Technical Report and Mineral Resource and Reserve Update for the Tabakoto Gold Mine Mali, West Africa

Latitude 12°56'N, Longitude 11°12'W

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1 Summary

The Tabakoto Gold Mine (Tabakoto) is located in western Mali, approximately 360 km west of the capital, Bamako, and less than 20 km from the border with Senegal. The mine property is centred on latitude 12°56'N and longitude 11°12'W and is accessed from Bamako by driving 360 km on the National highway (RN13) to Kéniéba and from there on 15 km of all-weather graded dirt road to the mine.

This report was prepared for Endeavour Mining Corporation (Endeavour) by Gerard de Hert (Endeavour, VP Exploration), Kevin Harris (Endeavour, Group Resource Manager), Vaughan Duke from Sound Mining (Mining Engineer Consultant to Endeavour), Michael Alyoshin (Endeavour, Chief Mining Engineer, Strategic Projects), Adriaan Roux (Endeavour, Chief Operating Officer), Eugene Puritch (P&E Mining Consultants Inc.) and Antoine Yassa (P&E Mining Consultants Inc.). Endeavour is listed on the TSX (stock symbol EDV) and the ASX (stock symbol EVR). The purpose of this technical report is to update the mineral resources, mineral reserves, production plan and other operational information for the Tabakoto Gold Mine as of December 31, 2013 and to file the report on the SEDAR website.

1.1 Ownership

Endeavour Mining Corporation (Endeavour) owns an 80% interest in the Tabakoto Gold Mine through its 100% owned Malian subsidiary, Ségala Mining Corporation S.A. ("Semico"). The Tabakoto Property is within the Kéniéba Administrative District and is approximately 15 km north of the government administrative center of Kéniéba.

The Tabakoto Mining Property totals approximately 113 km^2 (1,130 ha) and is comprised of the Ségala Exploitation Permit ("permis d'exploitation") and the Dougala and Kenieba Est Exploration Permits ("permis de recherche"). The exploitation or mining permit contains the Tabakoto NE, Tabakoto NW, Tabakoto South, Dioulafoundou, Ségala Main, Ségala NW, Dar Salam and Djambaye II deposits as well as the Moralia prospect. In 2012, the Ségala and Tabakoto Exploitation Permits were consolidated along with the Sansanto and Yerémounde mineral titles into the current Ségala Exploitation Permit which is held in the name of Ségala Mining Corporation S.A. ("Semico"). The Tabakoto Property is often referred to as the Semico Property due to the ownership by the operating company.

Endeavour also owns 93.75% of the nearby Kofi Property. The Kofi Property totals approximately 400 km^2 (4,000 ha) and is comprised of the Kofi Nord (52 km^2) and 5 other Exploration Permits. The Kofi Nord Permit is currently in application to be converted to an exploitation permit. The Kofi Nord Permit contains the Kofi C, Kofi A, Kofi B, Betea, Blanaid and A Linear deposits. The Kofi C deposit is being incorporated into the Tabakoto production schedule and the other mineral resources on the Kofi Nord Permit continue to be evaluated for possible incorporation into the overall production schedule and are therefore being included within this technical report.

1.2 Geology

The Tabakoto and Kofi Properties are located in the eastern part of the Paleoproterozoic Kédougou-Kéniéba Inlier. The Inlier represents the westernmost exposure of the Birimian Supergroup (2050–2200 Ma) of the West African Craton (Lawrence, 2013). The Kédougou-Kéniéba Inlier is bounded on its western margin by the Hercynian Mauritanide Orogenic Belt (Villeneuve, 2008) and is unconformably overlain by flat-lying sandstones of the Paleozoic Taoudeni Basin (Wright et al, 1985)

The Birimian rocks of the Kédougou-Kéniéba Inlier have been subdivided into the western Mako Series (granite-greenstone belt) and the eastern Dialé-Daléma Series. They are separated by the Main Transcurrent Zone (MTZ). The Mako Belt consists of tholeiitic basalt and andesite lavas, with intercalated volcanic agglomerates and banded tuffs that are intruded by a complex sequence of pre- and syntectonic mafic and felsic plutons. The Dialé-Daléma Series is composed of marine sedimentary rocks, interbedded locally with calc-alkaline ash- and lapilli-tuffs (Bassot, 1987; Hirdes and Davis, 2002) and intruded by late plutons, dikes and sills of intermediate to felsic compositions.

West of the Senegal-Malian Shear Zone Endeavour geologists subdivide the Birimian Supergroup into two parts; the Loulo Basin Series and the Kofi Formation. The Tabakoto and Kofi deposits lie within the Kofi Formation.

The Loulo Basin Series is a distinct and linear trough of rocks bound to the west of the Senegal-Malian Shear Zone and to the east by a ferruginous brittle fault zone exposed on the Kofi Property, informally named the Amar Fault. The stratigraphy of this belt of rocks is unique when compared to rocks the Kofi Formation that lie east of the Amar Fault. The Loulo Basin Series has a significant component of coarse clastic rock including; conglomerate, breccia and sandstone in addition to the greywacke and fine clastic rocks (argillite) that make up the Kofi Formation. Limestone (layered carbonate) occurs at the top of the stratigraphy of the Loulo Basin Series.

East of the Amar Fault the sedimentary rocks of the Kéniéba-Kédougou Inlier make up the Kofi Formation. The Kofi Formation is composed of deep marine sedimentary rocks, predominantly greywacke and fine clastic rock (argillite) in a turbiditic depositional environment. There is a notable absence of carbonates, conglomerate, sedimentary breccia and mature sandstone in the Kofi Formation.

1.3 Mineralization

The known gold deposits of the Tabakoto Gold Mine area are typical of the lode gold style of gold deposit. They can be grouped within the “Orogenic Type” of structurally controlled gold deposits and also can be considered to be with the Turbidite-Hosted suite of deposits (Groves et al, 1998, Goldfarb et al, 2005, Robert et al, 2007).

The deposits on the Tabakoto Property are hosted in Birimian turbiditic sedimentary rocks and intrusive rocks that have been deformed during the Eburnean Orogeny. The deposits are structurally controlled and hosted in structures associated with all the deformational events of the Eburnean Orogeny. While individual structures associated with each of the deformational events can host mineable deposits, multiple generations of development of these structures enhances the probability of hosting mineable quantities and grades of ore.

The Kofi C deposit is also a lode gold style of deposit and can be considered to be “Orogenic Type”. The deposit is structurally controlled and hosted within intercalated sedimentary rocks intruded by a series of narrow, dikes or sills. The mineralisation is associated with quartz-vein stockwork and sulphides (pyrite).

1.4 Exploration

The main exploration activities completed by Endeavour and by other companies include:

- Soil sampling
- Ground geophysics
- Airborne geophysics
- Trenching
- Auger drilling
- RC drilling
- Core drilling

The results of these activities are described in Section 9 of this report. This report describes the work conducted since the last Technical Reports on Tabakoto (Armstrong et al, 2011) and Kofi (Puritch et al, 2012). Details of the exploration conducted on the Tabakoto and Kofi properties prior to 2012 are provided previous Technical Reports.

In March 2013 an industry standard Microsoft SQL Data Management System (DBMS) was implemented. This DBMS includes multiple layers of stringent error control to eliminate typical data entry error and data mismatching based on industry standard data models and the users requirements / codification. During the implementation of the new DBMS, all historic data was imported.

1.5 Mineral Resources

The updated interpretations and Mineral Resource estimates have been completed for five (5) separate deposits that have new drillhole data at Tabakoto. These deposits are:

1. Tabakoto NW zones
2. Tabakoto NE zones
3. Tabakoto South zones
4. Ségala Main zones
5. Djambaye II zones

Mineral Resource estimates for the Dar Salam deposit was not changed from the July 2011 Technical Report (Armstrong et al, 2011). The Dioulafoundou and Ségala W-NW models were based upon the July 2011 Technical Report models, but updated with mining depletion and updated reporting parameters. Mineral Resource estimates as of the effective date of December 31, 2013, are tabulated in Table 1-1. A description of the Mineral Resource estimates and procedures followed is presented in Section 14 of this report.

The mill expansion project at Tabakoto (completed by June, 2013) provided the opportunity for treatment of additional ore from satellite deposits. One advanced project, namely Kofi C in the Kofi Nord permit and located 40 km to the north of Tabakoto, received further drilling and a new resource estimate was completed. The Kofi C deposit was evaluated for the opportunity to contribute to the Tabakoto production and is now planned for exploitation during 2015. The Kofi C Mineral Resources are presented in Table 1-1.

The Kofi Property Mineral Resource estimates were completed independently by P&E Mining Consultants Inc. and reported in an internal report to Endeavour entitled "*Technical Report and Updated Resource Estimate on the Kofi Project, Mali, West Africa for Avion Gold Corp.*" and dated March 2, 2012 with an effective date of December 21, 2011.

The Kofi C deposit Mineral Resource estimate was updated independently by P&E Mining Consultants Inc. and reported in an internal report entitled "*Technical Report for the Kofi Nord Permit, Mali, West Africa for Endeavour Mining Corporation*" and dated September 20, 2013 with an effective date of February 1, 2013.

The mineral resource estimates in Table 1-1 are current as of the effective date of December 31, 2013.

