B	813540	1248733
	K	764046	1210796		C	813540	1251000
	L	758474	1210796		D	818563	1251000
	M	758474	1212314		E	818563	1243460
	N	757056	1212314		F	811220	1243460
Projection: Clarke 1880				Datum: Adindan, Zone 30			

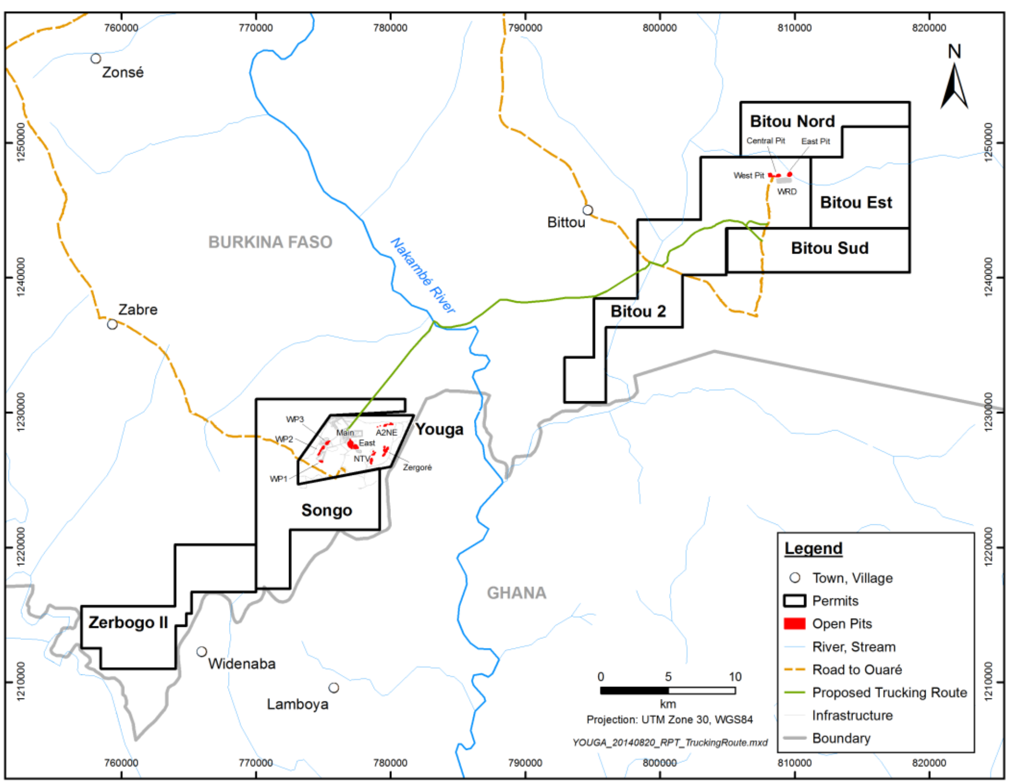
The current reported resource and reserve areas within the Youga exploitation permit are located with the relative location of existing mine infrastructure in Figure 4-3.

Figure 4-3 Youga Exploitation Permit, Open Pits, Mine Infrastructure, Mineral Resource, Mineral Reserve and Exploration Target Areas



The location of the Ouaré deposits and proposed infrastructure in relation to the Youga Exploitation Permit is shown in Figure 4-4.

Figure 4-4 Ouaré Deposits, Open Pits, and Proposed Mine Infrastructure



Endeavour is in the process of applying for an exceptional renewal of the Bitou 2 permit which includes the current resources outlined in the Ouaré deposits. The company expects the exceptional renewal will be granted.

Exploration Permits in Burkina Faso are applied for using “paper-staking”, providing the latitude and longitude of the vertices of the individual permits to the Ministry of Mines for approval. The Ministry includes the property coordinates in the granted approval. Mineral title regulations in Burkina Faso provide for a renewal of all Exploration Permits after three years and a second renewal after an additional three years, at which time a 25% reduction in the size of the property is required.

Application for an Exploitation Permit requires that:

- The Exploration Permits involved are in good standing;
- A feasibility study has been submitted, containing development and exploitation plans for the deposit, and;
- An environmental impact assessment or a statement that includes the results of public enquiry has been submitted, outlining the negative and positive impacts of development, and including a plan for remedial or mitigating actions and an environmental monitoring plan.

Exploitation Permits for large mines are issued for twenty years and are valid as of the date of the decree. They are renewable by right of law for additional terms of 5 consecutive years until depletion of the deposit. Unless otherwise authorized, the holder of an Exploitation Permit must commence development and production work within a maximum period of two years, starting from the first day of validity of the permit.

The government of Burkina Faso would receive a 10% free-carried interest in any operating company created to exploit the Ouaré deposit. The proceeds of production would be subject to a net smelter return royalty of 3% if the price of gold is less than USD1,000 per ounce, 4% if the price of gold is between USD1,000 and USD1,300 per ounce, and 5% if the price of gold is more than USD1,300 per ounce. This royalty is levied by the government of Burkina Faso and is payable within 60 days from the date of signing the weighing and packing statement.

In order to make application for an exploitation permit for the Ouaré gold deposit both a feasibility study and an environmental impact assessment or a statement are required before the permit expires in November 2015.

Section 78 of the Mining Code of Burkina Faso provides that a mining permit holder must open a trust account at the Central Bank of West African State (“BCEAO”) or in a commercial bank in Burkina Faso, to deposit funds to implement the environmental preservation and rehabilitation program the permit holder has adopted. The account is in the name of the permit holder but the funds are held in trust and all withdrawals are subject to prior approval of the Minister of Finance and Economy of Burkina Faso. BMC has opened such an account and has been funding it on a yearly basis in accordance with the legislation.

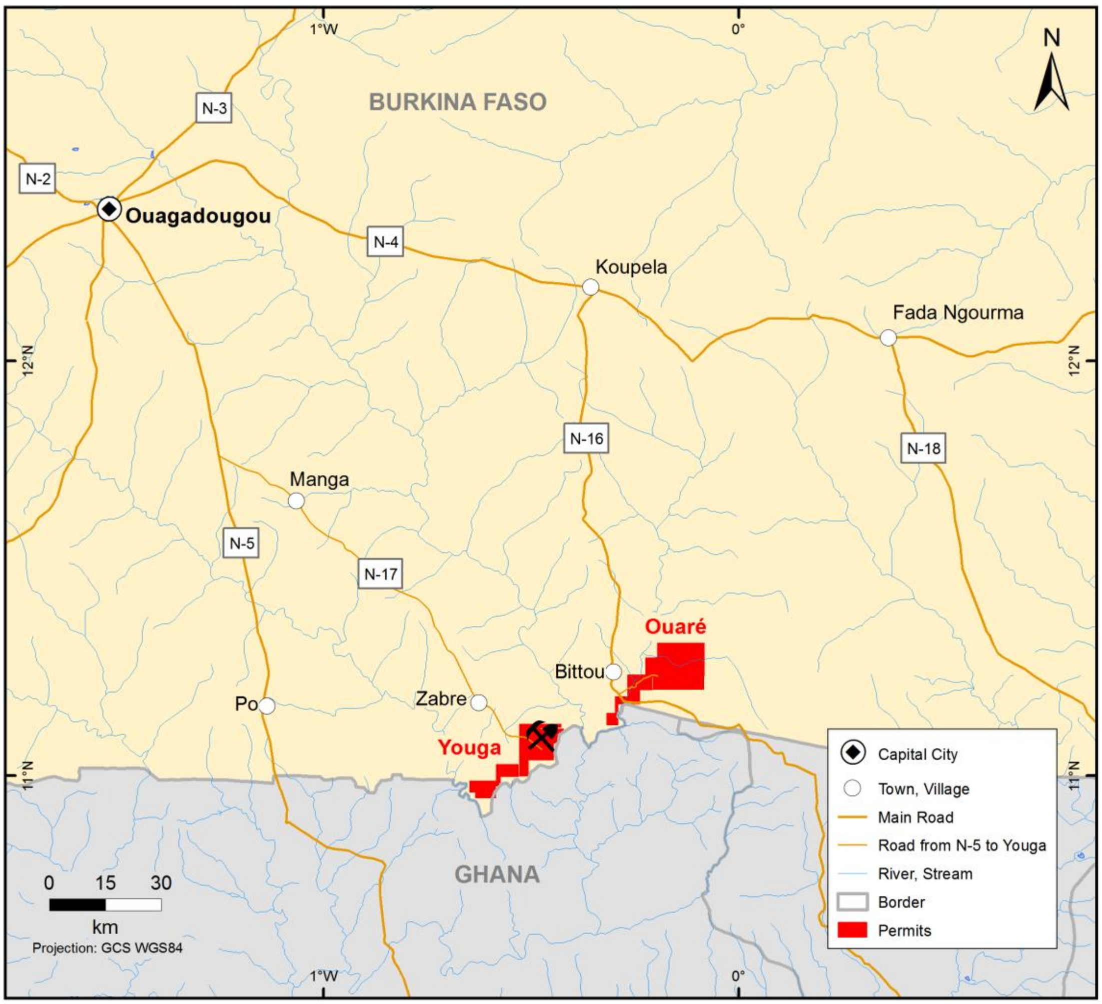
Endeavour currently has all required permits for exploitation of the current mineral resources and mineral reserves of the Youga gold mine.

5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

Ouagadougou, the capital of Burkina Faso, is serviced from Europe by Air France (direct flights from Paris seven times a week) and Brussels Airlines (direct flights from Brussels twice a week). In addition, the neighbouring countries are accessible by regularly scheduled air services as well as via a network of roads.

Youga is 193 kilometres by road or approximately 3.5 hour drive from Ouagadougou. Road access from Ouagadougou is via paved highway N-5 south towards Po for 70km, then southeast for 23km on paved road N-17 reaching Manga then continuing on in the same direction on a 76km on R-12, a gravel road to Zabre. Youga is accessed by driving 24km southeast from Zabre on a well-maintained gravel road (Figure 5-1).

Figure 5-1 Road Access



The Ouaré exploration camp is 280km by road, or approximately a 3-hour drive, from Ouagadougou, via paved highway N-4 east to Koupela, approximately 150km, then south for 130km on paved road N-16 continuing through Bittou village (Figure 5-1). The Ouaré project is accessed by driving 11km northeast from N-16 on a poorly-maintained gravel road with two undeveloped river crossings that cannot currently be traversed during periods of heavy rain.

A network of bush roads provides vehicle access within the Youga Exploitation Permit and surrounding Exploration Permits during the dry season. Portions of the properties are not easily accessible during the wet season due to the inundation of the roads and a lack of bridges over seasonal water courses.

The local climate is that of the Sahel zone, near the transition from savannah in the south to the steppes (desert) in the north. The wet season extends from June to September with peak rainfall in August, which typically occurs as cloud bursts and thunderstorms that can be severe. The mean annual rainfall is between 700 and 1,000 millimetres. Typical daytime temperatures range from 25°C in December to 45°C in May, with night-time temperatures dropping by approximately 10 degrees. Temperatures exceeding 40°C in April and May are common. Mining activities continue year round without interruption and exploration activities are limited during rainy season to areas of the property with better road access.

Tema, in Ghana, is the seaport used for shipping heavy equipment and various imported supplies to site, and from there via road to the Youga site. The roads through Ghana to the Burkina Faso border are generally in good repair. The road from the Burkina Faso border to site is unpaved, but is in very good condition.

Burkina Faso's total annual power generation is 700 million kWh (2009), with the majority of power being generated and used in the major cities of Ouagadougou and Bobo Dioulasso. There is no Burkinabe national grid power in the Youga area; however the village of Mogandé, located 10km south-southwest of Ouaré, is connected to the grid. A 10MVA power line is now in operation supplying grid-power to Youga from Ghana.

Plant water is supplied to the mine via an 11km long pipeline from the Nakambé River to the northeast of the mine.

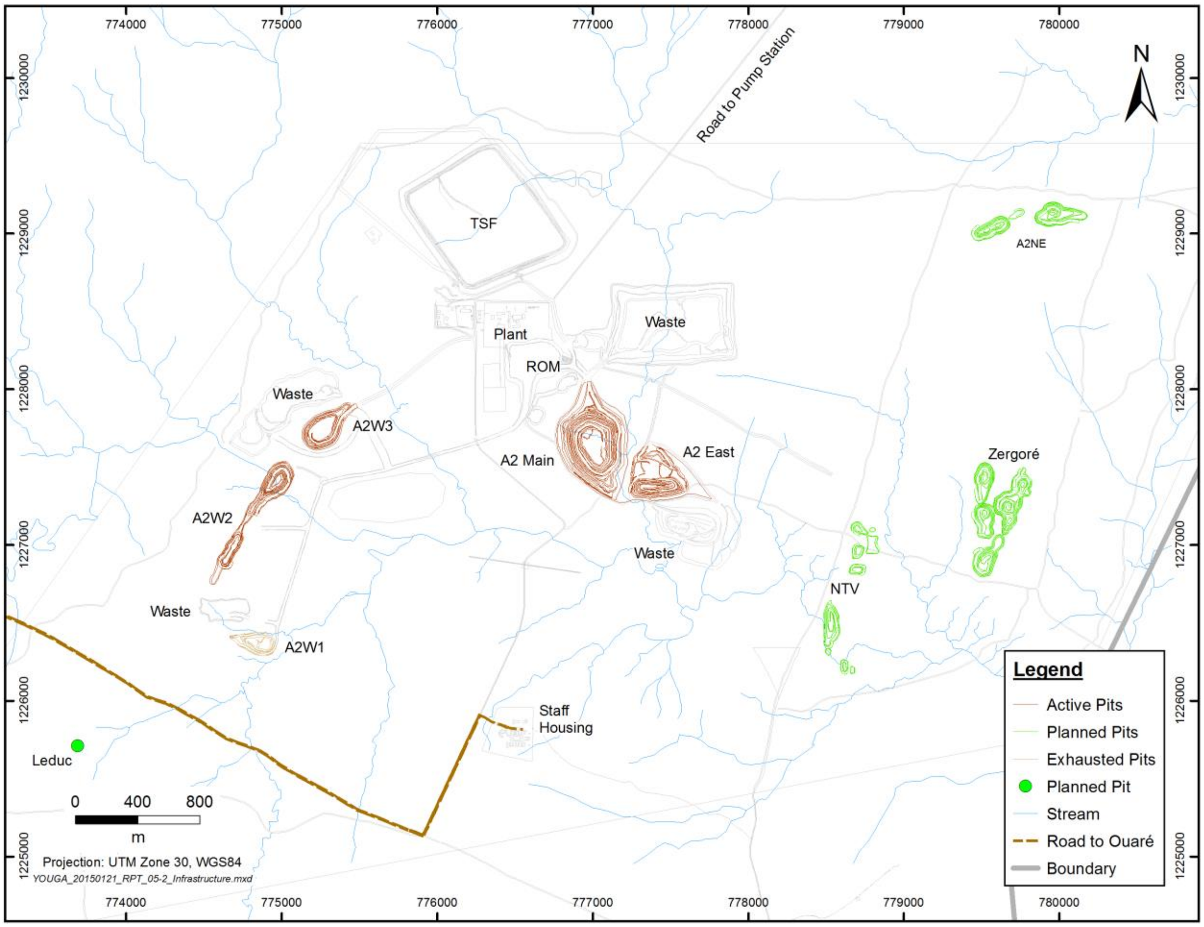
The mining industry in Burkina Faso is active and has been expanding as new mines are opened. There are an increasing number of local mining personnel available. Mine workers and professionals are available from neighbouring countries (i.e. Mali and Ghana).

There is no landline telephone service to the area, but there is adequate (including data transmission) cell service in the area of the mine. A satellite system providing access to internet and voice communications has been installed for the plant and administration offices.

Facilities and infrastructure at Youga (Figure 5-2) consists of:

- Four currently operating open pits, four waste rock dumps and a fleet of mobile mining equipment;
- An explosives storage site with magazines, and a fuel storage facility;
- A 1.0Mt/a gold ore processing plant and associated tailing storage facility;
- A Maintenance shop and warehouse;
- An assay laboratory;
- Two administration buildings;
- A diesel generating station for back-up site electrical power;
- An 11km water pipeline to the plant;
- A camp complete with kitchen and catering facilities; and
- Security building and personnel.

Figure 5-2 Youga Site Infrastructure



The tailings storage facility ("TSF") is designed for a total of 6.6 years of additional storage. Subsequent lifts were carried out in 2011, 2012 and 2014 and will be adequate until the end of July 2016, when another lift will be required.

The Youga Exploitation Permit lies between the Nazinon River, in the west and the Nakambé River in the east, both rivers are perennial. The Bitou Exploration Permits lie west of the Nakambé River. The area is typified by undulating terrain with several ranges of moderately sloped hills that rise about 100m above the surrounding land. Unlike most of this part of West Africa, laterite and saprolite are virtually non-existent. Outcrops of fresh rock occur throughout the area. Drainage is via streams that flow into the southerly flowing Nakambé River.

Vegetation in southern Burkina Faso is dominated by wooded savannah which dries to sandy desert in the north of the country.

Subsistence level farmers cultivate portions of the Youga and Ouaré areas. Crops of maize, millet, sorghum and peanuts are grown. Cattle, sheep, goats, pigs and various fowl graze portions of the land. The farming is done with only basic hand tools; donkey drawn carts are used to transport supplies and produce. Unpopulated areas are mostly forest covered.

A portion of the Bitou 2 Exploration Permit, including the Ouaré gold deposit, is located within a pastoral reserve which has been set aside for the use of indigenous nomads (Fulany people).

Surface rights are sufficient for all current mining and milling operations, exploration activities, and for all required project facilities, if Ouaré were to be developed as a standalone operation.

6.0 HISTORY

Incanore Resources Ltd. ("Incanore") was awarded the Youga Exploration Permit in 1991 and optioned the Youga property to International Gold Resources Inc. ("IGR") in 1994. In 1995 Echo Bay Mines Limited ("Echo Bay") entered into an agreement with IGR for a 50% interest in the permit. Ashanti Goldfields Company Limited ("Ashanti") purchased IGR in 1999 and the project became a 50/50 joint venture with Ashanti as the operator. Ashanti completed a positive feasibility study on the Youga Gold Deposit in 1999.

Ashanti was granted the Bitou Exploration Permit in 1997 and the Bitou Est Exploration Permit in 1998. These became part of the joint venture with Echo Bay.

A brief summary of the exploration completed by operators Incanore, IGR and Ashanti/Echo Bay is provided as Table 6-1.

Table 6-1 Incanore, IGR and Ashanti Exploration Activities – 1991 to 1999

Date	Operator	Type of Work	Description
Early 1994	Incanore	Soil geochemistry, geological mapping/prospecting	1,263 samples, 500m x 500m grid, ICP, 1:50,000 scale
1995	Incanore	Trenching	52 Trenches for 8,000m
1996	IGR	Mapping, trenching and RC drilling	1:2,000 scale, 9 holes, 254m, 135 samples
1997-1999	Ashanti/ Echo Bay	Regional study, IP survey, petrology trenching, RC and DD Drilling	22,550 soil samples, 140 trenches for 25,870.5m, 52 holes for 5,379m of RC drilling and 100 holes 16,743.4m DD drilling
1999	Ashanti	Ashanti Feasibility Study	

In 2003, Etruscan Resources Inc. reached an agreement to acquire the Youga Exploitation Permit and three Exploration Permits covering the Youga Belt trend. Etruscan continued exploration and completed a feasibility study for Youga in 2006.

The mineral resource estimates for A2 Main, A2 East and A2 West 1 deposits were completed by RSG Global ("RSG") in January 2005 and two additional deposits (A2 West 2 and A2 West 3) were estimated in May 2005. The resource estimation combined Multiple Indicator Kriging and Inverse Distance Squared ("ID^2") estimation techniques and was reported at a 1.0g/t cut-off. RSG estimated the combined Measured and Indicated resources to be 9,315kt at a grade of 2.6g/t for 793koz with an additional 1,733kt at a grade of 1.7g/t for 94koz of Inferred Resource (Yeates, 2006).

Most recently the mineral resource and mineral reserves estimates for A2 Main, A2 East and A2 West deposits were updated and a number of satellite deposits added by Endeavour (de Freitas and Woodman, 2011) in March 2011 (Table 6-2).

Table 6-2 Historical Resource Estimation – Combined Youga Deposits

Deposit	Resources (including Reserves)											
	Measured			Indicated			Measured & Indicated			Inferred		
	kt	Au (g/t)	kozs	kt	Au (g/t)	kozs	kt	Au (g/t)	kozs	kt	Au (g/t)	kozs
A2 Main	1,525	3.9	192	5,213	1.7	290	6,738	2.2	482	1,889	1.3	79
A2 East	831	1.7	44	947	1.4	42	1,778	1.5	86	152	1.2	6
A2 West 1	24	2.1	2	25	1.5	1	49	1.8	3	6	2.0	0
A2 West 2	523	2.0	33	1,008	1.6	53	1,531	1.7	86	513	1.5	24
A2 West 3	615	1.6	32	448	1.4	20	1,063	1.5	52	41	1.4	2
Nanga				2,456	1.0	77	2,456	1.0	77	1,279	0.8	33
Tail				1,244	1.3	52	1,244	1.3	52	750	1.2	29
A2NE				709	1.3	30	709	1.3	30	205	1.2	8
Zergoré										2,304	1.3	95
Youga Total	**3,518**	**2.7**	**303**	**12,050**	**1.5**	**565**	**15,568**	**1.7**	**868**	**7,139**	**1.2**	**276**

This is an historical estimate and has been replaced by the current Resource estimation described within this report.

Mineral reserves were also determined at this time by Endeavour (Table 6-3).

Table 6-3 Historical Reserve Estimation – Combined A2 Main/East and West Deposits

Deposit	Reserves								
	Proven			Probable			Total		
	kt	Au (g/t)	kozs	kt	Au (g/t)	kozs	kt	Au (g/t)	kozs
A2 Main	1,055	4.0	136	1,193	2.5	97	2,248	3.2	233
A2 East	292	1.8	17	101	1.8	6	393	1.9	23
A2 West 2	477	1.9	30	582	1.7	32	1,059	1.8	62
A2 West 3	478	1.7	26	186	1.8	11	665	1.7	37
Total Pits	2,302	2.8	209	2,062	2.2	146	4,365	2.5	355
Stockpiles	112	1.9	7	-	-	-	112	1.9	7
Youga Total	**2,414**	**2.8**	**216**	**2,062**	**2.2**	**146**	**4,477**	**2.5**	**362**

This is an historical estimate and has been replaced by the current Reserve estimation described within this report.

Etruscan completed an internal, mineral-resource estimation on the Ouaré deposit. This estimate was completed by Mr. Mouton under the supervision of Mr. Woodman in June, 2009 (Table 6-4). The resource estimate utilized the ID^2 interpolation technique, was classified all as Inferred Resource and reported at a 0.5 g/t gold cut-off (Mouton, 2009).

Table 6-4 Historical Resource Estimation – Ouaré Deposits

Mineralized Zone	Inferred Resource		
	Tonnes	Grade (g/t Au)	Contained Ounces
Central Zone	2,144,000	1.9	130,000
NW Zone (now West)	2,004,000	2	126,000
East Zone	591,000	3.5	67,000
Total	**4,738,000**	**2.1**	**323,000**

This is an historical estimate and has been replaced by the current Resource estimation described within this report.

Commercial production and substantial completion was achieved at Youga effective July 1, 2008. Subsequent gold production, as of December 31, 2013, is listed below in Table 6-5.

Table 6-5 Youga – Historical Production

Production Year	Ore Milled (t)	Gold Produced (oz)
2008	663,334	45,264
2009	871,740	65,648
2010	891,202	82,405
2011	940,168	87,264
2012	1,012,829	91,031
2013	1,005,876	89,448
2014	990,852	76,561
Total	**6,376,001**	**537,621**

The only historical production from the Ouaré property has been from “orpailleurs”, local artisanal mining, for which no records exist.

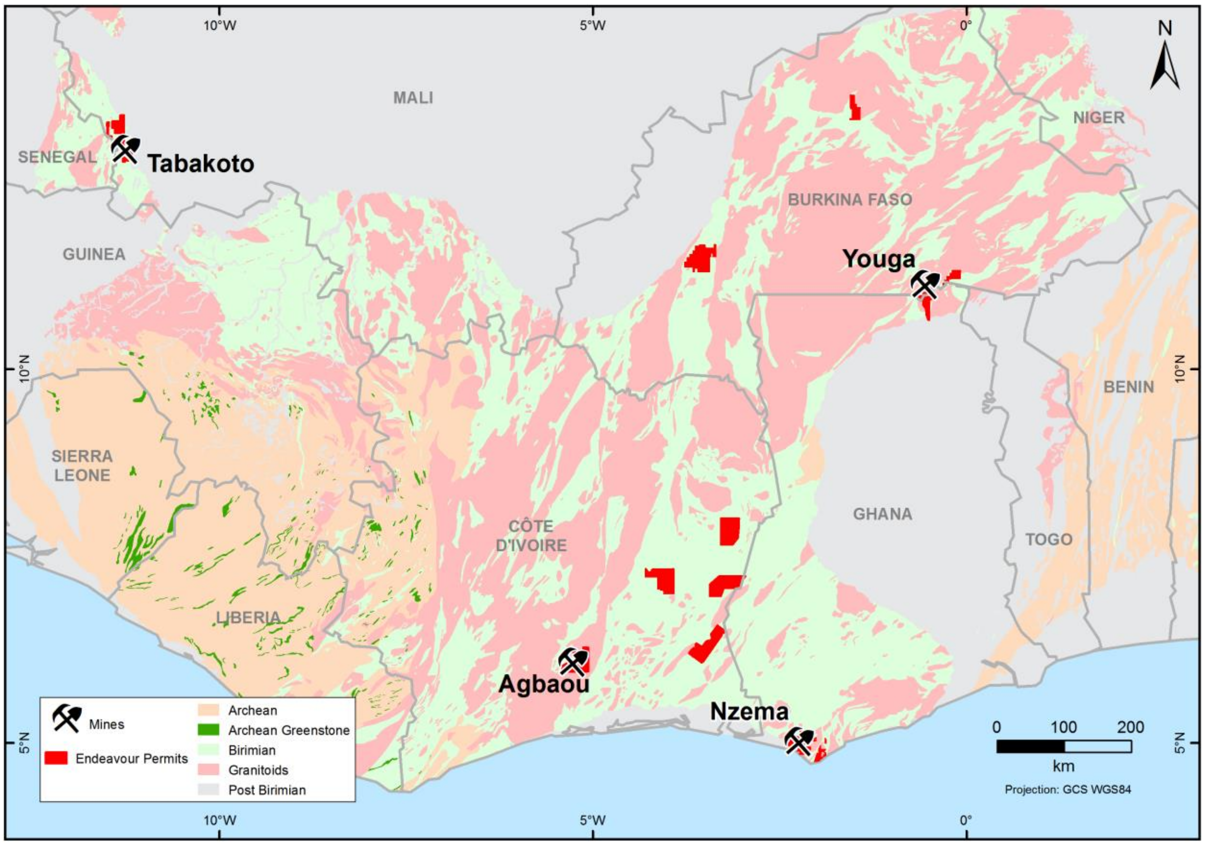
Between 2009 and 2010 Endeavour purchased Etruscan and Etruscan’s name was changed to Endeavour Resources Inc. For the purpose of this report, all work completed by either Etruscan or Endeavour is collectively referred to as Endeavour.

7.0 GEOLOGICAL SETTING AND MINERALIZATION

7.1 REGIONAL GEOLOGY

Burkina Faso is comprised of two principle geological terranes: the West African craton which dominates the central portion of the country and the younger sedimentary cover (Upper Proterozoic to recent) along the northern and south-eastern margins. The Youga and Ouaré Properties are found on the southeastern margin of the Archean-Proterozoic Man Shield (also known as the Leo Shield) which forms the southern half of the larger West African craton (Figure 7-1). The Man Shield is further subdivided into the older (Archean) Kenema-Man domain, in the west, and the younger (Birimian) Baoule-Mossi domain (Bessoles, 1977).

Figure 7-1 West African Geology



Archean and Eburnean terranes are poorly outcropped in West Africa and the knowledge of their geological evolution is relatively limited. There are several hypotheses of evolution and one of them distinguishes two cycles; an early and a late cycle of sedimentation, each followed by an orogenic period of folding and metamorphism *("Eburnean 1" and "Eburnean 2")* between 2.19 and 2.08 Ga. The initial phase *(Eburnean 1)* saw the accumulation of volcanic and volcanoclastic rocks intruded by early granitoid intrusions. Gold deposits formed during this period are typically syngenetic and associated with carbonaceous schists, exhalites and stratiform sulphide occurrences, and of the quartz-vein type.

During the later cycle *(Eburnean 2)*, after a brief period of uplift and erosion, intra-montane basins were filled with sediments forming the thick series of arenaceous, and to a lesser extent argillaceous sediments; the Tarkwaian Series. Economically important conglomerates and quartzites, termed the Banket Group in Ghana, comprise the basal portion of the series.

The effect of the Eburnean Orogeny on the Birimian Supergroup is best described from studies undertaken in Ghana by Blenkinsop *et al.* (1984), Eisenlohr (1989), and Eisenlohr & Hirdes (1992). During the Eburnean Orogeny, a protracted event initially formed a regionally penetrative S1 foliation which was followed by formation of high strain shear zones (S2) along basin/belt contacts. Stress analysis suggests the direction of maximum compression was sub-horizontal in a NW-SE direction and minimum compressive stress was vertical. The metamorphic grade of the greenstone belts ranges from lower greenschist to amphibolite facies, depending on the distance from the enveloping granitoids. The resulting tight isoclinal folding (foliation regionally oriented NNE-SSW) is regionally well developed and resulted in formation of the NE-SW trending greenstone belts bounded by granite-gneiss terrains.

The geology of Burkina Faso can be subdivided into three major litho-tectonic domains:

(1) Paleoproterozoic (Birimian) basement underlying most of the country;

(2) Neoproterozoic sedimentary cover developed along the western, northern, and south-eastern portions of the country, and;

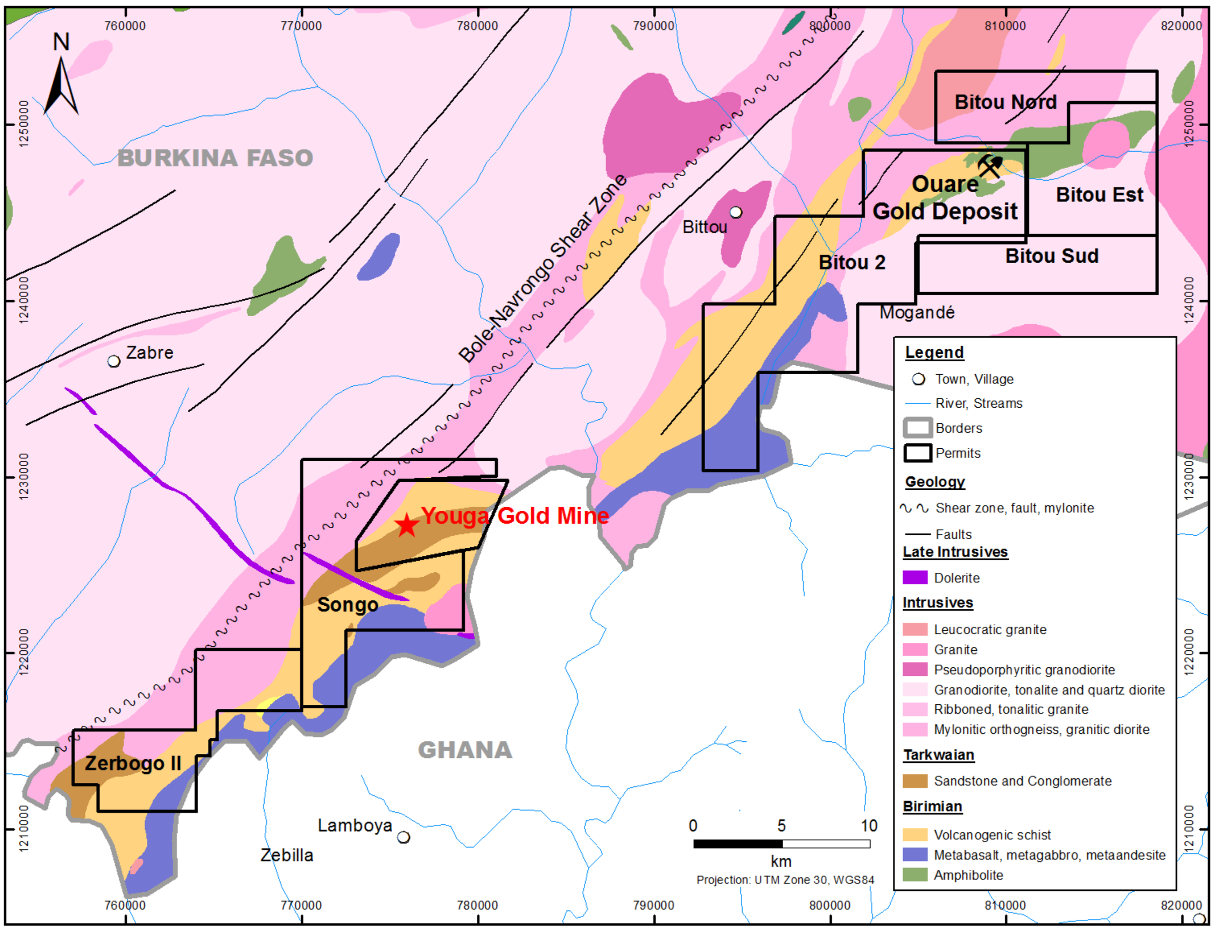
(3) Cenozoic mobile belt forming small inliers in the northwestern and extreme eastern regions of the country (Figure 7-1).

Extensive recent weathering has produced large areas of laterite over the region, which effectively masks the underlying geology of these areas. As a result of the deep weathering, outcrop is rare and even when it occurs is often difficult to characterize.

7.2 LOCAL GEOLOGY

The Youga and Ouaré Exploitation and Exploration Permits cover the northeast extension of the Youga greenstone belt (known as the Bole-Navrongo belt in Ghana) that trends from Bole, in western Ghana, beyond the village of Bittou, in southern Burkina Faso, for a distance of some 400 kilometres. The greenstone belt is composed of weakly to moderately metamorphosed, lower Birimian mafic-volcanic flows, syn– to post– Birimian intermediate to felsic intrusions and subordinate Tarkwaian sediments comprised of arkosic sandstones. The belt is bounded by older Liberian basement rocks comprised of high-grade metamorphic assemblages and related intrusives. Northwest trending, gabbro/dolerite dykes cross-cut all lithologies (Figure 7-2).

Figure 7-2 Youga Belt Geology and Structure



Mapping by Endeavour outlined significant areas of Tarkwaian sediments not previously mapped by earlier workers (Delisle, 2005b).

7.3 PROPERTY GEOLOGY

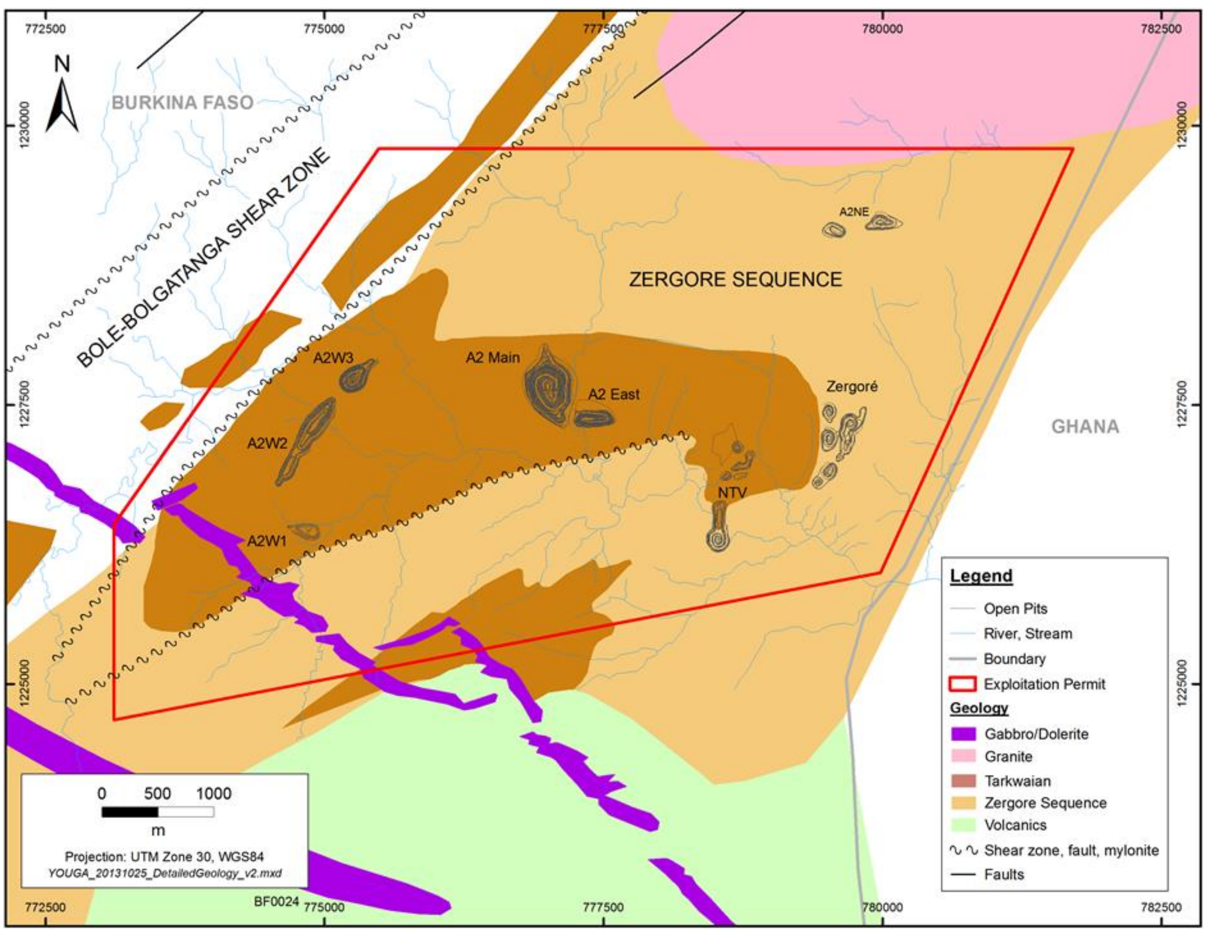
The Youga and Ouaré Exploitation and Exploration Permits are underlain by rocks of the Youga greenstone belt (Figure 7-2) bounded to the north by the Bole-Navrongo shear zone, which consists of a northeast-southwest trending deformation corridor that can be traced for more than 100km. Locally, the belt is comprised of an intercalated sequence of very fine to medium grained, mafic to intermediate volcanic rocks, felsic porphyritic rocks, which may be either volcanic or intrusive in nature and Tarkwaian sediments.

The rocks have been overprinted by amphibolite grade metamorphism, possibly related to contact metamorphism. The metamorphic minerals are typically aligned along a pervasive foliation fabric. A weak retrograde alteration (calcite+/-chlorite-muscovite) overprints most of the rocks.

7.3.1 Youga Geology

The Tarkwaian outlier, which hosts a majority of the Youga gold deposits (Figure 7-3), is comprised of a succession of arkosic sandstones consisting of quartz and feldspar in roughly equal proportions (Harris, 1997). While the grain size varies from fine silt to coarse sand, the arkoses demonstrate little compositional variation. Bands and lamellae of detrital magnetite are evident, particularly at or near the lower contact of coarse units; otherwise no distinctive bedding is evident.

Figure 7-3 Youga Permit Geology and Structure



The variable content of sericite and the presence of chloritic material contribute to the distinction between massive and foliated arkose. It is not evident to what extent the sericitic material is of sedimentary origin or results from the alteration of feldspar.

The arkoses are intercalated with thin subordinate chlorite schists. The chlorite schists have been identified in mapping by various geologists as volcanic horizons, mafic dykes and as fine-grained sediments; definitive evidence for the provenance of these units has yet to come to light, however, they are typically un-mineralized.

Conglomerates occur in very different settings within the arkosic sequences and their components have extremely variable size and composition. Boulder supported conglomerate sometimes demonstrate impressive clast size, sorting is very poor and isolated pebbles may occur in a predominantly arkosic matrix. Pebble composition within the boulder conglomerate is predominantly if not exclusively granitoid, exceptionally quartzitic. Polymictic conglomerate is generally better sorted with clast size not exceeding 5-10 cm and composed of volcanic and volcano-sedimentary pebbles with fewer granitoid pebbles. Polymictic conglomerate pebbles are angular and appear stretched. The very rounded shape of granitoid pebbles is most probably related to weathering before transport and deposition, and may not imply a long transport distance prior to deposition.

The Zergoré sequence is an inlier within the Birimian, located east of the Tarkwaian domain (Figure 7-3), and is characterized by rocks that are predominantly pelitic in composition with variably sized arenitic and silty intercalations. The sequence is characterized by sedimentary structures as slumping and “rip-up” clasts within the matrix-supported conglomerate units. The schists are greyish and are altered greenish and reddish, while thicker silty layers are yellowish. The Zergoré unit may be considered as a faulted segment of the lowermost part of the Tarkwaian basin, or may consist of an individual small Tarkwaian basin formed to the east of the main basin (Theunissen and Klekx, 2007).

The most significant feature in the Zergoré unit is the widespread development of quartz veins at very different scale and the extreme folding with an apparent single axial planar schistosity. Kinking is widespread and is at the origin of the complex structural pattern.

The Youga volcanic sequence is representative of the area south and west of the Tarkwaian Basin. It is composed of volcanic rocks and volcano-sediments: andesitic rocks, volcanoclastic rocks, volcano-sediments, poorly bedded pelitic sequences, and less common cherty layers. Andesitic and volcanoclastic sequences appear inside the arkosic sediments.

Tarkwaian Basin mineralization is almost exclusively associated with brittle deformation within the more competent arkosic sequences, with the strongly chloritized conglomerates absorbing strain in a more ductile manner. Where the two lithologies are intercalated, as within the A2 East deposit, the arkosic units are strongly mineralized while the adjacent chlorite schists are effectively barren (although exceptions to this are reported).