Table 1-1 Mineral Resources for Tabakoto Property Deposits and Kofi C Deposit

Tabakoto Deposits Underground Resources December 31, 2013				
	Area	Tonnes	Au g/t	Au Ounces
Measured	Tabakoto NE	271,000	6.63	57,900
	Tabakoto NW	455,000	5.25	77,000
	Tabakoto South	391,000	4.89	61,500
	Djambaye II	19,000	3.40	2,100
	Ségala Main	1,145,000	3.63	133,700
	Segala West	-	-	-
	Ségala NW	-	-	-
	Dioulafoundou	-	-	-
	Dar Salam	-	-	-
Total Measured Underground		**2,281,000**	**4.53**	**332,200**
Indicated	Tabakoto NE	359,000	6.41	74,000
	Tabakoto NW	534,000	5.19	89,000
	Tabakoto South	334,000	4.77	51,200
	Djambaye II	317,000	3.73	38,100
	Ségala Main	1,554,000	4.62	230,600
	Segala West	67,000	3.21	6,900
	Ségala NW	115,000	3.68	13,600
	Dioulafoundou	155,000	5.26	26,300
	Dar Salam	45,000	3.37	4,800
Total Indicated Underground		**3,480,000**	**4.78**	**534,500**
Total Measured & Indicated Underground Resource		**5,761,000**	**4.68**	**866,700**
Inferred	Tabakoto NE	344,000	6.49	71,700
	Tabakoto NW	529,000	5.49	93,500
	Tabakoto South	108,000	5.70	19,800
	Djambaye II	930,000	4.65	139,000
	Ségala Main	2,391,000	4.39	337,300
	Segala West	464,000	3.26	48,600
	Ségala NW	754,000	3.51	85,000
	Dioulafoundou	514,000	6.08	100,500
	Dar Salam	418,000	3.64	48,900
Total Inferred Underground		**6,452,000**	**4.55**	**944,300**

Tabakoto Deposits Open Pit Resources December 31, 2013				
	Area	Tonnes	Au g/t	Au Ounces
Measured	Tabakoto NE	-	-	-
	Tabakoto NW	21,000	4.55	3,100
	Tabakoto South	-	-	-
	Djambaye II	154,000	2.63	13,000
	Ségala Main	-	-	-
	Segala West	-	-	-
	Ségala NW	-	-	-
	Dioulafoundou	-	-	-
	Dar Salam	-	-	-
Total Measured Open Pit		**175,000**	**2.86**	**16,100**
Indicated	Tabakoto NE	-	-	-
	Tabakoto NW	15,000	5.03	2,400
	Tabakoto South	-	-	-
	Djambaye II	606,000	4.10	79,900
	Ségala Main	-	-	-
	Segala West	91,000	2.49	7,300
	Ségala NW	284,000	2.36	21,500
	Dioulafoundou	-	-	-
	Dar Salam	266,000	2.57	22,000
Total Indicated Open Pit		**1,262,000**	**3.28**	**133,100**
Total Measured & Indicated Open Pit Resource		**1,437,000**	**3.23**	**149,200**
Inferred	Tabakoto NE	-	-	-
	Tabakoto NW	14,000	4.79	2,200
	Tabakoto South	-	-	-
	Djambaye II	136,000	3.02	13,200
	Ségala Main	-	-	-
	Segala West	130,000	3.73	15,600
	Ségala NW	209,000	1.99	13,400
	Dioulafoundou	-	-	-
	Dar Salam	445,000	2.53	36,200
Total Inferred Underground		**934,000**	**2.68**	**80,600**

(1) Underground resources reported at 1.5 g/t cutoff grade and below open pit resources.

(2) Open pit resources reported at 0.5 g/t cutoff within $1500/oz optimized pit shell.

(3) Mineral Resources are not Mineral Reserves and there is no guarantee that all or part of the Mineral Resource will be converted to a Mineral Reserve.

(4) The Mineral Resources were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Standards on Mineral Resources and Reserves, Definitions and Guidelines prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council.

(5) Kevin Harris (CPG), Group Resource Manager for Endeavour is responsible for the mineral resource estimates presented herein.

Kofi Deposits Open Pit Resources December 31, 2013[1-5]				
	Area	Tonnes	Au g/t	Au Ounces
Indicated	Betea	3,029,000	1.74	169,200
	Kofi A	10,000	1.46	500
	Kofi B	339,000	2.17	23,700
	Kofi C	4,605,200	2.70	400,300
	Blanaid	82,000	2.06	5,400
	A linear			
Total Indicated		**8,065,200**	**2.31**	**599,100**
Inferred	Betea	7,266,000	1.65	385,700
	Kofi A	462,000	1.77	26,300
	Kofi B	1,536,000	1.58	77,800
	Kofi C	128,700	1.12	4,600
	Blanaid	499,000	2.32	37,200
	A linear	645,000	2.22	46,000
Total Inferred		**10,536,700**	**1.71**	**577,600**

(1) Mineral resources are reported inside an optimized pit shell and accumulated against a cut-off of 0.50 g/t Au for both saprolite and sulphides.

(2) Mineral resources which are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.
(3) The quantity and grade of reported Inferred resources in this estimation are uncertain in nature and there has been insufficient exploration to define these Inferred resources as an Indicated or Measured mineral resource and it is uncertain if further exploration will result in upgrading them to an Indicated or Measured mineral resource category.
(4) The mineral resources were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Standards on Mineral Resources and Reserves, Definitions and Guidelines prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council.
(5) "Independent Technical Report for the Kofi Nord Permit, Mali, West Africa for Endeavour Mining Corporation" Internal Report by Eugene Puritch, P.Eng., Richard H. Sutcliffe, P.Geo., Tracy Armstrong, P.Geo., Fred Brown, P.Geo. and Antoine Yassa, P.Geo, dated September 20, 2013.

1.6 Mineral Reserves

The calculation of the Mineral Reserves is described in detail in Sections 15.1 (Underground) and 15.2 (Open Pit) of this report. Underground mineral reserves are calculated for two deposits, namely Tabakoto and Ségala. Underground resources also exist on Dioulafoundou and Djambaye II, however no engineering work has yet been performed to assess the conversion of these mineral resources to reserves.

Open Pit Mineral Reserves were calculated on two open pit deposits at Tabakoto, namely Djambaye II and Dar Salam. Djambaye II is currently being mined and Dar Salam is scheduled for exploitation later in 2014. The Open Pit Mineral Reserves from the Kofi C satellite deposit were determined on the basis of trucking ore to the Tabakoto plant.

A combined Mineral Reserves statement with an effective date of December 31, 2013 is provided in Table 1-2. Table 1-3 lists the Mineral Reserves contained within the stockpiles at Tabakoto.

Table 1-2 Mineral Reserves for Tabakoto Property Deposits and Kofi C Deposit

Tabakoto Deposits Underground Reserves 31 Dec. 2013				
	Area	Tonnes	Au g/t	Au Ounces
Proven	Tabakoto NE	238,500	4.63	35,500
	Tabakoto NW	201,800	4.13	26,700
	Tabakoto South	229,200	3.88	28,600
	Djambaye II			
	Segala Main	1180200	3.09	117200
	Segala West			
	Segala NW			
	Dioulafoundou			
	Dar Salam			
Total Proven Underground		**1,849,700**	**3.50**	**208,000**
Probable	Tabakoto NE	306,300	4.77	46,900
	Tabakoto NW	224,200	4.78	34,500
	Tabakoto South	41,500	9.52	12,700
	Djambaye II			
	Segala Main	1,140,800	4.55	166,900
	Segala West			
	Segala NW			
	Dioulafoundou			
	Dar Salam			
Total Indicated Underground		**1,712,800**	**4.74**	**261,000**
Total Proven & Probable Underground Reserves		**3,562,500**	**4.10**	**469,000**

Tabakoto Deposits Open Pit Reserves 31 Dec. 2013				
	Area	Tonnes	Au g/t	Au Ounces
Proven	Tabakoto NE			
	Tabakoto NW			
	Tabakoto South			
	Djambaye II	97,300	2.53	7,900
	Segala Main			
	Segala West			
	Segala NW			
	Dioulafoundou			
	Dar Salam			
Total Proven Open Pit		**97,300**	**2.53**	**7,900**
Probable	Tabakoto NE			
	Tabakoto NW			
	Tabakoto South			
	Djambaye II	374,200	3.99	48,000
	Segala Main			
	Segala West			
	Segala NW			
	Dioulafoundou			
	Dar Salam	77,200	2.95	7,300
Total Indicated Open Pit		**451,400**	**3.81**	**55,300**
Total Proven & Probable Open Pit Reserves		**548,700**	**3.58**	**63,200**

Kofi C Deposits Reserves 31 Dec. 2013				
	Area	Tonnes	Au g/t	Au Ounces
Proven	**Kofi C**	-	-	-
Total Proven Kofi C		-	-	-
Total Proven Kofi C Reserves		-	-	-

Kofi C Deposits Reserves 31 Dec. 2013				
	Area	Tonnes	Au g/t	Au Ounces
Probable	**Kofi C**	**1,552,500**	**4.26**	**212,500**
Total Probable Kofi C		**1,552,500**	**4.26**	**212,500**
Total Proven & Probable Kofi C Reserves		**1,552,500**	**4.26**	**212,500**

(1) Underground reserves reported at 2.0 g/t cutoff grade.

(2) Open pit reserves reported at 1.5 g/t cutoff grade.

(3) Internal Underground Reserve estimate, Tabakoto and Ségala Underground Reserves Dec. 31st 2013, prepared by Exupery Lyimo and reviewed by Sound Mining, independent from Endeavour.

(4) Internal Open Pit Reserve estimate, Djambaye & Dar Salam Open Pit Reserves Dec. 31st 2013, prepared by Honest Mrema and reviewed by Michael Alyoshin, not independent of Endeavour.

Table 1.3 Mineral Reserves Stockpile Inventory for the Tabakoto Property

ZONE	CATEGORY	TONNES	GRADE g/t Au	OUNCES
ROMPAD	Proven	200,000	1.49	9,600
Segala Main Low Grade	Proven	754,300	1.07	25,900
Tabakoto Pit Low Grade (Nevsun)	Proven	221,100	1.48	10,500
Tabakoto UG Low Grade	Proven	84,000	1.13	3,000
Total Stockpiles	**Subtotal**	**1,259,400**	**1.21**	**49,000**

1.7 Mining and Mine Plan

The mining methods and the mine plan are described in detail in Section 16 of this report.

Underground operations of the Tabakoto and Ségala mines provide the bulk of the ore to the Tabakoto mill. Run-of-mine feed from the Djambaye II open pit mining provides additional feed to the mill.

The Tabakoto Deposits are accessed from two portals at the bottom of the Tabakoto open pit. Open pit mining ceased in 2011. The northern portal is used to exploit the Northwest-trending (“NW”) zones in the northern half of the mine and the southern portal for both the Northeast-trending (“NE”) zones and the South zones in the southern half of the mine.