The arkosic sequences are substantially modified by alteration, principally comprising; carbonate, sericite, haematite, chlorite, possibly albite and silica. Pervasive silicification and intense haematite developments are intimately associated with zones of quartz stockwork veining, intense fracturing, sulphide development and gold mineralization.

The sulphide content is extremely low (generally <1%), comprised predominately of pyrite with trace amounts of arsenopyrite, chalcopyrite, pyrrhotite and galena. Fine euhedral pyrite is broadly disseminated throughout the arkosic lithologies, particularly within zones of mineralization and -intense silicification, where it also selectively replaces the detrital magnetite laminae (Figure 7-4). Pyrrhotite, arsenopyrite and galena are more intimately associated with higher-grade mineralization, particularly within zones of more intense quartz veining and silicification.

Within the Youga deposit there are two distinct styles of mineralization; the moderately to weakly silicified arkose with quartz stockwork veining and pyrite is the predominant sulphide which generally grades between 0.5 and 2 g/t (Figure 7-4) and the intensely silicified arkose with abundant quartz veins and more diverse sulphides which generally grades >3g/t (Figure 7-5).

Figure 7-4 Stockwork Mineralization

Figure 7-5 Silicified Arkose

The A2 Main deposit appears to represent a point at which a shear has refracted through a more competent arkosic sequence. The style of mineralization is distinctly brittle in character, represented by irregular fracturing, quartz veining and occasional brecciation. The intimately related A2 East mineralization almost certainly reflects the same structure, but is developed within a conformable (070/45°N) setting within thin arkose units sandwiched between more ductile chlorite schist (conglomerate) horizons. Dominantly ductile deformation within the chlorite schist units has created more brittle fracturing and quartz veining of the adjacent arkose.

The A2 West Zone 2 and 3 deposits superficially appear to be relatively straight forward. The deposits are aligned along a northeast trending, steeply southeast dipping structure that marks the approximate north-western extent of the Tarkwaian inlier. This orientation is also consistent with the immediately adjacent north-western margin of the Upper Birimian Bole-Navrongo Belt at this point. Mineralization associated with the A2 West Zone 2 and Zone 3 deposits appears to be broadly conformable with both the regional fabric and lithology, confined to one or more arkosic units sandwiched between conglomerate lenses (chlorite schist units) similar to the A2 East deposit. There is, however, some evidence that the mineralization (and therefore possibly structure) mildly transgresses lithology, with sporadic mineralization developed within the chlorite schists themselves.

The N-T-V deposit is a similar style of mineralization to A2 Main and East and strongly related to pervasive silicification, quartz veining and sulphidation (mainly pyrite) of the arkose host rock, although the mineralization is not as strong or as extensive in these deposits. The Nanga deposit is a well-defined zone, steeply dipping to the east the Tail deposit is less well constrained, trends east-west and dips shallowly to the north while the Village target dips even more shallowly.

The Zergoré deposit represents the most significant soil anomaly on the Youga permit and was the focus of the earliest exploration efforts. The mineralization occurs off the eastern flank of the

Tarkwaian basin and is structurally complex. Gold is hosted within sericitic and chloritic schists with only minor intercalations of arkose which are tightly folded along a roughly north-south hinge with steeply dipping limbs. Gold mineralization is associated with quartz-veining and sulphidation (mainly pyrite) along numerous zones.

A2NE mineralization also occurs off the Tarkwaian basin, has similar host rocks with similar alteration but is much less structurally complex than Zergoré. The A2NE deposit consists of a number of steeply, north dipping zones along an east-west trend.

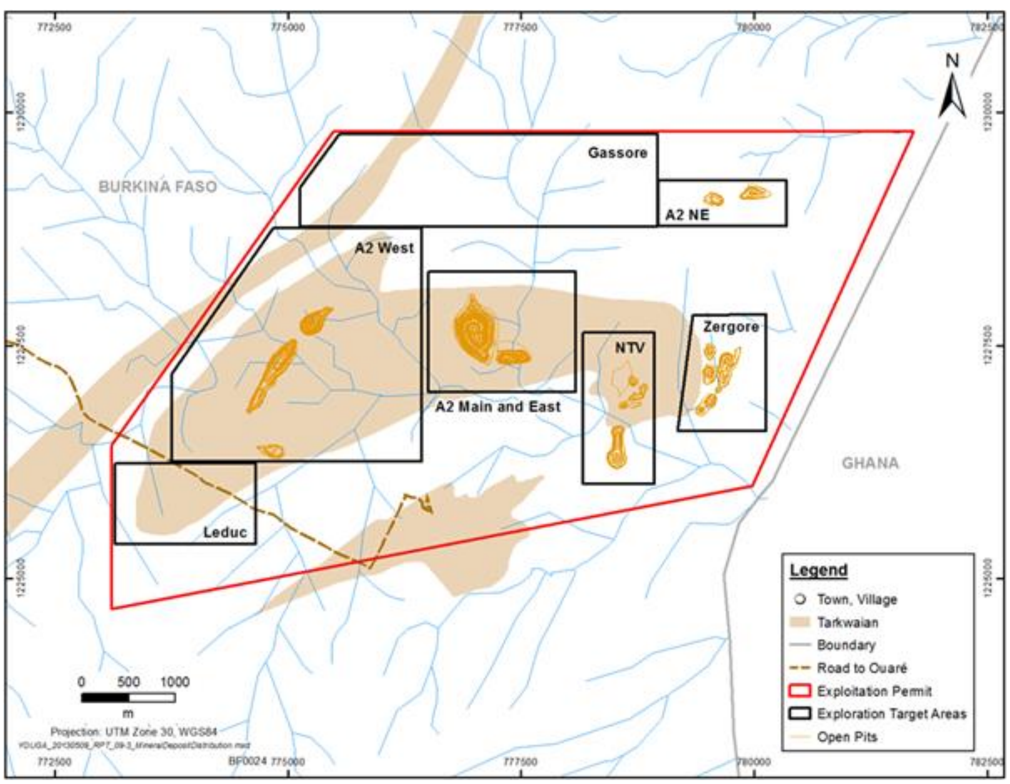
The known dimensions and orientations of the mineral deposits are described in Table 7-1 and Figure 7-6.

Table 7-1 Youga Mineral Deposit Known Dimensions and Orientations

Deposit Name	Length (m)	Width* of Zone (m)	Depth Extent (m)	Strike	Dip degrees
A2Main	700	25-50	210	NW-SE	50-75
A2East	500	10-40	80	E-W	45
A2West1	250	75	50	E-W	0-90
A2West2	300	15	75	NE-SW	75
A2West3	300	20	75	NE-SW	75
Nanga	600	15-45	100	N-S	70
Tail	400	25	100	E-W	45-60
Village	300	10-15	75	NW-SE	35
A2NE	800	30	100	E-W	75
Zergoré	1000	50	100	NNE-SSW	55-75

*Width is the aggregate width of the domains.

Figure 7-6 Mineral Deposit Distribution within the Youga Mine Permit

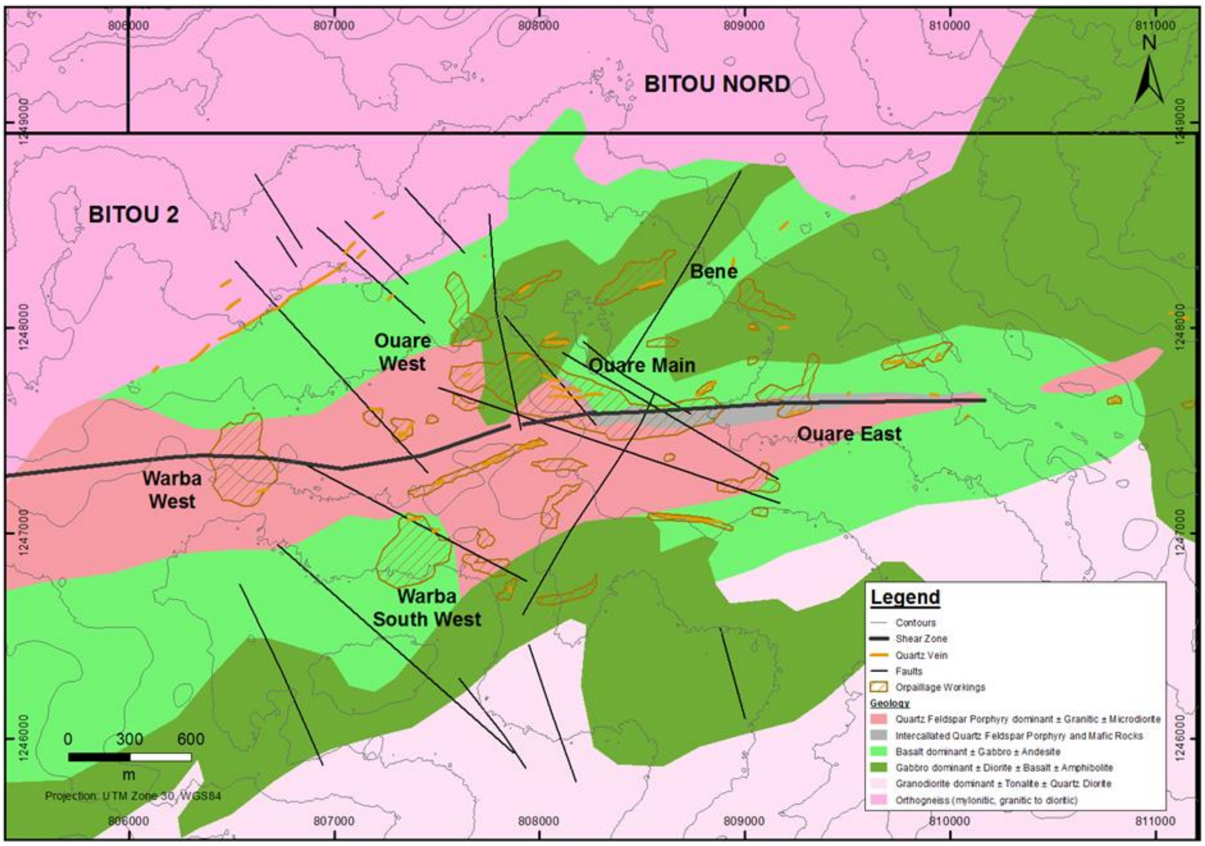


7.3.2 Ouaré Geology

Five major geological units have been recognized at the Ouaré deposit (Figure 7-7):

- An intermediate to mafic volcanic unit dominantly composed of basalt with associated andesite, gabbro and dolerite;
- A gabbro unit associated with diorite, basalt, amphibolite and andesite;
- A felsic unit composed of quartz-feldspar porphyritic rocks associated with tonalite, granite and quartz diorite intrusions. These rocks (100m-500m wide, west to east trending) occur in the central part of the mapped area;
- Orthogneiss, mylonitic, granitic to dioritic, in the northern portion of the mapped area, and;
- A granodiorite unit with tonalite and quartz diorite in the southern portion.

Figure 7-7 Ouaré Deposit Geology and Structure



Minor mafic dykes have been observed, as well as mylonites composed of quartz sericite schist and chloritic schist along faults.

Two principal generations of structures, D1 and D2, were recognized. D1 is the earlier compressional strain event, forming a weak foliation, S1. S1 is oriented N300°-N315°, dips towards the north and is presumed to be axial planar to an early F1 fold system. D2 represents the principal compressional deformation and produces the prominent regional S2 schistosity, the associated F2 fold set and the L2 mineral lineation. S2 schistosity varies in orientation from N205° to N110° and is moderately to steeply incline towards the north. Fold hinges plunge moderately (40°-45°) towards the northeast, sub-parallel to the L2 lineation. Northeast-southwest structural zones of severe ductile-brittle deformation have been observed with a dominant dextral strike-slip shearing (Tourigny, 2008).

The Ouaré mineralization is on the Bitou 2 Exploration Permit and has been delineated in three zones, along a strike length of 2km.

At the Ouaré Main zone, mineralization occurs as quartz veins within shear zones at the contacts between felsic and mafic volcanics. Orpailleur workings have been developed along mineralized structures in two orientations: 090^{o} and 315^{o}. The 090^{o} portion of these workings has multiple parallel quartz veins along shears in an interpreted dilation zone. The 315^{o} portion is interpreted as a 100m wide deformation zone, terminating the 090^{o} trend (Bishop, 2000).

The gold mineralization appears to preferentially follow the lithologic contacts between felsic volcanics and mafic volcanics, particularly within a shear zone of inter-layered quartz-feldspar porphyritic and intermediate to mafic volcanic rocks. Gold mineralization appears to be confined to a major 090^{o} trending deformation corridor of dextral strike slip (Tourigny, 2008).

The lithologies are substantially modified by alteration, principally comprising carbonate, sericite, haematite, chlorite, possibly albite and silica. Pervasive silicification and quartz veining are intimately associated with gold mineralization.

The sulphide content is moderate (generally 2 to 5%), and comprised predominately of pyrite with trace amounts of chalcopyrite, pyrrhotite and sphalerite (Panterra, 2012). Fine euhedral pyrite is broadly disseminated throughout the lithologies, particularly within zones of mineralization and intense silicification. Chalcopyrite and pyrrhotite are more selectively associated with higher-grade mineralization, particularly within zones of more intense quartz veining and silicification.

The known dimensions and orientations of the mineralized zones at Ouaré are summarized in Table 7-2.

Table 7-2 Ouaré Mineral Deposit Known Dimensions and Orientations

Deposit Name	Length (m)	Width* of Zone (m)	Depth Extent (m)	Strike	Dip (degrees)
Ouaré Main	950	40	125	E-W	50-75
Ouaré Main NW	375	60	155	NW-SE	60-70
Ouaré East	475	40	135	E-W	50-75

*Width is the aggregate width of the domains.

8.0 DEPOSIT TYPES

The Youga and Ouaré gold deposits can be described as epigenetic, mesothermal gold deposits, demonstrating a strong structural control.

The majority of the Youga gold deposits are hosted within the Tarkwaian sandstones, although recent drill programs have begun to test and define resources outside of the basin. Deposits identified to date on the Bitou permits are all hosted along the sheared contact between mafic volcanics to the north and quartz-feldspar porphyritic rocks to the south.

The lateritic cover is generally thin or not present and the weathering profile is poorly developed over much of this area, hence surface mapping and soil geochemistry have proven very successful in identifying mineralization.

Current exploration program planning is based on testing soil geochemical or airborne geophysical anomalies where structural features and favourable host rock types occur.

9.0 EXPLORATION

Endeavour's evaluation of the Youga and Ouaré project areas began in 2003 following the purchase of Youga from joint venture partners Ashanti and Echo Bay. The first drill campaign began in November 2003.

Exploration has been carried out under the supervision of technically qualified personnel applying standard industry approaches. Geochemical data quality has routinely been assessed as part of ongoing exploration procedures. All data acquired meets or exceeds industry standards. All exploration work has been carried out by, or supervised by technical personnel of the operator (IGR, Ashanti and Etruscan). Consultants and contractors have been engaged by Endeavour for various activities including; geophysical surveys, structural mapping, drilling, and assaying. Table 9-1 summarizes the contractors and consultants engaged in the Endeavour managed exploration programmes.

Table 9-1 Summary of Contractors and Consultants

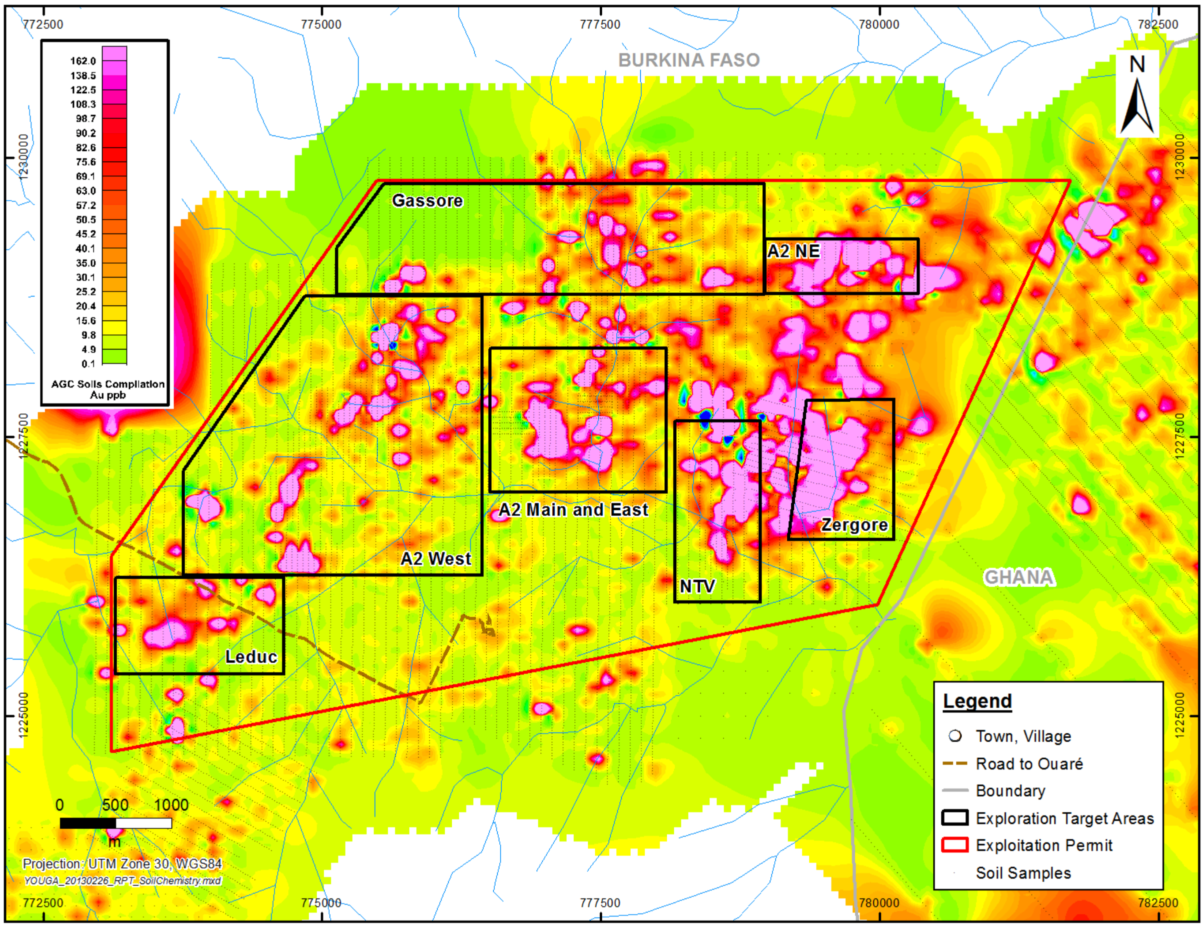
Activity	Consultant	Location
Airborne Geophysics	Fugro Airborne Surveys (Pty) Ltd Terrascan Airborne	Toronto, Canada Heitersheim, Germany
Ground Geophysics	Sagax Afrique S.A.	Marrakech, Morroco
Geophysical Interpretation	Bob Gillick	Northbay, Canada
Structural Mapping	EcoTerra NPA Fugro Ltd. SRK Consulting (Canada) Inc.	Antwerp, Belgium London, UK Vancouver, Canada
Geology	D. R. Duncan & Associates Ltd. Taiga Consultants Ltd.	Windsor, Canada Calgary, Canada
Petrography	P. M. Nude Panterra Geoservices Inc.	Accra, Ghana Vancouver, Canada
Analytical Laboratories	ALS Bamako (formerly Abilab) SGS Ouagadougou	Bamako, Mali Ouagadougou, BF
Reverse-Circulation Drilling	Boart Longyear Inc. West African Drilling Services Forages Technic-Eau Foraco Burkina Faso	Ouagadougou, BF Ouagadougou, BF Ouagadougou, BF Ouagadougou, BF
Diamond Drilling	Boart Longyear Inc. West African Drilling Services African Mining Services Foraco Burkina Faso	Ouagadougou, BF Ouagadougou, BF Ouagadougou, BF Ouagadougou, BF
Down-Hole Wireline Logging	LIM Logging	Ouagadougou, BF
Database Review and Resource Estimation	RSG Global (now Coffey) AMEC International	Perth, Australia Vancouver, Canada
Geotechnical	Golder Associates Inc. SRK Consulting(South Africa) Inc.	Atlanta, USA Johannesburg, SA
Reserve Determination	MDM Ferroman SEMS Exploration MICON International Limited	Johannesburg, SA Accra, Ghana Toronto, Canada

Geochemical data, used in conjunction with the available geophysical survey and geological mapping, has been effective in the delineation of significant gold mineralization targets within the mine area. Whilst the high order geochemical anomalies have been trenched and drilled, potential exists to identify additional gold mineralization either proximal to the currently defined deposits, by additional drilling of known mineralized structures both along strike and down dip/plunge, or by follow up exploration of lower order geochemical anomalies.

9.1 YOUGA EXPLORATION

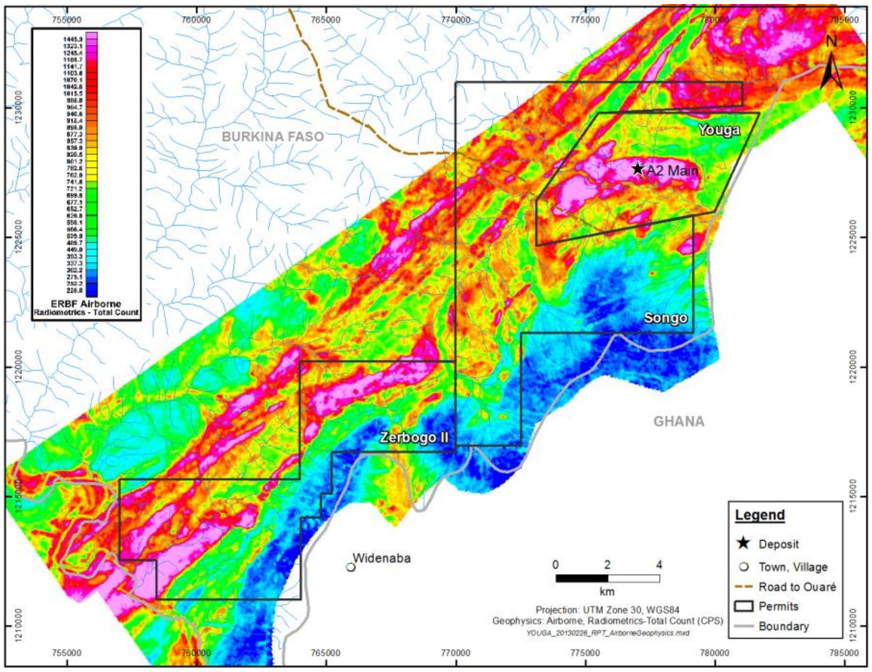
The Youga permit has been completely covered with soil geochemistry, beginning with regional (800m x 100m) and semi-regional (200m x 100m) scale sampling followed by detailed (100m x 25m) sampling over selected areas (Figure 9-1).

Figure 9-1 Youga Soil Geochemistry Coverage, Gold in Soils



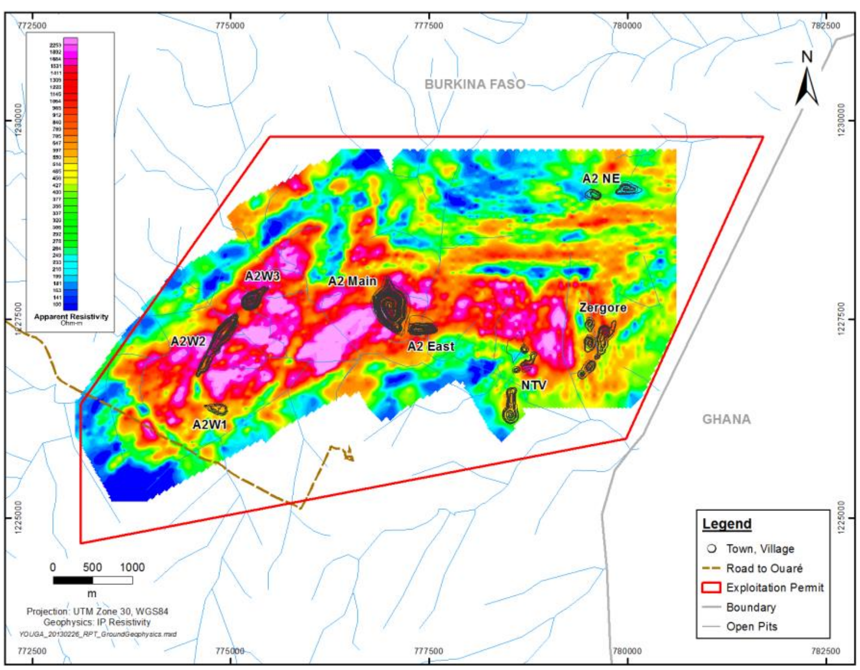
In May, 2004, Fugro Airborne Surveys (Pty) Ltd. completed a detailed aeromagnetic and radiometric data survey over the Youga permits along flight lines (145 degrees) spaced at 50m, with a tie-line spacing of 500m (Figure 9-2).

Figure 9-2 Youga Belt Airborne Geophysical Coverage, Radiometrics – Total Count



During 2004 and 2005 Sagax Afrique S.A. completed a gradient Induced Polarization ("IP") survey which covered a large part of the Youga permit, with a line spacing of 100m, at various line orientations, and with sampling intervals of 25m (Figure 9-3).

Figure 9-3 Youga Ground Geophysical Coverage, IP – Resistivity

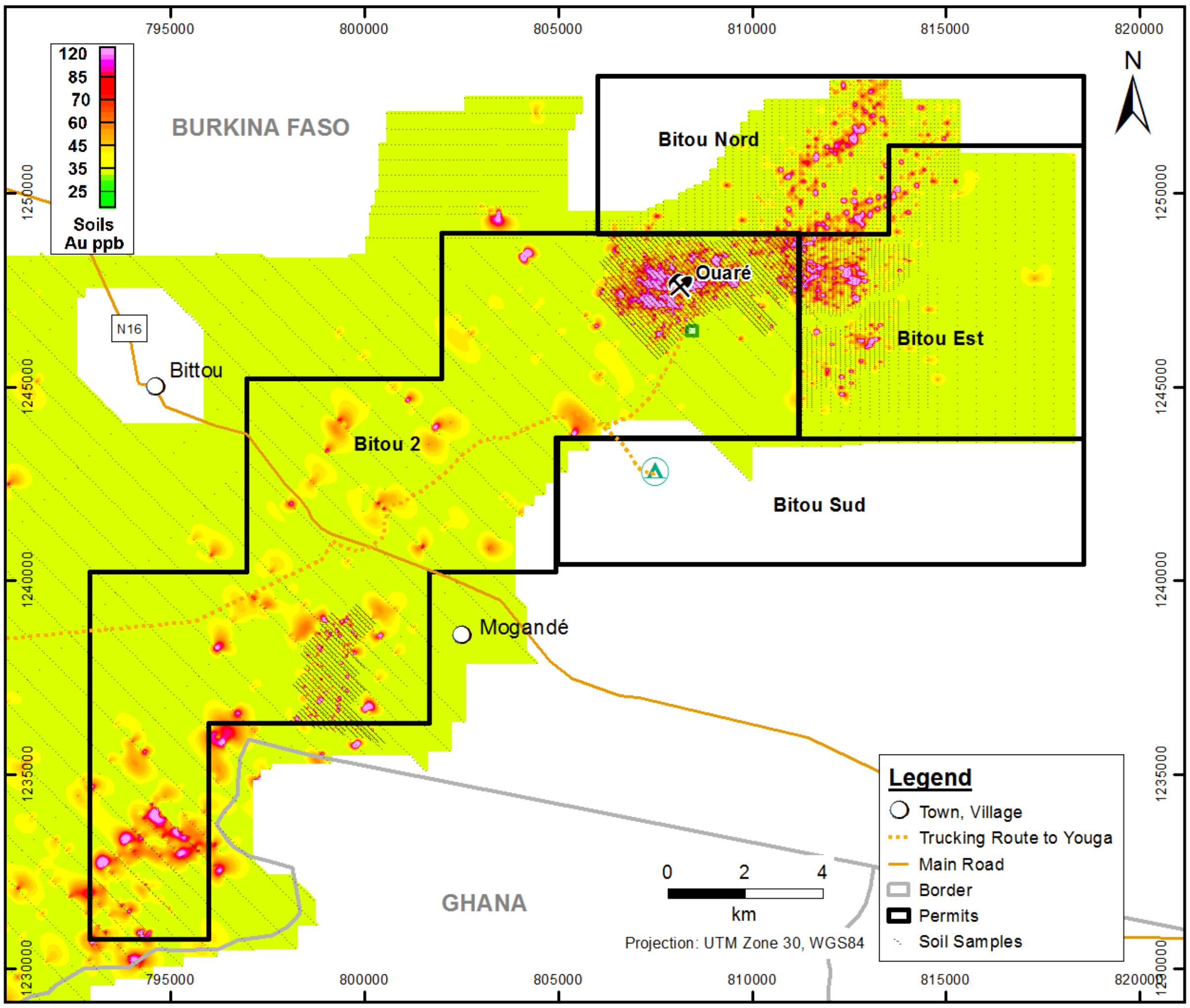


Recent mapping and structural interpretation has focused on developing a better understanding of the overall structural controls on the known mineralization as a better understanding of these controls could lead to targeted drilling for “blind” mineralization.

9.2 OUARÉ EXPLORATION

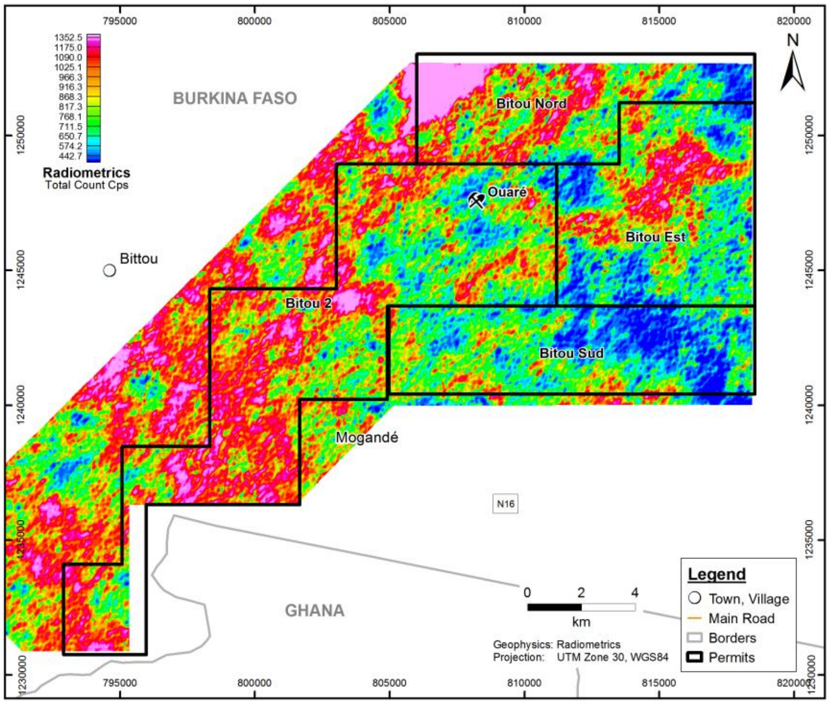
The Bitou 2 permit has been completely covered with soil geochemistry, beginning with regional (800m x 100m) and semi-regional (200m x 100m) scale sampling completed by Ashanti, followed by Endeavour’s detailed (100m x 25m) sampling over selected areas (Figure 9-4).

Figure 9-4 Bitou Soil Geochemistry Coverage, Gold in Soils



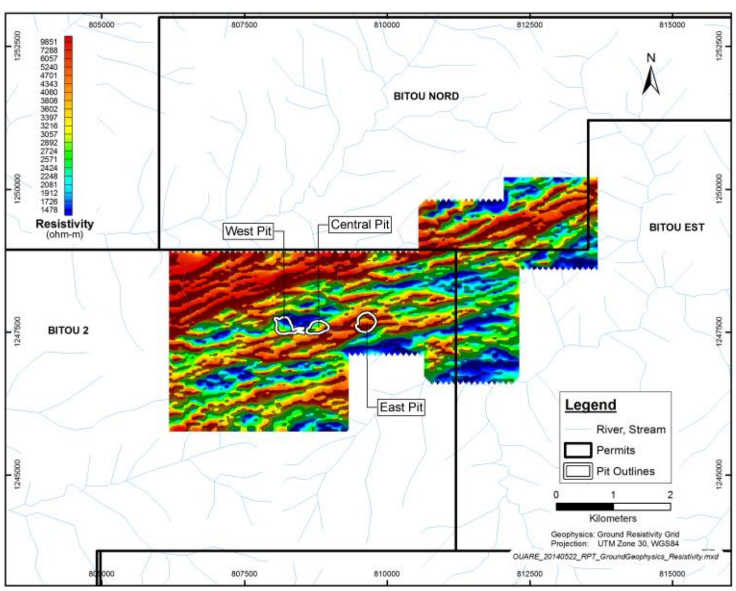
In January, 2012, Terrascan Airborne completed a detailed aeromagnetic and radiometric data survey over the Bitou permits along flight lines spaced at 100m, with a tie-line spacing of 500m (Figure 9-5).

Figure 9-5 Bitou Airborne Geophysical Coverage, Radiometrics – Total Count



Sagax Afrique S.A. completed a gradient Induced Polarization/resistivity and ground magnetics survey in the area of the Ouaré deposit in the northern part of the Bitou 2 permit, with a line spacing of 100m, oriented north-south, and with sampling intervals of 25m for the IP and 12.5m for the magnetics (Figure 9-6).

Figure 9-6 Bitou Ground Geophysical Coverage, IP – Resistivity



10.0 DRILLING

10.1 COLLAR SURVEYS

All drill collars completed during the Ashanti/Echo Bay and Endeavour work programs have been surveyed using a combination of total-station survey and Differential Global Positioning Satellite ("DGPS") techniques by qualified surveyors and utilized control points.

10.2 DOWNHOLE SURVEYS

Ashanti/Echo Bay surveyed down-hole deviation using Sperry Sun single shot downhole cameras at intervals ranging from 20 to 126m and corrected for magnetic declination. Drilling completed by Endeavour were down-hole surveyed using a Flexit© downhole instrument at a minimum of every 30m and measured relative to magnetic north.

10.3 LOGGING

The most important geological factors from the Youga and Ouaré deposits, identified to date, include; host rock, silicification, quartz-veining and pyrite content. Endeavour has strived to standardize geologist's logging of these features by implementing standardized coding. Logging is performed on paper log-sheets and put in place data entry and monitoring procedures to minimize data problems. Mr. Woodman has worked closely on all exploration drill-programs carried out on the projects since 2005 and has reviewed the logging procedures and reviewed the database.

All diamond drill core has been photographed and the photos are maintained with the geological database.

All historical diamond drill core and RC chips (where possible) from resource areas has been re-logged using Endeavour coding.

10.4 DIAMOND DRILL CORE

All diamond drill core from the Youga and Ouaré deposits was sampled by splitting/cutting the core and sampling half of the material. The remaining half is stored at the secured core yards at the Youga and Bitou exploration camps.

Diamond drill-holes were typically started using HQ bits (inside diameter of 96mm) and reduced to NQ bits (inside diameter of 76mm) once competent rock was encountered, normally at less than 25m down-hole depth.

10.5 YOUGA DRILLING

Rotary-air-blast ("RAB"), RC and diamond drilling were completed during the various exploration stages carried out by IGR, Ashanti/Echo Bay, Etruscan and Endeavour (Figure 10-1). Table 10-1 outlines the drilling as of December 31, 2014 (excluding grade-control drilling). The RAB drilling has not been utilized for the mineral resource estimates, and therefore not included in the summary.

Figure 10-1 Youga RC and Diamond Drill Hole Collars

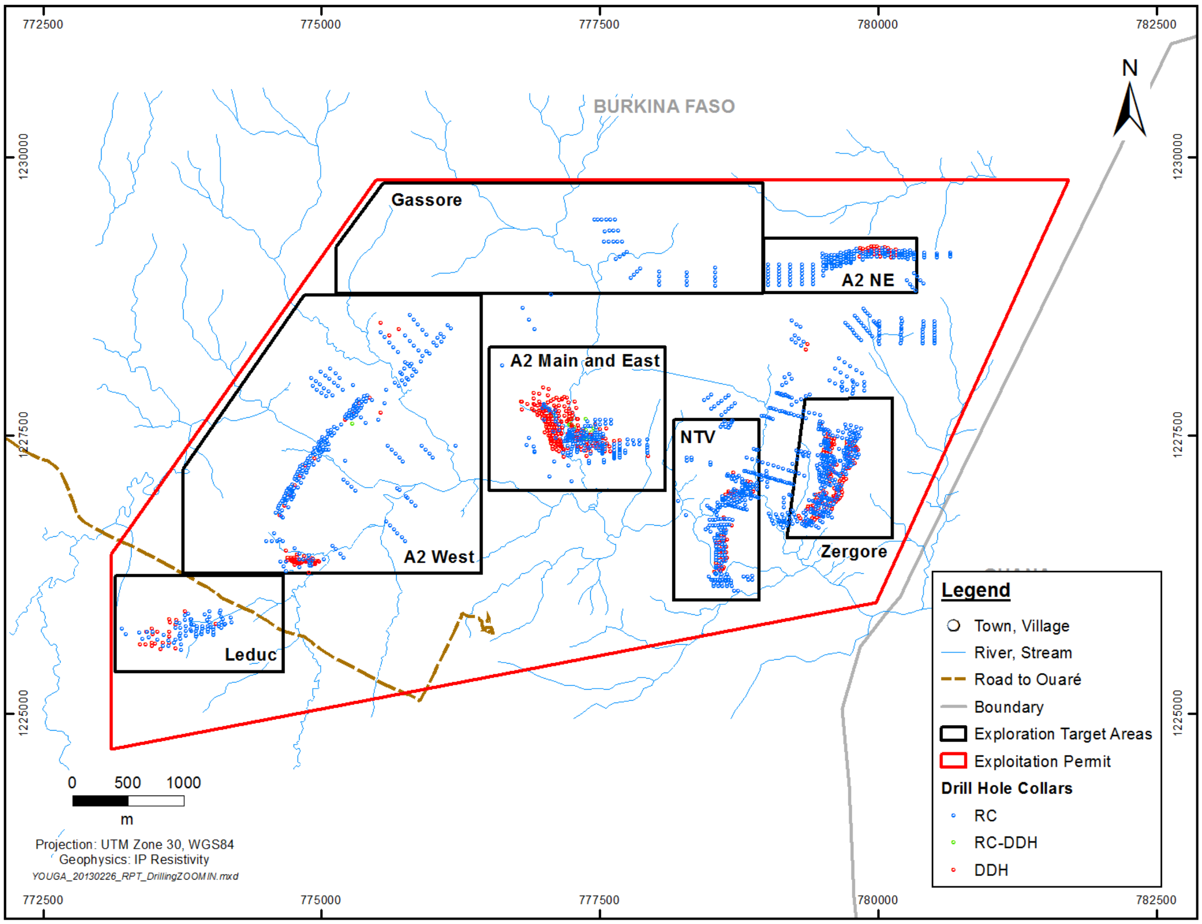


Table 10-1 Summary of Youga Drilling Statistics

Company	Diamond		RC		Trench	
	Number of Holes	Metres	Number of Holes	Metres	Number	Metres
Ashanti/Echo Bay	129	20,048	298	18,219	210	30,554
Endeavour	355	43,738	1,133	101,077	86	5,266
Total	**484**	**63,786**	**1,431**	**119,296**	**296**	**35,820**

Note: Drill totals include exploration/resource drilling only and do not include grade-control holes.

Drill data collection can be subdivided into two distinct periods of exploration; prior to 2000 and 2003 onwards (Ashanti/Echo Bay in Table 10-1). The first period relates to data collected as part of Incanore's and IGR's exploration management and programs executed under the management of the Echo Bay and Ashanti joint venture. The second period relates to data collected under work programs managed by Endeavour.

Exploration activities and data collection methodologies applied during the initial period is based on information compiled in Ashanti's 1999 databases and discussed in the Ashanti feasibility study completed in 1999 (Lycopodium, 1999).

10.5.1 Sample Recovery

The sample recovery of the drilling completed prior to Endeavour involvement is not recorded in the database, although Ashanti reported sample recovery for both the RC and diamond drilling to be high (Lycopodium, 1999).

During drilling that was managed by Endeavour the recovery has been routinely calculated and entered into the database, with the average core recovery for the Endeavour diamond-drilling being near 95% and RC recoveries estimated near 79%. Acceptable recovery has been achieved for all programmes of drilling completed.

10.5.2 Drilling Results

A significant quantity of drilling has been completed and, as such, it is not practical to include a listing of all significant drilling intersects.

10.5.3 Drilling Orientation

The drilling at Youga has generally been targeted normal to the plane of the principal, mineralized orientation ensuring the optimum angle of intersection (Table 10-2). Scissor holes, drilled back in the opposite sense, have also been completed on each deposit to ensure the proper orientation.

Table 10-2 Youga Mineralization and Drilling Orientation by Zone

Domain	Mineralization		Drilling	
	Strike	Dip	Azimuth	Dip
A2 Main	N-S	Moderate to Steep E	270°	-45° to -50°
A2 East	E-W	Moderate to Steep N	180°	-45° to -50°
A2 West Zone 1	E-W	Shallow to Moderate N	Vertical, 180° & 270°	-40° to -50°
A2 West Zones 2 & 3	NNE-SSW	Steep SE	300° & 310°	-40° to -50°
Nanga	N-S	Steep E	270°	-50°
Tail	E-W	Shallow to Moderate N	180° 105° & 285°	-50°
A2NE	E-W	Steep N	180°	-50° to -55°
Zergoré S & NE	NNE-SSW	Near Vertical	280° & 300°	-45° to -55°
Zergoré NW	NNW-SSE	Near Vertical	280° & 300°	-45° to -55°

In public disclosure the drill-hole intercepts are reported as core length and also true thickness of the mineralized interval when the relationship to the orientation of the drill hole is known.

In general drill hole spacing varies between 18m to 25m by 25m within resource areas. Drill hole spacing studies were completed as part of the resource classification studies on several deposits. Detailed drill plans and typical cross-sections are provided in the following section.

10.5.4 Youga Deposits

Figure 10-2 A2 Main and East Drill Plan

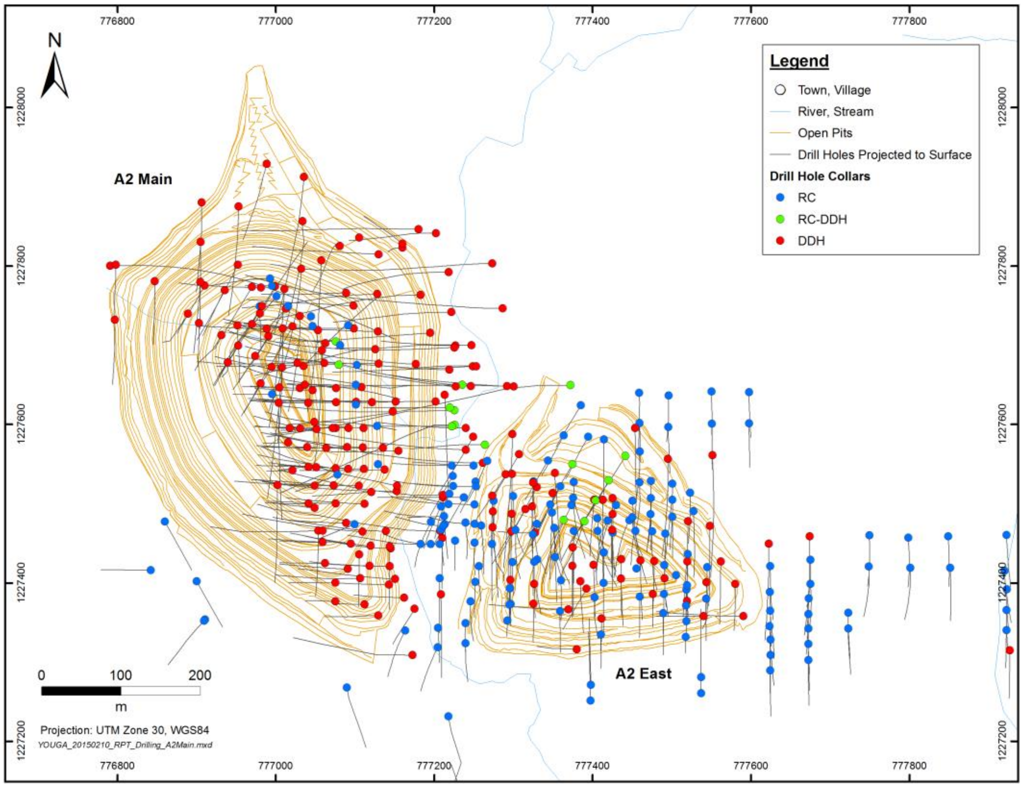


Figure 10-3 A2 Main Type Section

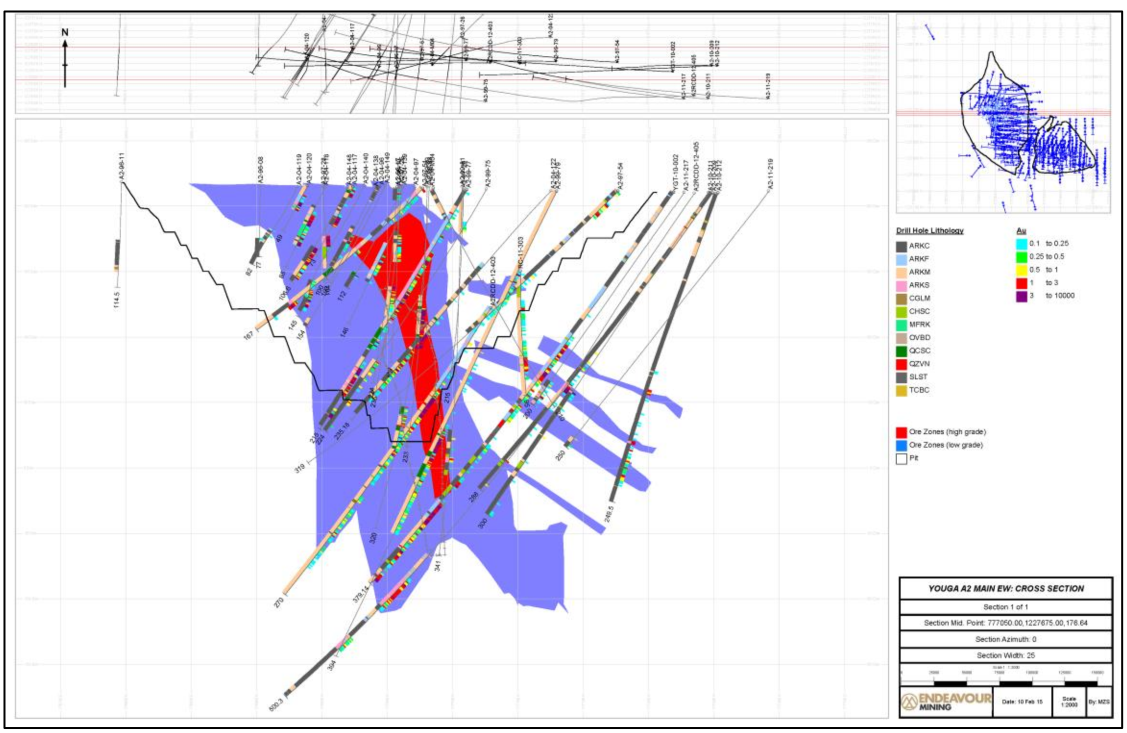


Figure 10-4 A2 East Type Section

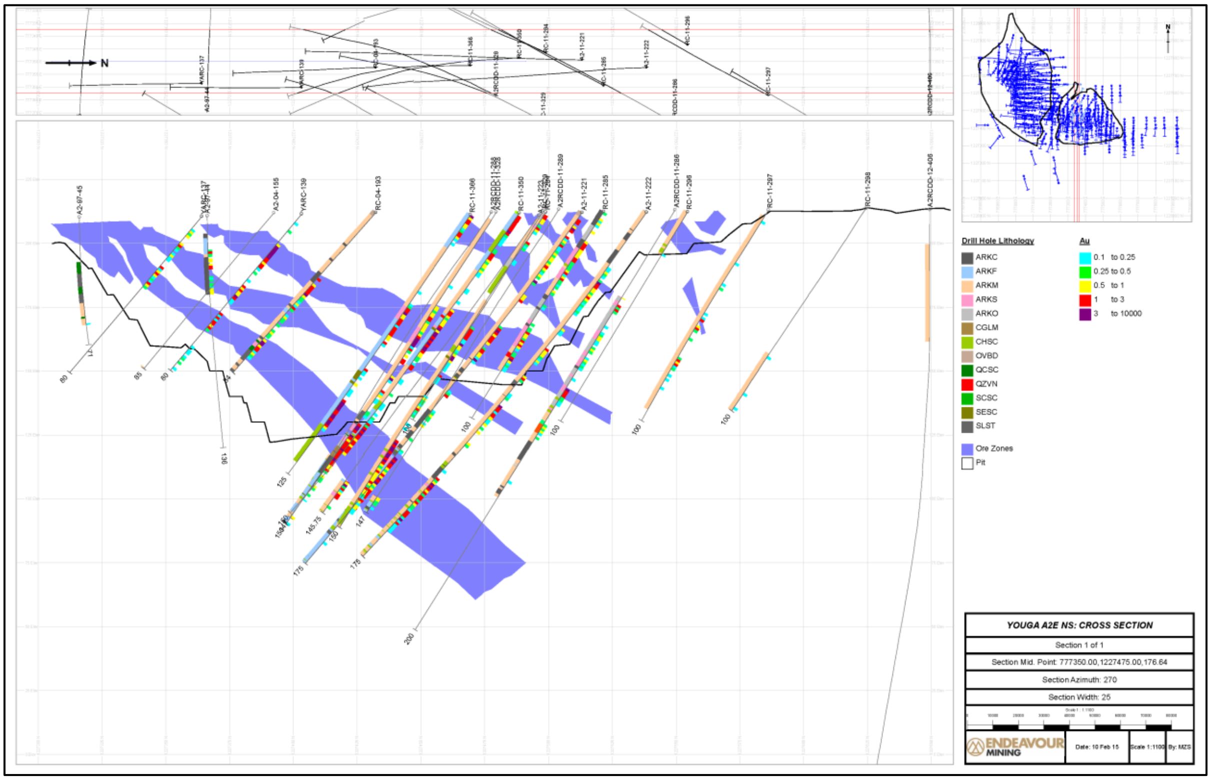


Figure 10-5 A2 West Drill Plan

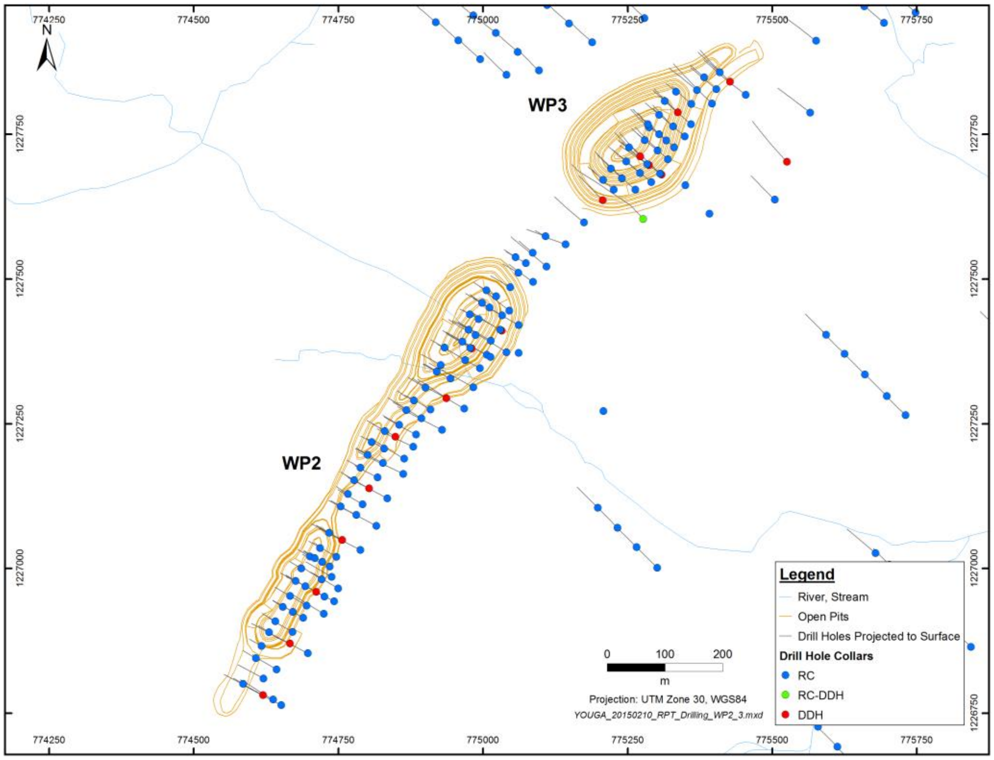


Figure 10-6 A2 West Type Section

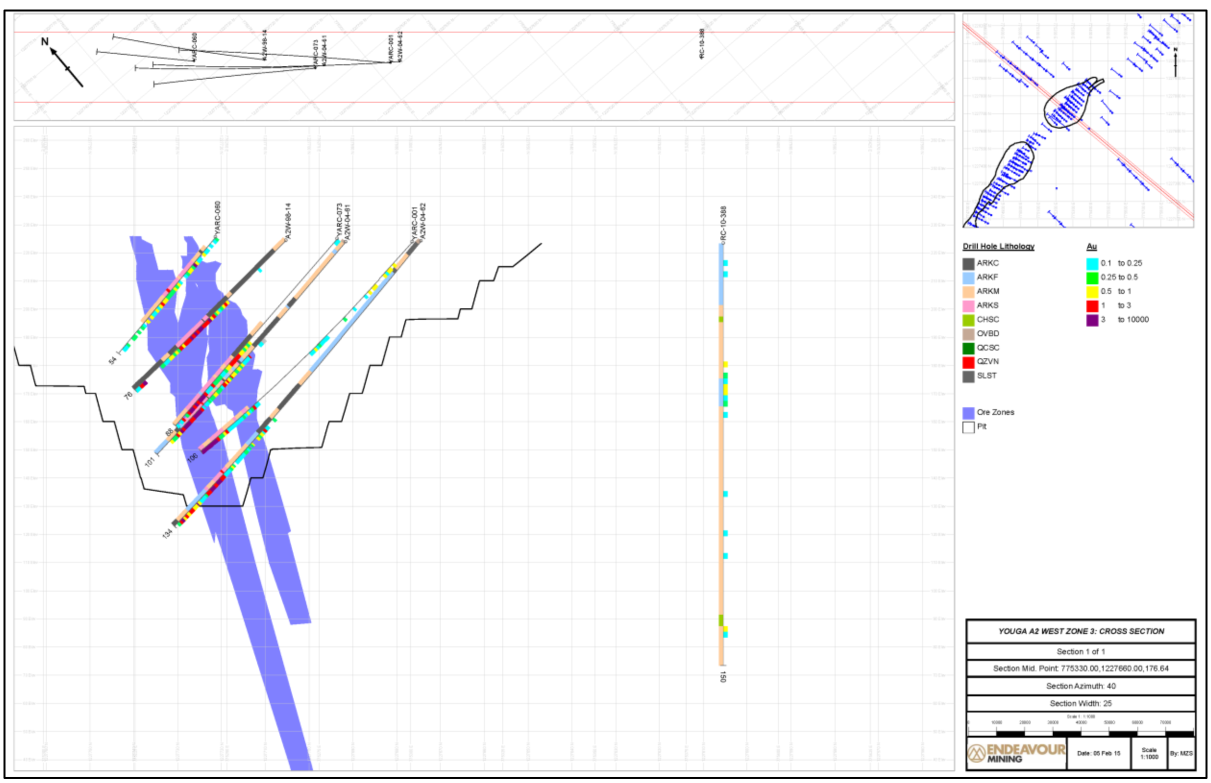


Figure 10-7 NTV Drill Plan

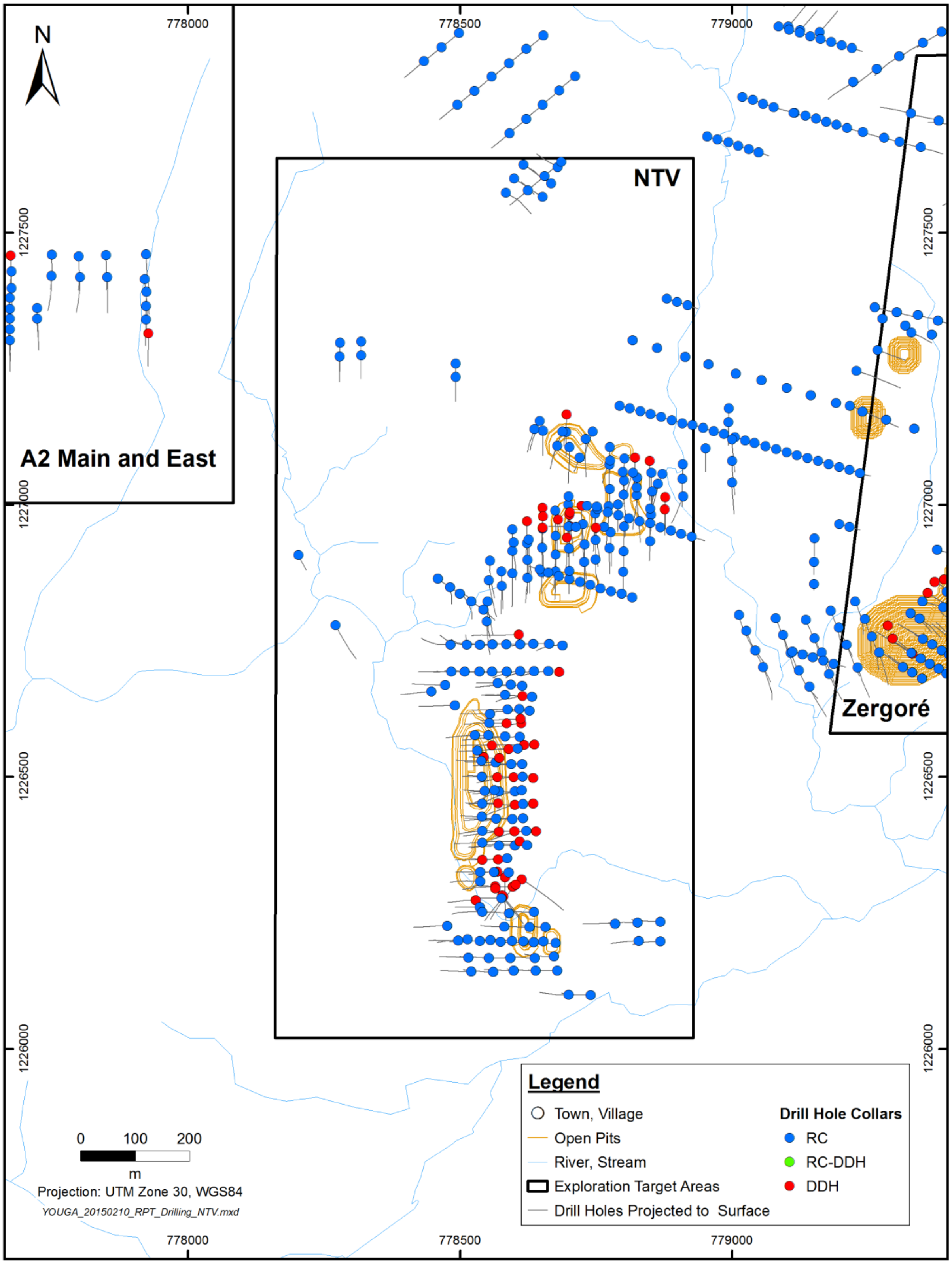


Figure 10-8 Nanga Type Section

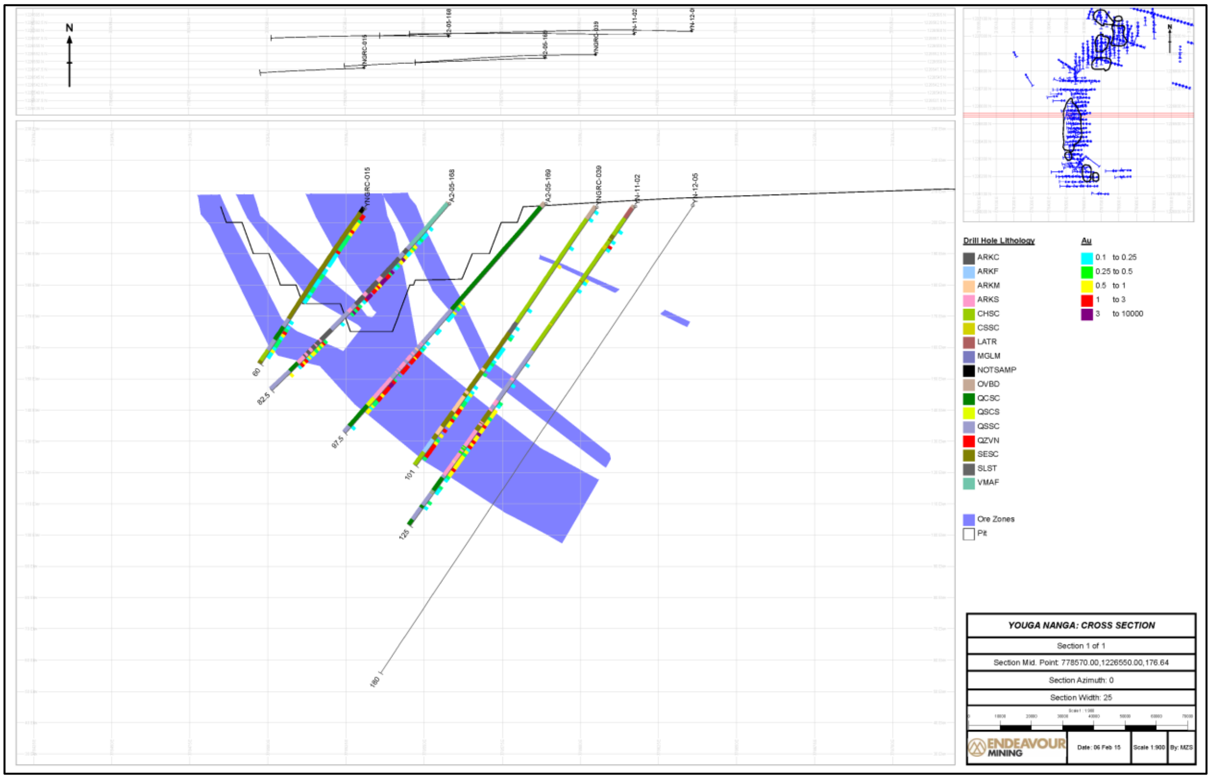


Figure 10-9 Tail Type Section

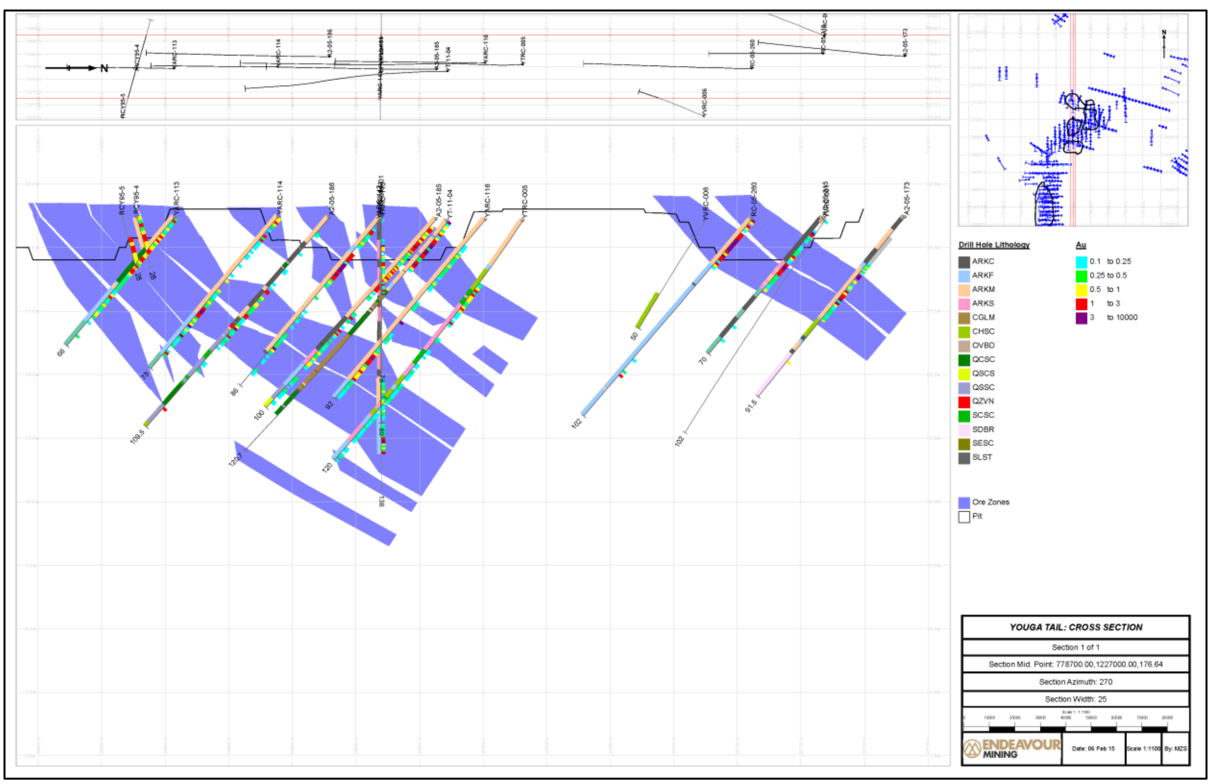


Figure 10-10 A2NE Drill Plan

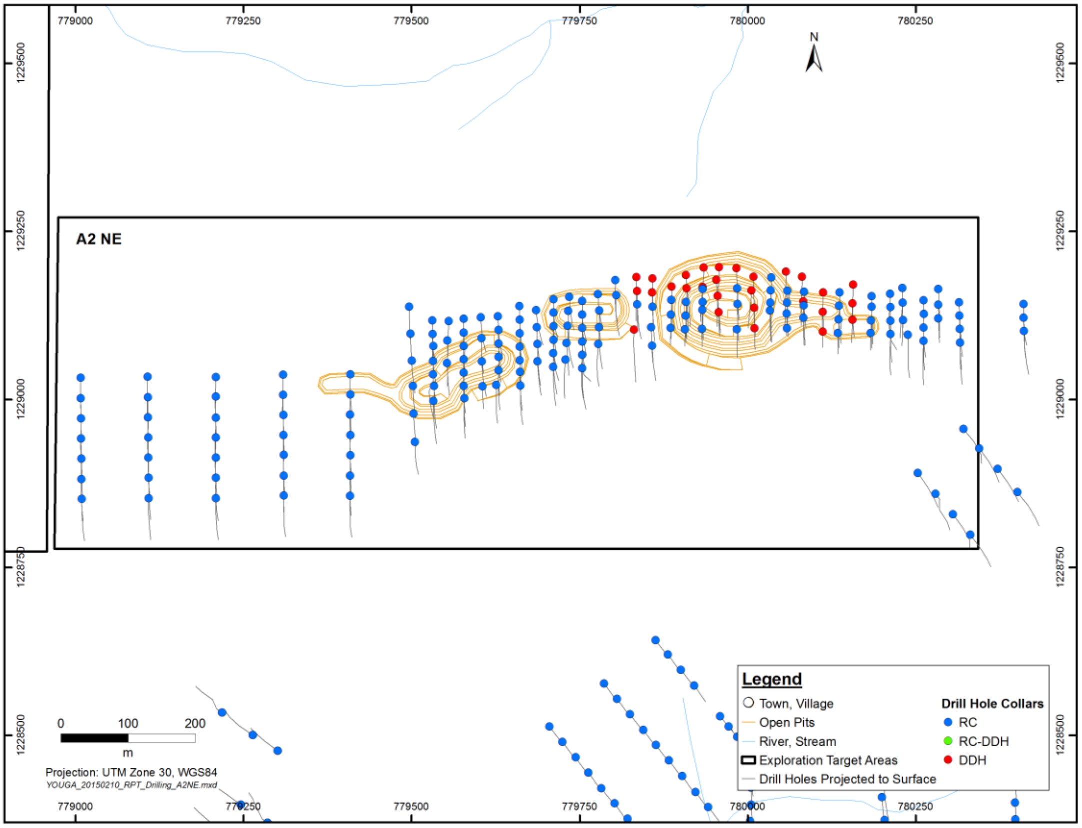


Figure 10-11 A2NE Type Section

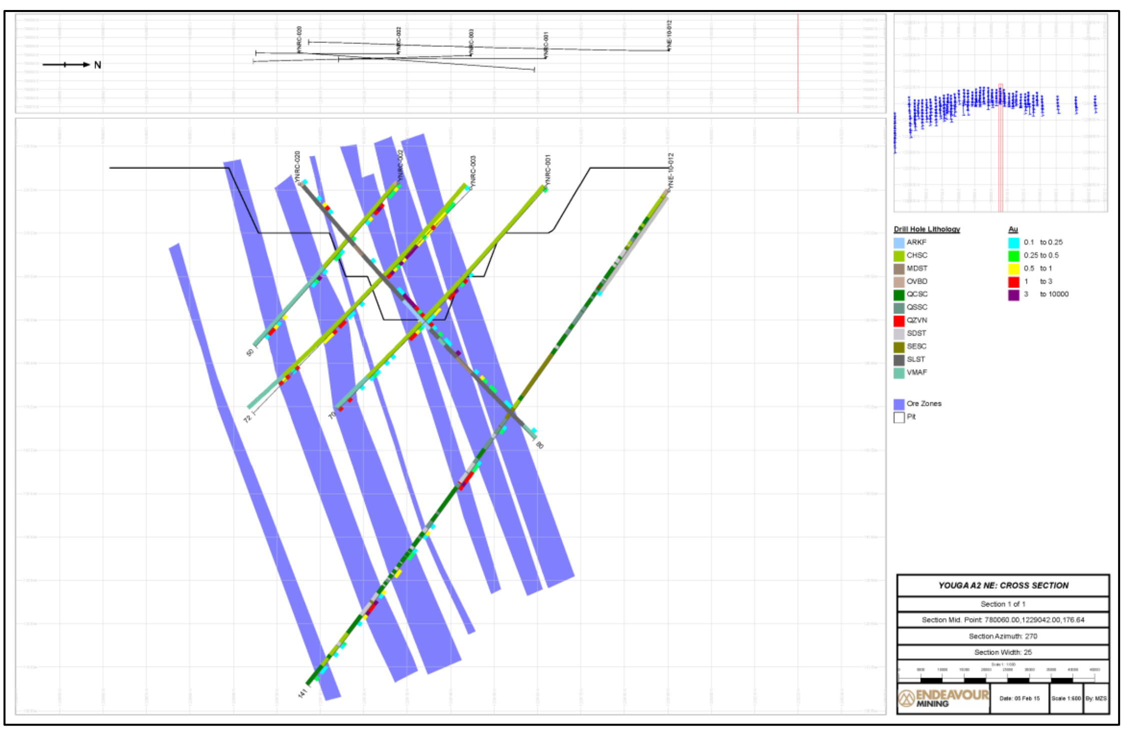


Figure 10-12 Zergoré Drill Plan

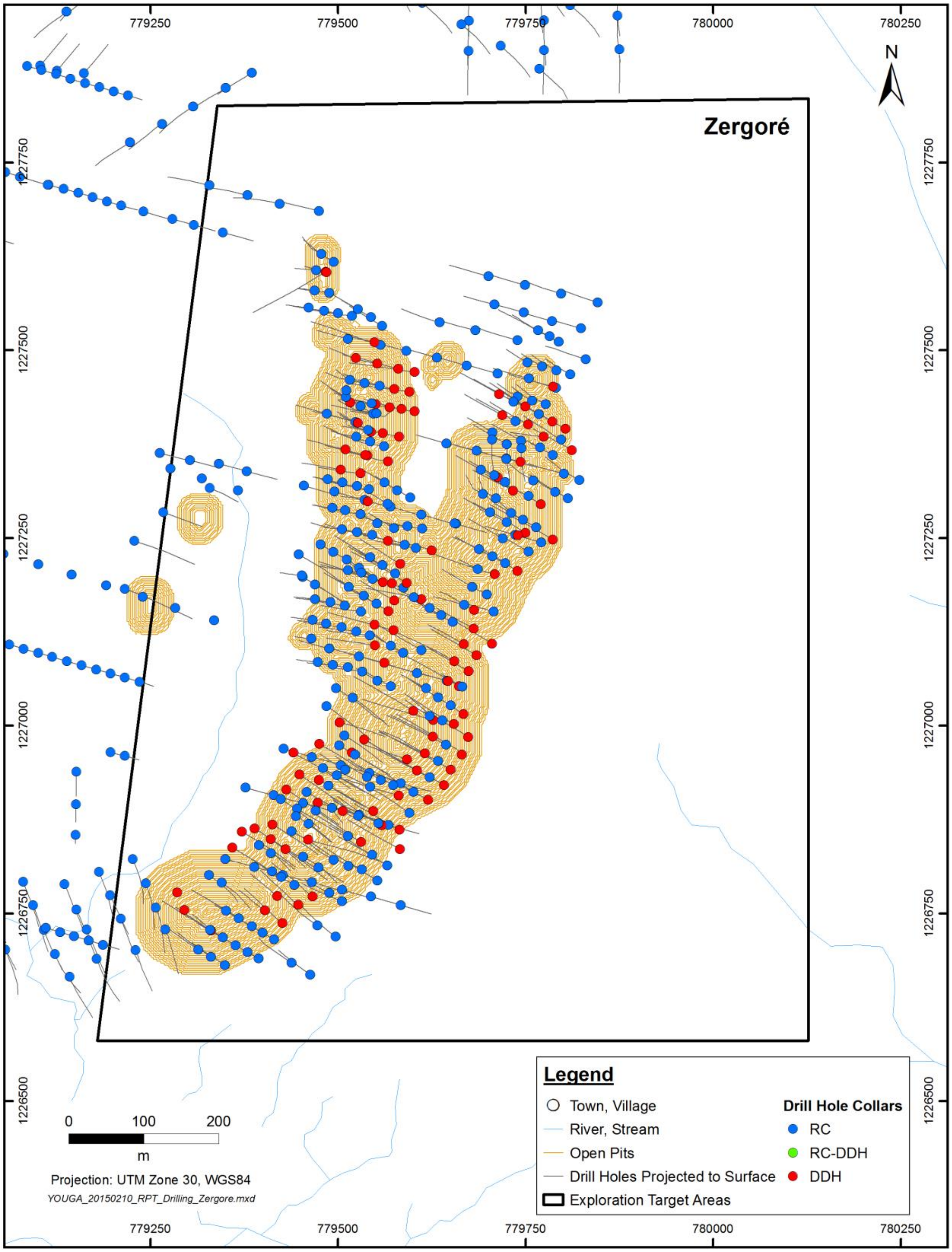
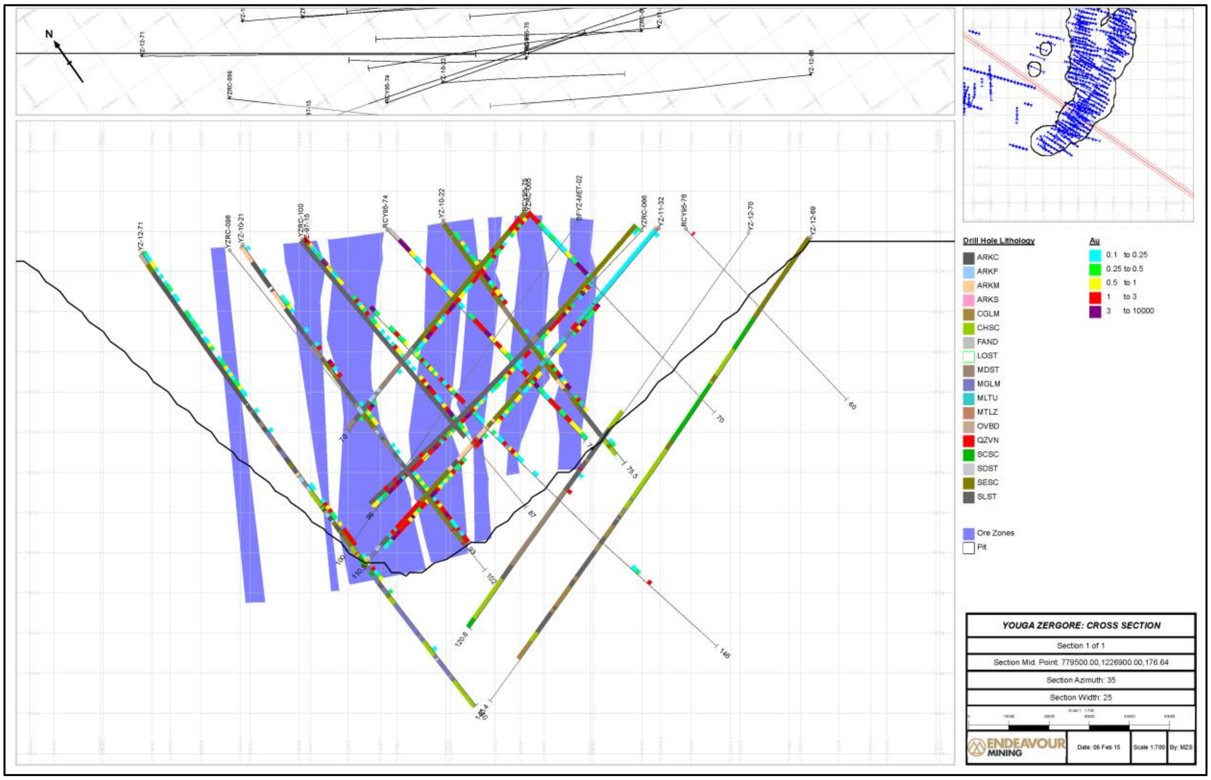


Figure 10-13 Zergoré Type Section



10.6 OUARÉ DRILLING

Drilling on the Ouaré Exploration Permits can be separated into two campaigns: Ashanti/Echo Bay and Endeavour/Etruscan. Only RC drilling was completed during the exploration stages carried out by Ashanti/Echo Bay, while Etruscan delineated an initial resource with RC drilling. Endeavour then undertook a resource definition drilling program which included RC and core drilling. Figure 10-14 shows the locations of the drill hole collars, while Table 10-3 summarizes the drilling completed on the Ouaré deposits.

Figure 10-14 Ouaré RC and Diamond Drill Hole Collars

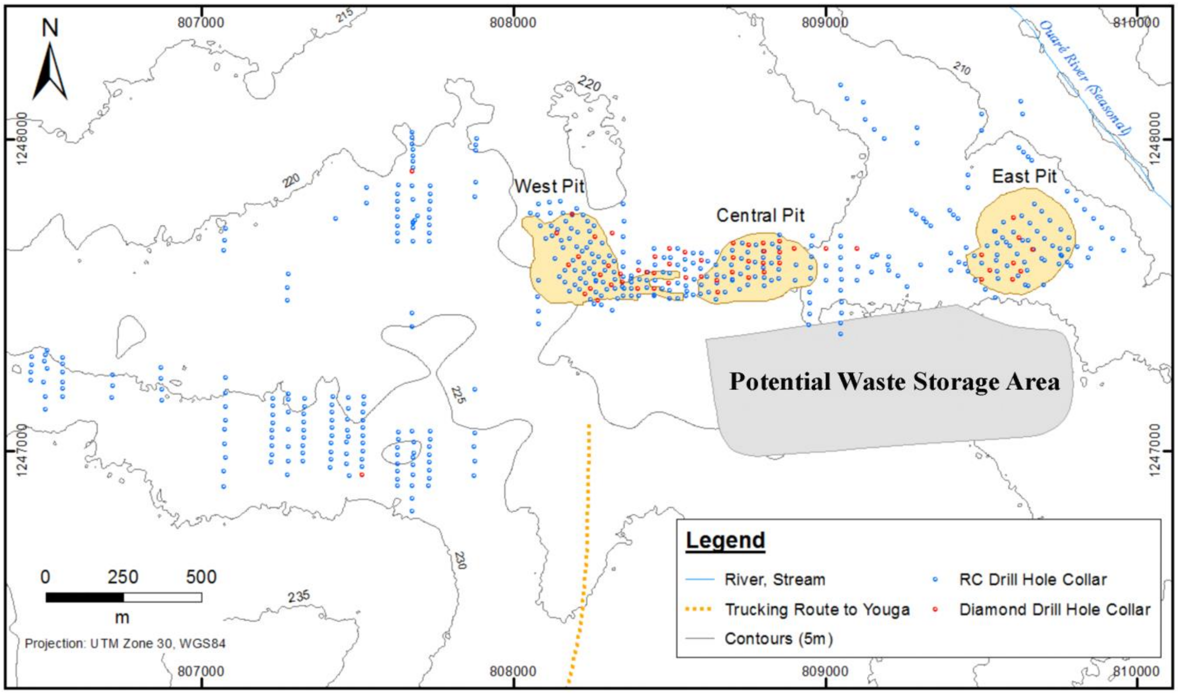


Table 10-3 Summary of Ouaré Drilling Statistics

Company	Diamond		RC		Trench	
	Number of Holes	Metres	Number of Holes	Metres	Number	Metres
Ashanti/Echo	0	0	18	1,762	45	6,521
Etruscan	0	0	232	19,512	0	0
Endeavour	56	6,975	257	26,723	0	0
Total	**56**	**6,975**	**507**	**47,997**	**45**	**6,521**

Exploration activities and data collection methodologies applied during the initial period are based on information compiled in Ashanti's 1999 databases and are discussed in Youga feasibility study completed in 1999 (Lycopodium, 1999).

10.6.1 Sample Recovery

The sample recovery of the drilling completed prior to Endeavour's involvement is not recorded in the database, although Ashanti reported sample recovery for both the RC and diamond drilling to be high (Lycopodium, 1999).

During drilling that was managed by Endeavour, the recovery has been routinely calculated and entered into the database, with the average core recovery for the Endeavour diamond drilling being near 95% and RC recoveries estimated at near 80%. Acceptable recovery has been achieved for all programs of drilling completed.

10.6.2 Drilling Results

A significant quantity of drilling has been completed and, as such, it is not practical to include a listing of all significant drilling intersects. The Ouaré deposits have been subject to previous resource studies, as discussed in subsequent sections of this report, and therefore no listing of significant intersections is provided.

10.6.3 Drilling Orientation

The drilling at Ouaré has generally been targeted normal to the plane of the principal, mineralized structures to ensure the optimum angle of intersection (Table 10-4). Scissor holes, drilled back in the opposite sense, have also been completed on each deposit to ensure that drilling was completed in the proper orientation.

Table 10-4 Ouaré Mineralization and Drilling Orientation by Zone

Domain	Mineralization		Drilling	
	Strike	Dip	Azimuth	Dip
Ouaré Central	E-W	Moderate to Steep N	180°	-45° to -55°
Ouaré West	SE-NW	Moderate to Steep N	220°	-45° to -55°
Ouaré East	E-W	Steeply N	0° and 315°	-45° to -55°

10.6.4 Ouaré Deposits

The resources currently defined at Ouaré are hosted within three zones (Central, West and East) along a structural corridor which runs roughly east-west however the orientation of the mineralization does vary along the strike (Figure 10-15). A type section through the Central Pit demonstrates the orientation of the mineralization (Figure 10-16).