The Ségala Main Zone is accessed by a portal from the side of the Ségala open pit. Open pit mining was completed in 2009 and all future production is from underground mining only. This zone consists of several parallel mineralized structures which run along the length of the ore body. The spacing and the thickness of these structures vary. Individual veins, which can be less than a metre thick, are grouped into ore zones which can collectively be up to 25 m thick. The Ségala Main deposit contains the bulk of the currently defined mineralization on the Property.

The mining of the Djambaye II, Dar Salam and Kofi C deposits will use conventional open pit mining methods with drilling and blasting of competent material followed by load and haul. Currently at Djambaye II the mining is completed by Endeavour, and ore haulage to the plant is under contract. Production drilling at Djambaye II is performed by Rocksure while blasting is performed by a separate contractor. Blasting on the ore zone is mainly on 5 m benches while for bulk waste the stripping is completed 10 m benches. The blasting on the ore is more controlled in order to minimize dilution. Excavation of the blasted material is mainly on 2.5 m high flitches.

The mine plan with the combined contributions from the Tabakoto deposits and Kofi C deposit is current as of December 31, 2013 and provided in Table 1- 4. In this plan the Djambaye II open pit is scheduled to cease production in December 2014. Endeavour intends for Kofi C to replace Djambaye II production in 2015.

Table 1-4 Mine Production Schedule for Tabakoto Property Deposits and Kofi C Deposit

Orebody	Units	2014	2015	2016	2017	2018	2019	Total
Tabakoto Underground Ore	t	527,432	498,456	242,744				1,268,632
Grade	g/t Au	4.43	4.42	5.30				4.59
Segala Underground Ore	t	409,966	497,005	466,422	409,351	365,732	262,255	2,410,731
Grade	g/t Au	2.89	3.65	4.56	3.80	3.67	3.62	3.72
Djambaye II Open Pit Ore	t	223,752				247,839		471,591
Grade	g/t Au	3.92				3.48		3.69
Djambaye II Open Pit Waste	t	5,073,172				9,344,397		14,417,569
Kofi Open Pit Ore	t		258,100	407,200	416,500	471,000		1,552,800
Grade	g/t Au		3.17	3.83	4.45	5.05		4.26
Kofi Open Pit Waste	t		4,742,000	4,593,000	4,354,400	2,823,600		16,513,000
Dar Salam Open Pit Ore	t	77,000						77,000
Grade	g/t Au	3.00						3.00
Dar Salam Open Pit Waste	t	1,232,500						1,232,500
Total Ore	**t**	1,238,150	1,253,560	1,116,366	825,851	1,084,571	262,255	5,780,753
Mined Ore Grade	**g/t Au**	3.74	3.86	4.45	4.13	4.23	3.62	4.04
Total Open Pit Material	**t**	6,606,424	5,000,100	5,000,200	4,770,900	12,886,836		34,264,460
Open Pit Strip Ratio		4.34	2.99	3.48	4.78	10.88		4.93
Stockpile Reclaim	t	145,000	190,000	310,000	550,000	64,400		1,259,400
Grade	g/t Au	1.41	1.20	1.19	1.18	1.21		1.21
Processing	**t**	1,383,150	1,443,560	1,426,366	1,375,851	1,148,971	262,255	7,040,153
Mill Feed Grade	**g/t Au**	3.50	3.51	3.75	2.95	4.06	3.62	3.54

Differences in totals are due to minor rounding errors.

Established Proven and Probable Mineral Reserves from the Tabakoto underground mine are scheduled until mid-2016. The current Mineral Resources at the Tabakoto mine considerably exceed the current mineral reserves. Extensions to reserves are likely to be realized through the ongoing underground drilling programs planned for 2014 and 2015 and beyond. Additionally other satellite deposits, principally Dioulafoundou, have significant underground resources than will be evaluated for conversion into reserves in due course.

1.8 Metallurgy and Process Plant

In August 2010, an Engineering, Procurement, Construction Management ("EPCM") contract was awarded to GENIVAR Limited Partnership of Montreal, to increase the process plant throughput from 2,000 tonnes per day to 4,000 tonnes per day. This project was interrupted by political instability which culminated in a military coup in Mali between March and April of 2012. Construction recommenced in 2013 after stability was restored in the country and after the Property was acquired by Endeavour. Final commissioning commenced during March 2013 and the plant was fully commissioned by June 2013.

The plant expansion involved the installation of a new 5,000 kW SAG mill in closed circuit with the existing ball mill. The expansion included improvements in capacity for CIL, refining, elution, thickening, gravity circuit, tailings impoundment, fresh water delivery and pumping capacities throughout the plant. The gravity circuit was modified to include an Intense Leach Reactor ("ILR") and dedicated electro-winning cells to process the increased volume of gravity recoverable gold.

The tailings dam facility required expansion due to the additional plant throughput. A new tailings dam is currently in construction and deposition can commence around June, 2014. Deposition will continue on the new dam until it has reached the same height as the current dam. The valley created between the two dams will then become available for future slimes deposition.

1.9 Mine Infrastructure

Project infrastructure includes power, water, tailings facility, mine services facilities and site offices. A mine camp is also maintained for residential staff with a capacity for 200 employees, with provision for a further 60 beds under construction.

1.10 Operating Costs

With the mill expansion completed during 2013, the Tabakoto process plant is now capable of processing 190 tph, which results in approximately 1.5 million tonnes of annual throughput when at capacity. A total of 7,582,189 tonnes of ore, grading 3.19 g/t Au is scheduled to be milled from the beginning of 2014 to 2019 (current life of mine) from the open pit, underground and stockpile reclamation operations at Tabakoto and with contribution from the Kofi C deposit.

A summary of operating cost estimates is presented in Table 1-5. All mining US$/t costs are based on tonnes mined, all other US$/t costs are based on tonnes milled. Cash operating costs per ounce of gold are also itemized in the table. The costs for 2014 are based on the budget for the year, which also includes almost four years of operating history. Underground mining costs after 2014 are based on projected owner mining rates.

Site operating costs are estimated be $775/ounce of gold over the life of the mineral reserves. Since there is a reasonable expectation for the addition of additional mineral reserves that are higher grade than the stockpiles, it is expected that the average cost per ounce over time will be below the currently presented operating cost average.

Table 1-5 Operating Cost Estimates for the Combined Tabakoto Operations

Item	2014	2015	2016	2017	2018	2019	Total
Cost per Tonne Mined							
Underground Mining	$40.48	$34.43	$34.43	$34.43	$34.43	$34.43	$35.94
Djambaye Open Pit Mining including load and haul	$3.76				$3.76		$3.76
Kofi C Open Pit Mining including load and haul	$3.33	$3.82	$4.10	$4.16	$4.69		
Cost per Tonne Milled							
Processing	$23.34	$23.34	$23.34	$23.34	$23.34	$23.34	$23.34
Maintenance	$4.95	$4.95	$4.95	$4.95	$4.95	$4.95	$4.95
Commercial, G&A and other	$14.86	$14.86	$14.86	$14.86	$14.86	$14.86	$14.86
Stockpile reclaim	$3.50	$3.50	$3.50	$3.50	$3.50	$3.50	$3.50
Operating Cash Cost per Ounce	**$884**	**$814**	**$716**	**$845**	**$638**	**$735**	**$775**

The haulage costs for trucking from the Kofi C deposit are incorporated in the cost per tonne mined from that deposit. The haulage estimate is based on $0.35/t-km for 38 km or $13.3/t plus a rehandle cost of an additional $0.78/t.

1.11 Capital Cost Expenditures

Capital cost estimates are based on a combination of the operational historical data and experience and also on orders that are in place, particularly with regards to the underground mining equipment required for owner mining.

Kofi C capital cost is $9.5 million which includes $7 million for the haul road and $2.5 million for pre-stripping.

The capital cost items include mine development required to access mineral reserves, sustaining capital (excluding exploration), and underground mining equipment required for owner mining. Owner mining equipment and other mining capital includes mobile equipment, a camp expansion, estimated demobilization fees for the current mining contractor and a cemented rock fill plant (CRF) at Ségala. Capital cost requirements are tabulated in Table 1-6 below.

Table 1-6 Capital Cost Estimates for the Combined Tabakoto Operations

Capital Costs (US $000's)							
Capital Items	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**Total**
Sustaining Capital Including Exploration	18,502	8,625	8,625	8,625	8,625	8,500	61,502
Kofi Equipment, Mobilization and Access	6,975	-	-	-	-	-	6,975
Kofi Pre-Stripping	2,500	-	-	-	-	-	2,500
Underground Capital							
Mining Equipment and Other Owner Mining Capital	35,817	3,000	3,800	3,800	1,900	900	49,217
Tabakoto Infrastructure and Development	5,377	5,674	843	-	-	-	11,895
Segala Infrastructure and Development	12,024	10,589	10,606	5,917	-	-	39,135
Subtotal Underground Capital	53,218	19,263	15,249	9,717	1,900	900	100,247
Total Capital	78,695	27,888	23,874	18,342	10,525	9,400	171,224

1.12 Environmental and Social Issues, Closure Plan

The mine adheres to all Malian laws pertaining to Environmental Management however in the absence of an applicable Malian standard, the standards prescribed by the World Bank Guidelines, and WHO Standards are also adhered to. Additionally the environmental management implementation is ISO 14001 compliant. The Management is committed to adhering to the EMS via policy and work commitment and is managed by a committee including top management.

Environmental monitoring includes dust fallout, water quality, climatic and blasting (noise and vibration). Additionally waste management and recycling is performed, fire control, pest control (snakes/bees/mosquitoes), and management of wild animals within the mine perimeter. Top soil is stockpiled from all operations for later use in rehabilitation, and a comprehensive nursery is maintained of indigenous species for re-planting on rehabilitated land.

In order to ensure that adequate funds will be available to complete mine closure in a responsible and environmentally acceptable manner, a mine closure cost estimate has been prepared, and rehabilitation cost are budgeted. The estimate serves as a basis for calculating the necessary provisions to be allocated to the closure fund during the operational phase of the mine, to ensure adequate funds are available for closure activities after mining operations cease.

Tabakoto Operations (Semico) has a social team who manage the social relationship between the mine and the local population. A strategic communication plan has been formulated and a community grievances management procedure established. Contributions to the community are managed by this team in conjunction with senior mine management.

1.13 Conclusions

The mineral resources and reserves at the Tabakoto Operations are robust based on current economics. There remain sufficient reserves to be economically exploited in the near term and extensions to these reserves are adequately indicated through mineral resources and also via favourable geology and exploration drillhole intersections. Sufficient funding is available during 2014 and beyond to extend the known underground resources at Tabakoto and Ségala underground mines. Additionally, alternative high grade underground resources, principally at Dioulafoundou, can be converted to reserves in reasonable time frame.

Open pit reserves at Djambaye II will be replaced by reserves at the Kofi C deposit where mining will commence in 2015. The other deposits on the Kofi Property will continue to be evaluated as potential contributions to the production schedule for the Tabakoto Operation. There also exists significant potential to increase open pittable resources on the Tabakoto and Kofi properties through additional systematic exploration.

Operational risks to the LOM plan are quantified and manageable, and political risk has significantly reduced through stability of the government and international assistance.

1.14 Recommendations

Now that the Tabakoto operation has reached a steady state of production after the mill expansion project, Semico is to continue to manage costs through initiatives such as the conversion to owner mining and development of the Ségala underground mine. Ongoing aggressive exploration programs are required to continue to test potential extensions to existing resources, to development of new resources on the property, and to convert known resources to mineral reserves.

Significant exploration potential remains untested within the Tabakoto property both on surface and underground at Tabakoto, Dioulafoundou and Ségala. Significant resource upside potential is likely to be achieved with resultant extensions to the life of the mine. Additionally, resource conversion and project evaluation of the other Kofi satellites needs to be pursued.

The 2014 combined Tabakoto and Kofi exploration program is $10.7 M and is focused on delineation of existing resources and the identification of new resources close to existing deposits that can readily be converted to reserves. The following programs are planned:

- Tabakoto underground core drilling to convert Inferred mineral resources to Indicated mineral resources and also to test extensions of known mineralized zones and to explore for additional mineralized zones.
- Ségala underground core drilling to test the lateral and depth extensions of the Inferred resources and to delineate the Measured and Indicated resources for conversion to mineral reserves.
- Reconnaissance RC (RRC) drilling of surface targets on the Tabakoto property.
- Continue evaluation work on conversion of resources at Dioulafoundou and Djambaye II to underground minable mineral reserves.
- Continue evaluation work and additional exploration on the other Kofi deposits for possible conversion to mineral reserves and incorporation in the Tabakoto production plan.
- Auger drilling of the northern strike extension from the Kofi C deposit.

The exploration program by metres of drilling and by costs is summarized in Table 1-7.

Table 1-7 2014 Work Program for Tabakoto Operations

Item/Activity	metres	US$ million Cost
Semico Underground Core Drilling	47,300	5.6
Semico Surface Drilling	20,600	1.3
Kofi Drilling	8,200	0.9
Analyses		0.8
Consumables, Support, Land access and permitting		1.0
Labour		1.1
Total	**76,100**	**10.7**

This exploration program is part of an ongoing annual exploration budget for the mine. Each subsequent phase of work is dependent on the results obtained in the previous exploration programs.

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2 Introduction and Terms of Reference

2.1 Introduction

Endeavour Mining Corporation (Endeavour) owns an 80% interest in the Tabakoto Gold Mine located in western Mali, West Africa through its 100% owned Malian subsidiary, Ségala Mining Corporation S.A. (Semico).

This report was prepared for Endeavour Mining Corporation (Endeavour) by Gerard de Hert (Endeavour, VP Exploration), Kevin Harris (Endeavour, Group Resource Manager), Vaughan Duke of Sound Mining, (Mining Engineer Consultant to Endeavour), Michael Alyoshin (Endeavour, Chief Mining Engineer, Strategic Projects), Adriaan Roux (Endeavour, Chief Operating Officer), Eugene Puritch (P&E Mining Consultants Inc.) and Antoine Yassa (P&E Mining Consultants Inc.). Endeavour is listed on the TSX (stock symbol EDV) and the ASX (stock symbol EVR). The purpose of this technical report is to update the mineral resources, mineral reserves, production plan and other operational information for the Tabakoto Gold Mine as of the effective date of December 31, 2013 and file the report on the SEDAR website.

The authors of this report work at the Tabakoto mine site or are frequent visitors to the site. Gerard de Hert visited site most recently between 20-23rd of October, 2013. Kevin Harris worked at the Tabakoto mine site until October 2013 and was there on a 7 weeks on/ 3 weeks off schedule. Michael Alyoshin visited the site from 2nd to 6th October, 2013. Adriaan Roux visits the site frequently, most recently between 12th and 15th of September 2013. Vaughan Duke of Sound Mining (Gauteng, South Africa) is a mining engineer consultant to Endeavour who visited the site between January 13 and 17, 2014. Messrs. de Hert, Harris, Alyoshin and Roux are not independent of Endeavour. Eugene Puritch, P.Eng. (P&E Mining Consultants Inc.) is the qualified person (QP) for the current mineral resource estimates on the Kofi Nord Property, including the Kofi C deposit where he made a site visit on February 11 to 14, 2013. Antoine Yassa, P.Geo. (P&E Mining Consultants Inc.) completed independent QP site visits on the Kofi A, Kofi B, Betea, Blanaid and A Linear deposits on the Kofi Nord Property on October 25 to 27, 2011. Messrs Duke, Puritch and Yassa are independent of Endeavour.

This technical report was prepared to adhere to requirements of National Instrument 43-101, Companion Policy 43-101CP, and Form 43-101F1. The reporting of mineral resources and mineral reserves complies with the 'Definition Standards - For Mineral Resources and Mineral Reserves' prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council on November 27, 2010 and is also consistent with the 'Australasian Code for Reporting of Mineral Resources and Ore Reserves' of September 2004 (the Code) as prepared by the Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Mineral Council of Australia (JORC).

2.2 Terms of Reference

Each author is a qualified person (QP) by virtue of experience, education and professional standing relative to the portions of the report that the author is 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.

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

Author	Designation	Title	Position	Sections	Site Visits
Gerard de Hert	EurGeol	VP Exploration	Geologist	1-11, 12.1.4, 12.2, 19, 20, 23-27	20th to 23rd Oct. 2013
Kevin Harris	CPG	Resource Geologist	Resource Geologist	1, 12, 14, 25-27	Full Year, FIFO 2013
Vaughn Duke	Consulting Engineer	Mining Engineer	QP Underground Mining	15 and 16	13th to 17th Jan. 2014
Michael Alyoshin	CP AusIMM	Chief Mining Engineer, Strategic Projects	Open Pit Mining	1, 15, 16, 18, 21, 22, 25-27	2nd to 6th Oct. 2013
Adriaan Roux	Pr.Sci.Nat., SACNASP	COO	Metallurgy and Process	1, 13, 17, 18, 25-27	12th to 15th Sept. 2013
Eugene Puritch	P.Eng.	Consulting Engineer	Engineer	13.2, 14.2.2, 14.2.4, 14.4.7, 14.4.8, 14.6.2, 14.6.3, 14.7.2, 14.7.3, 14.8.2, 14.9.2, 14.10.2, 14.10.3, 14.11.2, 14.11.3, 14.12.2, 14.12.3, 14.13.2 and 14.13.3	11th to 14th Feb. 2013
Antoine Yassa	P.Geo.	Consulting Geologist	Geologist	12.1.4	25th to 27th Oct. 2011

Unless otherwise stated all units used in this report are metric. Gold assay values are reported in grams per metric tonne ("g/t") unless some other unit is specifically stated. The USD$ is used throughout this report. 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
$	US dollars	LOM	Life of Mine
A	Years	m	Metres
Au	Gold	MIK	Multiple indicator kriging
BCM	Bulk cubic metres	mm	Millimetre
CDN$	Canadian dollars	Moz	Million ounces
CFA	West African Franc	Mt	Million tonnes
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 of gold per tonne	ppm	Parts per million
ha	Hectare	QA	Quality Assurance
ID3	Inverse distance cubed	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
km2	Square kilometre	t	Tonnes

The coordinate system used on most maps included in this report is Universal Transverse Mercator ("UTM"), WGS 84 datum in zone 29N.

2.2.1 Sources of Information

The sources of information upon which this report is based include internal company technical reports, and maps, published government reports, company letters and memoranda, and public information as listed in the "References" in Section 27 of this report.

3 Reliance on Other Experts

The authors of this report have relied on experts within Endeavour Mining for the information on legal title, permitting, geotechnical, environmental and social issues associated with the Tabakoto Gold Mine. Additionally, it is periodically necessary to utilise external expertise in the form of consultants. These expert services are noted in the text and the references cited.

An update of the title and permit information was prepared by the Endeavour Mali Land Department. Copies of the mine permit documents are held in Endeavour's Bamako office and at the Tabakoto Mine. The permits were issued by the Mines Ministry of Mali. The authors of this report have not verified the legality of these permits or any underlying agreement(s) that may exist concerning the permits or other agreement(s) between third parties, and instead have relied upon the Endeavour Mining Legal Department and the documents provided by the Malian authorities.

Ongoing geotechnical monitoring on site of the open pit and underground excavations is conducted by Chola Mfula (Endeavour, Tabakoto Mine, Resident Geotechnical Engineer).

The Tabakoto Mine Environmental Monitoring Program is ISO 14001 compliant. Ongoing environmental monitoring and reporting is conducted by Dieudonne Dembele (Endeavour, Tabakoto Mine, Social and Environmental Manager).

The ongoing social and human resource activities are the responsibility of Mamadou Diallo (Endeavour, Tabakoto Mine, Human Resources and Community Relations Manager).