Figure 10-16 Ouaré Type Section

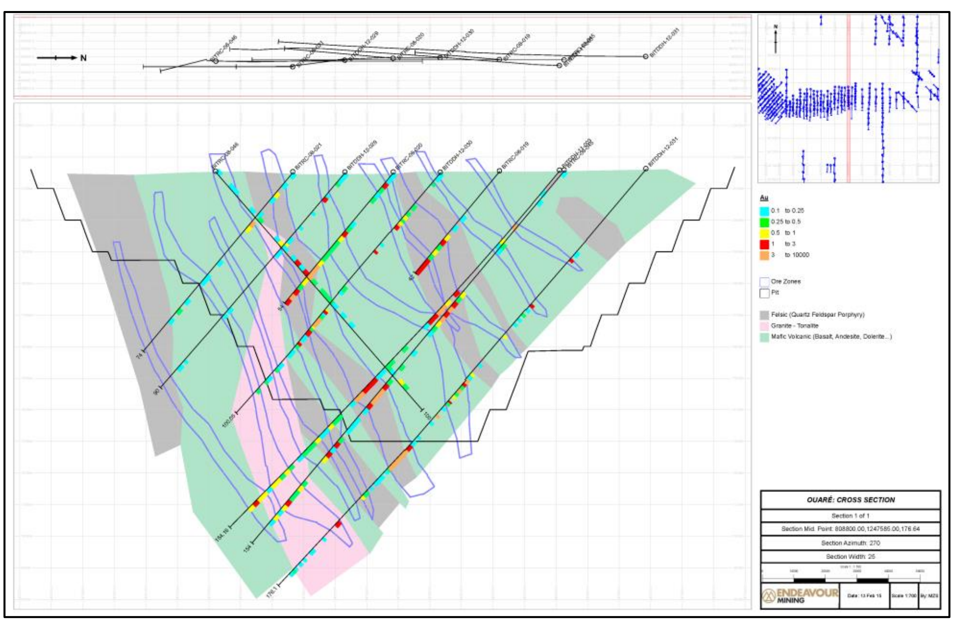
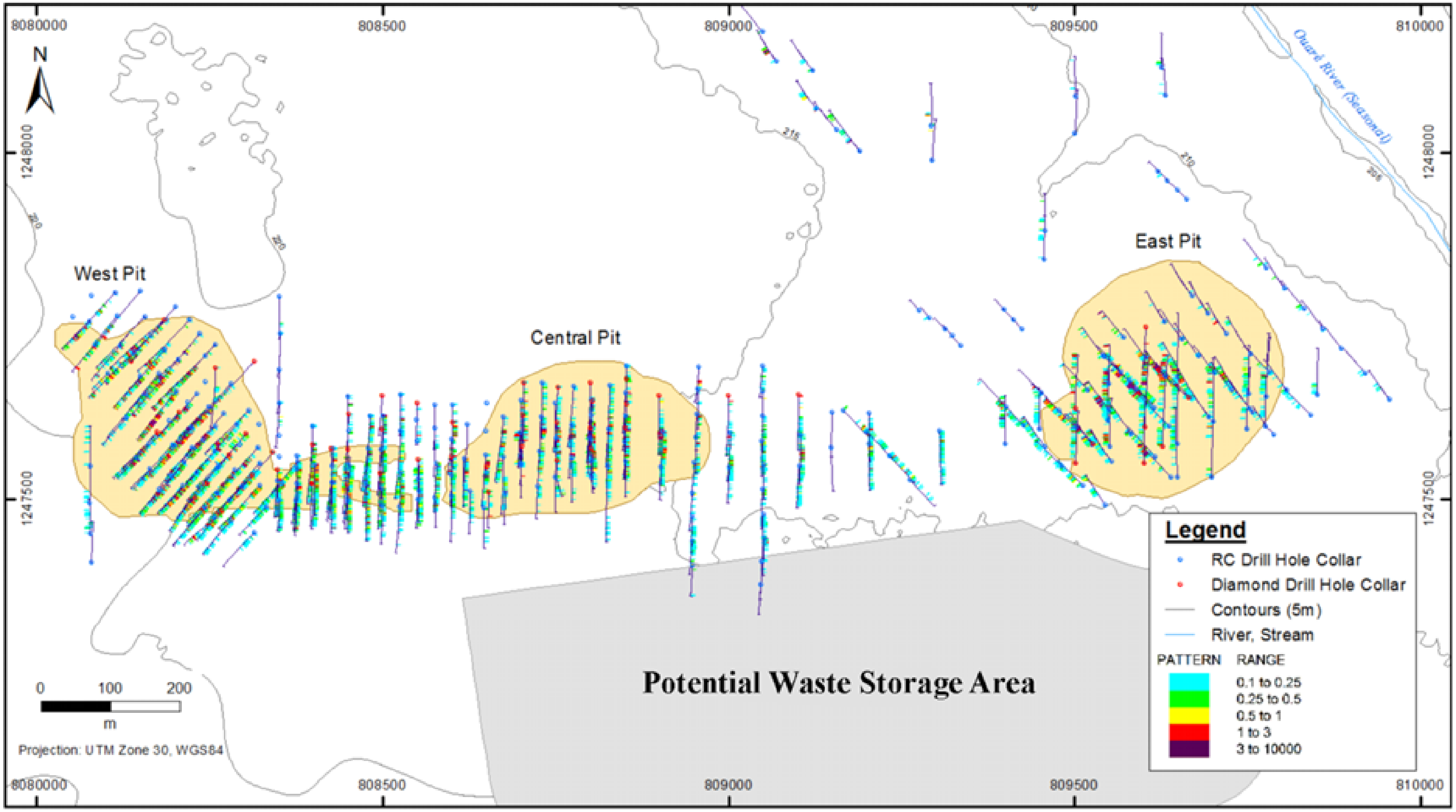


Figure 10-15 Ouaré Drill Plan



11.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

11.1 SAMPLING METHODS

11.1.1 Trench Sampling

The trenching completed at Youga and Ouaré generally consist of manually excavated trenches to bedrock (saprolite), which were generally less than 2m in depth. Trenches were mapped in detail prior to sampling continuous channels at 1m or 2m intervals.

11.1.2 Reverse Circulation Drill Sampling

Samples were collected over 1m intervals in a large plastic bag directly from the cyclone. The entire sample was weighed then split in a three-tier riffle splitter to get down to approximately 2kg. The splitter and boxes were cleaned with compressed air between samples. If the sample was wet, the entire sample was placed in a large rice bag and allowed to dry in the sun before the sample was weighed and split down.

At the drill rig, the geotechnician recorded the sample number; weight of the total sample, if water was present, and the geologist logged a number of characteristics of the cuttings on a log sheet. Beside the drill, an A3 size chip-board was completed by gluing powder and washed-chips from each sample interval. Alternatively a sub-sample of chips was placed in partitioned chip trays.

The approximately 2kg sub-samples were placed in plastic bags and sealed with a numbered sample tag enclosed. A second 2kg sub-sample was split off and retained, on-site, as a reference sample.

11.1.3 Diamond Drill Sampling

For diamond drilling, the core was placed into treated, wooden core-boxes at the drill site by the contract drillers. The drillers also placed wooden blocks, indicating the meterage, into the core boxes at the end of each run (normally every 3m).

Geologists and geotechnicians collected measurements of all geotechnical details, core recovery, geological logging and photographs. Typically sampling is broken at geological contacts with samples ranging in length from 0.5 to 1.5 metres but where possible samples were routinely collected over 1m intervals. Care is taken to consistently collect assay-samples from one side of the core.

Each core box was labelled with aluminum tape indicating the hole number, box number, and the hole length at the beginning and end of the core contained within the box. The labelled core boxes were stored under cover in steel racks in the core facility.

11.2 SAMPLE QUALITY

The sampling techniques for both the Ashanti and Endeavour drilling programs are considered, by the authors, to be representative and suitable for resource estimation and mine planning studies.

Logging quality for both the Ashanti and Endeavour drilling programs are considered, by the authors, to be consistent with industry standards and suitable for resource estimation and mine planning studies.

11.3 SAMPLE PREPARATION AND ANALYSES

Samples were collected in the field (trench, RC) or collected in the core logging area (diamond drilling), bagged immediately in plastic-sample bags, labelled with the sample number on the outside of the bag and stapled shut with a sample tag inside. Samples were stored at the exploration camp until such time as a sufficient number of samples had been collected to send to the assay laboratory. Samples were delivered directly to the laboratory by Endeavour personnel or received directly by laboratory staff at the exploration camp.

After the samples were delivered to the laboratory, all further sample preparation and analysis were conducted by laboratory personnel who were independent of Endeavour. No employee, officer, director or associate of Endeavour was involved in sample preparation or analysis after submission to the laboratory.

Ashanti utilized Inchcape Testing Services (“ITS”) Ouagadougou in Burkina Faso as the primary assay facility for processing samples. In addition, the SGS facility at Tarkwa in Ghana was utilized for assaying of selected diamond core and trench samples. Sample preparation was completed on the entire submitted sample, including crushing and pulverization to a targeted 95% passing 75µm. A 50g sub-sample was analyzed by fire assay (“FA”) with an atomic absorption spectroscopy (“AAS”) finish. The lower detection limit was stated as 0.005ppm Au.

Originally Endeavour utilized SGS Tarkwa to complete sample preparation and FA analyses on all RC and core sampling as above, but with a reported lower detection limit of 0.01ppm Au. Abilab/ALS Ouagadougou was also used periodically for some earlier stage drill programs, with a reported lower detection limit of 0.01ppm Au. Recent sample preparation and FA analyses have been completed by the SGS laboratory in Ouagadougou, Burkina Faso.

Endeavour consistently employed a rigorous quality control and assurance (“QA/QC”) program comprising regular insertion of field duplicates, blanks and a suite of commercial reference samples. QA/QC results were monitored on a batch by batch basis and any batch with more than two sample failures was re-assayed.

Umpire assaying was completed by Lakefield Canada (Toronto) and ALS Johannesburg using a combination of 50g FA with ICP-OES finish, and a gravimetric fire assay check of assays above 2g/t Au. Correlation with the initial results was very high.

ITS, SGS, Abilab/ALS, Lakefield are all internationally recognized laboratories. The local laboratories are operated as subsidiaries of the parent company and are subject to internal quality control programs and protocols in accordance with the operating practices of the parent laboratory.

11.4 QUALITY CONTROL AND ASSURANCE

A number of quality assurance and quality control procedures were rigorously implemented to monitor the accuracy and precision of the analytical and assay data received from all laboratories during the exploration programs. Each and every sample was assigned an individual sample number. In addition to the QA/QC procedures put in place by the assay laboratory a rigorous QA/QC routine was in place for all exploration completed by, or on behalf of Endeavour. The procedures in place include:

- Standards (independently submitted commercial reference standards);
- Blanks (previously assayed material returning less than detection assays);
- Field duplicates (second sample collected in the field from the same source); and
- Umpire assaying (second assay of prepared pulp at a second internationally accredited laboratory).

Commercially available standards were purchased from Rocklabs and one was inserted in every batch of 20 consecutive sample numbers. In the field, one blank sample (<5ppb) was included in every batch of 20 samples. As well, a single sample, from every 20, was a field duplicate. Duplicate RC samples were generated making a second 2kg split at the rig, core samples were randomly divided into two samples from one assay interval.

Results from the quality control samples were monitored as assay batches were received and where results were outside acceptable limits the entire batch was re-assayed. Examples of the control charts for the standards (Figure 11-1), blanks (Figure 11-2), RC field duplicates (Figure 11-3) are provided as follows:

Figure 11-1 Youga QAQC – Standard Tracking

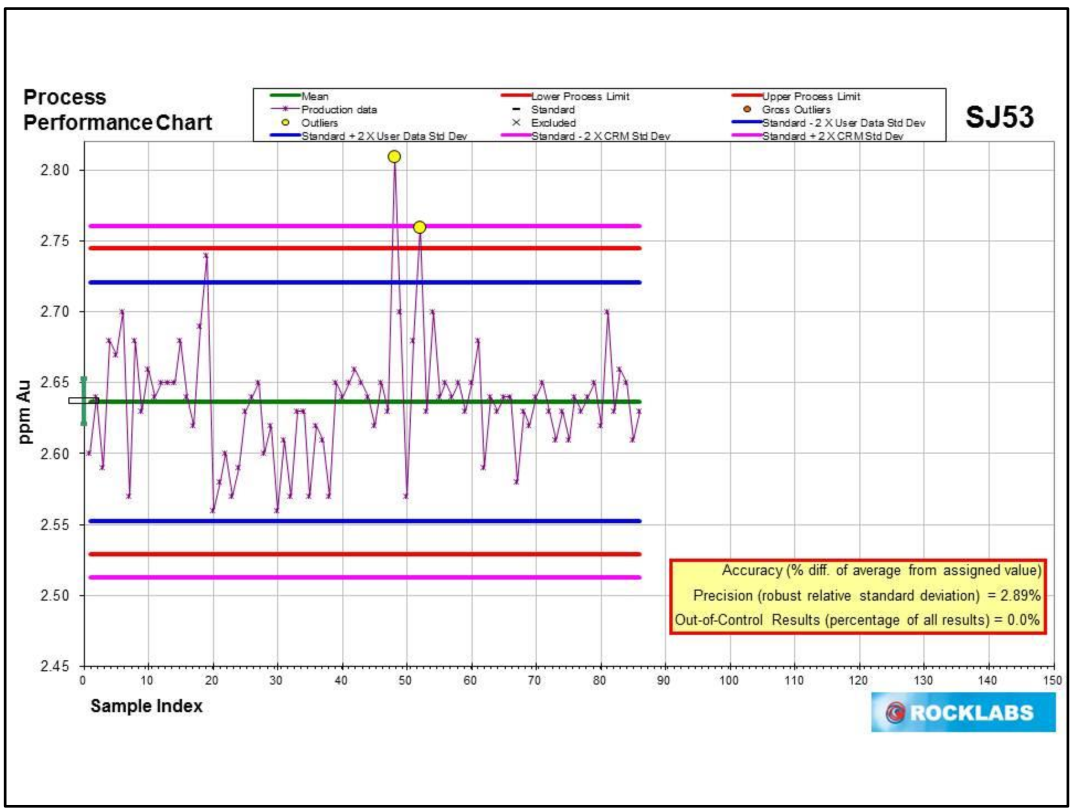


Figure 11-2 Youga QAQC – Blank Tracking

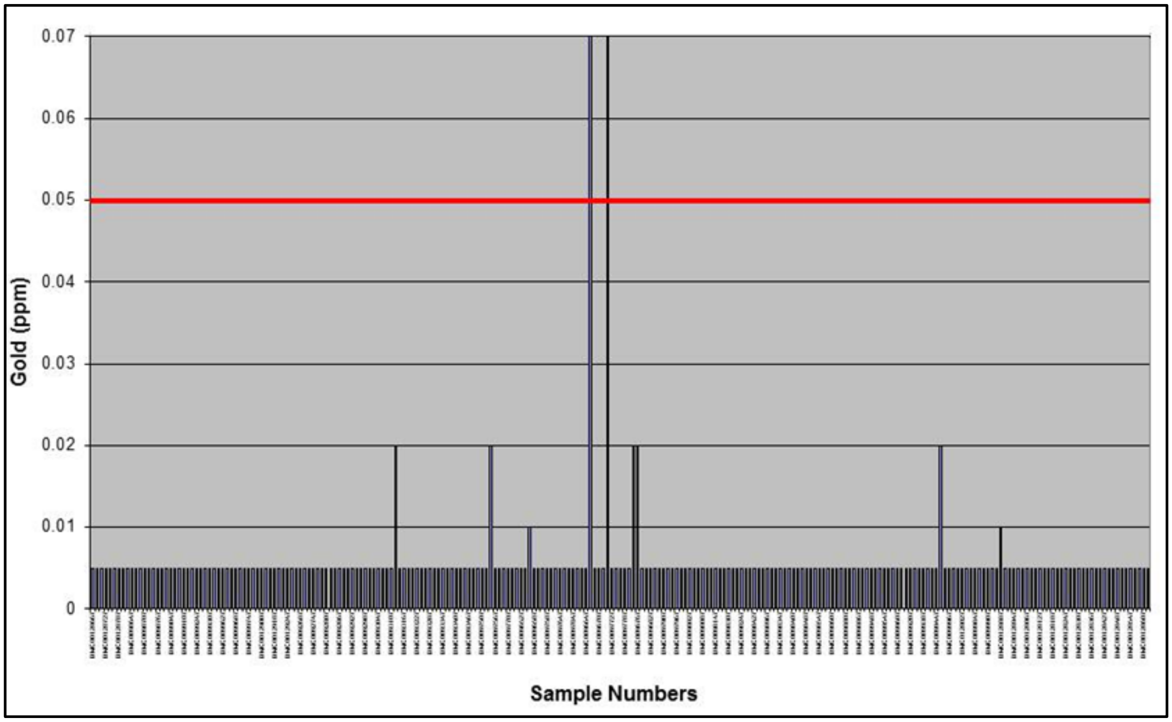
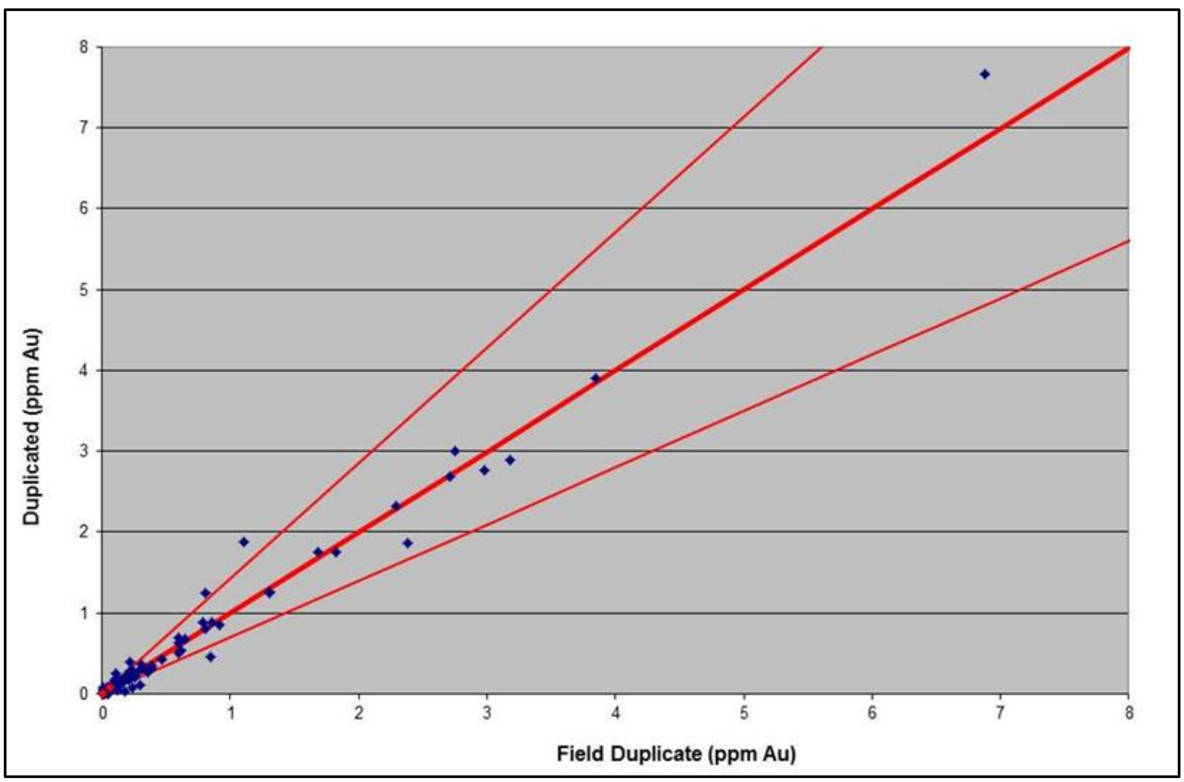


Figure 11-3 Youga QAQC – Duplicate Tracking



Pass/Fail thresholds for standards are derived directly from the statistical analysis for each standard provided by Rocklabs and are continually updated based on incoming results. A blank is deemed to have failed if the assay reports higher than 0.05g/t gold. The threshold for duplicate failures is determined based on two calculations;

- The absolute difference between the original and duplicate assays exceeds 0.1g/t Au.
- The relative difference between the original and duplicate assays exceeds 35%. Relative difference is defined as the absolute difference between the two assays, divided by their arithmetic mean value.

The data collected by Ashanti/Echo Bay and Endeavour was conducted in a professional manner by experienced geoscientists following industry standards and protocols.

As the Qualified Person on Exploration for Etruscan and now Endeavour, Mr. Woodman, P. Geo. was responsible for monitoring all QA/QC programs for the Youga and Ouaré projects since 2005 and has verified the data on an ongoing basis and completed periodic laboratory inspections.

The authors believe current sampling methods, sample preparation procedures, analytical techniques and sample security measures are considered appropriate and sufficient to meet current accepted industry standards.

12.0 DATA VERIFICATION

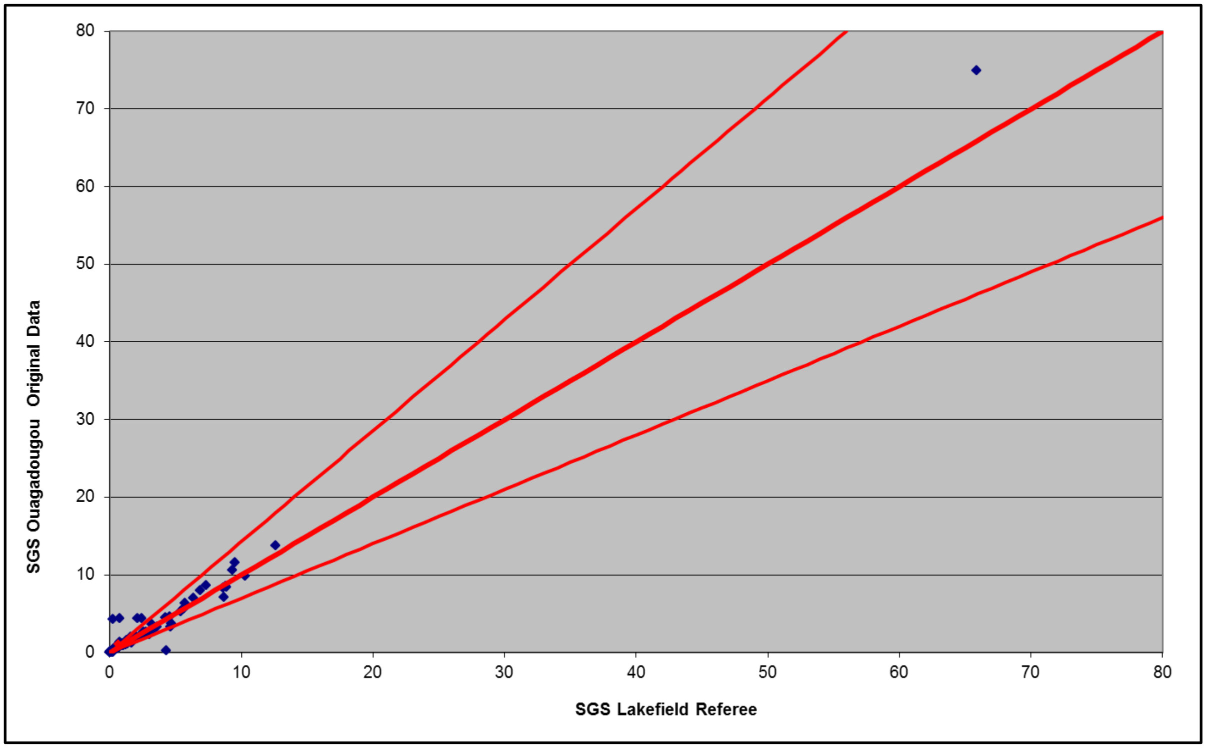
Following the completion of a drill campaign and receipt of all assays a number of representative drill intervals are selected, representing between 1 to 3% of the total assays, for assay at a third party laboratory. The intervals selected generally contain a range of assays, from un-mineralized material through to high-grade samples.

Typically one to three RC holes per deposit or zone are selected for twinning by a diamond drill hole, whereby a diamond drill hole is located within 5m of the RC hole-collar and drilled in the same orientation.

12.1 YOUGA DATA VERIFICATION

Umpire assays completed at Lakefield Canada correlated very well with the original assays (Figure 12-1).

Figure 12-1 Comparison of Original Youga Assays and Umpire Assays



Etruscan undertook a seven-hole, diamond-drill program during 2004 that twinned RC holes from the Ashanti/Echo Bay era. The holes selected for twinning were all from the A2 West deposits as there was very little RC drilling completed over the A2 Main and East deposits. The results of the program confirmed mineralization intervals and grades.

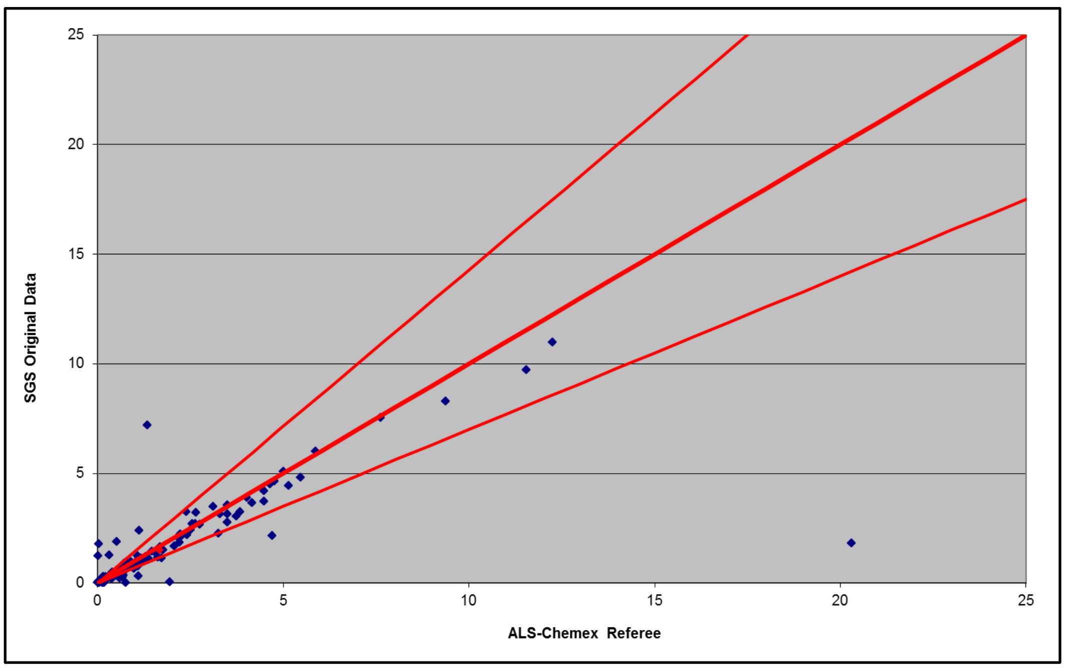
More recently Endeavour twinned several existing RC holes from the East Pit, Zergoré, A2NE and NTV deposits which confirmed mineralization intervals and grades (Table 12-1). The results of the program confirmed mineralization intervals and grades.

Table 12-1 Youga Twin Hole Summary by Zone

Deposit	Original Hole			Twin Hole			Difference	
	Hole ID	UTM_E	UTM_N	Hole ID	UTM_E	UTM_N	m_E	m_N
A2 East	RC-04-190	777325	1227528	A2-11-233	777325	1227526	0.4	1.6
	RC-04-184	777425	1227463	A2-11-227	777425	1227467	0.4	-3.6
Zergoré	YZRC-083	779545	1227429	YZ-10-17	779550	1227428	-5.3	0.9
	YZRC-066	779554	1226870	YZ-11-32	779558	1226867	-4.5	3.1
	YZRC-101	779522	1226961	YZ-11-33	779518	1226964	4.1	-2.5
	YZRC-038	779540	1227394	YZ-11-34	779544	1227391	-4.1	2.6
	YZRC-082	779547	1227416	YZRC-084	779547	1227416	0.0	0.0
	YZRC-055	779665	1227052	YZ-11-50	779665	1227052	0.0	0.0
	YZRC-201	779329	1226728	YZ-12-80	779331	1226727	-1.5	1.2
A2NE	YNRC-021	779933	1229164	YNE-10-001	779933	1229167	0.1	-3.0
	YNRC-005	780083	1229140	YNE-10-002	780083	1229146	0.3	-5.7
NTV	RC-04-203	778651	1226957	YT-11-01	778652	1226958	-0.4	-1.7
	A2-05-171	778612	1226598	YN-11-01	778611	1226607	1.3	-8.8
	A2-05-185	778701	1226982	YT-11-04	778702	1226986	-0.8	-4.4

Umpire assays completed on the Youga satellite deposits at ALS Johannesburg correlated very well with the original assays (Figure 12-2).

Figure 12-2 Comparison of Original Satellite Assays and Umpire Assays

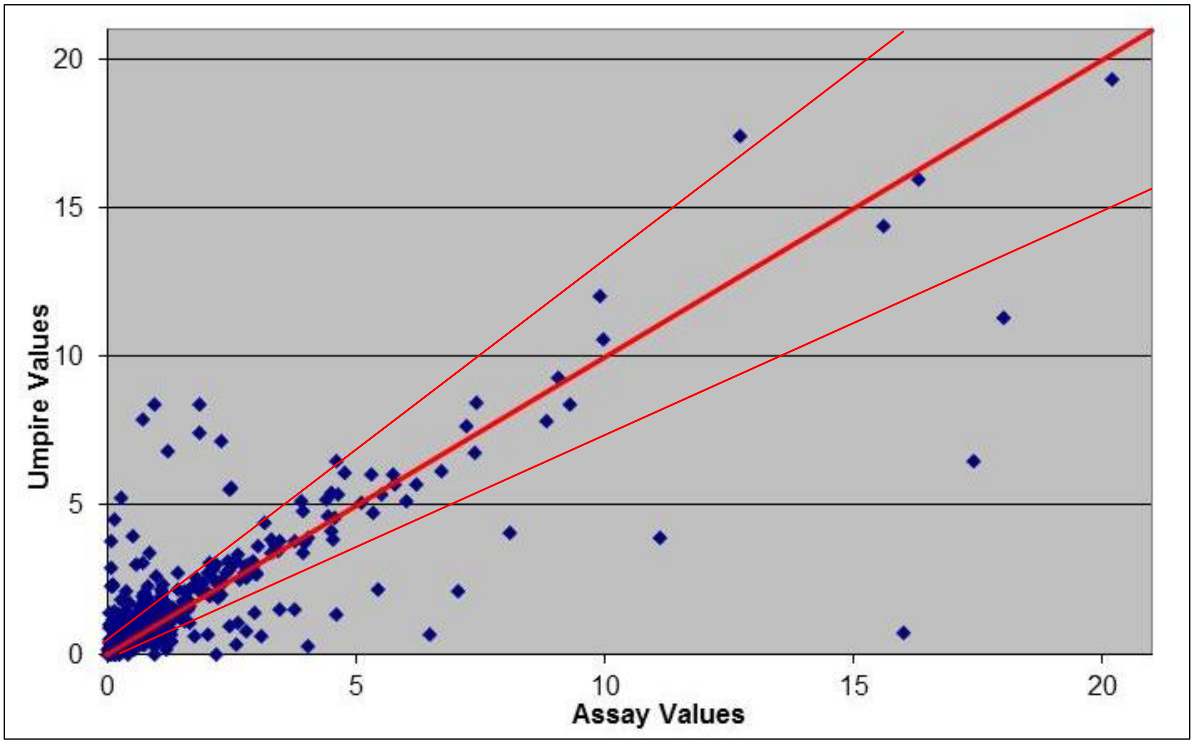


Data reliability for surveying, sample collection and assaying is considered to be high based on the QA/QC protocols and procedures, including; umpire assaying, down-hole surveys and data tracking via digital database, consistently used by Endeavour personnel.

12.2 OUARÉ DATA VERIFICATION

Figure 12-3 is a chart comparing the Ouaré original assays obtained by SGS Ouagadougou against the umpire assays obtained by ALS Johannesburg. Overall the umpire assays correlated well, with a few outliers at higher grades attributed to "nugget effect".

Figure 12-3 Comparison of Original Ouaré Assays and Umpire Assays



Endeavour undertook a five-hole, diamond drill program during 2011 that twinned earlier Etruscan RC holes. The holes selected for twinning included two from Ouaré Main, one from Ouaré Main NW and two from Ouaré East. The results of the program confirmed mineralization intervals and grades.

The results obtained from Endeavour's QA/QC procedures are satisfactory and confirm that the assay database is sufficiently reliable to be used in the estimation of resources.

Data reliability for surveying, sample collection and assaying is considered to be high, based on the QA/QC protocols and procedures employed consistently by Endeavour, including umpire assaying, down-hole surveys and data tracking via a digital database.

13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

13.1 BULK DENSITY

Bulk density determinations have been carried out by both Ashanti and Endeavour (Table 13-1). Samples were collected from hanging-wall, footwall and mineralized horizons and more than 10m below the surface (predominantly in un-weathered rock).

Table 13-1 Bulk Density Determination Sampling by Domain

Domain	Bulk Density Determinations					
	Ashanti	Average SG	Endeavour	Average SG	Total	Average SG
A2 Main/East	159	2.71	436	2.73	234	2.72
A2 West			286	2.72	286	2.72
A2NE			427	2.68	427	2.68
Zergoré			1,854	2.71	1,854	2.71
NTV			200	2.71	200	2.71
Ouaré			945	2.74	945	2.74

The Ashanti bulk density ("SG") determinations (described as specific gravity) were reportedly undertaken by SGS in Ghana applying the 'Archimedes' method (water displacement). The SG determinations conducted by Ashanti were completed on samples of one half-split drill core, prior to crushing the samples, submitted to SGS for gold assay. Two determinations were made and averaged for each sample.

The Etruscan bulk density determinations were completed by SGS in Tarkwa using billets of half-core selected from reference material at Youga. The SGS determination methodology included weighing the core in air as received, before drying billets for 6 hours at 100ºC to 150ºC, weighing the samples dry to record the moisture content, coating the samples in paraffin, weighing again to determine the weight of paraffin, weighing in water, then determining the bulk density, having allowed for the density of the paraffin.

Recent bulk density determinations for Endeavour were completed by SGS Ouagadougou, Burkina Faso. The only difference in the determination technique from that described above was the use of hairspray to seal samples, instead of wax.

The SGS methodology represents an industry standard approach with a high level of consistency noted within and between the Ashanti or Endeavour datasets. Bulk density determinations have been conducted in accordance with industry standard procedures and the authors believe the bulk density determination methods are appropriate and sufficient to meet current accepted industry standards.

13.2 METALLURGICAL TESTING

The existing Youga mill, which has the capacity to treat approximately 1Mt/a of feed, recovers gold by crushing, grinding, gravity concentration, cyanide leaching, adsorption onto carbon, desorption, electrowinning and smelting to produce doré bars.

13.2.1 Youga Metallurgical Testing

The most recent metallurgical and comminution testwork was performed by Mintek on Youga samples A2 Main Pit, A2 Main Pit East and A2 West Satellite deposits in August 2004. Prior to this, Mintek tested Youga samples Youga Y–1, 2, 3, 4, 5 and Satellite YW–1, 2, 3 in 1999.

Testwork was also performed by Hazen Research in Colorado USA, on three core samples termed Youga 1, Youga 2 and Youga 3, at an unknown earlier date.

Testwork has largely been focused on the following areas:

- Mineralogy;
- Gravity concentration;
- Reagent scouting tests;
- Preg-robbing assessment;
- Grind optimisation;
- Leach time optimisation;
- Carbon appraisal and carbon in pulp (“CIP “) / carbon in leach (“CIL”) modelling;
- Variability testing;
- Tailings grading and elemental analysis, and;
- Comminution tests.

<u>Ore Mineralogy</u>

Optical microscopy by Mintek in 1999 confirmed the predominant gangue material to be mainly silicates and some carbonate ankerite at 99 mass percent or more. The sulphides are present in amounts of less than 1.0 mass percent (including Fe - oxides/hydroxides where sulphides have been oxidized).

Gold searches were conducted to determine the gold occurrence and association in the Y2 and composite samples. Gold was found to be predominantly associated with pyrite. This included attachment to pyrite and locked in pyrite. Some larger gold particles were found in the silicates.

Mineralogical examinations confirmed the presence of fine, free gold within the ore. 67% of the gold detected in the composite sample was either liberated or attached to pyrite and should therefore be amenable to leaching. The remaining gold was locked in pyrite (19%) and silicate (11%). Gold particle sizes reported ranged from 1.3 microns to 12.8 microns. All gold particles examined on the scanning electron microscope contained approximately 10% silver.

<u>Metallurgical Sampling</u>

Sampling focused on two main ore variations; the hanging wall high-grade ore, which is more intensely silicified, and the footwall spotty-grade ore, which is less intensely silicified. Five 40kg samples of half NQ core of the two ore variations were sent to Mintek. Each variation was composed of samples that represented the various depths and ore grades and were bagged as separate assay intervals. Samples were referred to as Shallow, Medium, Deep, South End and North End.

Three composite samples were prepared according to grade. The composites were called High Grade, Spotty Grade and Spotty-High Grade. MDM decided to omit higher grade samples from the composites since these would have skewed the average head grade; much higher than that foreseen from mining.

The geological assay results of the composites showed an average head grade of 3.89g/t for the combined High and Spotty grade material, with a range of 2.05g/t to 8.96g/t. Previous testwork results support these grades, namely:

- Mintek 1999 results for Youga Y1-5 samples averaged 4.27g/t, with a range from 2.6g/t to 8.0g/t, and;
- Hazen results for samples Youga 1-3 averaged 5.86g/t, ranging from 2.6g/t to 9.3g/t.

<u>Comminution Testwork</u>

The average Bond ball mill work index ("BWI") for Youga at 106µm closing screen size is 17.46kWh/t, the BWI values ranging from 16.57kWh/t to 18.22kWh/t. These results indicate that Youga ore falls into the "Hard" ore category (15kWh/t - 20kWh/t). For comparison:

- Mintek 1999 BWI values ranged from 15.2kWh/t to 16.9kWh/t, and;
- Hazen BWI values ranged from 17.1kWh/t to 19.4kWh/t.

The average Bond rod mill work index ("RWI") from the 2004 testwork is 16.57kWh/t at limiting screen size of 1180µm. RWI values range from 14.64kWh/t to 18.76kWh/t, classifying the ore as "medium hard". In comparison, Mintek 1999 RWI values ranged from 23.5kWh/t to 25.8kWh/t.

The ratio of BWI: RWI ranges from 0.83 to 1.04, indicating that the ore breaks down readily into the required size and responds well to Semi-Autogenous Grinding ("SAG") milling. Autogenous Grinding ("AG") milling however is not an option.

Abrasion index results ranged from 0.24 to 0.47 and the ore is considered "moderately abrasive".

Drop weight testing placed the Youga ore in the "Moderately Hard" to "Hard" category.

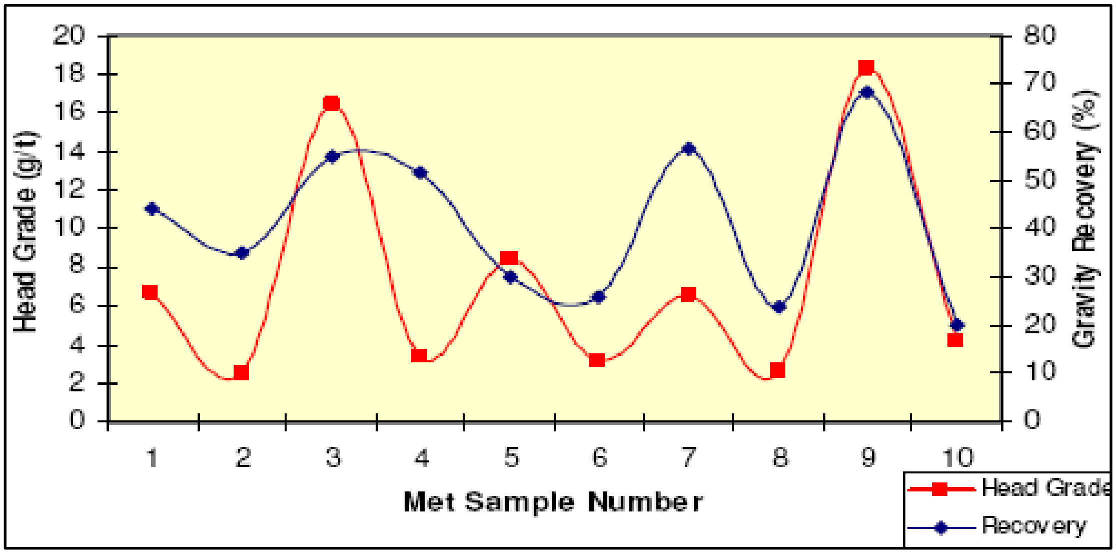
<u>Gravity Recovery</u>

The work at Mintek produced an average gravity gold recovery of 31.9% to final hand panned concentrate, at an average recovered gold grade of 1235g/t. Variability testing on the A2 West composite sample gave 19.2% gravity recovery. Previous results are not directly comparable but also show a high proportion of gravity recoverable gold as follows:

- Mintek 1999 composite sample gave 43% composite gravity recoverable gold;
- Mintek 1999 satellite ore composite had 54% gravity recoverable gold, and;
- Hazen work recovered between 64% and 77% of the gold in the gravity concentrate.

The presence of coarse recoverable gold in the Youga ores is certain and the need for a gravity recovery stage in the plant is confirmed. Figure 13-1 shows the level of gravity recovery obtained at various grades.