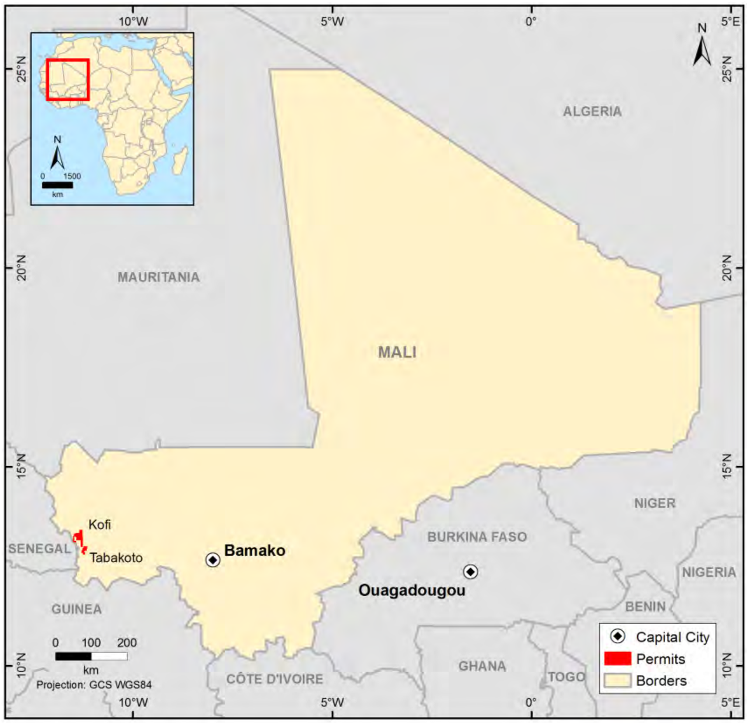
4 Property Description and Location

4.1 Property Location

The Tabakoto Property is centred on latitude 12°56'N and longitude 11°12'W (UTM coordinates 255000E – 265000E and 1426500N –1438000N WGS 84, Zone 29 North) in western Mali, West Africa. The property is located in the south-west corner of the country and is approximately 360 km west of the capital, Bamako, and less than 20 km from the border with Senegal (Figure 4-1).

The Property is within the Kéniéba Administrative District, and is approximately 15 km north of the government administrative center of Kéniéba (Figure 4-1).

Figure 4-1 Location Map of the Tabakoto Property and Kofi Property



In 2012, the Ségala and Tabakoto Exploitation Permits were consolidated along with the Sansanto and Yerémounde mineral titles into the one Ségala mining permit held in the name of Ségala Mining Corporation S.A. ("Semico"). The combined mining permit contains the Tabakoto NE, Tabakoto NW, Tabakoto South, Dioulafoundou, Ségala Main, Ségala NW, Dar Salam and Djambaye II deposits (Figure 4-2) as well as the Moralia and NE Orpailleur prospects (not shown).

Endeavour also owns 93.75% of the nearby Kofi Property (Table 4-1) which is centred on latitude 13°14'N and longitude 11°20'W (UTM coordinates 232000E – 254000E and 1438000N –1479000N WGS-84, Zone 29 North) in western Mali, West Africa. The Kofi Property totals approximately 400 km2 (4,000 ha) and is comprised of the Kofi Nord (52 km2) and 5 other Exploration Permits. The Property is 5 km northwest of the Tabakoto Property at the closest points.

4.2 Mineral Tenure

The Tabakoto Property totals 113 km^2 (1,130 ha), comprised of the Ségala Mining Permit ("permis d'exploitation") and 2 other permits, Dougala and Kenieba Est which are Exploration Permits (Tables 4-1 and 4-2, Figures 4-2 and 4-3)

Table 4-1 Permits of the Tabakoto Property

	Permit Name	Type	Area km2	Acquired From	Convention		Ownership	
					Company Name	Expiration	Avion	Gov't
Segala Mining Permit	Segala	Mining	113	Semico	Société Consolidated Mining Corporation (West Africa) SA	2027	80%	20%
Dougala	Dougala	Permis de recherche	16	Avion Mali Exploration SA	Avion Mali Exploration	21/01/2020	80%	20%
Kenieba Est	Kéniéba Est	Permis de recherche	8	Legally: Tamico	Great Quest	16/11/2014	80%	20%

Figure 4-2 Tabakoto Permit Perimeters and Deposit Locations

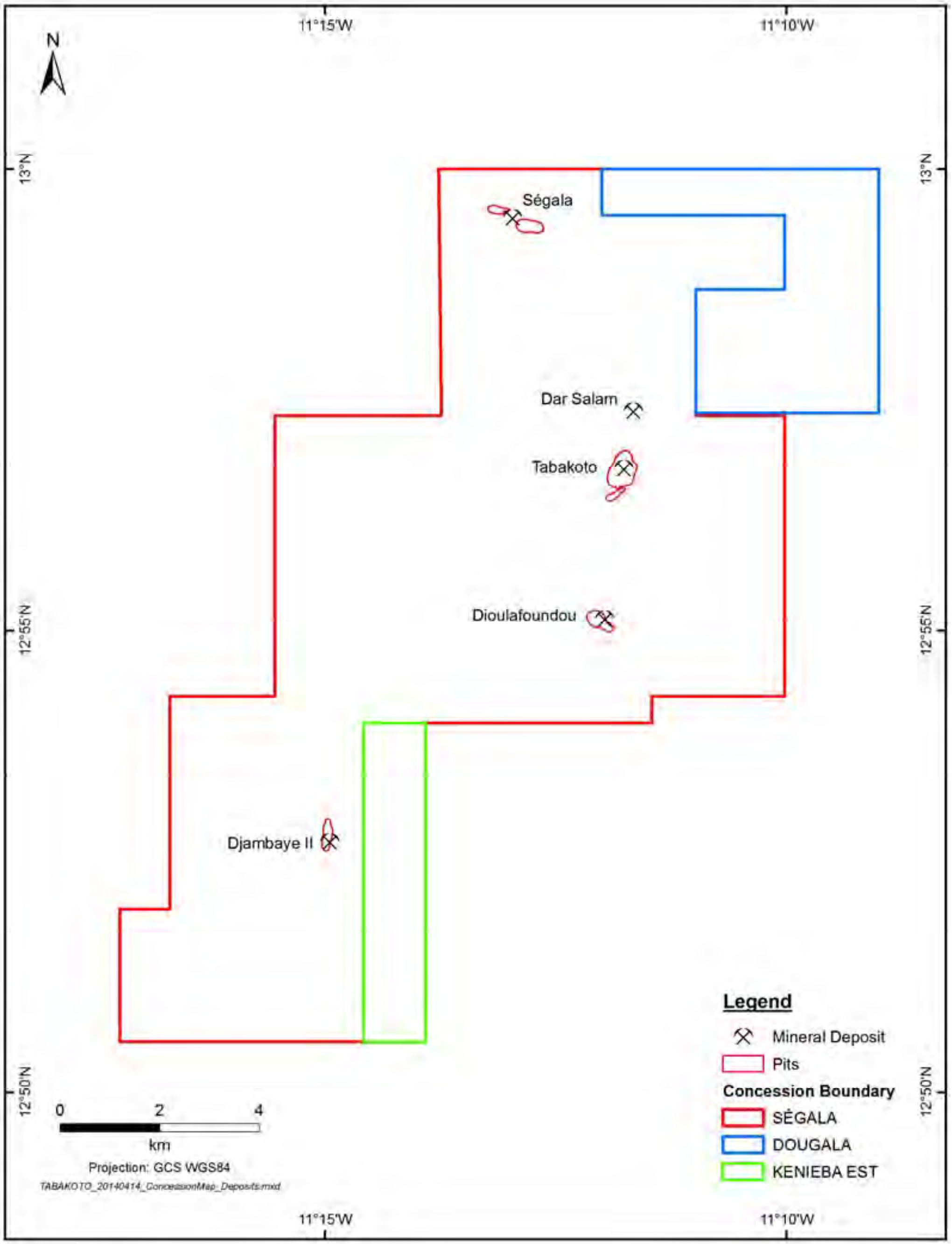


Figure 4-3 Tabakoto Permit Map

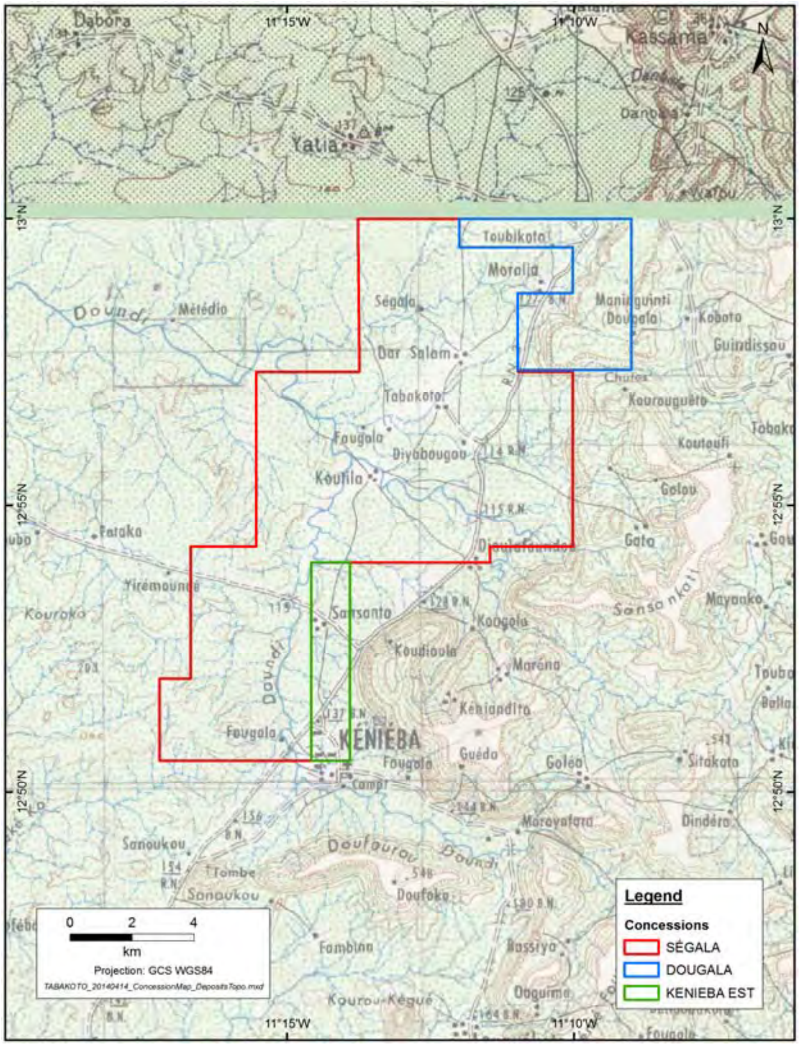


Table 4-2 Coordinates of Corner Points for the Ségala, Dougala and Kenieba Est Permits

Pillar	Latitude	Longitude	Permit Name
A	13° 00' 00" N	11° 12' 00" W	Dougala
B	13° 00' 00" N	11° 09' 00" W	
C	12° 57' 22" N	11° 09' 00" W	
D	12° 57' 22" N	11° 11' 00" W	
E	12° 58' 42" N	11° 11' 00" W	
F	12° 58' 42" N	11° 10' 00" W	
G	12° 59' 30" N	11° 10' 00" W	
H	12° 59' 30" N	11° 12' 00" W	
A	12° 54' 17" N	11° 15' 32" W	Ségala
B	12° 57' 20" N	11° 15' 32" W	
C	12° 57' 20" N	11° 13' 46" W	
D	13° 00' 00" N	11° 13' 46" W	
E	13° 00' 00" N	11° 12' 00" W	
F	12° 59' 30" N	11° 12' 00" W	
G	12° 59' 30" N	11° 10' 00" W	
H	12° 58' 42" N	11° 10' 00" W	
I	12° 58' 42" N	11° 11' 00" W	
J	12° 57' 20" N	11° 11' 00" W	
K	12° 57' 20" N	11° 10' 00" W	Ségala
L	12° 54' 17" N	11° 10' 00" W	
M	12° 54' 17" N	11° 11' 29" W	
N	12° 54' 00" N	11° 11' 29" W	
O	12° 54' 00" N	11° 14' 36" W	
P	12° 50' 33" N	11° 14' 36" W	
A	12° 54' 00" N	11° 14' 38" W	Kenieba Est
B	12° 54' 00" N	11° 13' 56" W	
C	12° 50' 33" N	11° 13' 56" W	
D	12° 50' 33" N	11° 14' 38" W	

Standing et al (2004) provide details of the history of consolidation of the former Samake, Dabo, Dioulafoundouding, Fougala, Koutila and Dioulafoundou concessions into the Tabakoto Exploitation Permit as cited below.

Nevsun entered into a series of agreements from October 1, 1993 to March 8, 1999 with Mr. Charles Samake to acquire a 100% interest in the Samake concession (Tabakoto West). Under this agreement, Mr. Samake was entitled to annual payments of $75,000 per year until a net smelter return royalty becomes payable at 1%. Mr. Samake also retained a 5% net profits interest. The royalty and net profits arrangements were restricted to the former Samake concession that was outside of Nevsun's then current mine plan. Nevsun entered into a series of agreements from June 6, 1995 to May 24, 2002 with El Hadj Lamine Dabo to acquire a 100% interest in the Dabo concession (Tabakoto East). Nevsun paid a total of $679,000 to Dabo in cash and shares of Nevsun in connection with this acquisition. Between October 8, 1997 and November 18, 2002 Nevsun entered into a series of agreements with Le Groupement d'Intéret Economique des Orpailleurs de Dioulafoundouding to acquire a 100% interest in the Dioulafoundouding concession for approximately $305,000 cash and "inkind".

After submission of Pre-feasibility and Environmental Impact Studies the Government of Mali granted a mining permit for the Tabakoto (Samake and Dabo) concessions. In May 2000, Nevsun formed Tambaoura Mining Company S.A. ("Tamico"), a Malian exploitation company in partnership with the Government of Mali (20%). In 2001, the adjoining Dioulafoundou concession was added to the Tabakoto mining permit (Decree 99/246/PM-RM) and in 2002 Koutila, Fougala and Dioulafoundou were also added (Decree 99/246/PM-RM). The expanded Tabakoto mining permit comprised approximately 60 km^2 at that time. Ownership of Tambaoura Mining Company S.A. was 80% Nevsun, 20% Republic of Mali.

CMC (WA) acquired the exploration rights to Ségala and Dar Salam for Malian operators. On December 15, 1997 CMC (WA) obtained the exploitation permit for these properties (Decree number 97-398/PN-RM). Ségala Mining Corp. S.A. was created on October 8, 1999 for the construction and operation of these properties and the property was transferred (Decree 00- 009/PM_RM). The shareholders of Ségala Mining Corp. S.A. were CMC (WA), Republic of Mali and Amadou Touré.

On December 23, 1999, by decree 416/PM-RM, CMC sold all its interest to SEMAFO/Managem. A partnership was then created between SEMAFO/Managem and Nevsun. On July 24th 2002 Nevsun acquired all the rights to this permit from Semafo/Managem and Amadou Touré. Details of the purchase are not known. Ownership of Ségala Mining Corp. S.A. was 80% Nevsun, 20% Republic of Mali. An administrative representative of Tamico advised that all historical acquisition agreements had been fulfilled.

On March 24, 2008, Avion entered into a binding share purchase agreement with subsidiaries of Nevsun to acquire its 80% interest in the Tabakoto and Ségala Properties. Avion agreed to pay US$20 million plus a 1.0% net smelter return royalty on future production. The transaction closed on May 20, 2008, subject to a number of conditions, including financing and regulatory approval of the TSX Venture Exchange. Subsequent to the transaction closing, Avion bought out the net smelter return royalty for US$2.0 million in November 2010.

Endeavour acquired Avion in 2012 and thereby acquired all operating subsidiaries of Avion including ownership of the properties that comprise the Tabakoto Gold Mine.

The Kofi Property is approximately 400 km^2 (4,000 ha) and is comprised of the Kofi Nord (52 km^2) and 5 other Exploration Permits (Tables 4-3 and 4-4, Figure 4-4). Endeavour has a 93.75% interest in Kofi Nord with Société Financière et d'Exploration de l'Or au Mali ("SOFOM") owning 6.25% carried to production. The government of Mali is entitled to a 10% interest and can purchase an additional 10%.

The exploration licence for Kofi Nord is held in the name of Nevsun Mali Exploration Limited of Mali, a one hundred percent-owned subsidiary of Endeavour and is currently in application to be converted to an exploitation permit. The Kofi Nord Permit contains the Kofi C, Kofi A, Kofi B, Betea, Blanaid and A Linear deposits. The Kofi C deposit is being incorporated into the Tabakoto production schedule and the other mineral resources on the Kofi Nord Permit continue to be evaluated for possible incorporation into the overall production schedule and are therefore being included within this technical report.

Table 4-3 Permits of the Kofi Property

Permit Name	Type	Area km2	Acquired From	Document	1st Renewal	2nd Renewal	Expiry
Kenieti Dianisse	Recherche	50	Dianisse	2012-1522/MCMI-SG	13-Jun-12	11-Apr-14	11-Apr-16
Kofi Dabora	Recherche	31.75	Nevsun	2012-1351/MCMI-SG	31-May-12	18-Apr-14	20-Apr-16
Kofi Nord	Recherche	52	Nevsun	2010-0816/MM-SG	29-Dec-06	23-Mar-10	Exploitation Application
Kofi Soundoudjala	Recherche	60.8	Nevsun	2011-1244/MM-SG	30-Mar-14	30-Mar-16	30-Mar-18
Walia Agcri	Recherche	4.75	Agcri	2012-1697/MCMI-SG	01-Aug-08	25-Jun-12	25-Jun-14
Walia Saakola	Recherche	18	Nevsun	2012-1421/MCMI-SG	08-Jun-12	18-Apr-14	18-Apr-16