Figure 13-1 Youga Gravity Recovery at Varying Head Grades

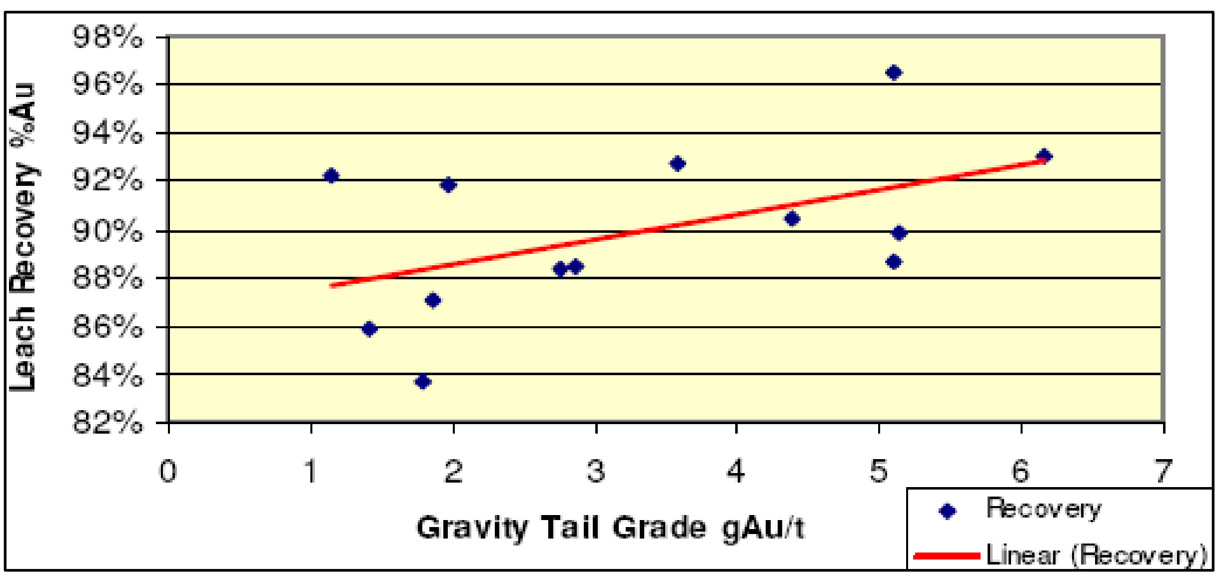


<u>Cyanidation</u>

Latest testing at Mintek showed no evidence of preg-robbing in Youga ore. Optimum leach time was determined to be 24 hours, since the increase in dissolution from 24 hours leach time to 48 hours was relatively small. Previous testwork performed by Mintek in 1999 demonstrated comparable results.

Cyanide leaching of spotty and high grade gravity tails gave gold dissolution of 90% and 91.6% respectively. A2 West composite sample gravity tail gave 91.7% gold extraction. Figure 13-2 shows level of recovery depending on the gravity tail grades.

Figure 13-2 Youga Grade Recovery Relationship



Heap Leaching Option

Hazen testwork included heap leach simulation of Youga 1 whole ore, crushed to minus 1.65mm. Gold extraction was less than 60%. Finer crushing to minus 833µm and cyanidation of the three ore types recovered up to 73% of the gold. The results indicated that Youga ore is not amenable to heap leaching.

Mintek 1999 heap leach testwork was performed on the Main-Satellite composite at a crush size of 70% passing 1mm and bottle-rolled at 50% m/m solids, pH 10-11, 5kg/t cyanide, no carbon and 7 days leach time. A low recovery of 59% was obtained after 7 days of leaching. 80% of the gold recovery occurred on day 1 which led to the belief that only the free gold leached and majority of the gold that was not leached was in the coarse fraction and "locked" perhaps in silicates or pyrite.

The carbon loading parameters for Youga ore show it is comparable to Witwatersrand type ores and satisfactory loadings and adsorption kinetics are expected.

Flotation Option

Flotation at a P80µm grind of 84µm to 119µm microns recovered 91% to 95% of the gold to flotation concentrate. Higher gold and lower mass recovery was achieved at the finer grinds.

Cyanidation of reground flotation concentrate gave an overall gold recovery of 89% (maximum).

Grinding Optimization

Optimum mill grind from 2004 testwork was determined to be 70% -75µm based on analysis of the incremental economic benefit and this grind was selected for plant design. Optimum grind according to the 1999 testwork was 100% -150µm.

Reagent Consumption

Oxygen decay rates were measured using the five main ore samples at P80 = 75µm grind, 20% solids and pH 10.5. Mintek benchmarked the oxygen decay rates against a typical Witwatersrand ore, which has an uptake rate of 2g/t/h with an oxygen consumption of 0.3kg/t. Youga sample rates were 2.3 times the benchmark figures. The oxygen consumption was calculated as 0.86kg/t, allowing a safety factor of 20%.

Cyanide consumption during the most recent testwork ranged from 0.02kg/t to 0.31kg/t. Repeat titrations were requested to verify these low values, since the 1999 average results were 0.55kg/t (main sample) and 0.36kg/t (satellite sample). Optimum cyanide addition was determined as 0.5kg/t based on analysis of the incremental economic benefit.

Lime consumption ranged from 0.51kg/t to 0.73kg/t during 2004 testwork. Similar results were obtained in 1999, with the main sample ranging from 0.31kg/t to 1.33kg/t. For the 1999 satellite sample lime consumption was 0.6 kg/t. Plant lime addition has been set at 0.76kg/t.

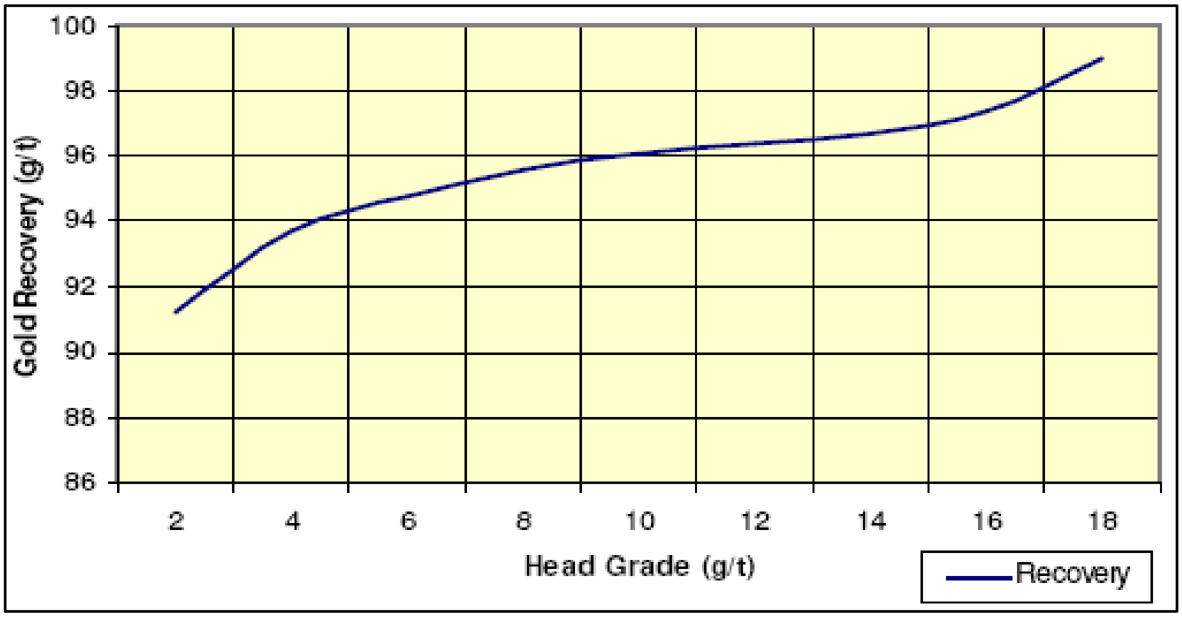
Overall laboratory gold extraction from gravity and cyanidation combined has been calculated as:

- High grade 95.5% to 98.3%;
- Spotty grade 92.7% to 95.0%, and;
- A2 West composite 93.3%.

The expected plant recoveries for High and Spotty grade material are 96.0% and 93.1% respectively, with the A2 West composite reporting 93.3%.

Figure 13-3 provides overall recovery obtained for various grade samples.

Figure 13-3 Youga Gold Recovery at Varying Head Grade



13.2.2 Youga Satellite and Ouaré Metallurgical Testing

A program of metallurgical testwork was undertaken between December, 2011 and April, 2012, to confirm the amenability of material from the Ouaré deposit, and from the deposits scheduled for future mining at Youga (Zergoré, A2NE and Nanga-Tail), to treatment in the Youga mill. A representative sample of the then-current mill feed at Youga was also tested, to serve as a guide in interpreting the test results obtained from the other samples. Samples were also tested for amenability to heap leaching and to comminution using high-pressure grinding rolls ("HPGR").

The program of testwork was designed and managed by AMEC and the testing itself was performed by SGS Canada Inc. in Vancouver. The results of the testwork were described and discussed in two reports:

- "*An Investigation into the Scoping Level Testwork on the Youga Project*", by SGS, dated July 9, 2012.
- "*Youga Gold Mine Satellite Deposits and Ouaré Deposit Metallurgical Testwork Report*", by AMEC, dated July, 2012.

Metallurgical Sampling

The samples submitted for testwork were sections of whole drill core selected by Endeavour's geologists, to ensure that the samples were representative, and forwarded to SGS in Vancouver. SGS received 23 samples representing 9 separately identified zones, including one representing current mill feed at Youga, as shown in Table 13-2.

Table 13-2 Samples Selected for Metallurgical Testwork

Deposit		Number of Samples
Youga	A2NE	4
	Nanga	3
	Tail	3
	Zergoré North (N)	3
	Zergoré South (S)	3
	Youga Plant	1
Ouaré	Ouaré East (E)	2
	Ouaré Central (C)	2
	Ouaré West (W)	2

Comminution Testwork

To characterize the size reduction behaviour of these samples in the Youga mill or in a heap leaching crushing circuit, three work indices were measured for selected samples:

- Crusher work index;
- Bond rod mill work index, and;
- Bond ball mill work index.

The crusher work index testing was subcontracted by SGS to Phillips Enterprises, LLC in Golden, Colorado. As shown in Table 13-3, the crusher work indices varied between 10.8kWh/t for Zergoré N3 (hardness percentile 56) and 22.2kWh/t for Ouaré E2 (hardness percentile 97). All samples tested demonstrated a higher than mean value with respect to historical SGS testwork results. The presence of unusually hard material would need to be considered in sizing a crushing circuit, if further testing indicated that it could be quantitatively significant. The plant sample, tested as a benchmark, was evaluated at about the 85th percentile (15.7kWh/t), which was close to the median in the range of results determined for the samples tested.

Table 13-3 Summary of Crusher Work Index Tests

Sample	Crusher Work Index (kWh/t)	Specific Gravity	Hardness[1] Percentile
A2NE 4	11.2	2.68	59
Nanga 2	12.7	2.74	69
Nanga 3	15.7	2.69	84
Tail 2	15.4	2.62	82
Tail 3	17.1	2.61	89
Zergoré N3	10.8	2.65	56
Zergoré S3	12.3	2.74	67
Ouaré E1	18.4	2.81	93
Ouaré E2	22.2	2.85	97
Ouaré C2	16.6	2.73	87
Ouaré CW2	11.1	2.74	57
Plant	15.7	2.67	84

[1] Hardness percentile is measured against the SGS database of work index tests.

Bond rod mill work index determinations were performed by SGS. The results were benchmarked against the SGS historical database and are shown in Table 13-4. All samples are harder than the database mean, with Nanga 3 (94th percentile), Ouaré E1 (92nd percentile), Ouaré C2 (94th percentile) and Ouaré CW2 (97th percentile) being notably hard. As these samples are harder than the plant sample (77th percentile), it is possible that processing the Ouaré deposits at the Youga plant could result in reduced throughput. Additional testwork is required to provide more definitive rod mill work index results.

Table 13-4 Summary of Bond Rod Mill Index Tests

Sample	Rod Mill Work Index (kWh/t)	Hardness Percentile
A2NE 4	14.6	54
Nanga 2	16.1	67
Nanga 3	19.4	89
Tail 2	16.9	73
Tail 3	16.9	73
Zergoré N3	15.2	59
Zergoré S3	16.5	70
Ouaré E1	19.1	88
Ouaré E2	18.2	83
Ouaré C	19.6	91
Ouaré CW2	20.3	94
Plant	16.8	73

Bond ball mill work index tests were completed by SGS, and benchmarked against the SGS database. The results are shown in Table 13-5. The results cluster around the historical mean, with the hardest being Ouaré CW 2. The plant sample is slightly harder than the historical mean. AMEC's report indicated that the existing Youga mill could accommodate processing all of these deposits with little impact on throughput.

Table 13-5 Summary of Ball Mill Work Index Tests

Sample	Ball Mill Work Index (kWh/t)	Hardness Percentile
A2NE 4	11.2	59
Nanga 2	12.7	69
Nanga 3	15.7	84
Tail 2	15.4	82
Tail 3	17.1	89
Zergoré N3	10.8	56
Zergoré S3	12.3	67
Ouaré E1	18.4	93
Ouaré E2	22.2	97
Ouaré C2	16.6	87
Ouaré CW2	11.1	57
Plant	15.7	84

Gravity Recovery

Currently, at Youga, at least 20% of the gold in the mill feed is recovered by gravity, using a centrifugal concentrator and shaking tables to produce a gold concentrate.

The SGS gravity separation test protocol consisted of centrifugal concentration (Knelson) of feed ground to 80% passing (P80) 150µm, followed by upgrading on a shaking table. The results are summarized in Table 13-6.

Table 13-6 Summary of Gravity Separation Results

Sample	Calculated Head Grade (g/t)	Concentrate Grade (g/t)	Concentration Factor	Gold Recovery (%)
A2NE 1	2.37	176	74	18.1
A2NE 2	2.89	197	68	12.3
A2NE 3	0.25	41.9	168	28.1
A2NE 4	0.10	6.16	62	13.9
Nanga N1	1.68	314	187	38.8
Nanga N2	2.14	329	154	18.7
Nanga N3	1.47	192	131	16.6
Tail 1	0.79	163	206	13.9
Tail 2	0.51	100	195	20.3
Tail 3	0.69	155	225	27.1
Zergoré N1	0.40	382	955	27.4
Zergoré N2	3.63	1047	288	26.8
Zergoré N3	2.24	943	421	32.2
Zergoré S1	N/A	N/A	N/A	N/A
Zergoré S2	2.72	359	132	9.2
Zergoré S3	0.61	102	167	7.0
Ouaré E1	1.74	195	112	8.4
Ouaré E2	4.68	767	164	12.3
Ouaré C1	4.38	832	190	8.1
Ouaré C2	4.40	79.4	18	1.9
Ouaré CW1	1.67	501	300	36.6
Ouaré CW2	2.06	162	79	7.4
Plant	4.87	849	174	16.8

The testwork indicates that, for most of the samples, a significant amount of gold can be recovered by gravity with good concentration ratios. Sample Zergoré S1 was contaminated during sample preparation, so metallurgical testing was not conducted on this material.

Cyanidation

Cyanidation testwork using bottle rolls was conducted to determine gold extraction, gold recovery and reagent consumption. All cyanidation testwork was conducted on the tails produced from the gravity separation tests, thus simulating the Youga flowsheet. In the leach tests, the gravity tails were leached in 1.5g/L NaCN for 72 hours. The cyanide level used in these tests is higher than usually encountered in plant operations, so the test may be characterized as indicating ultimate gold recoveries rather than commercial gold recoveries. Similarly, cyanide consumption is likely to be overestimated.

Results of the cyanidation test program are summarized in Table 13-7. Even without considering the likely overestimation by the test method, the cyanide and lime consumptions are moderate, and the feeds would be characterized as clean. The resulting solutions should not be materially contaminated, so that subsequent processing for gold recovery by activated carbon should not be inhibited, and unusual environmental concerns are unlikely to develop. Leaching is usually rapid, reaching a plateau within less than 10 hours. However, sample Ouaré E demonstrated slowly increasing extractions over the 72-hour period after an initial rapid release. This may indicate gold present in a different chemical form with slower leach kinetics, or diffusional limitations that might be relieved by finer grinding. Ouaré CW2 also demonstrated slower kinetics, requiring more than 20 hours to reach the final extraction. The plant sample, provided for benchmarking, exhibited rapid kinetics.

Table 13-7 Summary of Agitation Leaching Results

Sample	Gold Extraction (%)	Cyanide Consumption (kg/t)	Lime Consumption (kg/t)
A2NE 1	92.3	0.06	1.50
A2NE 2	91.5	0.19	0.85
A2NE 3	87.2	0.11	0.92
A2NE 4	71.7	0.04	0.44
Nanga N1	90.5	0.20	0.58
Nanga N2	84.6	0.50	0.62
Nanga N 3	62.5	0.36	0.59
Tail 1	95.6	0.20	0.89
Tail 2	83.6	0.35	0.47
Tail 3	85.3	0.27	0.39
Zergoré N1	91.9	0.23	0.08
Zergoré N2	85.4	0.46	0.82
Zergoré N3	81.5	0.55	0.35
Zergoré S1	N/A	N/A	N/A
Zergoré S2	75.6	0.30	0.45
Zergoré S3	92.1	0.30	0.26
Ouaré E1	79.1	0.54	0.39
Ouaré E2	77.9	0.55	0.44
Ouaré C1	81.5	0.30	0.70
Ouaré C2	74.9	0.45	0.32
Ouaré CW1	90.1	0.22	0.35
Ouaré CW2	75.5	0.63	0.20
Plant	84.8	0.30	0.24

Combined Gravity and Agitation Leach Results

The Youga mill circuit includes gravity concentration, followed by agitation leaching of the gravity tails. The combined results from testing gravity concentration and agitation leaching, estimated using the leach residue assays and the gravity calculated head assays, are shown in Table 13-8. Using the recovery-based method employed by SGS, the overall extraction is calculated from the gravity and agitation leach recoveries.

Table 13-8 Overall Extractions for Combined Gravity Separation and Agitation Leach

Sample	Calculated Head Grade (g/t)	Leach Residue (g/t)	Overall Extraction (%)
A2NE 1	2.37	0.14	93.7
A2NE 2	2.89	0.2	92.5
A2NE 3	0.25	0.02	90.8
A2NE 4	0.10	0.02	75.6
Nanga N1	1.68	0.09	94.2
Nanga N1	1.78	0.09	94.2
Nanga N2	2.14	0.14	87.5
Nanga N2	1.49	0.14	87.5
Nanga N3	1.47	0.54	68.7
Nanga N3	1.50	0.54	68.7
Tail 1	0.79	0.02	96.2
Tail 2	0.51	0.06	86.9
Tail 3	0.69	0.1	89.3
Zergoré N1	0.40	0.02	94.1
Zergoré N2	3.63	0.39	89.3
Zergoré N2	4.01	0.39	89.3
Zergoré N3	2.24	0.18	87.5
Zergoré N3	1.80	0.18	87.5
Zergoré S1	N/A	N/A	N/A
Zergoré S2	2.72	0.53	77.8
Zergoré S2	2.61	0.53	77.8
Zergoré S3	0.61	0.025	92.7
Zergoré S3	0.60	0.025	92.7
Ouaré E1	1.74	0.305	80.8
Ouaré E1	1.51	0.305	80.8
Ouaré E2	4.68	0.825	80.6
Ouaré E2	4.81	0.825	80.6
Ouaré C1	4.38	0.68	83.0
Ouaré C1	4.23	0.68	83.0
Ouaré C2	4.40	1.01	75.4
Ouaré C2	4.33	1.01	75.4
Ouaré CW1	1.67	0.125	93.7
Ouaré CW2	2.06	0.42	77.3
Ouaré CW2	2.02	0.42	77.3
Plant	4.87	0.56	87.4

With the exception of Nanga N3 at 68.7% extraction, overall extractions for the test series ranged from 75.4 to 96.2%. In comparative terms, however, the Ouaré samples exhibited a somewhat lower recovery than the Youga samples.

Grinding Optimization

The grind size for the cyanidation leach testwork was specified as a P80 of 150 mesh, based on then-current Youga plant practice. In order to investigate the relationship between grind size and gold recovery, ten samples were selected from the pool of gravity tail samples. These samples were ground to a P80 of 75µm and then leached, using the same cyanide strength and leaching time as the previous tests. The results are presented in Table 13-9.

Table 13-9 Gold Extractions for Finer Grind

Sample	Gold Extraction Original (%)	Gold Extraction Fine Grind (%)	Difference (% Gravity Tails Gold)
A2NE 1	92.3		
A2NE 2	91.5		
A2NE 3	87.2		
A2NE 4	71.7		
Nanga N1	90.5		
Nanga N2	84.6		
Nanga N3	62.5	88.7	26.2
Tail 1	95.6		
Tail 2	83.6		
Tail 3	85.3		
Zergoré N1	91.9		
Zergoré N2	85.4	92.3	6.9
Zergoré N3	81.5		
Zergoré S1	NA	NA	NA
Zergoré S2	75.6	86.3	10.7
Zergoré S3	92.1		
Ouaré E1	79.1	88.0	8.9
Ouaré E2	77.9	88.8	10.9
Ouaré C1	81.5	87.2	5.7
Ouaré C2	74.9	83.8	8.9
Ouaré CW1	90.1	95.1	5.0
Ouaré CW2	75.5	83.9	8.4
Plant	84.8	90.1	5.3

In all cases, the finer grind resulted in an increase in gold recovery. The average increase in recovery, excluding sample Nanga N3, was 7.9 percentage points. The result obtained from Nanga N3 is considered anomalous.

Calibration to Plant Sample

The plant sample was intended to calibrate this test program to Youga operating results. At the time the plant sample was taken (October 28, 2011), the Youga mill was achieving 93.0% effective recovery. Comparison shows that the current test results (150 mesh grind, 105µm) are underestimating mill recovery by about 4.5 percentage points. Samples ground to a target 75µm grind overestimate mill recovery by 1.3 percentage points.

The importance of fine grinding to leaching performance is demonstrated by this work. The Youga mill is now grinding to a P65 of 75µm, and is achieving average gold recoveries of approximately 91-93%.

Proposed Additional Testwork

Based on a review of earlier metallurgical reports, it is recommended that future testwork of the Ouaré mineralization should include the following:

- Confirmatory testing of the relationship between grind size and gold recovery;
- Testwork with lower cyanide concentrations;
- Confirmatory testwork on a variety of representative feed samples, and;
- SAG amenability testwork. This testwork would not be required if the Ouaré deposit is developed to supply supplementary feed to the existing Youga mill.

13.3 MINERAL PROCESSING

The Youga plant is designed to recover gold at a total treatment rate of 1 million tonnes per annum.

Testwork conducted by a number of laboratories confirmed the ore is amenable to grinding and gravity concentration, followed by conventional cyanide leaching of the gravity tailings and the circuit is designed accordingly.

During the mine life the Youga plant will receive ore from the Youga Main, East and West pits as well as the new satellite pits. Ore from these pits has been classified as competent rock (not soft or saprolitic) and this has been a key factor in the process design and equipment selection.

Testwork conducted by Mintek and reviewed by MDM showed that a gravity concentration stage was required to achieve overall high gold extraction. The gravity circuit consists of a centrifugal gravity concentrator, with final gravity concentrate produced on a shaking table.

Milled ore is processed in a conventional leach/CIL circuit consisting of a pre-leach tank followed by a series of five CIL tanks. MDM has used this circuit frequently as it has been found to offer the benefit of lower capital cost (compared to leach-CIL) as well as operational simplicity.

Youga is fortunate in having a continuous water supply available from the Nakambé River. This has removed the need for a thickener in the circuit; hence CIL tailings slurry is pumped directly to the tailings dam.

The Youga processing plant uses the conventional gravity/CIL gold recovery process, similar to various facilities in operation in West Africa and consists of a three stage crushing operation, ball milling, gravity concentration and cyanidation by CIL. Pressure Zadra elution is utilized for recovery of gold from loaded carbon.

The conclusion reached in the Ouaré PEA is that it is economically most beneficial to develop the Ouaré project to truck all mineralization to process in the Youga mill, in conjunction with Youga ore (Damjanović, et. al., 2013).

14.0 MINERAL RESOURCE ESTIMATES

14.1 YOUGA MINERAL RESOURCE ESTIMATES

Between 2010 and 2014, Endeavour undertook additional exploration and grade control drilling on all the deposits within the mine Exploitation Permit and has updated mineral resource models supporting the current mineral reserves estimates at Youga in-house under the supervision of the Mr. Kevin Harris, CPG, Group Resource Manager for Endeavour. These updated and depleted mineral resource models and estimates are summarized below and form the basis of this Technical Report.

14.1.1 Data

The database used during the resource estimation includes 484 core holes and 1,097 RC holes, trenches were included but used only for interpretation, not grade estimation (Table 14-1).

Table 14-1 Youga Drilling Compilation by Method and Deposit

Deposit	Ashanti				Endeavour			
	Metres	DDH	RC	Trench	Metres	DDH	RC	Trench
A2 Main/East	25,843	88	26	57	40,434	123	151	7
A2W Z1	3,639	10	13	11	2,833	34	11	4
A2W Z2	5,816	7	40	15	4,657	2	56	13
A2W Z3	7,234	8	40	15	6,180	2	59	9
Nanga	-	-	-	-	15,553	33	105	31
Tail	1,568	-	15	4	8,696	17	64	12
Zergoré	10,829	16	64	38	29,636	95	230	2
A2NE	1,453	-	-	9	17,789	28	166	2
LeDuc	2,598	-	-	16	10,080	21	72	2
Total	**54,814**	**129**	**183**	**145**	**135,858**	**355**	**914**	**82**

14.1.2 Topography and Weathering Surfaces

The topographic triangulation was built from points surveyed by total station and covers the full extension of the area used for modeling.

The drilling database contains information on the weathering classification of the rocks and surfaces were created to represent the bottom of saprolite and saprock units by extracting the bottom coordinates of the last occurrences logged for these units and visually checked the spatial distribution of these points.

14.1.3 Geological Modelling

Three-dimensional solid bodies representing the extent of the gold mineralization were constructed for each auriferous zone, based on sectional and level plan interpretations using "Surpac" software. The modelling resulted in the creation of a number of wireframes based on the gold mineralization (Table 14-2). All logged geological data including lithology, veining, sulphide content, alteration, etc., have been used when constructing the grade shells where possible.

Table 14-2 Modelled Grade Shells by Deposit

Deposit	Grade Shells
A2 Main/East	1 thru 14
A2 West Zone 1	1 thru 3
A2 West Zone 2 & 3	1 and 13
Nanga	1 thru 1
Tail	1 thru 2
Zergoré NW	1 thru 30
Zergoré NE	1 thru 14
Zergoré C	1 thru 8
Zergoré S	1 thru 4
A2NE	1 thru 42
LeDuc	1 thru 3

Grade shells were produced based on a gold threshold at a nominal 0.5 g/t cut-off for the Youga deposits. Intercepts below this threshold would occasionally be included to account for geologic continuity. Minimum widths of the interpretations were 1 to 2m depending on continuity and grade of the mineralization.

Based on logging information, a number of sub-domain surfaces were used to subdivide the gold mineralization based on density, mining and properties of each of the rock types were created. The sets of surfaces that were modeled included: two surfaces defining the boundaries between oxidation levels of the sulphide minerals (oxidized, transition and fresh) and three surfaces defining the boundaries between intensity of weathering (overburden, saprolite, saprock and bedrock).

14.1.4 Assay Compositing

Gold assay data within the defined domains of each deposit (A2 Main, A2 East, A2 West 1, 2 and 3, NTV, A2NE, Zergoré and Leduc) were composited to 2m lengths, starting from the drill hole collar and down the hole, breaking at each grade shell, topographic, and weathering boundary. These composites were used to interpolate gold grades into a block model. The 2m size was selected as a compromise between the Selective Mining Unit ("SMU") scale, and the minimum interpreted grade shell widths of 1 to 2m. All missing data and intervals less than 1m length were excluded from the compositing process.

Composited data were extracted for each domain and basic statistics were analyzed.

14.1.5 Statistical Analysis

Statistical analysis has been undertaken for each of the evaluated deposits based on composites generated from available exploration data, coded by the weathering and oxidation profiles, and grade shells. The statistical investigations included descriptive and distribution analyses, assessment of outliers and indicator statistics.

Typical of gold deposits, the grade distributions for the composite data are positively skewed, with the coefficient of variation ("CV") for several envelopes being moderate to high, indicating the need for substantial adjustment of the mean grade and/or restriction of high grades in some domains.

14.1.6 Grade Capping

Assessment of the high grade composites was completed to determine a series of high grade cuts or caps. These cuts were determined for each deposit and applied to the composites (Table 14-3). The outliers were visualised in 3D to check whether they were isolated or could be sub-domained with the surrounding gold grades. It is noted that relatively little difference is observed in the mean grade pre and post application of the high grade cuts, hence there is little reduction in metal.

Table 14-3 High Grade Cuts and Summary Statistics

Grade Shell	Uncut					Capped					Cut Mean /Uncut Mean
	No.	Max	Mean	Std.	CV	HG	No.	Mean	Std.	CV	
A2 Main/East											
Main vertical	3869	222	3.94	7.52	1.91	50	12	3.81	5.67	1.5	96.7%
Main flat thrust	8839	133	2.72	4.88	1.79	28	49	2.63	3.91	1.5	96.7%
fw2_1group_2v	1956	47.1	1.62	2.27	2.64	16	5	1.05	1.77	1.7	64.9%
fw3_flats_2v	3034	92	1.62	4.27	2.64	15	32	1.44	2.27	1.6	88.9%
fw4_mafics_all_2v	5077	302	1.57	7.17	4.57	26		1.32	3.02	2.3	84.1%
Hanging wall triple-A	862	17.1	1.08	2.07	1.92	7		0.98	1.54	1.6	90.7%
hw_unknown	1538	48.8	0.67	2.19	3.29	4		0.55	0.84	1.5	82.1%
hw_upperside	3773	62	1.05	2.19	2.1	7		0.96	1.49	1.6	91.4%
mff_added	19	4.12	1.7	1.53	0.9	None					
Fw1_red structure	541	34.7	2	2.37	1.19	12		1.96	1.96	1	98%
A2 West Z1											
1	207	14.2	2.38	2.41	1	12	2	2.37	2.37	1	100%
2	133	13.94	4.79	3.19	0.7	12	1	4.77	3.15	0.7	100%
3	7	2.79	1.33	0.52	0.3	None					
A2W Z2											
hgshells	2356	33.5	2.27	2.55	1.12	19.36	4	2.26	2.45	1.1	99.5%
Lg1	3121	9.14	0.61	0.83	1.36	none	0	0.61	0.83	1.4	100%
lghw	205	6.42	0.49	0.79	1.62	4.025	1	0.48	0.72	1.5	97.6%
A2W Z3											
dom5v2	19	2.98	0.82	0.72	0.88	none					
ftw_dom	1115	13.9	1.13	1.24	1.1	9		1.12	1.2	1.1	99.1%
hg_dom	1559	41.7	3.63	4.73	1.3	none					
hw_dom	1453	20.6	1	1.34	1.35	11		0.98	1.19	1.2	98%
main_dom_north	1190	15.2	1.24	1.09	0.88	11.3		1.23	1.05	0.9	99.2%
NTV											
Nanga	2230	37.5	0.87	1.4	1.61	8	10	0.84	1.01	1.2	97%
tail_z1	1728	10.8	0.72	0.88	1.22	7	5	0.72	0.83	1.2	99%
tail_z2	293	26.3	0.99	1.89	1.91	7	3	0.92	1.19	1.3	93%
Zergoré											
Zerg_wesdom_50tris	599	10	1.11	1.88	1.69	10	4	1.08	1.6	1.5	97.3%
Zerg_2dom_2tris	244	8	0.88	2.27	2.58	8	4	0.81	1.66	2.1	92%
Zerg_3dom_10tris	765	10	1.32	1.79	1.36	10	6	1.29	1.57	1.2	97.7%
Zerg_4dom_2tris	102	8.01	1.95	1.93	0.99	None					
A2NE											
A2ne_1dom_07t	198	54.81	1.42	4.58	3.24	6.4	7	1	1.69	1.68	70%
A2ne_2dom_29t	52	29.9	3.24	6.74	2.08	6	7	1.61	2.18	1.36	50%
A2ne_3dom_40t	39	3.32	0.71	0.74	1.03	None					
Leduc											
Led_1dom	895	6.57	0.45	0.75	1.66	None					
Led_2dom	823	4.3	0.57	0.57	1	None					
Led_3dom	50	5.25	0.68	0.83	1.23	2	1	0.61	0.54	0.88	90%

14.1.7 Variography

Grade and indicator variography was generated for the gold composites generated for the A2 Main, A2 East, A2 West 1, 2 and 3, Zergoré, A2NE and LeDuc deposits. The variography was based on the composited data with high grade cuts applied prior to the variogram generation. Variograms were generated for domains within the deposits using "Supervisor" software from Snowden.

Parameters generated were used for the other domains of the deposits by re-orienting the SURPAC ZXY (LRL) rotations to suit changing strike and dips, mainly where the domains contained insufficient data to allow robust variographic analysis to be undertaken.

No variography was done for LeDuc, rather a search ellipsoid in accordance with the data was used for inverse distance estimation.

Table 14-4 lists the variogram parameters.

Table 14-4 Variogram Model Parameters

Grade Shell	Structure	Gamma	Right Rotation Around Z	Right Rotation Around X	Right Rotation Around Y	Range (m)		
						X	Y	Z
Main vertical	C0	0.37	348.62	-19.68	-79.37	-	-	-
	C1	0.440	348.62	-19.68	-79.37	22	20	7
	C2	0.19	348.62	-19.68	-79.37	92	70	20
Main flat thrust	C0	0.28	337	-19.68	-79.37	-	-	-
	C1	0.420	337	-19.68	-79.37	15	9	4
	C2	0.290	337	-19.68	-79.37	33	30	7
fw2_1group_2v	C0	0.31	170	0	60	-	-	-
	C1	0.40	170	0	60	20	9	9
	C2	0.290	170	0	60	50	35	17
Fw1_red structure	C0	0.21	0	-42	-90	-	-	-
	C1	0.430	0	-42	-90	22	20	20
	C2	0.360	90	-42	-90	65	35	40
FW3_flat	C0	0.31	340	0	-30	-	-	-
	C1	0.670	340	0	-30	24	17	11
	C2	0.020	340	0	-30	71	63	39
East Pit	C0	0.3	050	0	-75	-	-	-
	C1	0.45	050	0	-75	12.5	6	4
	C2	0.17	050	0	-75	66.5	31	9
	C3	0.09	050	0	-75	130.5	37	19
A2W Z1 Domain 1	C0	0.35	0	110	-15	-	-	-
	C1	0.40	0	110	-15	50	7	14
	C2	0.25	0	110	-15	50	18	14
A2W Z1 Domain 2	C0	0.35	0	90	-12	-	-	-
	C1	0.27	0	90	-12	40	8	15
	C2	0.38	0	90	-12	110	25	15
A2W Z2	C0	0.3	035	0	-86	-	-	-
	C1	0.45	035	0	-86	12.5	6	4
	C2	0.17	035	0	-86	66.5	31	9
	C3	0.09	036	0	-86	130.5	37	19
A2W Z3 HG	C0	0.27	46.38	19.68	-79.37			
	C1	0.52	46.38	19.68	-79.37	22		
	C2	0.21	46.38	19.68	-79.37	48		
A2W Z3 Main North	C0	0.38	50	0	-70			
	C1	0.38	50	0	-70	12		
	C2	0.24	50	0	-70	69		
Nanga	C0	0.260	8	-4	58			
	C1	0.619	8	-4	58	21.7	17.5	8.5
	C2	0.121	8	-4	58	130	109.7	16
Tail_Z1	C0	0.214	360	34	0			
	C1	0.393	360	34	0	8	19.1	5.7
	C2	0.393	360	34	0	38	60.1	25.7
Tail_Z2	C0	0.214	20	36	0			

Grade Shell	Structure	Gamma	Right Rotation Around Z	Right Rotation Around X	Right Rotation Around Y	Range (m)		
						X	Y	Z
	C1	0.393	20	36	0	8	19.1	5.7
	C2	0.393	20	36	0	38	60.1	25.7
Zerg_3dom_10tris	C0	0.26	030	0	-90	-	-	-
	C1	0.590	030	0	-90	24	20	6
	C2	0.140	030	0	-90	58	49.15	10
Zerg_westdom_50tris	C0	0.27	000	0	-50	-	-	-
	C1	0.530	000	0	-50	21	13	10
	C2	0.140	000	0	-50	71	31	21
A2NE	C0	0.36	270	0	-80	-	-	-
	C1	0.5	270	0	-80	31	26	5
	C2	0.14	270	0	-80	120	35	10

14.1.8 Grade Interpolation

A series of three dimensional block models were generated for deposits to enable grade evaluation via a combination of OK grade interpolations and inverse distance methods. The block model block size, in each case, was selected to represent the available data, the data characteristics (variability as defined by variography) and current mining practices (Table 14-5). Sub-blocking was used for each deposit.

Table 14-5 Parent and Sub-Block Size

Deposit	Parent Block			Sub Block		
	E (m)	N (m)	RL (m)	E (m)	N (m)	RL (m)
A2 Main/East	5	5	2.5	2.5	2.5	1.25
A2 West Z1	12.5	5	5	2.5	2.5	1.25
A2 West Z2	5	5	2.5	2.5	2.5	1.25
A2 West Z3	5	5	2.5	2.5	2.5	1.25
Nanga	5	5	2.5	2.5	2.5	1.25
Tail	5	5	2.5	2.5	2.5	1.25
Zergoré	2.5	2.5	2.5	-	-	-
A2NE	2.5	2.5	2.5	-	-	-
LeDuc	2.5	2.5	2.5	-	-	-

Block model development was completed in the Surpac software package for each deposit. Mineralized domain and weathering domain coding was established in the block model, based on the modelled wireframe constraints. In addition, sufficient variables were created to enable recording of the results from OK, selective mining estimates, estimation statistics, density stratification, and resource classification.

Gold grade interpolation has been completed using a combination of OK and ID methods. Grade interpolation within the grade shells was completed in 1 to 3 passes (Table 14-6).

Table 14-6 Interpolation Parameters

Grade Shell	Pass	Axis			Min Number Composite	Max Number Composite	Max Composite per Hole
		Major (m)	Semi-Major (m)	Minor (m)			
A2Main Fw1_red	1	25	12.5	22.72	6	8	3
	2	50	25	45.45	4	6	3
A2 Main FW2	1	20	10	10	3	6	2
	2	50	15	15	3	5	2
	3	75	25	25	2	4	2
A2 Main FW4_mafic	1	10	5	5	4	6	3
	2	25	12.5	12.5	3	5	3
	3	50	25	25	1	2	1
A2 Main mff	1	25	12.5	15	6	8	3
	2	50	25	30	4	6	3
A2 Main mvf	1	25	12.5	22.72	6	8	3
	2	50	25	45.45	4	6	3
A2 Main Upperside	1	10	5	5	4	6	3
	2	20	10	10	3	5	3
A2 Main Unknown	1	10	5	5	4	6	3
	2	25	12.5	12.5	3	5	3
	3	50	25	25	2	4	2
A2 Main Hw_aaa	1	10	5	5	4	6	3
	2	25	12.5	12.5	3	5	3
	3	50	25	25	2	4	2
A2 Main Fw_flat	1	25	12.5	12.5	3	6	2
	2	50	25	25	3	5	3
A2 Main Mff_added	1	10	40	0.5	2	4	2
A2 East 1dom	1	20	10	14	6	8	3
	2	40	20	29	4	8	3
	3	80	40	57	2	8	3
A2 East 2dom	1	20	10	14	6	8	3
	2	40	20	29	4	8	3
	3	80	40	57	2	8	3
A2 East 3dom	1	20	10	14	6	8	3
	2	40	20	29	4	8	3
	3	80	40	57	2	8	3
A2 East 4dom	1	20	10	14	6	8	3
	2	40	20	29	4	8	3
	3	80	40	57	2	8	3
A2 East 5dom	1	20	10	14	6	8	3
	2	40	20	29	4	8	3
	3	80	40	57	2	8	3
A2 East 6dom	1	20	10	14	6	8	3
	2	40	20	29	4	8	3
	3	80	40	57	2	8	3
A2 East 7dom	1	20	10	14	6	8	3
	2	40	20	29	4	8	3
	3	80	40	57	2	8	3
A2 West Z1 2	1	50	30	15	18	18	6
	2	75	45	22.5	12	18	6
	3	100	70	40	8	18	6
A2 West Z1 3	1	50	30	15	18	18	6
	2	75	45	22.5	12	18	6
	3	100	70	40	8	18	6
A2 West Z2 HG	1	20	10	7.19	6	8	3
	2	40	20	14.49	4	6	3
	3	80	40	28.78	2	3	3
A2 West Z2 LG	1	20	10	7.19	6	8	3
	2	40	20	14.39	4	6	3
	3	80	40	28.78	2	3	3

Grade Shell	Pass	Axis			Min Number Composite	Max Number Composite	Max Composite per Hole
		Major (m)	Semi-Major (m)	Minor (m)			
A2 West Z2 LG hw	1	20	10	7.19	6	8	3
	2	40	20	14.39	4	6	3
	3	80	40	28.78	2	3	3
A2 West Z3 5v2	1	20	7	3	4	6	3
	2	45	15	6	4	3	2
	3	75	30	10	2	4	2
A2 West Z3 ftw	1	12	7	2	4	6	3
	2	25	15	5	3	4	2
	3	75	30	10	2	4	2
A2 West Z3 Main_North	1	12	7	2	4	6	3
	2	25	15	5	3	4	2
	3	75	30	10	2	4	2
A2 West Z3 hw	1	12	7	2	4	6	3
	2	25	15	5	3	4	2
	3	75	30	10	2	4	2
A2 West Z3 HG	1	20	7	3	4	6	3
	2	35	13	5	3	4	2
	3	70	25	10	2	4	2
Nanga	1	25	10	9.8	6	8	3
	2	50	20	19.61	4	8	3
	3	100	40	39.22	2	8	3
Tail Z1	1	20	10	14.29	6	8	3
	2	40	20	28.57	4	8	3
	3	80	40	57.14	2	8	3
Tail Z2	1	20	10	14.29	6	8	3
	2	40	20	28.57	4	8	3
	3	80	40	57.14	2	8	3
Zergoré 3dom_10tris	1	15	15	5	4	10	3
	2	30	30	5	3	10	2
	3	50	50	5	2	10	-
Zergoré westdom_50tris	1	15	15	5	4	10	3
	2	30	30	5	3	10	2
	3	50	50	5	2	10	-
Zergoré 2dom_2tris	1	15	15	5	4	10	3
	2	30	30	5	3	10	2
	3	50	50	5	2	10	-
Zergoré 4dom_2tris	1	15	15	5	4	10	3
	2	30	30	5	3	10	2
	3	50	50	5	2	10	-
A2NE 2dom_19t	1	30	30	4	4	10	3
	2	50	50	4	2	10	2
	3	100	100	4	1	10	-
A2NE 2dom_32t	1	30	30	4	4	10	3
	2	50	50	4	2	10	2
	3	100	100	4	1	10	-
A2NE 3dom_39t	1	30	30	4	4	10	3
	2	50	50	4	2	10	2
	3	100	100	4	1	10	-
LeDuc 1dom	1	50	25	10	3	4	-
	2	100	50	10	2	4	-
LeDuc 2dom	1	50	25	10	3	4	-
	2	100	50	10	2	4	-
LeDuc 3dom	1	50	25	10	3	4	-
	2	100	50	10	2	4	-

14.1.9 Grade Interpolation Validation

Visual and statistical checks were completed on the generated resource model to ensure the model was robust. The statistical checks and visual validation completed during validation of the A2 Main, A2 East, A2 West 1, 2 and 3, Zergoré, NTV and A2NE include the following;

- Comparison of the kriging (whole grade estimate) versus the mean of the composite dataset, including weighting where appropriate to account for data clustering, and;
- Visual checks of cross sections and plans.