Figure 4-4 Kofi Property Permit Map

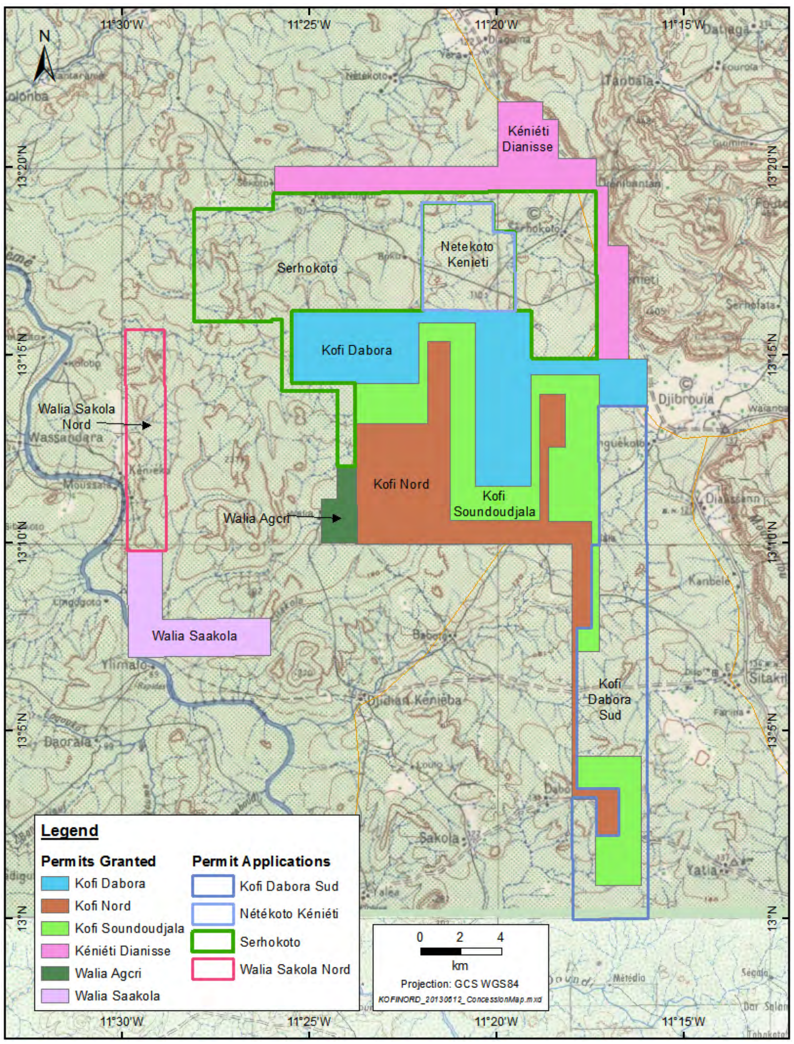


Table 4-4 Coordinates of Corner Points for the Kofi Permits

Pillar	Latitude (N)	Longitude (W)	Permit Name
A	13 ° 21 ' 44"	11 ° 20 ' 0"	Kenieti Dianisse
B	13 ° 21 ' 44"	11 ° 18 ' 47"	
C	13 ° 21 ' 16"	11 ° 18 ' 47"	
D	13 ° 21 ' 16"	11 ° 18 ' 20"	
E	13 ° 20 ' 13"	11 ° 18 ' 20"	
F	13 ° 20 ' 13"	11 ° 17 ' 19"	
G	13 ° 19 ' 30"	11 ° 17 ' 19"	
H	13 ° 19 ' 30"	11 ° 17 ' 2"	
I	13 ° 17 ' 54"	11 ° 17 ' 2"	
J	13 ° 17 ' 54"	11 ° 16 ' 30"	
K	13 ° 14 ' 54"	11 ° 16 ' 30"	
L	13 ° 14 ' 54"	11 ° 17 ' 26"	
M	13 ° 19 ' 00"	11 ° 17 ' 26"	
N	13 ° 19 ' 0"	11 ° 25 ' 55"	
O	13 ° 20 ' 0"	11 ° 25 ' 55"	
P	13 ° 20 ' 0"	11 ° 20 ' 0"	
A	13 ° 16 ' 10"	11 ° 25 ' 27"	Kofi Dabora
B	13 ° 16 ' 10"	11 ° 19 ' 4"	
C	13 ° 14 ' 54"	11 ° 19 ' 4"	
D	13 ° 14 ' 54"	11 ° 16 ' 0"	
E	13 ° 13 ' 40"	11 ° 16 ' 0"	
F	13 ° 13 ' 40"	11 ° 17 ' 16"	
G	13 ° 14 ' 28"	11 ° 17 ' 16"	
H	13 ° 14 ' 28"	11 ° 19 ' 5"	
I	13 ° 11 ' 31"	11 ° 19 ' 5"	
J	13 ° 11 ' 31"	11 ° 20 ' 34"	
K	13 ° 15 ' 51"	11 ° 20 ' 34"	
L	13 ° 15 ' 51"	11 ° 22 ' 5"	
M	13 ° 14 ' 15"	11 ° 22 ' 5"	
N	13 ° 14 ' 15"	11 ° 25 ' 27"	
A	13 ° 13 ' 10"	11 ° 23 ' 46"	Kofi Nord
B	13 ° 13 ' 10"	11 ° 21 ' 51"	
C	13 ° 15 ' 21"	11 ° 21 ' 51"	
D	13 ° 15 ' 21"	11 ° 21 ' 15"	
E	13 ° 10 ' 36"	11 ° 21 ' 15"	
F	13 ° 10 ' 36"	11 ° 18 ' 52"	
G	13 ° 13 ' 57"	11 ° 18 ' 52"	
H	13 ° 13 ' 57"	11 ° 18 ' 10"	
I	13 ° 12 ' 33"	11 ° 18 ' 10"	
J	13 ° 12 ' 33"	11 ° 18 ' 38"	
K	13 ° 10 ' 35"	11 ° 18 ' 38"	
L	13 ° 10 ' 35"	11 ° 17 ' 28"	
M	13 ° 7 ' 44"	11 ° 17 ' 28"	
N	13 ° 7 ' 44"	11 ° 17 ' 52"	

Pillar	Latitude (N)	Longitude (W)	Permit Name
O	13 ° 3 ' 29"	11 ° 17 ' 52"	
P	13 ° 3 ' 29"	11 ° 16 ' 45"	
Q	13 ° 2 ' 13"	11 ° 16 ' 45"	
R	13 ° 2 ' 13"	11 ° 17 ' 20"	
S	13 ° 3 ' 14"	11 ° 17 ' 20"	
T	13 ° 3 ' 14"	11 ° 17 ' 60"	
U	13 ° 9 ' 59"	11 ° 17 ' 60"	
V	13 ° 9 ' 59"	11 ° 23 ' 46"	
A	13 ° 14 ' 15"	11 ° 23 ' 46"	Kofi Soundoudjala
B	13 ° 14 ' 15"	11 ° 22 ' 5"	
C	13 ° 15 ' 51"	11 ° 22 ' 5"	
D	13 ° 15 ' 51"	11 ° 20 ' 34"	
E	13 ° 11 ' 31"	11 ° 20 ' 34"	
F	13 ° 11 ' 31"	11 ° 19 ' 5"	
G	13 ° 14 ' 28"	11 ° 19 ' 5"	
H	13 ° 14 ' 28"	11 ° 17 ' 16"	
I	13 ° 7 ' 6"	11 ° 17 ' 16"	
J	13 ° 7 ' 6"	11 ° 17 ' 50"	
K	13 ° 4 ' 20"	11 ° 17 ' 50"	
L	13 ° 4 ' 20"	11 ° 16 ' 9"	
M	13 ° 0 ' 54"	11 ° 16 ' 9"	
N	13 ° 0 ' 54"	11 ° 17 ' 22"	
O	13 ° 3 ' 11"	11 ° 17 ' 22"	
P	13 ° 3 ' 11"	11 ° 17 ' 58"	
Q	13 ° 3 ' 14"	11 ° 17 ' 58"	
R	13 ° 3 ' 14"	11 ° 17 ' 20"	
S	13 ° 2 ' 13"	11 ° 17 ' 20"	
T	13 ° 2 ' 13"	11 ° 16 ' 45"	
U	13 ° 3 ' 29"	11 ° 16 ' 45"	
V	13 ° 3 ' 29"	11 ° 17 ' 52"	
W	13 ° 7 ' 44"	11 ° 17 ' 52"	
X	13 ° 7 ' 44"	11 ° 17 ' 28"	
Y	13 ° 10 ' 35"	11 ° 17 ' 28"	
Z	13 ° 10 ' 35"	11 ° 18 ' 38"	
AA	13 ° 12 ' 33"	11 ° 18 ' 38"	
AB	13 ° 12 ' 33"	11 ° 18 ' 10"	
AC	13 ° 13 ' 57"	11 ° 18 ' 10"	
AD	13 ° 13 ' 57"	11 ° 18 ' 52"	
AE	13 ° 10 ' 36"	11 ° 18 ' 52"	
AF	13 ° 10 ' 36"	11 ° 21 ' 15"	
AG	13 ° 15 ' 21"	11 ° 21 ' 15"	
AH	13 ° 15 ' 21"	11 ° 21 ' 51"	
AI	13 ° 13 ' 10"	11 ° 21 ' 51"	
AJ	13 ° 13 ' 10"	11 ° 23 ' 46"	
A	13 ° 11 ' 59"	11 ° 24 ' 16"	Walia Agcri

Pillar	Latitude (N)	Longitude (W)	Permit Name
B	13 ° 11 ' 59"	11 ° 23 ' 47"	
C	13 ° 10 ' 0"	11 ° 23 ' 47"	
D	13 ° 10 ' 0"	11 ° 24 ' 42"	
E	13 ° 11 ' 12"	11 ° 24 ' 42"	
F	13 ° 11 ' 12"	11 ° 24 ' 16"	
A	13 ° 9 ' 46"	11 ° 29 ' 51"	Walia Saakola
B	13 ° 9 ' 46"	11 ° 28 ' 54"	
C	13 ° 7 ' 59"	11 ° 28 ' 54"	
D	13 ° 7 ' 59"	11 ° 26 ' 4"	
E	13 ° 7 ' 0"	11 ° 26 ' 4"	
F	13 ° 7 ' 0"	11 ° 29 ' 51"	

4.3 Royalties and Other Agreements

There are no royalties or other production agreements on the properties that comprise the Tabakoto Property other than the 6% mining royalty payable to the government which is comprised of a mining royalty on the value of production which is 3% and also a Value Added Tax of 3%.

The Kofi Nord Property will be subject to the same mining royalty of 3% and Value Added Tax of 3%.

4.4 Mining Legislation

According to Doherty (2011), mining activities in Mali are governed by the following legal orders and decrees:

- Order No 99-032/P-RM, of August 19, 1999, relating to the country's Mining Code, and as modified by Order No 00-013/P-RM, of February 10, 2000.
- Decree No 99-255/P-RM, of September 15, 1999, pertaining to the application of the 1999 Mining Code, which was modified by Order No 00-013/P-RM, of February 10, 2000.
- Decree No 99-256/PM-RM, of September 15, 1999 (MMM, 1999), which pertains to the approval of the model prospecting, exploration and mining agreement to be entered into between mineral title applicants and the State of Mali.
- Order No 2012-015 of February 27, 2012 relating to the new Mining Code.
- Decree No 2012-311/P-RM of June 21, 2012 pertaining to the application of the 2012 Mining Code.
- Decree No 2012-490/PM-RM of September 7, 2012 pertaining to the approval of the model prospecting, exploration and mining agreement to be entered into between mineral title applicants and the State of Mali.
- Decree No 2012-717/PM-RM of December 20, 2012 pertaining to the operation and management of a fund to finance exploration, training and promotion of mining activities.