Mining and processing of the A2 Main, A2 West Zones 2 and 3 were well underway in 2014, the A2 West Zone 1 and A2 East deposits have been completely mined out and A2 Main will be mined out in 2015. The reconciliation between resource modelling, grade-control modelling and milled ore has proven very good with a small positive reconciliation.

The Nanga deposit resource model was calculated using OK and validated by a comparison of the kriged blocks (whole grade estimate) versus the mean of the composite dataset.

The Zergoré and A2NE models were validated using the following methods;

- Swath plot validation compared ID^3 and OK estimates for Indicated blocks;
- Comparison of the kriged blocks (whole grade estimate) versus the mean of the composite dataset, and;
- Visual checks of cross sections and plans.

Acceptable levels of mean reproduction are noted between the block models and input composite data and overall the grade interpolations are reasonable.

14.1.10 Mineral Resource Classification

The mineral resources have been classified according to the "CIM Definition Standards for Mineral Resources and Mineral Reserves (November, 2010)" as a combination of Measured, Indicated, and Inferred Mineral Resources based on the confidence level.

Confidence levels were determined for the A2 Main, A2 East, A2 West 1, 2, and 3, Nanga and Tail based on a number of key criteria including; drilling, logging, and sampling techniques, QAQC results, density of drill data and the continuity of the geometry and grade in each of the various grade shells.

Additionally, for the A2NE, Zergoré and LeDuc deposits, an average distance to sample and drill spacing study was performed on the data included in the resource interpolation, to determine resource categorization based on drill hole spacing sufficient to predict potential production with reasonable precision. The following criteria to classify blocks into confidence categories resulted from this study:

- Measured mineral resources: average distance to sample <15m; however, a small quantity of Measured Resource was defined at A2NE due to the small volumes affected;
- Indicated mineral resources: average distance to sample 15m to 30m;
- Inferred mineral resources: average distance to sample >30m;
- Interpolated blocks within domain 3 in A2NE and LeDuc deposits were classified as Inferred since the drill hole spacing was 100m;
- The domain 4 (Zergoré S) of Zergoré has been classified as Inferred resources because of poor grade and geological correlation.

Multiple runs were used in A2 East for classification: run 1 for Measured, run2 for Indicated, run 3 for Inferred.

14.1.11 Assessment of Reasonable Prospects of Economic Extraction

Classified blocks were assessed for reasonable prospects of economic extraction by applying preliminary economics for potential open pit mining methods. A pit was optimized assuming a gold price of USD1,500 per ounce to constrain the resources of the Youga deposits.

14.2 OUARÉ MINERAL RESOURCE ESTIMATES

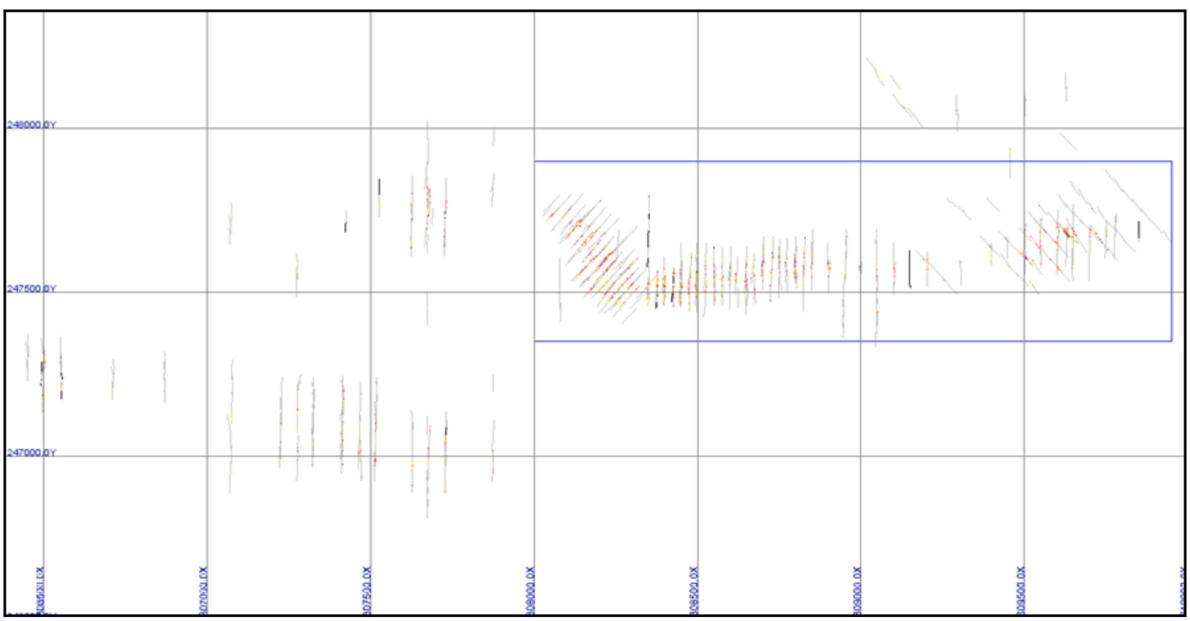
The mineral estimates for the Ouaré deposits were most recently updated in December 2012 by Mr. Rodrigo Marinho, Principal Geologist for AMEC International under the supervision of Mr. Woodman. No additional exploration drilling has taken place since this estimation was completed.

14.2.1 Data

The drilling database for the Ouaré deposit consists of 502 drill holes on a total of 49,877m drilled. The average length for all drill holes is 100m, with the longest one being 224.82m long. There are 56 core holes representing 6,975m from the total, with an average length of 125m. The drill holes cover the Ouaré zones (West, Central and East) and also the exploration target called Warba, located to west of Ouaré. The drilling grid is spaced 25m x 25m in the most densely drilled areas.

To support this resource estimation 319 drill holes were utilized. There is a total of 31,600 metres of assayed intervals for the enclosed area of West, Central and East zones that were considered in the modeling. Figure 14-1 illustrates the area modeled in comparison to the extensions drilled for the Ouaré deposit.

Figure 14-1 General View of Drilling at Ouaré Deposit and Detail of Modeled Area



14.2.2 Topography and Weathering Surfaces

The topographic surface for the Ouaré deposit was built from points surveyed by total station and covers the full extension of the area used for modeling.

The drilling database contains information on the weathering classification of the rocks and weathering surfaces were created to represent the bottom of saprolite and saprock units by extracting the bottom coordinates of the last occurrences logged for these units. The extracted points were used to create a grid mesh interpolated by Laplace method. Using the interpolated grid points (every 10m) and the original drill-hole intersection, a triangulated surface was created for the bottom contact of saprolite and saprock units.

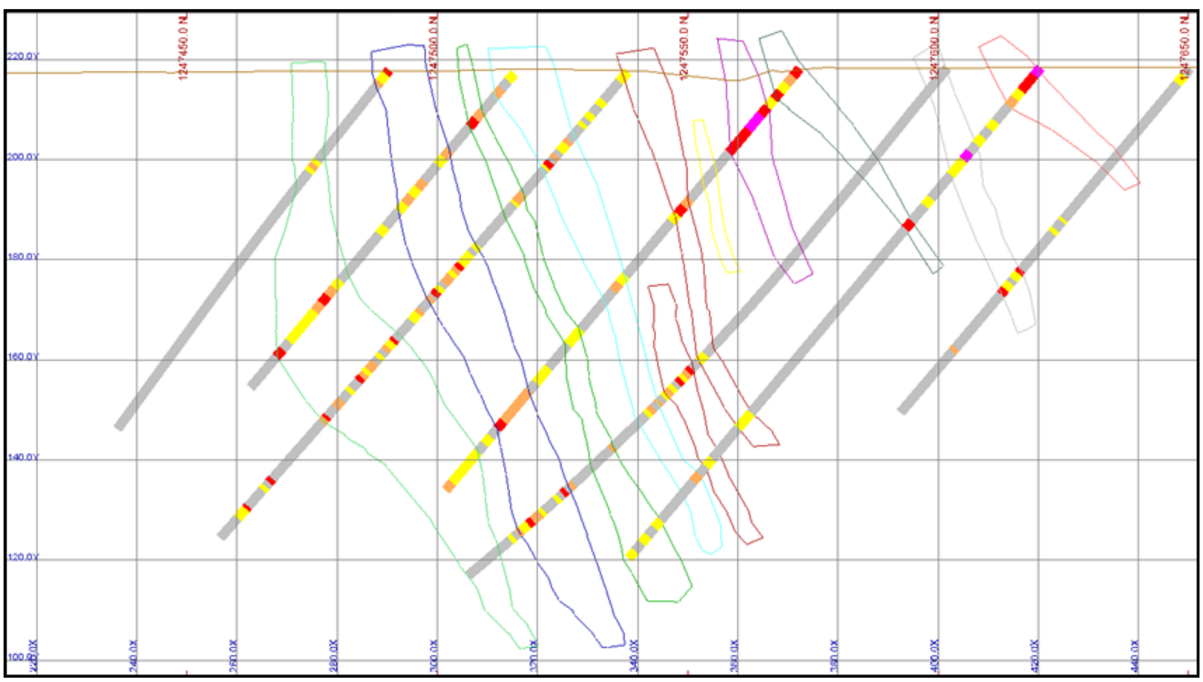
14.2.3 Geological Modelling

A 0.50g/t Au threshold was used as the lower limit for defining grade shell interpretations. This value was chosen to be consistent with the expected cut-off grade to be used for reporting mineral resources and also with previous estimates. Intervals with grades below the threshold were considered to keep continuity of the grade shell interpretations.

The Ouaré deposit is divided into three zones, West, Central and East and each zone has different drilling orientations, based the understanding of the mineralization strike direction, but sections spaced at 25m as minimum. At this stage, it is understood that the mineralization at Ouaré deposit has a strong lithological/structural control, but the shape and orientations of the mineralized envelopes are often unclear. Petrography and the core holes drilled by Endeavour helped to define the host rocks as volcanics and intrusives.

Solids were created from the polygons interpreted in vertical sections. Figure 14-2 illustrates grade shell- solids on vertical section 808,500 (Central zone).

Figure 14-2 Vertical Section of Grade Shells and Drill Holes Coloured by Au Ranges



A block model was created with regular size blocks corresponding to the expected SMU scale of 5m x 5m x 5m, with a percentage variable to represent the grade shell boundaries. Grade shells are identified by different codes in the blocks to allow separation for grade estimation. Table 14-7 shows the block model geometry. No rotation was used.

Table 14-7 Ouaré Block Model Geometry

Parameter	X	Y	Z
Origin	808,000	1,247,350	230
Block Size (m)	5	5	5
Distance (m)	1,950	550	140
No. Blocks	390	110	28

14.2.4 Assay Compositing

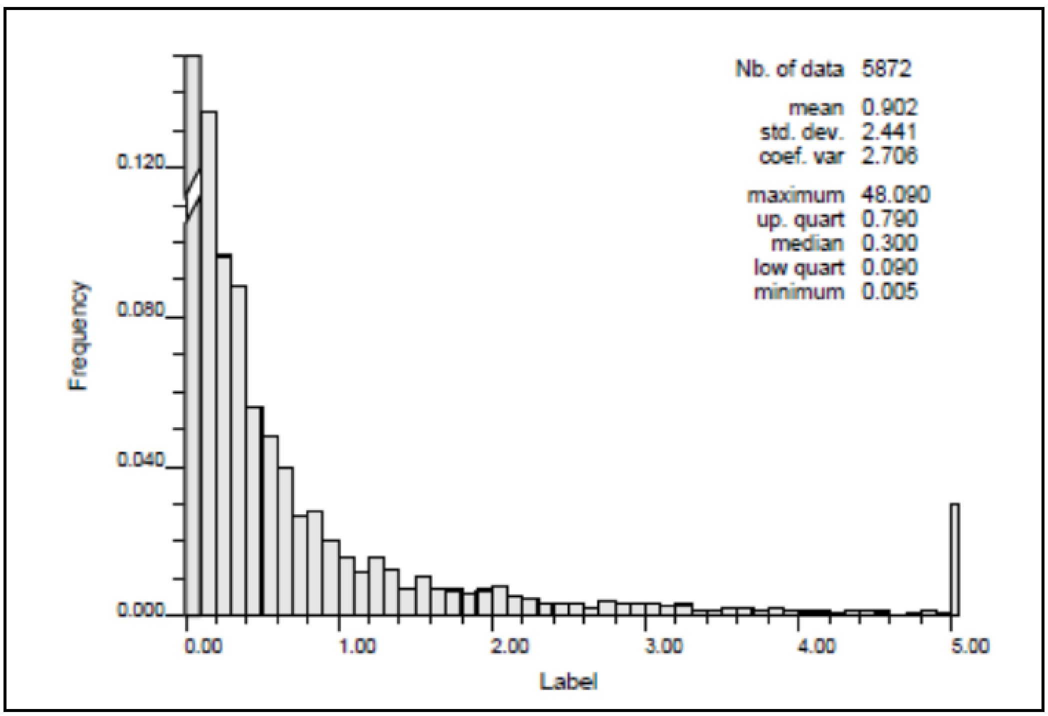
At Ouaré, the nominal sample length is 2m for drill holes in the modeled area, and only a few intervals were shorter. Drill-hole intervals were regularized to 2m composites, starting from the drill-hole collar and down the hole with no breaks at domain boundaries. The majority of codes were assigned from snapped solids to drill holes, to avoid short composites and accounts for contact dilution (Marinho, 2012).

Two metre composites were selected as a compromise between the SMU scale, and the minimum interpreted grade shell widths of 2 to 4m. Composites were coded using the grade shell solids, into the "Body_Code" field. Composites outside the grade shell solids were assigned a code 200. Additionally all composites were flagged with the weathering code to represent laterite/saprolite, saprock and fresh rock units.

14.2.5 Statistical Analysis

Summary statistics for non-declustered composites, considering all 5,872 uncapped composites inside the grade shells, showed a reasonable variability of Au values with a CV of 2.71. Figure 14-3 shows a histogram for all composites inside the grade shells.

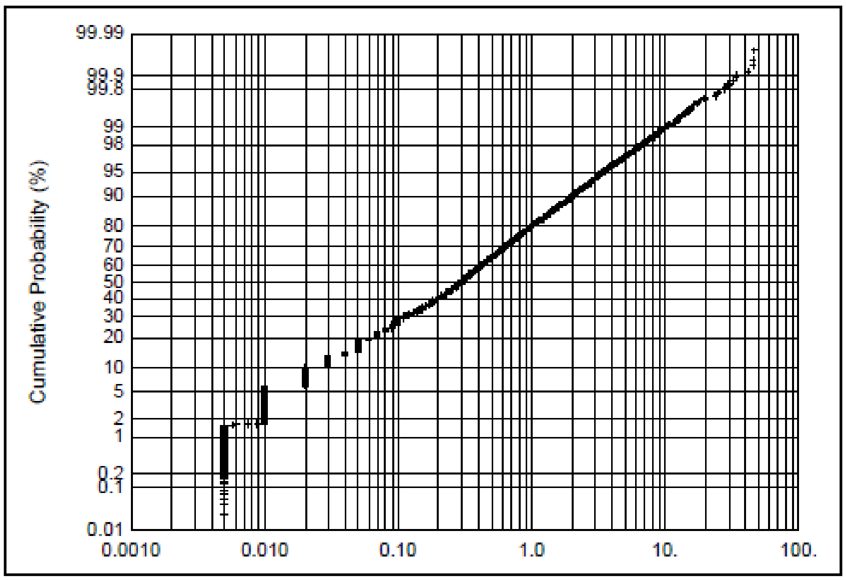
Figure 14-3 Histogram of 2m Uncapped Composite Au Grades Inside Grade Shells



14.2.6 Grade Capping

Histograms and cumulative distribution plots were used to define outlier thresholds for gold values. AMEC evaluated the statistical plots in each zone of the deposit but decided to apply a single capping value of 13g/t to composites inside the grade shells. Composites outside the grade shell were capped to 3g/t Au and a restricted search ellipsoid applied during grade estimation for samples with gold values higher than 0.6g/t (Marinho, 2012). Figure 14-4 shows the cumulative distribution plot used to define the outlier threshold on composites inside the grade shells.

Figure 14-4 Cumulative Distribution Curve for Au on 2m Composites inside Grade Shells



A summary of capping results on composite statistics and the estimated metal reduction due to capping is shown in Table 14-8.

Table 14-8 Capping Effect on Composites

Zone	Outlier Threshold (Au g/t)	Total No. of Composites	No. of Composites Capped	% of Total	Au (g/t) Average		Estimated Metal Reduction
					Uncapped	Capped	
Inside Shells	13	5,877	37	0.6%	0.901	0.837	-7%
Outside	3	10,038	9	0.1%	0.104	0.103	-1%

14.2.7 Variography

AMEC used Sage2001® software to construct down-the-hole and directional correlograms for gold on capped composites. Correlograms were created on composites from grouping all grade shells from the Central zone. AMEC could not obtain structured experimental correlograms for composites from the West or East zones. A model with two spherical structures plus a nugget value was fitted to the correlograms. The normalized nugget of 0.50 is somewhat high, but acceptable and, together with the sill of the first structure, represents 94% of the total variance; an anisotropy ratio (relation between axes and not dimensions in metres) of 9 x 6 x 2 is observed for directions along strike, down dip and across dip. Correlogram parameters are listed in Table 14-9.

Table 14-9 Variogram Model Parameters

Structure	Gamma	Right Hand Rotation around Z	Right Hand rotation around X	Right Hand rotation around Y	Range (m)		
					X	Y	Z
C0	0.500	-	-	-	-	-	-
C1	0.440	88	-10	23	10	30	45
C2	0.060	88	-10	23	60	260	260

The variogram main directions are (dip > azimuth): X'" = -23 > 182; Y'" = -10 > 088; Z'" = +65 > 156.

14.2.8 Grade Interpolation

Gold grades were estimated using ordinary kriging interpolation. Grade estimation inside the grade shells was completed in three passes with incremental search radii for the ellipsoids. AMEC used three geometric domains, West, Central and East, to accommodate the orientation of the search ellipsoids according to the average strike and dip directions of each zone. Outside the grade shells, a single interpolation pass was used. A few estimation plans were tested until the final one presented in Table 14-10 was selected. The selection was based on comparison of global averages to a Nearest Neighbour model considering only blocks estimated during the first two passes (Marinho, 2012).

Table 14-10 Estimation Parameters

Zone	Domain	Pass	Search Ellipsoid						No. Samples			High Grade Search			
			Rotation			Radius (m)						Grade Limit	Radius (m)		
			Rot1	Rot2	Rot3	X	Y	Z	Min.	Max.	Max/ hole		X	Y	Z
East	GradeShell	1	25**	-45**	0**	30	10	20	6	16	4				
		2				45	15	30	4	16	4				
		3				100	20	80	2	12	4				
	Outside	1	25**	-45**	0**	100	20	80	2	12	4	0.6	10	5	10
Central	GradeShell	1	156*	65*	182*	30	10	20	6	16	4				
		2				45	15	30	4	16	4				
		3				100	20	80	2	12	4				
	Outside	1	156*	65*	182*	100	20	80	2	12	4	0.6	10	5	10
West	GradeShell	1	-45**	25**	0**	30	10	20	6	16	4				
		2				45	15	30	4	16	4				
		3				100	20	80	2	12	4				
	Outside	1	-45**	25**	0**	100	20	80	2	12	4	0.6	10	5	10

* Gemcom rotation type: Azim/Dip/Azim.
** Gemcom rotation type: ZXZ (i.e. ZXY RRR).

AMEC considered hard grade shell limits during grade estimation. Blocks with portions lying inside the shells were estimated with samples located inside the shell. Blocks with some percentage lying outside the shell were estimated with samples located outside the shell. The final block grades are calculated by weighting the high and low grade portions, generating a diluted grade where a grade shell boundary exists.

14.2.9 Grade Interpolation Validation

AMEC validated the estimation quality of the Ouaré model by using summary statistics, checking for global estimation bias, drift analysis and by visual inspection of composites and estimated grades on vertical and horizontal sections.

A NN model was generated to represent the declustered composites and to validate the OK estimated model. Because of the 5m high blocks, 5m composites should ideally be used for the NN model to represent all of the composites. Instead of recompositing to 5m, AMEC used the 2m composites in a kriged model with a pure nugget effect variogram, and two 2m composites as the minimum and maximum number of samples per estimate. The result is equivalent to a NN model based on 4m composites, which is very close to a NN model based on 5m composites. Capped gold grades were used for this validation.

AMEC observed a global difference of only 3% in the average gold grades from the OK to the NN model when comparing all estimated blocks. AMEC considered this difference to be within acceptable limits for validation purposes. Table 14-11 shows the summary statistics comparing OK and NN blocks and the capping effect.

Table 14-11 Summary Statistics for Gold Estimates using NN and OK (Capped and Uncapped)

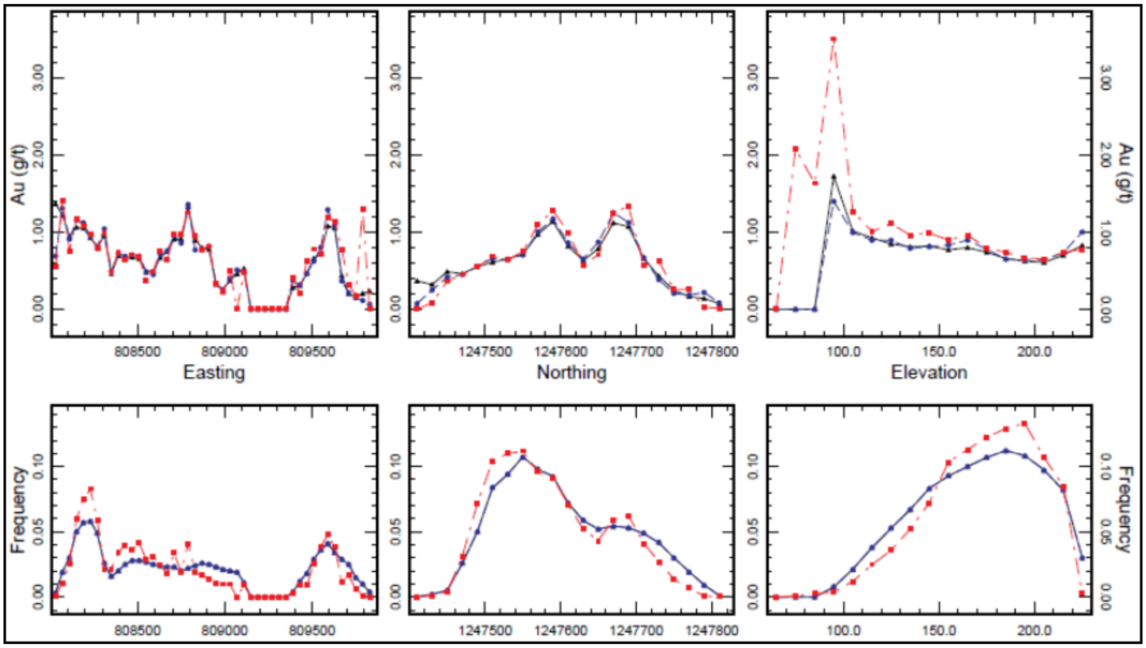
Zone	Data	Number of Data	Au (g/t)			CV	Mean Diff. from OK to NN
			Min.	Max.	Mean		
West	OK_Cap	36,746	0.005	8.76	0.99	0.852	3%
	NN_Cap	36,746	0.005	13.00	1.02	1.436	
	OK_Uncap	36,746	0.005	14.81	1.03	0.922	
Central	OK_Cap	56,259	0.005	11.20	0.66	1.171	1%
	NN_Cap	56,259	0.005	12.91	0.67	1.720	
	OK_Uncap	56,259	0.005	14.54	0.71	1.271	
East	OK_Cap	32,342	0.005	9.23	0.64	1.601	6%
	NN_Cap	32,342	0.005	13.00	0.67	2.318	
	OK_Uncap	32,342	0.005	20.52	0.74	2.057	
All	OK_Cap	125,117	0.005	11.20	0.75	1.165	3%
	NN_Cap	125,117	0.005	13.00	0.77	1.800	
	OK_Uncap	125,117	0.005	20.52	0.81	1.419	

The average grade of the of 2m non-declustered uncapped composites within the grade shells is 0.90g/t Au.

AMEC observed an 8% metal reduction in the model due to capping (0.81 to 0.74).

AMEC used swath plot validation to compare the NN and OK models for the blocks estimated, in 20m and 40m adjacent slices along the northing and easting coordinates, respectively, and 10m slices in elevation. Good agreement was observed for all zones, as illustrated in Figure 14-5. Swath plots of the non-declustered composites are plotted, along with the OK and NN estimates (Marinho, 2012).

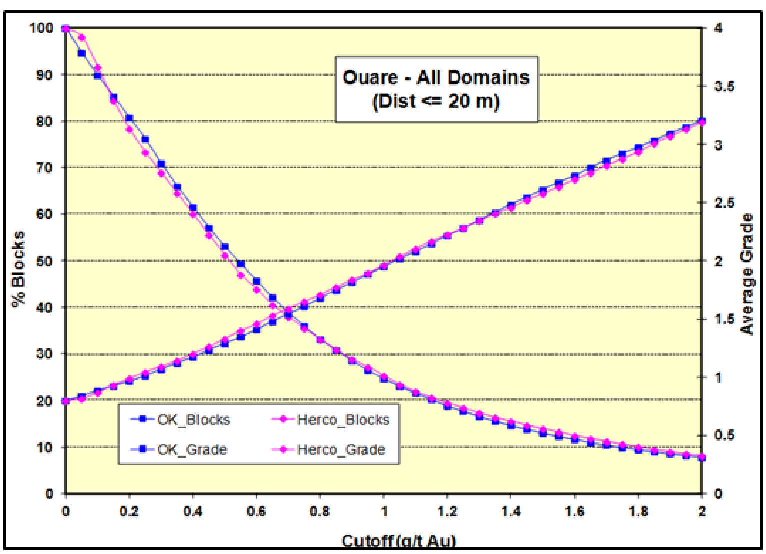
Figure 14-5 Swath Plot for Au – All Estimated Blocks inside Grade Shells



Note: Blue profile = kriging, Black profile = NN, Red profile = Composites.

Change-of-support calculations were performed to predict variance and grade-tonnage curves for idealized SMU-sized 5m x 5m x 5m blocks, which were then compared to the OK Au model within the grade shells. For this check, AMEC used its in-house "HERCO" software based on the Discrete Gaussian Model. The calculations were performed for blocks inside the grade shells that were candidates for the Measured or Indicated categories (closest sample within 20m). Figure 14-6 shows a very good agreement between the OK and HERCO grade-tonnage curves, indicating that the OK block model is adequately smoothed (Marinho, 2012).

Figure 14-6 Validation – OK and NN Grade-Tonnage Curves for Measured and Indicated Blocks



14.2.10 Assessment of Reasonable Prospects of Economic Extraction

Classified blocks were assessed for reasonable prospects of economic extraction by applying preliminary economics for potential open pit mining methods. The technical assumption for this estimate is to haul from the Ouaré deposit to the Youga process plant, located approximately 40km away.

Mining and process costs, as well as process recoveries used in the Lerchs Grossmann pit shell are summarized in Table 14-12. Gold is the only source of revenue considered for this open pit scenario.

Table 14-12 Optimization Parameters for Open Pit Resource Shell

Parameter	Value
Mining Cost (USD/t)	3.40
Hauling to Youga plus Rehandling (USD/t milled)	8.60
G&A (USD/t milled)	7.42
Process Cost (USD/t milled)	21.19
Process Recovery (%)	92.0
Au Price (USD/oz)	1,500
Royalty (%)	5
Selling Cost (USD/oz)	5.80
Pit Slope (degrees)	43

14.3 MINERAL RESOURCE STATEMENT

Endeavour reviewed and reconciled the current mineral resources for Youga and Ouaré with an effective date of December 31, 2014. A summary of the mineral resources at cut-offs of 0.5g/t for all of the deposits is provided in Table 14-13.

The following mineral resource estimate has been determined and reported in accordance with Canadian National Instrument 43-101 “Standards of Disclosure for Mineral Projects” of June 30, 2011 and based on “CIM Definition Standards for Mineral Resources and Mineral Reserves” adopted by the CIM Council on May 10, 2014. Furthermore, the reserve classifications are also consistent with the “Australasian Code for Reporting of Mineral Resources and Ore Reserves” of December 2012 (“JORC Code”) as prepared by the Joint Committee of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Mineral Council of Australia (“JORC”).

Table 14-13 Mineral Resources at 0.5 and 0.9 g/t Cut-offs

Deposit	Mineral Resources (including reserves)												
	Measured			Indicated			M + I			Inferred			Lower
	kt	Au (g/t)	k Ozs	kt	Au (g/t)	k Ozs	kt	Au (g/t)	k Ozs	kt	Au (g/t)	k Ozs	Cut-off
A2 Main	432.4	2.36	32.8	513.3	2.24	37.0	945.7	2.29	69.8	81.5	2.23	5.8	0.5 g/t
	355.8	2.72	31.1	426.4	2.56	35.1	782.1	2.63	66.2	67.9	2.54	5.6	0.9 g/t
A2 East	223.0	1.87	13.4	108.6	1.52	5.3	331.6	1.76	18.7	3.8	1.08	0.1	0.5 g/t
	189.3	2.07	12.6	88.4	1.70	4.8	277.7	1.95	17.4	1.4	1.59	0.1	0.9 g/t
A2W Z1	24.0	2.08	2.0	25.0	1.45	1.0	49.0	1.90	3.0	6.0	2.00	0.4	0.5 g/t
	24.0	2.08	2.0	25.0	1.45	1.0	49.0	1.90	3.0	6.0	2.00	0.4	0.9 g/t
A2W Z2	186.4	1.93	11.6	411.0	2.07	27.4	597.4	2.03	38.9	19.5	1.83	1.1	0.5 g/t
	135.6	2.40	10.5	324.4	2.44	25.5	460.1	2.43	35.9	17.6	1.95	1.1	0.9 g/t
A2W Z3	133.6	2.45	10.5	87.9	3.31	9.4	221.5	2.79	19.9	44.0	2.53	3.6	0.5 g/t
	104.2	2.94	9.9	83.5	3.45	9.3	187.7	3.17	19.1	42.9	2.57	3.6	0.9 g/t
Zergoré	1,525.0	1.64	80.4	1,436.3	1.43	66.1	2,961.3	1.54	146.5	917.5	1.60	47.2	0.5 g/t
	980.1	2.14	67.5	860.9	1.89	52.4	1,841.0	2.03	119.9	563.9	2.15	39.0	1.0 g/t
NTV	1,605.1	1.13	58.3	596.0	1.20	23.0	2,201.1	1.15	81.3	219.4	1.26	8.9	0.5 g/t
	753.9	1.56	37.8	318.8	1.59	16.3	1,072.7	1.57	54.1	110.3	1.80	6.4	1.0 g/t
A2NE	20.9	2.93	2.0	970.6	1.54	48.1	991.6	1.57	50.0	456.8	1.72	25.3	0.5 g/t
	15.9	3.63	1.9	517.5	2.26	37.6	533.3	2.30	39.5	280.7	2.35	21.2	1.0 g/t
LeDuc	-	-	-	-	-	-	-	-	-	221.7	1.56	11.1	0.5 g/t
	-	-	-	-	-	-	-	-	-	158.2	1.89	9.6	1.0 g/t
Ouaré	1,071.6	1.14	39.4	5,368.2	1.55	268.2	6,439.8	1.49	307.7	571.3	1.49	27.4	0.5 g/t
	534.8	1.54	26.5	3,090.3	2.16	214.9	3,625.1	2.07	241.4	310.2	2.17	21.6	1.0 g/t
Stockpile	1,919.3	0.94	58.2	-	-	-	1,919.3	0.94	58.2	-	-	-	0.5 g/t
	777.2	1.35	33.6	-	-	-	777.2	1.35	33.6	-	-	-	0.9 g/t
Total	**7,319.4**	**1.35**	**317.2**	**9,696.4**	**1.58**	**493.7**	**17,015.8**	**1.48**	**811.9**	**2,772.5**	**1.59**	**141.5**	**0.5 g/t**

15.0 MINERAL RESERVE ESTIMATES

The Youga Mine mineral reserve estimates as of December 31, 2014 are based on the mineral resources reported above and after consideration of the modifying parameters as described below.

The deposits evaluated for the purpose of preparing the Youga Mine end 2014 LOM plan and Mineral Reserves are the A2Main, West2, West3, Zergoré, A2NE and NTV pits, with the West1 and A2East pits having been mined to depletion in 2009 and 2014 respectively.

In 2014 mining operations at Youga concentrated on the A2Main, A2East, West2, West3 pits from which a total of 4,993k tonnes of material were mined to deliver 1,161k tonnes of ore at an average grade of 2.47g/t Au containing 92.2k ounces to the ROM pad.

The Youga mining operations were and continue to be carried out safely and efficiently. Recently in the A2Main pit the main ramp was relocated on a switch back at 40RL to optimize recovery of ore to the final extraction level of 20RL and to facilitate safe operation of the pit to its ultimate depth.

Mining recovery and dilution within the operating pits and the mine to mill and feasibility to grade control reconciliations were well managed and are in line with expectations.

During the course of 2014, a technical and operational re-organization/re-engineering process commenced at Youga including a negotiation of an extension to the mining contract to include an upgrade of the mining fleet and mining of the satellite pits. The new contract mining rates and the updated satellite pit mineral resource models were used in the estimation of the reserves.

At present, there are no mineral reserves on the Ouaré property.

15.1 MODIFYING PARAMETERS

The key modifying parameters upon which the end 2014 mineral reserve estimates were made are summarized in Table 15-1.

Table 15-1 Pit Optimization Parameters

Applied Modifying Parameters	End 2014
New optimization	Yes
Gold Price	USD1250/oz
Royalty	4%
Process cost USD/t milled	24.1
Process recovery	92%
Mining cost	PW new contract (May 2014)
Mining Dilution	7%
Mining recovery factor	97%
Pit slopes	46^{o} to 55^{o}
G&A cost USD/t milled	9.6
Other processing cost USD/t milled	3.5
Average COG applied across all pits	1.1

Overall, the technical modifying parameters remained similar to those used in the Youga Feasibility Study Update (September 2006) but there were some minor refinements as described below.

The principal variations in technical modifying parameters were:

- Processing Plant Recovery: Metallurgical recovery was reduced gradually from 95% to 92% to reflect the current recoveries being realized at Youga when operating the processing plant at a throughput rate of 130tph and the evidenced impact of a reduced gravity gold content in lower grade ores mined in 2014, and anticipated from the remaining lower grade deposits. The slightly lower recovery also results from the achieved grind being slightly below the design specification of 70% passing 75 microns as the mill throughput rate is pushed to its maximum, and;
- Mining dilution and recovery were revised from 5% and 97% respectively to 7% and 97% for the pits which demonstrate reasonable continuity and thickness to reflect the mineralization distribution characteristics as reflected in recent grade control drilling and modeling work and operating practices over the past 2 years. For the Zergoré and A2NE pits, where the mineralization tends to be thinner and to split into multiple zones the dilution and recovery factors were adjusted to 10% and 95% respectively.

Miscellaneous mining costs such as mine supervision, grade control and dewatering are derived from historical mine cost records and occasionally on the basis of information relating to similar sized mining operations in West Africa.

Grade control costs were based on a RC drilling rate of $66 per metre and assaying cost of $7.3 per assay.

A Burkina Faso government royalty of 3% of revenue was included in the pit optimization. It is noted that the royalty rate was adjusted, effective December 1, 2010, to a sliding scale ranging from 3 to 5% depending on the price of gold.

The pit wall slope parameters determined for the Youga pits were initially based on geotechnical test work from the A2 Main deposit and advice from Golder Associates. The pit wall slope parameters were subdivided in a number of sectors representing the various potential structural trends that were identified. In summary, the overall slope angles adopted for the pit optimization ranged from between 44º and 51º.

The input parameters, adopted for the pit optimization, have been derived from a combination of historical mine performance and input from specialists and advisors. The principal input parameters used in the pit optimization and the source from which these parameters were derived are listed in Table 15-2 below. All references to monetary values are denominated in United States of America dollars, unless specifically stated otherwise.

Table 15-2 Source of Main Input Parameters

Input Parameter	Source
Commodity price	Endeavour Financial Market Research
Contract Mining Costs	PW Mining contract tender submission
Owner's mining associated costs	Youga Mine site records
Metallurgical and Processing	Youga mine site processing performance records
General and Administration cost	Youga mine site historical records
Geotechnical and Hydrology	Golder Associates Inc
Governmental	BMC

It is noted that following commissioning in 2008, and throughout 2009 the Youga Mine experienced a number of operational and financial difficulties which resulted in under performance of the operation and in turn an inability to obtain reliable operating and cost performance data upon which to base operating efficiency and cost parameters for mineral reserve evaluation.

As a result, at the end of 2009 the mineral reserves were based on parameters which turned out to be significantly different from what was actually achieved in 2010.

Since 2010, the mine operating performance and record keeping improved and the operating and cost modifying parameters established since then and used for the end 2014 mineral reserve estimation are considered to be more accurate.

15.2 PIT OPTIMIZATION AND DESIGN

The original pit optimization studies related to the A2 Main, A2 East and West 1, 2 and 3 pits and were undertaken using the resource models developed by RSG Global and described in this section as the basis for pit optimization. Between 2010 and 2014 the mineral resource models and pit optimizations were periodically reworked to reflect additional exploration and grade control data and prevailing modifying parameters.

The Whittle Four-X pit optimization software package was used for this work. The Whittle Four-X model development was carried out in Vulcan. Whittle Four-X deals with the amount of metal in a block, not grade. Knowing the tonnage and the metal in a block, Whittle Four-X can calculate the grade of a block. To that end the metal content of a block was calculated using the grade estimate derived from the resource estimate. The 0.9g/t and 1.1g/ cut-off indicators were used for the calculation of the metal content in a block for A2Main and A2East, NTV and A2West pits respectively. A mining dilution of 7% at 0.0g/t grade was added to the pit optimization for the above pits, and the mining recovery is set at 97%. For the Zergoré and A2NE pits mining dilution was set at 10% and mining recovery was set at 95%.

15.2.1 Pit Optimization Setup

The pit optimizations were carried out for a wide range of Au prices, from as low as USD900/oz to a maximum of USD1500/oz.

The Whittle Four-X financial analysis was carried out using the following base assumptions and parameters:

- Mill throughput: 1.0Mtpa
- Mill limiting – i.e. sufficient waste is removed each period to enable the required milling rate to be maintained
- Discount rate – 10%
- Base case Au price - USD1250/oz.

Three cash-flows were produced for each analysis:

- Undiscounted Operating Cash-flow;
- Best Case Discounted Operating Cash-flow – Each incremental pit is removed prior to advancing to the next adjacent incremental pit. The cash-flow schedule is the equivalent of multiple pushbacks, and;
- Worst Case Discounted Operating Cash-flow – Each bench is mined out prior to moving to the next bench, using the optimization block height as the default bench height. The cash-flow schedule is the equivalent of top down ‘flat’ mining.

An actual mining schedule will most likely lie between the two extremes of Worst Case and Best Case as described above.

The cash-flows, as described above, are exclusive of any capital expenditure or mine start-up costs and should be used for pit optimization comparison purposes only. No Net Present Value ("NPV") can be derived from these cash-flows.

15.2.2 Pit Optimization Results

A2 Main and A2 West 3

Both pits are on their final levels and no optimization was run.

A2 West 2

Based on Measured and Indicated resources only and at a gold price of USD1250/oz, the optimum pit shell contains some 0.5 million tonnes of ore at a grade of 2.32g/t Au, for approximately 35,000 ounces of recovered Au metal. Some 1.7 million tonnes of waste are contained within the pit shell with a stripping ratio of 3.6:1.

Zergoré

Based on Measured and Indicated resources only and at a gold price of USD1250/oz, the optimum pit shell contains some 1.2 million tonnes of ore at a grade of 2.06g/t Au, for approximately 76,000 ounces of recovered Au metal. Some 6.5 million tonnes of waste are contained within the pit shell with a stripping ratio of 5.3:1.

A2NE2

Based on a gold price of USD1250/oz, the optimum pit shell at the A2NE deposit contains some 0.3 million tonnes of ore at a grade of 2.53g/t Au, for approximately 24,000 ounces of recovered Au metal. Some 5.6 million tonnes of waste are contained within the pit shell with a stripping ratio of 8.4:1.

NTV

Based on a gold price of USD1250/oz, the optimum pit shell at the NTV deposit contains some .7 million tonnes of ore at a grade of 1.4g/t Au, for approximately 33,000 ounces of recovered Au metal. Some 1.0 million tonnes of waste are contained within the pit shell with a stripping ratio of 1.42:1.

15.2.3 Pit Design

The A2 Main, A2 West 3 will be depleted in the first quarter of 2015. Only 5m remains to be mined at A2 West 3 pit and 15m at A2 Main pit. Not redesign has been done.

An 18m wide, dual access ramp has been included in the detailed mine design work for A2 West 3 and A2 East pits, which allows for a safe operating width of three truck widths plus a windrow in the case of a Cat777D dump truck, which is the largest truck currently in operation at the mine site.

The designs were based on the Golder provided inter-ramp slope angles for Youga. The inter ramp slope angles range from 45º to 56º. The berm width is 4m for every 10m in vertical wall height.

A2 West 3 is intersected by the Zéra River (a seasonal watercourse) and it has been deviated and will be mined in the dry season, from October to May.

A2 West 3 and 2, Zergoré, A2NE and NTV has been designed with a dual lane ramp for Cat 773 to a depth of 40m and a single lane access ramp from the 40m depth.

The ramp design parameters are listed below:

- Ramp width 18m reducing to 12m for the last 30 to 40m of vertical height
- Gradient 1:10.

A minimum mining width of 30m has been assumed for both pits. This width suits the backhoe excavator loading method and the Caterpillar 777D turning radius of 28.4m.

Table 15-4 provides a summary of the material breakdown as contained within the latest pit designs. It is noted that pit designs contain Inferred resources of approximately 198k tonnes containing 12koz insitu gold metal, but these were not used in the optimization or economics.

Table 15-4 Summary Material Breakdown by Pit Design

Deposit	Total Material	Waste	Strip Ratio	Mineral Reserves								
				Proven			Probable			Total		
				Tonne	Grade	Insitu	Tonne	Grade	Insitu	Tonne	Grade	Insitu
	[kt]	[kt]	[w:o]	[kt]	[g/t]	[koz]	[kt]	[g/t]	[koz]	[kt]	[g/t]	[koz]
A2 Main	170	78	0.8:1	92	2.50	7.4				92	2.50	7.4
A2 West2	18	8	0.8:1	4	3.15	0.4	6	2.65	0.6	10	2.83	1
A2 West3	1,767	1,337	3:1		2.27	15.2	220	2.20	15.6	430	2.23	30.8
Zergoré	8,676	7,591	7:1		2.07	53.8	277	1.95	17.4	1,085	2.04	71.2
A2NE	3,350	3,056	10:1	13	3.81	1.6	281	2.39	21.6	294	2.45	23.2
NTV	1,699	878	1:1	641	1.27	26.5	180	1.37	7.9	821	1.30	34.4
Total	15,680	12,947	5:1	1	1.85	104.9	966	2.03	63.0	2,733	1.91	167.9

15.2.4 Waste Dumps

The waste dumps have been designed to the following parameters:

- Face slope 20º
- Bench height 20m
- Berm width 10m
- Overall slope 17º

The waste dump capacities have been based on a swell factor of 25%. No allowance for any in-pit or exhausted pit backfilling has been made.

The waste dump positions have been determined by taking into account geologically prospective ground (where sterilization drilling is still to be carried out), the existing drainage patterns, waste haulage profiles and the space and infrastructure issues required for the planned operations.

The A2 Main waste dump, located north of both the A2 Main and the A2 East pits, is approximately 40m high, covers 40Ha and has a capacity of 12.6Mm^3, with ample capacity to extend the dump.

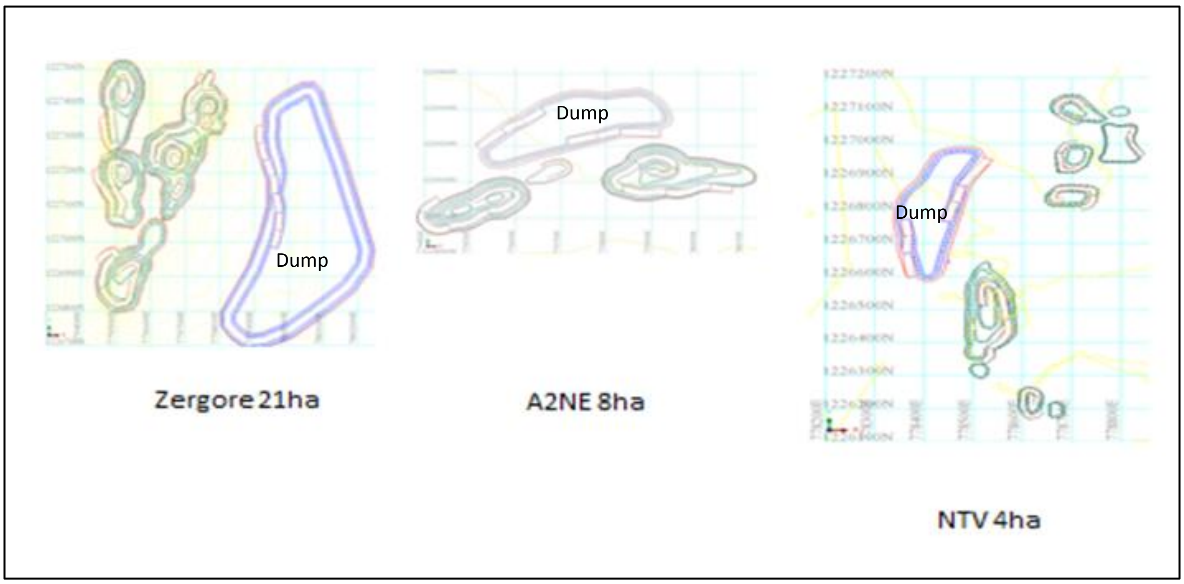
The A2 West 1 waste dump, located northwest of A2 West 1 pit, is approximately 20m high, covers 6Ha and has a capacity of 0.4Mm3, with ample capacity to extend the dump. However, as a result of re-evaluation it is considered that mining will not be re-convened from this currently depleted pit.

The A2 West 2 waste dump has been relocated from its original position at the east of A2 West 2 pit to a position west of the pit and is approximately 20m high, covers 11Ha and has a capacity of 3Mm3, with ample capacity to extend the dump.

The A2 West 3 waste dump, located northwest of the A2 West 2 pit and west of A2 West 3 pit, is approximately 20m high, covers 17Ha and has a capacity of 2.0Mm3, with ample capacity to extend the dump.

Final designs for the Zergoré, A2NE and NTV waste dumps have yet to be completed and as each of the deposits has multiple pits consideration is being given to sequential back filling in order to reduce the overall land disturbance foot print. Preliminary engineering work, shown on Figure 15-1 below has indicated that there is ample room available for location of the waste dumps proximal to each of the deposits. The dumps cover a foot print of 21 ha, 8 ha and 4 ha respectively.

Figure 15-1 Satellite Pit Waste Dumps



15.3 MINERAL RESERVE STATEMENT

The Proven and Probable mineral reserves for the open pit operations as of December 31, 2014 are estimated to be 3,510k tonnes at a grade of 1.79g/t containing 202,000oz of gold. This includes 777k tonnes of ROM pad ore stockpile at a grade of 1.35g/t au containing 33,000oz of gold.

As of December 31, 2014 the breakdown of Youga mineral reserves by category are shown in Table 15-5.

Table 15-5 Estimated Reserves at Youga as of December 31, 2014

Deposit	Mineral Reserves								
	Proven			Probable			Total		
	Kt	Au (g/t)	kozs	Kt	Au (g/t)	kozs	Kt	Au (g/t)	kozs
A2 Main	92	2.50	7.4				92	2.50	7.4
A2 West 3	4	3.15	0.4	6	2.65	0.6	10	2.83	1
A2 West 2	209	2.27	15.2	220	2.20	15.6	430	2.23	30.8
Zergoré	808	2.07	53.8	277	1.95	17.4	1,085	2.04	71.2
A2NE	13	3.81	1.6	281	2.39	21.6	294	2.45	23.2
NTV	641	1.27	26.5	180	1.37	7.9	821	1.30	34.4
Total Pits	1,767	1.85	104.9	966	2.03	63.0	2,733	1.91	167.9
Stockpiles	777	1.35	33.6	-		-	777	1.35	33.6
Youga Total	**2,544**	**1.69**	**139**	**966**	**2.03**	**63.0**	**3,510**	**1.79**	**202**

Not included in the open pit mineral reserves is a total of approximately 42k tonnes of marginal grade material averaging 0.67g/t Au containing 1k ounces which is within the pit shells, 1,000k tonnes of stockpiled marginal grade material averaging 0.69g/t Au containing 22k ounces of gold, and 198k tonnes of Inferred mineral resource at 1.87 g/t containing 12k ounces that is contained within the pit shells. The current marginal grade limit for the open pit operation is estimated to be 0.5g/t. This material will be re-evaluated later as to whether it is deemed economic to be processed.

The pit designs include a total of 12.9 million tonnes of waste material with an overall strip ratio of 4.7:1. Total material mined over the life of mine amounts to 15.7 million tonnes.

The above mineral reserve estimate has been determined and reported in accordance with Canadian National Instrument 43-101 “Standards of Disclosure for Mineral Projects” of June 30, 2011 and based on CIM Definition Standards for Mineral Resources and Mineral Reserves adopted by the CIM Council on May 10, 2014. Furthermore, the reserve classifications are also consistent with the “Australasian Code for Reporting of Mineral Resources and Ore Reserves” effective December 20, 2012 (“JORC Code”) as prepared by the Joint Committee of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Mineral Council of Australia (JORC).

The reserve classifications for both reporting systems are essentially the same, with only minor semantic differences in the naming conventions. Reserves are called “Ore Reserves” under the JORC Code and “Mineral Reserves” under the CIM standards. “Proved Reserves” under the JORC code are called “Proven Reserves” under the CIM Standards.

16.0 MINING METHODS

16.1 GEOTECHNICAL INPUT

The original pit geotechnical work for the BFS was completed by Golder Associates Inc and their work has been summarized in the report 'Phase 1 Geotechnical Study in Support of Feasibility Study' dated August 2004.

In summary, Golder states that the pit slope stability will be controlled by a combination of material properties, bedrock structure and operating practices. Compressive strength test work indicates that the rock is generally high strength.

Groundwater is unlikely to have a significant influence on the overall pit slope stability and it is expected that the de-watering necessary to maintain reasonably dry operating conditions in the pit bottom will be adequate for slope stability purposes.

In 2010 SRK were retained to undertake a desk top and subsequent detailed review of the stability of the Main pit due to the pit experiencing a number of small localized wall failures. As a result of the desktop review, the pit ramp was relocated to the east side of the pit and the West wall was cutback to improve face conditions. The detailed review involved the drilling of 6 oriented diamond core holes around the perimeter and to the base of the pit shell, detailed geological and geotechnical mapping of major and minor structural features within the pit and the drilling and equipping of a number of piezometer holes to measure the water table. This geotechnical review engineering work is currently ongoing and geotechnical appraisals of the pits will be an ongoing feature of the Youga operations.

16.2 HYDROGEOLOGY AND HYDROLOGY INPUT

The hydrogeology, hydrology and surface water aspects at the Youga Mine were originally assessed by Knight Piésold ("KP") in 1999. Their findings are summarized in the report "Youga Mine Project Feasibility Study – Tailings Facility, Plant Site, Pit Slopes and Storm Water Management".

The wet season extends from mid-April until mid-October. Peak rainfall months are June, July, August and September with a total yearly rainfall of between 700mm to 1,000mm.

The only significant aspect of surface drainage affecting Youga is the seasonal Zéra River that flows approximately 400m to the south of A2 Main and A2 East pit area and a seasonal tributary of the Zéra River that runs just east of A2 Main pit. This tributary transects the A2 East pit, necessitating a diversion. The Zéra River itself transects the northern pit of the A2 West 2. This pit is relatively small and it has been assumed that it will be mined in the dry season.

KP estimated that dewatering requirements may range between 5 l/s and 15 l/s (400m3/d to 1300m3/d). Estimated dewatering volumes are relatively small and the pits are being excavated in relatively low permeability material (other than occasional open fractures that may be intercepted at depth). As such, it is likely that it will not be possible to obtain the dewatering abstraction from bores alone, although this cannot be confirmed without exploratory drilling for groundwater. The greatest potential for bores is likely to be found in fracture zones along the strike of the orebody, and exploratory drilling targets during any future study should be developed accordingly. With either bores and/or sumps, it is possible that due to the generally low and anisotropic permeability, complete dewatering of the pit slopes may not be achieved. It is reported that the main pit may be up to 270m deep (Note: current pit design for A2 Main is approximately 200m deep) and without substantial dewatering of the pit walls, hydrostatic pressures behind the walls may be considerable.

Horizontal drain holes may be required to encourage drainage of the pit-slopes, and the water produced needs to be controlled to ensure that water in the pit does not cause erosion/ponding problems. Geotechnical studies will be required once a more detailed assessment of dewatering impacts has been made.

Furthermore, KP stated that the estimates of dewatering requirements are first-pass estimates only and groundwater exploration drilling and testing and more detailed dewatering assessment (possibly including some groundwater modelling) will be required at the feasibility stage to confirm dewatering estimates.

Since the commencement of mining in 2008, the Main and East pits have been extended in depth to the 40mrl and 140mrl respectively and only manageable amounts of water have been encountered emanating from the pit walls and floors. As the pits were deepened sump and pumping reticulation systems were be established on an ongoing basis to remove ground water and inflows from rain events.

16.3 MINING SEQUENCE

The Youga mine commenced operations in 2008 with open pit mining and gravity/CIL processing facilities and during the period to end 2014 a total of 537,621 ounces of gold had been recovered from 6,376,001 million tonnes of ore from the A2Main, A2East, A2West 1, 2 and 3 pits.

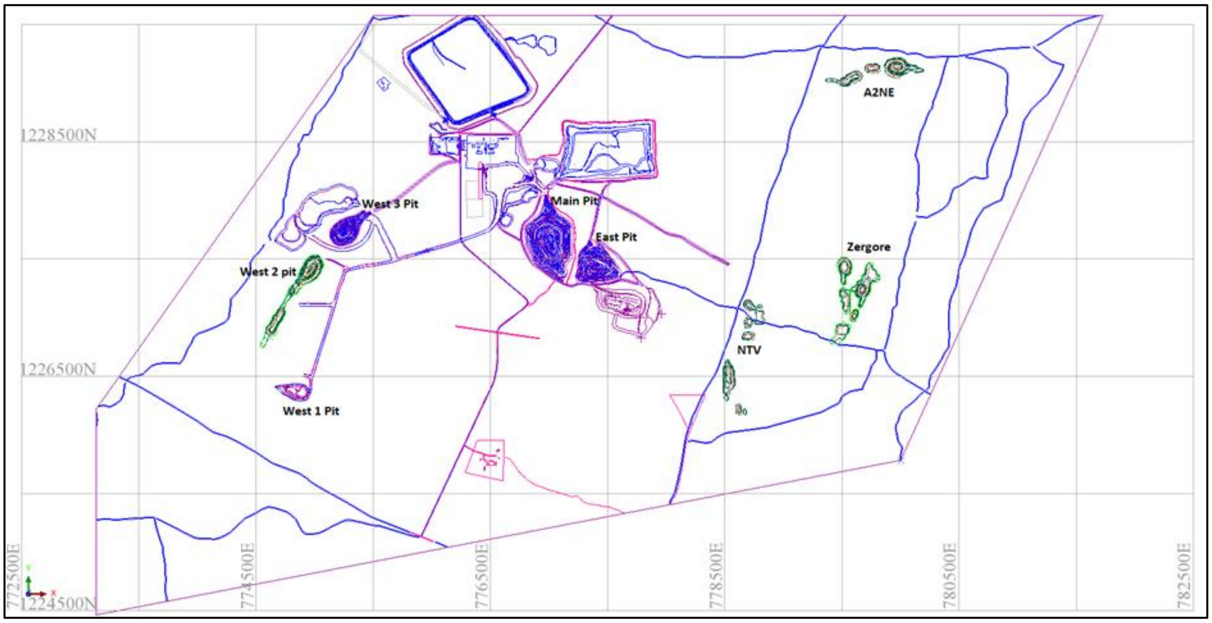
The A2West 1 and A2East pits were depleted in 2009 and 2014 respectively and at the end of 2014 mining operations were taking place at the A2Main and A2West 2 and 3 pits.

The A2Main and A2West 2 and 3 pits are scheduled to be completed during the course of 2015 and during this period the focus of mining operations will transfer to the Zergoré, A2NE and NTV pits located in the eastern half of the Exploitation Permit for the remaining life of mine or until additional mineral reserves are generated.

16.4 MINING OPERATIONS

Mining operations, focused on the A2Main, A2East, A2West2 and A2West3 pits (Figure 16-1) during 2014, are being undertaken by a mining contractor, PW Mining International Ltd ("PW").

Figure 16-1 Youga Pit Design Locations



Drilling and blasting is performed on 10m high benches, with blasted material excavated in four discrete flitches, each nominally of 2.5m height.

The use of RC grade control drilling, on a 10m x 10m pattern with assays every 2m sample and interpretation/modeling of the results by mine geologists is the primary method for ore delineation at Youga.

Ore zones are drilled sufficiently to cover the expected zone plus some overlap to ensure sufficient drilling is planned. Drilling quantities are estimated by equating to approximately 120% of the expected ore zones are grade control drilled. All RC holes are assumed to be drilled at a 50º angle.

16.4.1 Contract Mining

The original mining contract expired in February 2012 was subsequently extended to February 2014 and then renegotiated in Q2 of 2014 for a period covering the expected life of mine.

The original main mine production equipment that PW selected for Youga included an O&K RH120 (265 tonnes) back hoe excavator, two RH40 100 tonnes back hoe excavators, 5 x CAT 777 and 3 x CAT 773 off-highway haul trucks with a payload capacity of 86t and 54t respectively. In addition, PW subsequently included an O&K RH40 (100 tonnes) excavator for backup and other miscellaneous work. During 2014 the fleet was upgraded to remove equipment which had passed its economic life or was not optimal for mining the smaller sized pits scheduled for production through to the end of the life of the mine. The upgraded fleet which will be employed for the remaining scope of works comprises 9 x CAT 775 off highway haul trucks with a payload of 70t and two Cat 6015 back hoe excavators as well as a full complement of ancillary and support service units.

16.4.2 Youga Mine Production Schedule

The mine production schedule was based on the pit designs as described above and scheduling periods adopted for the mine production schedule comprises of years.

The mine production schedule was developed using the manual scheduling technique of Runge Xpac Scheduling Package.

Scheduling was carried out on a bench by bench basis for all the pit designs following the most practical approach.

The following constraints were set as a target for the mine production schedule:

- Ore processing rate 1.0Mtpa
- Maximum total material movement 6Mtpa

The Life of Mine produces (mined ounces) an average of 56,000oz of Au per year over the next three years ranging from 65,000ozs in Year 2015 to 46,000ozs in Year 2017. Year 2018 is a part year estimated at approximately 6 months is relates to the processing of the low grade ROM stockpile material with 17,000ozs being produced.

The average total material movement is approximately 5.2Mtpa, with a maximum mining rate of 6Mtpa in Year 2015 to Year 2016 and a minimum annualized mining rate of 3.7Mtpa in Year 2017.

Table 16-1 summarizes the 2015 Life of Mine schedule that has been developed for Youga.

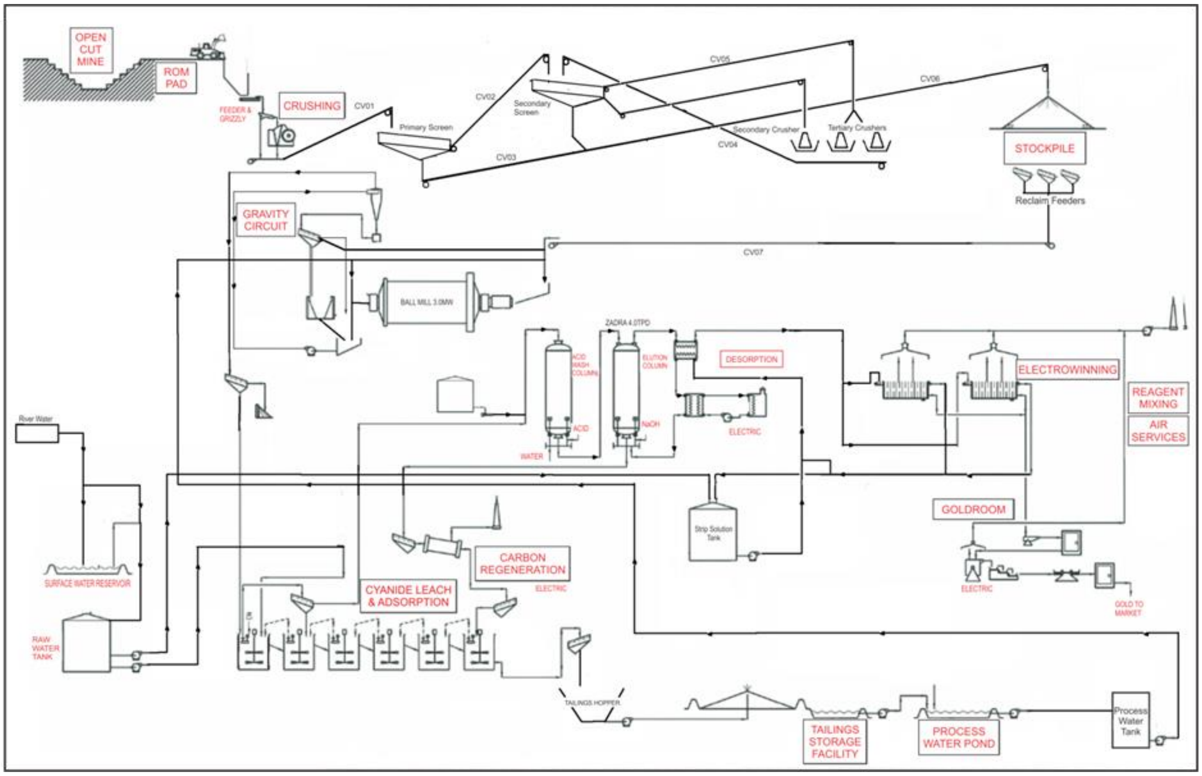
Table 16-1 Youga Summary LOM2015 Production Schedule

PRODUCTION SCHEDULE	UNITS	2015	2016	2017	TOTAL
Main Pit					
Waste Tonnes Mined	t	77,937			77,937
Tonnes Ore Mined	t	91,995			91,995
Total Tonnes Mined	t	169,932			169,932
Total Volume Mined	bcm	62,937			62,937
West Pit 3					
Waste Tonnes Mined	t	7,996			7,996
Tonnes Ore Mined	t	10,333			10,333
Total Tonnes Mined	t	18,329			18,329
Total Volume Mined	bcm	6,787			6,787
West Pit 2					
Waste Tonnes Mined	t	1,337,086			1,337,086
Tonnes Ore Mined	t	429,536			429,536
Total Tonnes Mined	t	1,766,622			1,766,622
Total Volume Mined	bcm	654,308			654,308
Zergoré					
Waste Tonnes Mined	t	3,584,635	4,006,065		7,590,700
Tonnes Ore Mined	t	460,482	624,869		1,085,351
Total Tonnes Mined	t	4,045,117	4,630,934		8,676,051
Total Volume Mined	bcm	1,663,829	1,728,362		3,392,191
A2NE					
Waste Tonnes Mined	t		1,311,906	1,744,253	3,056,159
Tonnes Ore Mined	t		57,160	236,940	294,100
Total Tonnes Mined	t		1,369,066	1,981,193	3,350,259
Total Volume Mined	bcm		533,770	743,749	1,277,519
NTV					
Waste Tonnes Mined	t			876,865	876,865
Tonnes Ore Mined	t			821,638	821,638
Total Tonnes Mined	t			1,698,503	1,698,503
Total Volume Mined	bcm			638,515	638,515
Total Mine Production					
Waste Tonnes Mined	t	5,007,654	5,317,971	2,621,118	5,007,654
Tonnes Ore Mined	t	992,346	682,029	1,058,578	2,732,953
Total Tonnes Mined	**t**	**6,000,000**	**6,000,000**	**3,679,696**	**15,679,696**
Total volume Mined	**bcm**	**2,387,861**	**2,262,132**	**1,382,264**	**6,032,257**
Stripping Ratio		**5**	**8**	**2**	**5**
Grade (Au)	**g/t**	**2.19**	**2.03**	**1.58**	**1.91**
Mined Ounces	**ozs**	**69,785**	**44,414**	**53,741**	**167,941**
Tonnes Per Day		**22,416**	**22,416**	**22,416**	**22,416**

17.0 RECOVERY METHODS

The Youga processing plant uses the conventional gravity/CIL gold recovery process (Figure 17-1), similar to various facilities in operation in West Africa and consists of a 3 stage crushing operation, ball milling, gravity concentration and cyanidation by CIL. Pressure Zadra elution is utilized for recovery of gold from loaded carbon.

Figure 17-1 Youga Mill Flowsheet



17.1 PRIMARY CRUSHING

Run of Mine ("ROM") ore is delivered to the ROM feed bin by front-end loader. Ore is withdrawn from the ROM bin by a variable speed apron feeder to the primary crusher. Crushed ore reports to the crusher discharge conveyor, delivering ore to the Secondary and Tertiary Crushing circuits.

17.2 SECONDARY AND TERTIARY CRUSHING

Primary crushed ore is conveyed to the scalping screen. Oversize discharges from the top deck to the conveyor feeding the secondary crusher surge bin, whilst the bottom deck oversize discharge to the conveyor feeding the tertiary crusher surge bin, undersize (12mm) passes through the bottom deck and is conveyed to the stockpile. Recycled ore is withdrawn from the two surge bins by pan feeders onto two dedicated secondary and tertiary cone crushers. The crushed material is conveyed to the sizing screen, the +12mm oversize from this screen is returned to the tertiary crusher feed bin conveyor, undersize (-12mm) from this screen is discharged to the stockpile feed conveyor.

17.3 CRUSHED ORE STOCKPILE

A combination of three vibrating feeders withdraws ore from the crushed ore stockpile onto the mill feed conveyor. Dry hydrated lime is fed via a rotary valve and screw feeder, from the lime bin onto the mill feed conveyor.

17.4 MILLING

Crushed ore and lime are fed to the single stage, closed circuit ball mill. Gravity scalping screen oversize, mill inlet process water, gravity tails and cyclone underflow slurry also report to the mill inlet hopper. The mill product discharges via a trommel screen to a pump sump, dilution water also report to the mill sump. Oversize from the trommel reports to a bunker for removal by Bobcat or front-end loader.

A single stage, variable speed mill discharge pump draws slurry from the sump and feeds the cluster of hydrocyclones. A standby mill discharge pump is installed. A mass flow meter is provided on the cyclone feed stream to control density and flowrate of the cyclone feed. Gland service water is provided to the mill pumps.

Fine solids pass through the cyclone vortex finders at a solids concentration of 41% and gravitate to the CIL section. Coarse solids exit the cyclone spigots as a dense-slurry, a slipper box diverts a fraction of it (~20%) to feed the gravity recovery circuit. The balance of the cyclone underflow returns to the ball mill feed.

17.5 GRAVITY CONCENTRATION

The bleed stream diverted to gravity concentration from the mill cyclone cluster underflow is passed over a vibrating scalping screen to remove coarse (+2mm) particles, which gravitate back to the mill inlet chute. Spray water is applied to the screen deck to improve screening.

Screen underflow gravitates to the centrifugal bowl type concentrator for recovery of the coarse free gold particles. Concentrator tails gravitate to the mill feed inlet. Primary gravity concentrate is discharged from the concentrator during the periodic flush cycle. This concentrate flows into a storage tank where it is stored and periodically fed to a shaking table located in the gold room for upgrading. Table concentrate is collected in a small bin and stored in the safe until future calcination while tails are pumped back to the mill feed inlet.

17.6 CARBON IN LEACH

Mill cyclone overflow slurry flows onto a linear trash screen for removal of natural and mining debris such as woodchips, cloth, plastic and wire. Woodchips must be removed as these can adsorb gold, while the other debris will blind the inter-stage screens.

The trash screen underflow gravitates through a slurry sampler and into the first leach tank where cyanide solution is added. Tramp screen overflow reports to wire screen to stop larger pieces, excess water and sand is drained to the mill sump.

Slurry overflows the mechanically agitated leach tank and gravitates through five subsequent, mechanically agitated, CIL tanks to enable maximum possible dissolution of gold as a cyanide complex and subsequent adsorption onto activated carbon.

Each CIL tank is equipped with an inter-stage screen mechanism, with a cylindrical basket-type stainless steel wedge-wire screen surface for retention of activated carbon in the tank.

Air blowers installed on the top of the CIL tank platform provide air in the slurry through the agitator shaft in order to improve oxygenation of the ore.

17.7 TAILINGS

Tailings slurry from the last CIL tank gravitates to the tailings vibrating screen for carbon recovery in the event of damage, wear or incorrect installation of the final stage interstage screen. Carbon recovered on the screen will report to a bulk bag for re-use.

Tailings, discharging from the tailings carbon recovery screen, gravitate via a sampler to the tailings pump tank from where it is pumped to the slimes dam. Tailings return water reports to the process water tank. The spillage pump directs all spillage to the tailings linear screen.

17.8 ACID WASH AND ELUTION

Loaded carbon from CIL is received in the acid wash tank. Once the 4-tonne batch has been accumulated, it is washed with dilute hydrochloric acid (at 2-3% HCl) to remove scale. On completion of acid washing, the acid washed carbon is rinsed and then dropped into the elution column. Periodically, when the dilute acid wash liquor is too contaminated, it is neutralized with excess caustic soda and pumped to the tailings tank.

The elution section is a pressurized Zadra system. Loaded carbon is eluted by pumping a hot caustic cyanide solution (eluant), typically 1.0% – 3.0% NaOH and 0.2% – 0.6% NaCN, through the column at 130°C under pressure. Gold adsorbed onto the loaded carbon is eluted off the carbon and recovered in the eluate solution. The eluate is pumped through electrowinning cells to remove gold by electroplating onto steel wool. Electrowinning tails return to the eluant tank.

17.9 CARBON REGENERATION

Upon completion of the elution cycle, the carbon batch is hydraulically transferred to the feed hopper of the regeneration kiln or, on occasion to the CIL circuit. Barren carbon is thermally regenerated in an electric kiln to remove organic contaminants and to maintain the activity of the carbon. Regenerated carbon is subsequently transferred to the last CIL tank.

17.10 ELECTROWINNING AND GOLD RECOVERY

A pump circulates the pregnant electrolyte from elution through the two electrowinning cells, located in the gold room for security, for approximately 16 hours or until the gold concentration in the electrolyte is below 10mg/l. Spent electrolyte is periodically pumped back to the CIL circuit when contaminant build up in the solution becomes unacceptable.

Loaded cathodes are removed from the electrowinning cells at regular intervals and together with the final concentrate from Gravity Concentration loaded onto the calcine oven trays and calcined overnight (up to sixteen hours) at ~800°C, ensuring that the contents are sufficiently oxidized and dried. Once calcining is complete, the trays are removed from the calcine oven, cooled and weighed. The net content mass is then calculated and the required quantity of flux determined.

Dried, weighed calcine is fluxed and charged into a crucible designed for the smelting furnace. The crucible is heated in the diesel fired smelting furnace to approximately 1160°C for four hours, before being removed from the furnace for pouring into moulds. Once the gold is cool, it is removed from the mould, cleaned of all adhering slag, weighed, sampled, numbered and stored in the gold room safe for later dispatch to the selected refinery.

17.11 REAGENTS

There are facilities for the storage, mixing if required and distribution of the following consumables: grinding media, sodium cyanide, caustic soda, hydrochloric acid, hydrated lime and activated carbon.

Reagents that are added as solution are mixed in a common area with a mixing tank and storage tank. Some of the reagents, for example cyanide are supplied in one tonne bulk-bags that are lifted by a dedicated mono-rail and electric hoist and discharged using a bag breaker on each tank. Each reagent mixing station will include a bag breaker/drum tipper, mixing tank and agitator, storage tank (and agitator if required), transfer pump and dosing pumps.

Grinding balls are delivered to the stockpile area in drums and transferred to the mill feed conveyor. This activity takes place on a shift basis as required.

Cyanide solution is prepared in a dedicated reagent mixing facility. Cyanide is supplied to the site in one tonne bulk-bags and mixed in an agitated tank at 25% solution strength. It is transferred and dosed to the plant using centrifugal pumps and a ring main system.

Caustic is supplied in bulk-boxes, stored in the reagent storeroom, and made up in a 16m3 mixing tank using raw water. The 20% caustic solution is discharged to the cyanide/caustic dosing pot and the acid/caustic dosing pot, each having a volume of 1.5m^3, when required.

Strong, 32% hydrochloric acid is delivered in 200 liters drums and offloaded using a drum pump to a storage tank. Acid is to be pumped as required to points of use in the elution process.

The pH control is provided in the milling and CIL circuits using hydrated lime. Lime is delivered by bulk bag and transferred to a silo of 40 tonnes capacity from where it is fed dry to the mill feed conveyor using a rotary valve and screw feeder. No water is added.

High activity carbon is provided in 500kg bulk-bags and added to the CIL circuit as required.

17.12 COMPRESSED AIR SUPPLY

Two plant air compressors were provided, as well as one instrument air compressor. Generally, only one plant compressor runs, but in case of high air demand, both units may be run in parallel. The compressors are sized to be capable of delivering ± 1200Nm^3/h of air each. Compressed air is supplied throughout the plant for general use.

17.13 PROCESS WATER

Decanted excess settled water from the tailings dam pool gravitates to the return water dam. A return water pump is provided at the return dam for recycling of return water to the plant process water tank. Operating and standby pumps are installed at the process water tank.

Process water is reticulated throughout the plant where required, from the 300m^3 process water tank, servicing specific process requirements as well as general hose points.

17.14 RAW WATER SUPPLY

Raw water is pumped from the Nakambé River and is stored in a de-sanding holding tank from where it is pumped over 11km to the raw water pond. Raw water is pumped to various points in the plant that require water free of suspended solids or chemical contamination. Raw water is used in the elution section for making up acid wash and eluant solutions. The raw water pond is also the supply for the gland service water pumps. Standby raw water and gland water pumps are installed.

The fire-water for the plant is also obtained from the raw water pond. The fire system consists of a main fire pump, an electric jockey (pressure booster) pump, a diesel-driven pump, a fire-pipe manifold and hydrants in chosen locations throughout the plant.

17.15 POTABLE WATER SUPPLY

Potable water is be supplied from the raw water pond, and is treated through a filtration and sterilization system before being stored in a dedicated 20m^3 potable water tank. Potable water supply pumps for the plant, the various drinking water and ablution facilities throughout the plant and offices, and all safety showers on site.

17.16 TAILINGS MANAGEMENT

Digby Wells and Associates ("DWA") was appointed to provide consultancy services for the final/construction design of the proposed gold tailings facility at Youga in Burkina Faso, West Africa. This facility was designed to accommodate 6.6 million tonnes of tailings for a life of mine of 6.6 years which is adequate for the current life of mine plan.

The site for the tailings disposal facility had been identified by Knight Piésold (Australia) in a previous study. This site was accepted by Etruscan as the preferred site and thus no other possible site locations were investigated, although a slight possibility existed that the site may be underlain by some minor ore deposit.

The tailings dam covers an area of 41ha and the return water dam an area of 9ha.

The geotechnical investigation completed included the proposed tailings dam and plant site area. The general soil profile in the tailings dam area comprises clayey topsoil, average 0.4m thick, underlain by the clayey gravel pebble marker between 0.2m and 0.9m thickness. The residual soils below the pebble marker generally consist of sandy and silty clay of low to medium plasticity, which usually gradually grades with depth to very soft, highly weathered rock. Schist was generally not encountered in the test pits (2m to 3m deep) in the tailings dam site area, except along a shallow rock area to the south-east of the site and along a narrow localized linear zone extending almost to the centre of the site. Rock in these areas was encountered within 1m depth.

Further geotechnical investigations were conducted during the final design phase, it was concluded that no fatal flaws could be noticed regarding the geology.

It was decided to base the design of the tailings and return water dam on South African Standards. Youga ore samples were treated in a pilot plant to assist with manufacturing samples of the tailings material. A 300g tailings sample was submitted to a soil laboratory to determine the grading and specific gravity of the material. These results indicated that the deposition method to be used is spigotting combined with a paddock system.

The starter walls were constructed using overburden waste rock from the mining operations and pebble marker removed from the dam foundation.

The starter wall height varies between 1m and 6m (maximum elevation of RL 234m). The raising of the paddock walls will be done using overburden waste. The lifts will be 2.0m high at a time and the overall slope of the outside wall will be 1 (v) in 3 (h). The average rate of rise of the tailings dam will be 1.84m per year, which is relatively low.

Provision was made for the installation of filter drains along the inside toe of the starter walls to control the static water level inside the dam. The decant system is a conventional precast decant ring system comprising concrete rings of 510mm internal diameter stacked on top of each other.

The return water dam has been lined with a high density polyethylene plastic liner and the embankments were constructed using overburden waste rock from the mining operation.

This facility can store five days' process water and the first 15 minutes of the 1 in 100 year storm event. A reinforced concrete sump is constructed before the return water dam inlet to collect any silt before reaching the return water dam.

The calculated factor of safety for the stability of the tailings dam slopes is 1.4. It has been recommended that piezometers be installed for continual monitoring of the static water level inside the tailings dam as the stability of the dam walls is related to the static head on the impoundment walls.

Piezometers have been installed to monitor groundwater quality upstream and downstream of the TSF.

The safety classification of the tailings dam focused on the potential impact of the tailings dam on the surrounding area and took cognizance of the likelihood of a failure occurring. The initial criteria applicable for Youga tailings dam indicate that it will be a high hazard facility.

The remoteness of the site, the footprint, and the lack of sensitive environments lead to the preliminary classification of the facility as a residue deposit that has apart from possible cyanide poisoning, no potentially significant impact on the environment.

The TSF has been in operation for approximately three years and the storage capacity established in initial construction phase is scheduled to be filled by Q3 of 2011. In Q4 of 2010 construction works on the first lift of the impoundment walls commenced and the storage capacity will be increased from the 234mRL to the 236m RL by the end of Q1 2011. This will provide adequate storage capacity for the mine production until the end of 2012.

Design review of the facility is presently ongoing to establish the possibility of extending the impoundment footprint to the North (should this be required for extended mine life) and to design and construct a gravity fed emergency spill way on natural ground in the south eastern section of the dam.

17.17 RECOVERIES

Actual overall recoveries (gravity + leaching) from current operation at Youga processing plant are very close to the projections made in the feasibility study.

Gravity recoveries average 20-30% where it was expected from the test work to be in the +30% range.

None of the new targets that are currently being explored have gone through a complete metallurgical test work program. Although some preliminary testing by bottle roll analyses showed good recoveries after 24h leach.

18.0 INFRASTRUCTURE

18.1 YOUGA

18.1.1 Water

Water is taken from the Nakambé River using a submersible pump anchored on the riverbank including stand-by to ensure that there is an uninterrupted water supply to the plant. Power to the pumps will be via an overhead line running from the plant to the water extraction point at the river. The raw water from the Nakambé River is pumped to a raw water storage pond located close to the plant. The pond supplies water to the plant raw water tank as well as supplying raw water to the process water tank to supplement the tailings dam water supply when the process water dam runs low.

Potable is produced at the plant from river raw water. This water is passed through a filtering and sterilization system to clarify and kill off biological organisms before it is stored for distribution to the camp and plant.

The tailings dam incorporates a return water decant system linked to a return water pond. Reclaim water is pumped to the process water tank within the plant area for re-use in the process.

18.1.2 Electricity

Burkina Faso has no infrastructure close enough to supply power to the Youga plant. The option of generating power on site with diesel-powered generators has been implemented as a back-up solution while main power is supplied from the Ghanaian grid. A power line running between Zebila and the Youga site has been installed, as well as the associated transformers and switchgear to supply power to the plant grid. The 34kV/11kV switchyard consists of a pole mounted fused isolator, a 34kV outdoor circuit breaker and a 34kV/11kV 10MVA power transformer. The indoor 11kV switchgear panel consists of an incomer with protection and power metering, power factor correction, ball mill contactor/circuit breaker, five transformer feeders and overhead line/minisub feeders.

The motor control centers (“MCC”) are of the fully detachable plug-in type for ease of maintenance. The MCC’s have been designed to service specific areas of the plant, and the drives, including the variable speed drives, requiring emergency standby power have been equipped with auto changeover incomers. Grounding networks is looped around substations and shared by both high-voltage and low-voltage units.

18.1.3 Access

Plant access roads were constructed on laterite base and are maintained and upgraded on an as required basis. The haul roads are constructed on a similar base but are wider and covered by waste rock. The construction of the haul roads and ROM pad was in the mining contractor’s scope.

A substantial bridge has been built across the Zéra River which divides the mine camp and the mine operating infrastructure in order to avoid isolation of the sites during periods of heavy down pour.

In the future, an airstrip for light aircraft may be constructed along the East pit mine haul road to provide an alternative emergency medical evacuation option for personnel.

18.1.4 Buildings

At the process plant the administration office block consist of 500m^2 prefabricated building and accommodate financial, purchasing, HR and HSE staff, adjacent to it is the infirmary and another office for the geologists, surveyors and mining team. Other offices within the processing area are used by the maintenance and process plant supervisors.

The workshop and reagent stores are located within the plant high security area.

18.1.5 Sub-contractor Facilities

A comprehensively equipped laboratory is provided at the plant to cater for the process control, metallurgical accounting, mine assay and environmental monitoring. Equipment was supplied and is maintained by ALS, the contractor managing the laboratory.

Fuel and oil storage is supplied under contract to TOTAL, facilities include two 200m^3 horizontal tanks, fuel service area for both light and heavy vehicles (including high capacity filling pumps) a covered area for storage of lubricant and offices for the contractor staff.

18.1.6 Fire Protection

Portable fire extinguishers are placed outside of the offices, sleeping quarters, kitchens, workshops and stores and distributed around the plant site for fighting small fires.

The MCC rooms are equipped with incomer cut-offs to trip the power feeding to the MCC room should a fire break out.

18.1.7 Waste and Sewage

Solid wastes are buried in a dedicated facility within the mine lease area. This site consists of a series of pits (cells) which will be filled with waste materials and sealed once filled to design capacity.

Sewage is collected in septic tanks, and drains away through French drains. The camp is located on a hilltop, and French drains run away from the accommodation units.

18.1.8 Communications

Area is under coverage of more than one cell phone companies and a standalone VSAT system allows Internet and voice transmissions that are carried on the same signal using Voice over IP (“VOIP”) protocol.

Mine mobile communications are done via handheld mobile radio sets, with a base station located near the centre of operations.

18.1.9 Transport

The site vehicle fleet of pick-ups is used for the transport of materials and personnel to and from Ouagadougou and between the mine site and camp.

Contracted busses provide transportation to work for personnel living in the nearby villages and Ouagadougou.

18.1.10 Security

The main entrance security office is located on the Main Plant access road. All visitors to the mine complex report to this security gate for authorization prior to entry. Personal protection equipment (“PPE”) is available for issue form this point if required.

A closed circuit television system is installed in the plant overseeing the mill, cyclones, concentrator and gold room to monitor activities. This system is being upgraded with smart camera technology in Q1 of 2011 to provide improved quality of image, coverage of operations and image storage and review capacity.

18.1.11 Accommodation

The accommodation camp is located on a hill top approximately 3.5km south of the plant and is approximately 1.5km south of the A2 main pit. All services have been provided to the camp and plant since there was no existing water or power infrastructure in the region at the time of construction of the mine.

There are five stand-alone two-bedroom houses with a separate bathroom, separate toilet, living room and a small kitchenette for senior management. Managers and supervisors housing consists of a $30m^2$ single room with its own shower, toilet and basin and sufficient space for a desk and a living area with provision for a television connection point. All enclosed rooms are air-conditioned.

The camp can accommodate 100 persons.

The laundry, a prefabricated structure $42m^2$ in size, is equipped with eight industrial washing machines. The room includes a washbasin and worktop for ironing and folding clothes.

The kitchen and dining facility is fully equipped to prepare and serve food as required by the mine shift roster

Television signals are received from satellite television systems.

The camp recreation area consists of a bar, games area, open veranda, swimming pool and a gym.

18.1.12 Personnel

Although nationals from Burkina Faso are filling most operation and management positions within the company, some selected posts requiring specific skills or experience not available within Burkina Faso have been filled by expatriates. In addition to performing their job function, expatriate personnel are expected to transfer knowledge and expertise to develop the capabilities of their national staff.

The workforce is under the control of a General Manager who is supported by two divisional heads and six line managers.

The mine employs a total of approximately 366 persons on its books and approximately 298 contractors.

19.0 MARKET STUDIES AND CONTRACTS

19.1 MARKETS

Gold output from the Youga Mine operation is in the form of doré bars containing approximately 86 percent gold and 12% silver, the balance being copper and other minor metals. Silver credits are received from the refiner.

The doré is shipped to Europe for refining. Metalor is the contract refiner and they retain Group 4 Securicor to transport the bullion from Youga to their facilities. Responsibility for the gold changes hands at the gold room gate. The current refining contract is valid until the end of 2015.

Based on a typical 55kg doré shipment with 87% gold content (1,500oz gold), the breakdown of refining charges is set out below:

- Refinery Charge USD0.47/oz gold (USD0.70/oz doré)
- Transport, Handling & Insurance USD3.90/oz gold
- Customs Clearance & Airport Vaulting USD0.40/oz gold
- Total USD4.61/oz gold.

Penalties are applied in the refining contract for any impurities but these are rare occurrences and the penalties are not excessive, the main impact being on the delay in final payment due to extended refining periods.

19.2 CONTRACTS

As on end 2014, the main contractors involved with the mine are:

- Drill, blast, load and haul : PW International
- Fuel supply: Total Burkina Faso
- Contract security staff: BIS – local contractor from Ouagadougou
- Catering and camp management: ATS – All Terrain Services
- Onsite Laboratory ALS
- Contract personnel transport: Local contractor from Ouagadougou
- Refining: Metalor.

The various contracts were awarded following a comparative bidding process, prices are within the industry range and comparable to other operations in Burkina Faso or West Africa.

20.0 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

20.1 REVIEW OF ENVIRONMENTAL REGULATORY STANDARDS

A review of the applicable regulations included guidelines and other standards that constitute the legislative and regulatory framework in Burkina Faso for the environmental and social management of the mine. These include the:

National Policy on the Environment ("NPE") - adopted by the Government of Burkina Faso in January 2007, the NPE is a framework for the consideration of environmental issues in development policies and strategies. The main guidelines are the rational management of natural resources and the guarantee of a better quality living environment for people. The Environmental Code of Burkina Faso (Law No. 005/97/ADP of January 30, 1997) also provides that the EIA and EIS should "help to identify the difference between the future environment modified as result of the execution of an activity, and the future environment as it would have normally evolved without the realization of the said activity";

Mining Policy Statement - the new mining policy of Burkina Faso relates to the adoption of a new mining code, institutions, taxation and customs, small-scale mining, the environment and training. The policy of Burkina Faso with regards to mining development includes six points namely:

- Development of a legal, economic, financial and tax framework favourable to mining investment;
- Reinforcement of the institutions of promotion and setting up specific measures in this matter;
- Maintaining a climate of trust for investors;
- Maintaining and developing mining information and data collection;
- Taking care of human resources training, and;
- Supporting the development of national expertise.

The Mining Code - (law n°031/2003/AN of May 8th, 2003) the activities regulated by the Mining Code should be conducted to ensure the preservation and the management of the environment and the rehabilitation of sites exploited according to standards, conditions and procedures prescribed by regulations in force. Other applicable policies include but are not limited to:

- National Policy for Land Development;
- National Policy for Land Security in rural area;
- National Policy for Public Hygiene;
- National Policy on Gender;
- National Policy on Population;
- National Health Policy and the National IEC (information, Education for Change) Policy for Health;
- Rural Development Strategy;
- Accelerated Growth and Sustainable Development Strategy, and;
- National Action Program of Adaptation to Climate Change.

Burkina Faso ratified many international conventions relating to the environment, in particular those known as the RIO conventions (biodiversity, climate change, desertification, etc.) which offer real opportunities in terms of natural resources management and environmental protection from the point of view of sustainable development.

Other international guidelines that are applicable are the IFC Performance Standards and World Bank Equator Principles. The IFC Performance Standards define the roles and responsibilities of clients in managing their projects and the criteria for receiving and retaining IFC support. The Equator Principles require that the project be carried out in a manner that is socially responsible and respectful of the environment.

The application for an industrial exploitation permit of a mine must be accompanied by a feasibility study and a development plan of the deposit including an environmental impact assessment combined with the results of public consultation, a plan to mitigate the negative impacts and reinforcement of the positive impacts, and an environmental monitoring plan.

20.2 YOUGA ENVIRONMENTAL CONSIDERATIONS

A complementary environmental study for Youga was considered as essential since the proposed development was a variation to the original mining plan and associated Environmental Impact Assessment ("EIA") upon which Ashanti Goldfields Company and Echo Bay Mines Joint Venture was given an Exploitation Permit by the Government of Burkina Faso in April 2003. This requirement was not governed by any Local Legislation but was considered as good practice for this type of large-scale industrial project developed in rural Africa.

20.2.1 Baseline Survey

The original and updated environmental impact assessment studies have been prepared by SGS Environment, a Division of SGS Laboratory Services Ghana Limited (SGS), in partnership with SOCREGE, a local consultancy firm based in Ouagadougou. The latter was responsible for both local coordination and collection of most baseline data and information.

The Youga exploitation permit falls within the Sudanese climatic type but, due to its geographical position, it is largely influenced by the south Sudano-Sahelian zone. Yearly rainfall was estimated to be in the region of 900mm, for about 60 days of rain. The highest temperatures are experienced at the end of the dry season in April or May. Annual evaporation is high, in the region of 2870mm.

The Youga area is entirely rural and, generally, has a good savannah woodland cover.

There is no industrial source of gaseous or particulate emissions and ambient air quality is good. However, the Harmattan winds from the Sahara desert bring each year, from November to February, large quantities of fine dust particulates over the region.

The Youga area is entirely located in the catchment area of the Nakambé River (formerly White Volta). The Zéra secondary basin drains the project area from west to east. Along its course, several small steams flow into this waterway including the Gossé. The Zéra River joins the Nakambé a few kilometres after crossing the border with Ghana.

With the exception of the spring fed Gossé stream and the Nakambé, which has its flow regulated since the opening of the Bagré hydroelectric dam in 1995, all these water bodies are seasonal in nature. They flow continuously only during the rainy season, though flows in the Zéra tributary can be very substantial.

Results of the physio-chemical analysis show that the quality of water is typical of which is usually found in the South-Sudanese tropical savannah regions. Very low concentrations of arsenic, below the World Health Organisation standard for potable water, were also detected in all samples. Microbiological contamination of surface waters is common.

Two aquifer regimes have been identified in Youga area: a shallow aquifer located in the weathered formations and a deeper fractured aquifer. In general, however, aquifers are low yielding and not suited to intensive or high-capacity developments using drilled bores.

Groundwater resources are important sources of water supply for domestic and drinking purposes as well as non-intensive agricultural use. Water Quality did not exhibit any constituent of concern.

The Youga area, according to Fontes and Guinko (1995), falls within the South-Sudanese sahelien zone. All the species that were recorded are typical of the general Guinea-Congolia-Sudania regional endemics as listed by White (1983).

Vegetation and floral diversity at Youga are considered as relatively rich but anthropogenic degradation (mainly exploitation of wood), though less important than other places in Burkina Faso, is becoming visible over several sites.

Riparian forests such as the sacred and protected area of the Gossé source and forest pockets left on site are major shelters for birds, medium and small mammals, insects, reptiles and amphibians, particularly during the dry season. Human activity including agriculture, movement of livestock, gold washing and hunting (by gun or by stone) tend however to significantly disturb this fauna.

The pedological study of the Youga area revealed heterogeneity of soils, by virtue of their morphological nature and agricultural potential. In general, these soils exhibit several factors limiting agricultural production.

The project area is predominantly rural, the south mainly consists of cultivated and inhabited lands and the north is generally forestland, covered by savannah woodlands, which presents signs of anthropogenic influences.

The Youga area falls within the Zabré district of the Boulgou Region in southern Burkina Faso. The area designated for the proposed mining operation will be located 3km to the north-west of the village of Youga and 1km to the west of a small orpaillage site known as “Zergoré”. Youga is situated at 26km from Zabré, the nearest administrative centre, and some 2km from the Ghana border.

The Koussassé represent the dominant ethnic majority, but other groups include the Peuls, the Mossis and the Bissas.

Socio-political relations between the various communities are still preferentially administered by traditional authorities, particularly when it comes to land management and acquisition.

The economy of the district has always been dominated by agriculture followed by animal rearing and since 1993, artisanal mining (“orpaillage”). Farming is usually on a small scale and designed to meet local food needs.

Immigration is limited to the inhabitants of neighbouring villages and states like Ghana who come only during the rainy season to farm. Emigration is very developed in the area and concerns mainly the youth.

Reflecting on the development potential of the Youga area, the development process has been hampered mainly by a highly restricted internal and external road network, the poor spatial distribution of severely weak social infrastructures (school, health centre, etc.) and the lack of an educated and skilled manpower resource.

A number of alternative, potential developments were considered in the early stages of the project planning. Alternatives were screened out based on financial, social, technical or environmental constraints. Alternatives included, but were not limited to the placement of infrastructure, the mining process, ore beneficiation and the decision whether to mine or not (the "no – go" alternative).

Potential impacts associated with the proposed development were identified and assessed. Potential impacts relating to airborne particulate during operation, intermittent noise and vibrations from blasting, site hydrology, surface water quality, site hydrogeology and groundwater quality, erosion of soils, limited displacement of people and loss of agricultural land were considered the most significant.

Typical mitigation measures similar to those already in use by several existing operations in Burkina Faso or neighbouring countries have been put in place for all of the identified potential impacts.

Based on the implementation of the mitigation measures, all of the potential impacts of local significance were reduced. Furthermore, the implementation of a detailed resettlement and crop compensation programs complemented by proactive community relation have reduced the potential socio – economic impacts to non – significant.

The potential impact of the proposed Youga gold mine on the various environments is considered to be of low significance.

An Environmental Management Plan for the project has been prepared which extends from the construction phase to the post closure of Youga and includes the following topics:

- Corporate Commitment and Environmental Policy;
- Environmental Management Structure;
- Financial Allocations;
- Outline of the Project;
- Existing Natural Environment;
- Existing Socio-Economic Environment;
- Environmental Impacts and Mitigation of the Project;
- Waste Management;
- Community Relations and Resettlement;
- Monitoring Programs;
- Emergency Response Plans (Fire Protection, Tailings Dam Failure, Solution Excursion, etc.);
- Reclamation, Closure and Decommissioning, and;
- Auditing & Review.

Endeavour is committed to manage all phases of the proposed Youga gold mine in accordance with best environmental practices such that the medium and long term social and environmental impacts are minimized.

A reclamation and closure/decommissioning plan has been prepared for the Youga mine and is being used to monitor and manage the mines performance in respect of its remedial work obligations.

Endeavour will undertake progressive reclamation during mine life and will close/decommission the project with the objectives of elimination of any public safety hazards, and of providing a post mining land use compatible with the prevailing beneficial land-uses of the area.

The reclamation plan encompasses potential end-land use, reclamation principles, land reclamation methods, possible types of vegetation, post monitoring and management techniques and financial aspects.

The closure/decommissioning plan includes the environmental objectives of Endeavour as a corporate body, followed by a provisional plan for rehabilitation and site closure.

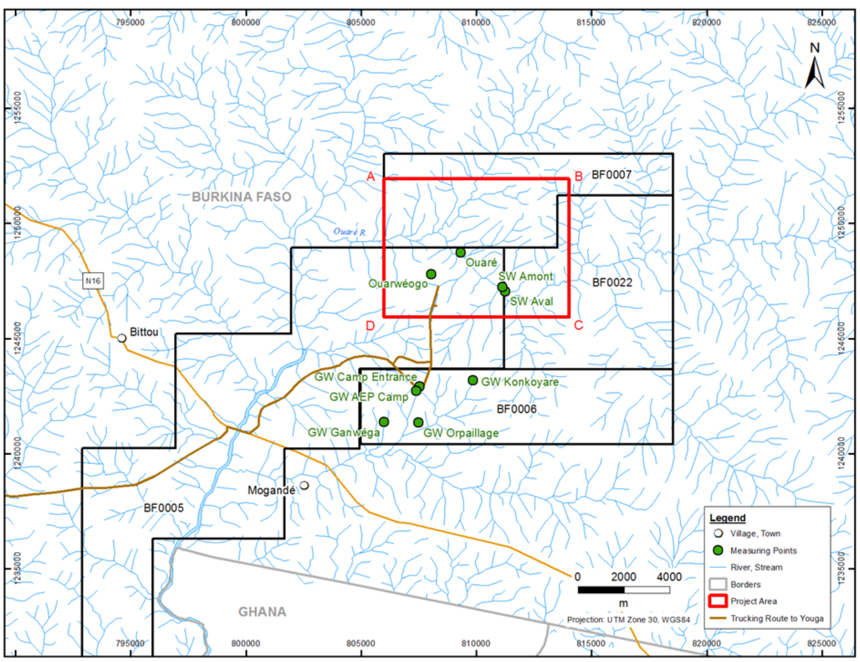
A preliminary, but detailed assessment of reclamation and closure costs has been prepared.

Finally, it should be pointed out that a holder of a mining title or beneficiary of a license must open an account at the Central Bank of West African States or in a commercial bank in Burkina Faso and make deposits in a fiduciary account for the purpose of constituting capital to cover the costs of implementation of the environmental conservation and rehabilitation program. The amount thus used is exempted from the tax on commercial and industrial profits. Youga mine is in compliance with its financial obligations in respect of the environmental holding fund as BMC has opened such an account and has been funding it on a yearly basis in accordance with the legislation.

20.3 OUARÉ PROJECT ENVIRONMENTAL CONSIDERATIONS

Endeavour contracted SOCREGE to complete the Ouaré project Preliminary Environmental and Social Assessment Report (SOCREGE, 2012). The study focused on a 4km by 6km area of the interest for a potential mining permit application (Figure 20-1).

Figure 20-1 Ouaré Area of Interest for Environmental and Social Baseline Review Study



The objective of the study by SOCREGE was to provide an assessment of the environmental and social aspects of the Ouaré gold project area. The activities undertaken included:

- Review of applicable regulatory, permitting and other standards;
- Preparation of an inventory of various components (physical environment, biological environment and human environment) of the area;
- Identification of environmental and social issues of the project at this stage, and;

- Provide recommendations with respect to communication and relationships with the communities; safeguarding the environment; and additional surveys that will be required within the framework of advancing the project to a feasibility study.

20.3.1 Baseline Study

SOCREGE conducted field visits to collect data on the climate, water resources, biological and chemical quality of surface water, fauna and flora, soils, land use, and economic and social conditions of the project area. Research was concentrated within the project perimeter, however, the treatment of subjects such as sociology, climate or biophysical environment sometimes extended well beyond this perimeter. The study was competed in context of the requirements of the environmental, mining and other laws and policies of Burkina Faso.

Climatic conditions are as described for Youga.

The project area is within the Ouaré River watershed in the Nouhao River valley which is an area of 200,000 hectares drained by the Nouhao River, one of the main tributaries of the Nakambé River. The principal activities in the area that rely on access to adequate water are agriculture, raising livestock; domestic use; and artisanal gold mining.

The area around the Ouaré River has been a center of artisanal gold mining for nearly fifteen years. This activity is increasing and attracts a large number of miners, especially during the rainy season when water from the Ouaré River is used to wash the ore. The mining is in competition with other activities during the dry season and also adds significant sediment loads to streams during the wet season and disturbances of some agricultural areas.

The project area does not have adequate sources of drinking water. The local population uses water from boreholes, wells and rivers for household needs (drinking, washing, toilets etc.).

Although the study area has an estimated annual rainfall of 844mm per year, the availability of water is not guaranteed in the dry season. Water courses that are seasonal or intermittent include the Nouhao, Ouaré and Mogandé rivers and their smaller tributaries.

Water reservoirs have been established to support the area and include the Bittou dam with a capacity of 420,000m^3 located at the entrance of the town of Bittou and the Sawenga dam with a capacity of 43,400m^3 located some 60km northeast of Bittou. This lack of surface water is the reason that the Ouaré River becomes the main location for washing the ore mined by artisanal miners during the rainy season. In the dry season the miners wash the ore using water extracted from some existing wells.

SOCREGE conducted two field missions (September and late October 2012) and collected water samples for laboratory analysis from the vicinity of the study area. Seven samples were collected from borehole wells, five were from surface waters and two from traditional water wells. The samples were submitted for physical-chemical analyses (pH, turbidity, salinity, total dissolved solids (TDS), metals, cyanide) and bacterial analyses.

The pH of the borehole well samples are slightly alkaline (7.07-7.94) but they are all within the acceptable standards. The pH of surface water samples are slightly alkaline (7.26-7.52) whereas groundwater (traditional wells) show almost neutral pH (6.61-6.96). Groundwater presents overall good turbidity (<5NTU) and turbidity of surface waters is between 184NTU and 444NTU. The significant change in turbidity is related to ore washing and alluvial mining activity along the banks of the Ouaré River.

Salinity is partly due to water-rock interactions and the ability of water to dissolve minerals in the rocks. Salinity can be represented by the electrical conductivity (in µS/cm). The conductivity of the groundwater from boreholes varies between 284 and 596µS/cm and that of the wells (groundwater) ranges from 322µS/cm and 623µS/cm; these are therefore highly mineralized waters mainly related to the presence of calcium ions. The surface waters are generally weakly mineralized (75µS/cm). Groundwater samples exhibit relatively high conductivity and are highly variable from one point to another. The processing of ore by the artisanal miners is the main cause of this change in the conductivity of water in the aquifer.

Total Dissolved Solids ("TDS") measurements correspond to the sum of the concentrations of major chemical elements (Ca, Mg, Cl, SO4, NO3, HCO3 and CO3). The TDS varies from 159 to 482 and were determined to be hard (2 mamol/liter).

Metals that were analyzed include zinc, chromium, arsenic, aluminum and manganese. All analyzed values are fully compliant with current standards and there was no presence of arsenic in the water. The concentration of cyanide in surface water remains below the standards. However, there is variability in the results that reflects the existence of a potential risk of cyanide pollution by the artisanal miners.

Samples were also submitted for bacterial analyses (coliform count). The boreholes located at the entrance to the exploration camp and in the camp are not contaminated (0/100ml coliform count). The remainder of the samples from boreholes (12/100ml to 127/100m) and from traditional wells (>1000/100ml) are polluted. Surface samples are polluted (187/ml and 218/100ml).

The study included mapping of the soil types for the project area. The soils have been classified according to the Commission of Pedology and Soil Mapping (CPCS, 1967) with correlation to the World Reference Base for soil resources (WRB, 2006). The method of evaluation of land use was that of the FAO (1976), adapted by the National Bureau of Soils, under agro-ecological conditions in Burkina Faso.

A review and qualitative inventory of the status of the ecology, vegetation, flora and fauna present in the area was included in the study. In addition, SOCRGE was in contact with traditional healers, breeders and other people in the village of Nomgané and the town of Bittou who know or use the local plant resources and wildlife.

The study of the vegetation and flora in the Ouaré project area was conducted during the months of September, October and November. Thirty one inventory stations were installed along 13 transects that were determined and traversed, to cover all vegetation facies present in the project area. The information collected concerned only descriptive measures of identifying the type of plant formation in presence, site conditions, species present and dominant species.

The project area is occupied by cultivated areas and fallow lands (2.4%), shrub savannah (61.7%), wooded savannah to woodlands (17.5%), and gallery forest and riparian areas (18.5%). Agricultural activities are mostly in the southern portion of the study area. The woodlands and gallery forest are concentrated along the Ouaré River course and some of its tributaries.

Portions of the shrub savannah and wooded savannah have been impacted by the artisanal mining sites where vegetation is completely destroyed by the excavations.

Forest plantations bordering the southeastern portion of the study area consist mainly of Eucalyptus camaldulensis. There are also plantations of Azadirachta indica (Neem) in the village of Nomgana.

In the Ouaré project area, a variety of trees, shrubs and herbs provide edible fruits and other foods, medicines, fodder, firewood, timber for construction and for the manufacture of chairs, beds and other crafts specific to the study area. During the field surveys SOCREGE mainly observed cutting of trees for firewood/charcoal.

Human activities are resulting in an increasing loss of biodiversity. Fifteen plant species were identified in the Ouaré project area that are listed as protected by the forest legislation of Burkina in accordance with Law No. 003-2011/AN April 5, 2011 and as endangered (Atlas of Biodiversity in Burkina Faso, 2011). Seven tree species were also identified that are considered endangered.

Fauna listings are based on the field observations in October and November 2012 and also interviews with local persons (foresters, hunters, village chiefs, farmers) in Nomgané and Bittou. Although the environment is very poor for mammals, this is not the case of the avian fauna that is diverse due primarily to the forest gallery along the Ouaré River, the riparian areas and woodland remnants.

The quantitative data on the species is limited and the results should be considered as indicative. Regarding mammals, the species listed as likely to encounter in the area are jackals, hares, squirrels, wild cats and civets, and oribi. Among the reptiles, the species mentioned are monitor lizards, cobras, vipers and snakes. According to forestry officials of Bittou, large wildlife included elephants coming from the partial reserve of Pama and can be encountered in the perimeter of the mining project at certain times of the year. The avifauna includes partridges, parrots, herons (ardea goliath), teal (anas querquedula), wild ducks, quelea quelea, geese, calao, weavers, ravens , hawks, bubulcus ibis, and egret.

20.4 HEALTH AND SAFETY

To ensure the health and safety of the all workers, and due to the remoteness, a doctor (employed by Burkina Mining Company) forms part of the site management team, and the medical clinic and first aid facilities on site are sufficient to deal with emergency treatment and stabilization before transport by ambulance to the nearest hospital. In terms of backup, the mine ambulance evacuates to Ouagadougou in case of a medical emergency requiring evacuation.

Youga has a dedicated Safety, Occupational Health and Environment department which operate under the guidance of a set of principles which define the regulatory and corporate governance commitments of the Youga mine in respect of the manner in which it conducts its business.

Due to the outbreak of the Ebola Virus in West Africa which has affected a number of countries the mine site commenced an “Ebola Preparedness” programme in the second half of 2014. This programme includes Regional and Country level monitoring of the progress of the virus and measures being put in place to try to control it, preparation of a progressive action plan to minimise the impact of an outbreak, education of employees and local communities, the provision of quarantine facilities and the procurement of appropriate PPE and medical supplies.

21.0 CAPITAL AND OPERATING COSTS

21.1 CAPITAL EXPENDITURES

Capital expenditures at Youga in 2014 were USD2.1M for miscellaneous items.

Capital expenditures for 2015 are limited to USD2.0M and approximately the same for the subsequent years for miscellaneous minor capital requirements.

21.2 OPERATING COSTS

The 2014 cash operating costs for Youga are presented in Table 21-1 and include all mining, treatment and general and administrative costs, which are incurred at the mine site. The cash operating costs exclude depreciation, amortization, sustaining capital, royalties and corporate general and administration costs.

Table 21-1 2014 Cash Operating Costs

Item	Cost [MUSD]	Unit Cost [USD/t]
Mining Costs (including re-handle)	24.9	5.0/t mined
Processing and Maintenance Costs	24.0	24.2/t milled
On Site General and Administration Costs	10.8	10.9/t milled
Inventory Adjustments	-2.9	
Total (2014)	**56.8**	

The cash operating costs for 2014 were USD742/oz of gold sold.

In 2014 Youga produced 76,560oz at a mine level AISC of USD824/oz. The 2015 production is estimated to be 60,000 to 65,000oz at an AISC estimated in the range of USD975 to USD1,025/oz produced and includes all mining, treatment, general and administrative costs, sustaining capital and royalties, which are incurred at the mine site. The mine level AISC costs exclude depreciation, amortization and corporate general and administrative costs.

The mine management commenced work on initiatives to enhance the financial performance of the business and will continue this process in 2015. The initiatives include:

- Fixed cost reduction the main focus being on labour and infrastructure maintenance;
- Increased plant throughput to reduce unit costs, and;
- Sourcing of higher grade ore through exploration of the permit and/or from other mineral prospects within economic haulage distance from the Youga plant.

22.0 ECONOMIC ANALYSIS

Endeavour Mining is a producing issuer, as defined by NI 43-101 and Youga is currently in production.

23.0 ADJACENT PROPERTIES

There are no adjacent properties which are relevant to the Youga and Ouaré properties.

24.0 OTHER RELEVANT DATA AND INFORMATION

The pertinent observations and interpretations which have been developed in producing this report on the Youga deposits are detailed in the previous sections.

25.0 INTERPRETATION AND CONCLUSIONS

25.1 INTERPRETATION

During 2014 Youga mine introduced a formal risk register and management system. The overall risks to the stated Youga Mine LOM plan and operations are currently considered to be low, with outcomes being sensitive to negative commercial trends that might develop in respect of the gold price and the impact of inflationary effects on power, fuels, labour and spare components because of the global economic situation. Challenges and Opportunities

From a technical stand point, since the 2010 re-engineering of the Youga mine in respect of both its management and operational practices, the overall performance of the business has been very positive. However, challenges remain in respect of ensuring that:

- Mining contract is tightly controlled and initiatives are brought to the table to achieve improved productivity and reduce mining costs;
- Replacing reserves to prolong the life of mine;
- The processing plant mill classification and CIL Leach systems are further optimized to improve stability and operating performance within the overall circuit;
- Implementation of an effective continuous improvement programme to improve productivities and cost efficiencies to offset the impact on business margins resulting from lower grade and reduced tonnage of mineral reserve;
- Achievement of compliance with the International Cyanide Management Code;
- Increasing the work standards of the plant operators and maintenance staff through the implementation of improved training programs, and;
- Maintaining good employees and community relations as the mine matures past is original feasibility objectives and timeline and the mineral resource base diminishes.

Opportunities exist for the Youga mine in respect of:

- Re-engineering its fixed cost base to lower unit costs;
- Achieving additional processing plant productivity efficiencies in respect of throughput, unit costs and recovery, and;
- Generation of additional mineral resources and reserves from drill targets within the mine permit in order to extend mine life.

25.2 CONCLUSIONS

Operations to date have confirmed the mineral resources and mineral reserves as previously stated for Youga. The results of this update to the mineral resource and mineral reserve evaluation confirm the continued economic viability of exploiting the Youga Gold Deposit.

Based on current reserves and mine planning, the Youga LOM production schedule extends from 2014 through to 2018, with a total of 3.5Mt of ore at 1.79g/t containing 202,000ozs of gold being mined and delivered to the ROM pad for processing during this period. Year 2018 is a part year estimated at approximately 6 months is relates to the processing of the low grade ROM stockpile material with 17,000ozs being produced.

Mineral Resources and Mineral Reserves

- In the opinion of the authors, the exploration database for Youga is reliable for the purpose of resource estimation;
- The mineral resource estimates most recently updated by Endeavour mine site geologists in conjunction with Endeavour Group mineral resource management team are current for the A2 Main, A2West 2 and 3, Zergoré, A2NE and NTV deposits and are in use at the mine, and;
- The mineral resources have been classified according to the "CIM Definition Standards for Mineral Resources and Mineral Reserves" (May, 2014).

For reporting, the authors tabulated the mineral resources within pit shells optimized using a gold price of USD1,500 per ounce of gold and other reserve estimation assumptions. Mineral reserves are estimated and reported based on a gold price of USD1250 per ounce of gold.

Opportunities exist to increase the current resources and reserves for Youga include;

- Developing the Ouaré deposits and trucking to the Youga plant;
- Infill drilling of the Inferred resources identified at the LeDuc deposit, and;
- Exploration drilling on a number of targets within the Youga exploitation permit, such as the western extension of A2NE and the Gassore trend.

Production and All-In Sustaining Costs

In 2014 Youga produced 76,560oz at a mine level AISC of USD824/oz. The 2015 production is estimated to be 60,000 to 65,000oz at an AISC estimated in the range of USD975 to USD1,025/oz produced and includes all mining, treatment, general and administrative costs, sustaining capital and royalties, which are incurred at the mine site. The mine level AISC costs exclude depreciation, amortization and corporate general and administrative costs.

Mining

- PW Mining International Ltd is the mining contractor at Youga, and;
- The risks to the Youga Mine LOM plan and operations are currently considered to be low, with outcomes being sensitive to negative commercial trends that might develop in respect of the gold price and the impact of inflationary effects on power, fuels, labour and spare components because of the global economic situation.

Processing

- The Youga mine commenced operations in 2008 with CIL processing facilities and during the period to end 2014 a total of 537,621 ounces of gold had been recovered from 6,376,001 tonnes of ore from the A2Main, A2East, A2West1, 2 and 3 pits; and
- The processing plant crushing, milling, classification and CIL circuits continue to be further optimized to improve stability and operational productivity and cost efficiencies within the metallurgical plant.

Health and Safety

- To ensure the health and safety of the all workers, and due to the remoteness, a doctor forms part of the site management team, and the medical clinic and first aid facilities on site are sufficient to deal with emergency treatment and stabilization before transport; and
- Increasing the work standards of the plant operators and maintenance staff is ongoing through the implementation of improved training programs.

Exploration and Resource Delineation

Post-acquisition, Endeavor undertook a phased follow-up exploration program consisting of several components on the Youga Exploitation Permit. This program was designed to maximize the opportunity to discover new zones of gold mineralization and to expand the potential of the known deposits for the minimum exploration expenditures in the shortest time frame.

This program focused principally on the A2Main, AAA, A2East, A2NE, Zergoré, NTV and LeDuc deposits and the results provided the input to allow the mineral resource models to be upgraded to their current status. A limited amount of RC drilling also took place on a number other areas to test targets identified by a review of geochemical and structural data and this has provided some new targets that merit additional testing.

These new targets are mainly located in the northeastern portion of the exploitation permit and are hosted in the Birimian formation along the flanks of or outside the Tarkwaiin inlier.

26.0 RECOMMENDATIONS

In 2015 the key objectives of Youga are:

- To operate on a "Zero Harm" safety and environmental tolerance basis;
- To develop the skills base of Youga's employees;
- To continue to improve productivities and reduce operating costs;
- To exceed LOM budget expectations year on year;
- To extend the life and increase the asset value of the Youga mine and the company's other mineral assets through a process of development and re-engineering; and
- To achieve the above objectives in a socially responsible manner.

Reserves on the Youga Exploitation Permit are coming to an end and for operations to continue, additional reserves would need to be developed from the current Youga and Ouaré resources. In order to facilitate this process additional work would be required to make application for an Exploitation Permit at Ouaré. The required work includes:

- Completion of a detailed Environmental Impact Study;
- Completion of a preliminary feasibility study or feasibility study on the Ouaré project, based on the concept of supplying supplemental feed to the existing Youga mill. The resources contained with the design pits for this PEA are 93% in the Measured and Indicated categories, and only 7% in the Inferred category;
- Preparing studies for submission to the Burkina Faso Ministry of Mines for permitting the project on the basis of trucking Ouaré mill feed to the existing Youga mill, and;
- Public consultation meetings.

During 2015 a thorough review of the global exploration and geological information database relating to the Youga Exploitation permit will be undertaken. A limited, carefully prioritized, and sequenced follow-up exploration program should be undertaken on a number of locations where encouraging mineralization has already been identified within the confines of the Youga Exploitation Permit in order to generate new mineral reserves and extend the life of the mine.

Additionally a two-phase, USD2.5M work program for further exploration and development of the Ouaré property has been proposed, but is not approved and is on hold pending improved market conditions. The first phase of the program would involve exploration aimed at evaluating priority drilling targets, with the objective of identifying additional resources which, with additional work, could be converted to reserves. The exploration program would have two principal goals:

- To evaluate the potential for additional economic gold mineralization at and surrounding the Ouaré deposits, and;
- To continue semi-detailed and detailed exploration to define and evaluate the remaining priority targets.

The program would include drill testing in the area between Ouaré Main and Ouaré Main NW, to investigate the continuity of mineralization which, potentially, could join these currently-separate mineralized zones. The highest priority targets will be investigated by 10,000m of RC drilling. Additionally, 5,000m of auger drilling is recommended to test targets identified by soil geochemistry.

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Youga Mining Study – September 2006 Update, Youga Gold Project, Burkina Faso, West Africa. p. 172, SEDAR Published Report.

28.0 DATE AND SIGNATURE PAGE

The undersigned prepared this Technical Report, titled "Technical Report, Mineral Resource and Mineral Reserve Update for the Youga Gold Mine, Burkina Faso, West Africa", with an effective date of December 31 2014, in support of the public disclosure of technical aspects of the Youga Gold Mine owned by Endeavour Mining Corp. The format and content of the report are intended to conform to Form 43-101F1 of National Instrument 43-101 (NI 43-101) of the Canadian Securities Administrators.

Signed,

(signed) K. Kirk Woodman, P.Geo. March 26, 2015

(*signed*) Kevin Harris, CPG March 26, 2015

(signed) Adrian de Freitas CEng. MIMMM March 26, 2015

CERTIFICATE OF QUALIFIED PERSON

I, K. Kirk Woodman, do hereby certify that;

1. I am a Canadian citizen and reside at 199 Beaverbank Crossroad, Lower Sackville, Nova Scotia, Canada.
2. I am the General Manager of Exploration for Endeavour Mining Corporation ("Endeavour") and the qualified person overseeing Endeavour's exploration programs in Burkina Faso.
3. I am a Professional Geologist licensed by the Association of Engineers and Geoscientists of Newfoundland and Labrador and have practiced my profession on a continuous basis for a period of 25 years. I am a member of the Prospectors and Developers Association.
4. I graduated with a Bachelor of Science degree in Geology from Acadia University in 1985. I have been employed with the Exploration Divisions of several mining firms including Kidd Creek Mines Ltd., Falconbridge, Western Mining Corporation and as a consulting geologist with D. R. Duncan & Associates Ltd.
5. I have read the definition of "Qualified Person" in National Instrument 43-101 ("National Instrument") and certify that given my studies, my membership in a professional association (within the meaning given to this term in the National Instrument) and my past relevant professional experience, I can be considered as a "Qualified Person" within the meaning of said National Instrument.
6. I am a co-author of the technical report entitled "Technical Report, Mineral Resource and Mineral Reserve Update for the Youga Gold Mine, Burkina Faso, West Africa", dated effective December 31st, 2014 (the "Technical Report"). I am responsible for Sections 1 to 12, 14.2, 14.3, 20.3, 23, 24 and 27 of the Technical Report.
7. I have visited the Youga Exploitation Permit on numerous occasions and have been responsible for planning and monitoring all exploration since 2005, most recently September 14 to 15, 2014.
8. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report I am responsible for contain all the scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
9. Pursuant to the standard set out in Section 1.5 of the National Instrument, I cannot be considered independent from Endeavour since I hold shares and stock options of Endeavour and I have been employed by a wholly owned subsidiary of Endeavour since January 2011.
10. I have read the National Instrument, Form 43-101F1 and Companion Policy 43-101 CP and I hereby certify that the sections of the Technical Report I am responsible for were prepared in compliance with the requirements thereof.

Dated at (Vancouver, British Columbia), [Youga, Burkina Faso], this 26th day of March, 2015.

Respectfully Submitted,

(Signed) K. Kirk Woodman
K. Kirk Woodman, P.Geo.

CERTIFICATE OF QUALIFIED PERSON

I, Kevin Harris, do hereby certify that;

1. I am an American citizen and currently reside at YB15, Augusto Neto Road, Airport Residential, Accra, Ghana.

2. I am the Group Resource Manager for Endeavour Mining Corporation ("Endeavour") and the qualified person overseeing Endeavour's resource development programs.

3. I am a Certified Professional Geologist (CPG) member of the American Institute of Professional Geologists – Membership No. CPG-11639. I am also a Professional Member of the Society for Mining, Metallurgy and Exploration (SME) – Membership No.4125330.

4. I graduated with a Bachelor of Science degree in Geological Engineering from the South Dakota School of Mines and Technology in Rapid City, South Dakota, USA in 1980, and a Master's Degree of Science in Geology in 1991 from the same university. I have worked as a Geologist, Mining Engineer, Mining Manager and Resource Manager, since graduation and have over 25 years' experience in the mining industry. My relevant experience includes work at Goldcorp, Forbes and Manhattan, Crocodile Gold, Avion Gold, Amax Gold and Endeavour.

5. I have read the definition of "Qualified Person" in National Instrument 43-101 ("National Instrument") and certify that given my studies, my membership in a professional association (within the meaning given to this term in the National Instrument) and my past relevant professional experience, I can be considered as a "Qualified Person" within the meaning of said National Instrument.

6. I am a co-author of the technical report entitled "Technical Report, Mineral Resource and Mineral Reserve Update for the Youga Gold Mine, Burkina Faso, West Africa", dated effective December 31st, 2014 (the "Technical Report"). I am responsible for Section 14.1 of the Technical Report.

7. I am responsible for resource estimation at the Youga mine and most recently visited site on November 25th thru November 28th 2014 and reviewed all information relevant to this resource update.

8. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the section of the Technical Report I am responsible for contains all the scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

9. Pursuant to the standard set out in Section 1.5 of the National Instrument, I cannot be considered independent from Endeavour since I hold shares and stock options of Endeavour and I have been employed by a wholly owned subsidiary of Endeavour since November 2013.

10. I have read the National Instrument, Form 43-101F1 and Companion Policy 43-101 CP and I hereby certify that the sections of the Technical Report I am responsible for were prepared in compliance with the requirements thereof.

Dated at (Accra, Ghana), [Youga, Burkina Faso], this 26th day of March, 2015.

Respectfully Submitted,

(Signed) Kevin Harris
Kevin Harris, CPG

CERTIFICATE OF QUALIFIED PERSON

I, Adrian de Freitas, do hereby certify that;

1. I am a United Kingdom citizen and reside at Guildenhurst Place, Lordings Lane, Billingshurst, West Sussex – RH419JB – U.K.
2. I am the General Manager of the Youga Mine, and I act as a qualified person for Endeavour Mining Corporation ("Endeavour").
3. I am a Member of the Institute of Materials, Minerals and Mining and have practiced my profession on a continuous basis for a period of 35 years.
4. I graduated with a Bachelor of Science degree in Mining from the Royal School of Mines, in London, in 1976. I have been employed with the operations divisions of Zambia Consolidated Copper Mines, Anglogold Ashanti and Katanga Mining Limited. I am currently employed by Endeavour's 90% owned subsidiary, Burkina Mining Company S.A. ("BMC") as the General Manager of the Youga Mine in Burkina Faso and as such, have spent substantially all of my time at the Youga Mine while employed by BMC.
5. I have read the definition of "Qualified Person" in National Instrument 43-101 (the "National Instrument") and certify that given my studies, my membership in a professional association (within the meaning given to this term in the National Instrument) and my past relevant professional experience, I can be considered as a "Qualified Person" within the meaning of said National Instrument.
6. I am a co-author of the technical report entitled "Technical Report, Mineral Resource and Mineral Reserve Update for the Youga Gold Mine, Burkina Faso, West Africa", dated effective December 31st, 2014 (the "Technical Report"). I am responsible for Sections 13, 15 to 19, 20.1, 20.2, 20.4, 21, 22, 25 and 26 of the Technical Report.
7. I am based at the Youga Gold Mine on a rotational basis.
8. As of the effective date of the Technical Report and to the best of my knowledge, information and belief, the sections of the Technical Report I am responsible for contain all the scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
9. Pursuant to standard set out in Section 1.5 of the National Instrument, I cannot be considered independent from Endeavour since I hold stock options of Endeavour and I have been employed with Endeavour since September 2010.
10. I have read the National Instrument, Form 43-101F1 and Companion Policy 43-101 CP and I hereby certify that sections of the Technical Report I am responsible for were prepared in compliance with the requirements thereof.

Dated at Youga Mine, Burkina Faso, this 26th day of March, 2015.

Respectfully Submitted,
(Signed) Adrian de Freitas
Adrian de Freitas CEng . MIMMM
(Membership Number 46625)