The 2012 Mining Code and related 2012 Decrees are in force and have superseded the 1999 Mining Code and related 1999 Decrees however; some aspects are still governed by the 1999 mining legislation for existing titles. All new mineral titles issued after February 2012 are governed by the 2012 Mining Code and related 2012 Decrees.

The State owns all the mineral rights, and the Mines Minister has the final responsibility for the administration of mining activity, although the Minister is assisted and delegates certain powers to the Direction Nationale de la Geologie et des Mines (DNGM).

Mineral titles do not include any rights over the use of the soil. If the surface owner refuses the authorisation to conduct exploration or other mining activities to a permit holder, such authorisation can be legally enforced through payment of adequate compensation. If the normal use of the land becomes impossible due to the exploration or mining activities, the surface owners could force the holder of the mineral permit to acquire the property.

The analysis of the samples should be conducted in Mali, unless the holder of a mineral title obtains the authorisation of the Director of Mines to submit the samples to another country for analyses.

4.5 Mining Rights in Mali

Malian mining law provides that all mineral resources are administered by DNGM, under the Government of Mali's Ministry of Mines.

Foreign exploration companies are required to enter into a founding agreement, referred to as a "Convention d'Établissement," with the Malian government, prior to commencement of any exploration or mining. This agreement, negotiated between the parties, comprehensively fixes all of the conditions that will apply to exploration and, in the event of a discovery, exploitation periods. The conditions include work obligations, reporting, taxes, duties, duty-free arrangements, state equity participation, etc.

In cases where an economically viable deposit has been discovered, the holder of a Mining License is required to create a Malian corporation whereby the Government of Mali is granted a 10% free carried interest. The Malian government also reserves the right to purchase a further 10% participating interest in the project.

Fiscal conditions are set out in the "Convention d'Établissement" which allows for repatriation of capital and dividends. Mining ventures are generally free of corporate tax for the first five years of production. Thereafter, the tax rate is 35% or less when profit is reinvested in Mali. A depletion allowance can be negotiated up to 27.5%. All equipment for the project can be imported duty free during the exploration period and for the first three years of the exploitation period. As noted in Section 4.3, the mining royalty payable to the government on the value of production is 3% and there is a Value Added or Service Tax of 3%.

5 Accessibility, Climate, Local Resources, Infrastructure and Physiography

5.1 Accessibility

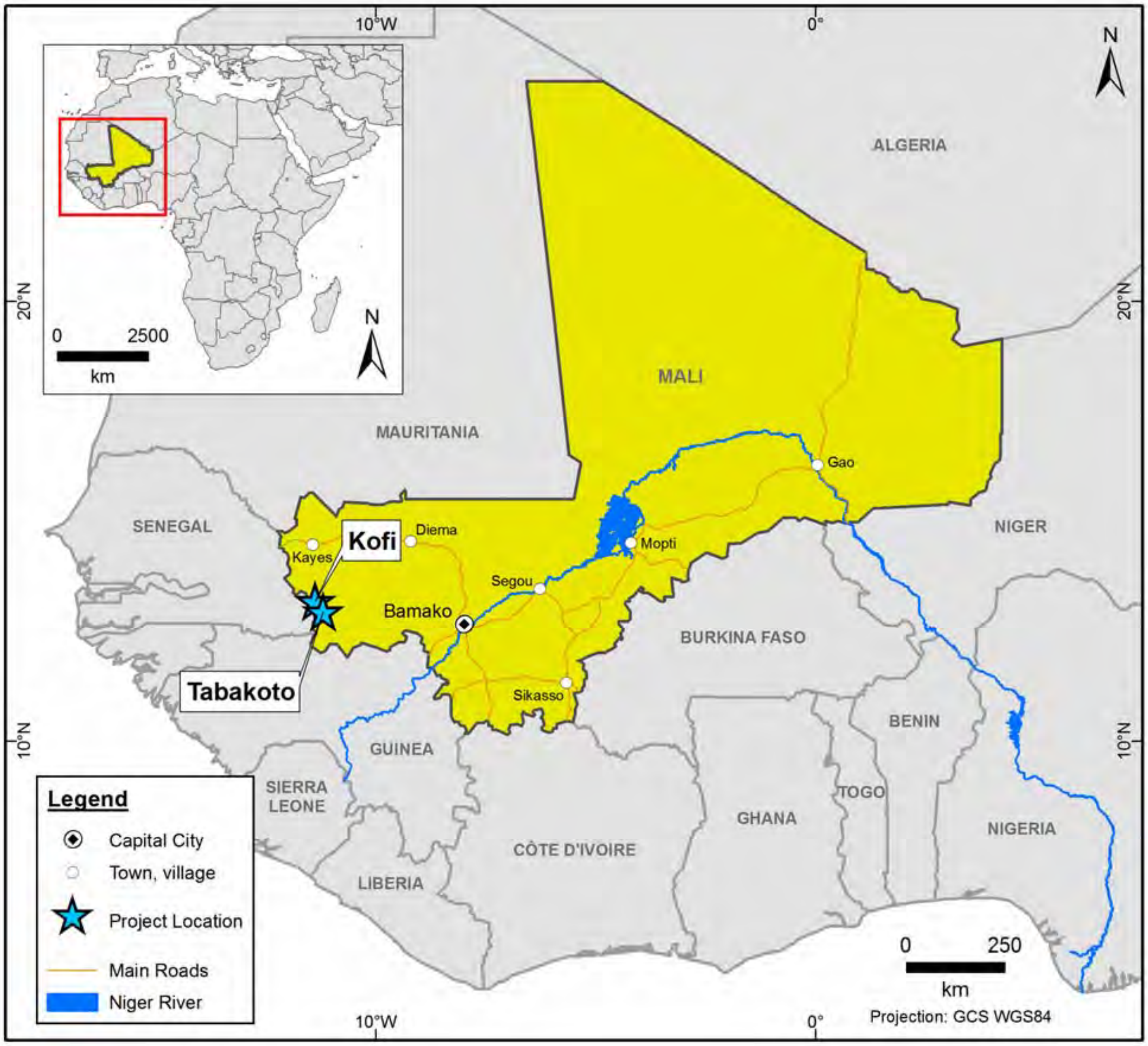
The Tabakoto Mine Property and Kofi Property (the Properties) are located in the southwest corner of the Republic of Mali. Mali is a land-locked country in the northwest corner of Africa, bordered to the north by the Sahara Desert and by the countries of Sénégal, Mauritania, Algeria, Burkina Faso, Niger, Cote D'Ivoire and Guinea (Figure 4-1).

Mali has only one international airport, at Bamako, with daily flights to and from Europe (Air France) and other capital cities in West Africa (Air Algerie, Air Cote d'ivoire, Air Sénégal, Royal Air Maroc).

Air access to the Tabakoto Mine is possible by charter aircraft from Bamako (360 km to the east) to Kéniéba. There are no scheduled flights into this approximately 1,600 metre long laterite airstrip. The relatively short runway length, although lengthened by Tamico, restricts takeoff weight. The flight from Bamako to Kéniéba is approximately one hour. A charter company based in Bamako, staffed by International pilots, has three Beechcraft King Air planes available.

The Tabakoto area can be accessed from Dakar by paved road to the village of Saraya in eastern Sénégal, on the border with Mali, a distance of 756 km. A new bridge, constructed over the Falémé River at this site was completed in mid-2011. From there a new road extends to Bamako, a distance of approximately 500 kilometres and the trip to Bamako takes from 4.5 to 5 hours.

Figure 5-1 Regional Infrastructure and Access to the Tabakoto Gold Mine



5.2 Climate

The climate is subtropical to arid: hot and dry from February to June; rainy and humid between the months of June to November, and, relatively cool and dry between the months of November to January. Considerable variation in climate exists across the country, particularly north, closer to the Sahara.

Locally, the climate in the Kéniéba District is subtropical with only two seasons: (i) a rainy season from June to October and (ii) a dry season from November to May. The average temperature range in western Mali is between 18°C and 43°C. During the hottest portion of the summer months, temperatures vary between 25°C and 43°C. In the winter months of December and January, the temperature ranges between 18°C and 35°C. The wet season generally moderates the average temperature.

Temperature and precipitation show a strong latitudinal gradient in Mali, ranging from hot and dry Sahara-type climate in the north, to a relatively moist woodland savanna-type climate in the south (Rian et al, 2009).

Precipitation data recorded at Kayes, about 175 km north of Tabakoto, indicate that the wet season commences sometime during June and subsides in October. Average annual rainfall is estimated at between 750 and 1200 mm/year. During the rainy season, days per month with measurable precipitation can exceed 18-20 mm and peak rainfall can exceed 75 mm/day, in short, monsoonal torrents.

The average wind speeds in western Mali range from 6 to 12 km/hr. The prevailing winds are the trades that change direction between the wet and dry seasons. During the wet season they generally blow from the west-southwest to east-northeast, and in the dry season they blow from the east-northeast to west-southwest. The dry summer winds will frequently blow high level sand/dust off the Sahara over much of West Africa.

Average monthly precipitations at Kayes are 0 mm from December to April up to 242 mm in August. Average annual rainfall is 751 mm. Mean relative humidity for an average year has been recorded as 37.7%, ranging from 12% in March to 75% in August. However, rains are often spotty (heavy in some areas and light only a few kilometres away) and torrential, producing severe soil erosion which leads to desertification. Exploration activities and mining operations can be conducted year-round.

Rian et al, (2009) classify the land cover in the Property area as transitional between woody savanna and lightly wooded savanna. During the wet season, vegetation is represented by exuberant, annual savannah-type tall grasses (Cenchrus biflorus, Schoenefeldia gracilis, Aristida stipoides, etc.) with sparse tree coverage, mainly acacias (Acacia tortilis the most common, along with Acacia senegal and Acacia laeta), but nearly everything dries during the dry season.

Native fauna used to be represented by grazing mammals, like the scimitar-horned oryx (Oryx dammah), various gazelles (Gazella dama, Gazella dorcas, Gazella rufifrons), and the Bubal Hartebeest (Alcelaphus busephalus buselaphus), along with large predators like the African wild dog (Lycaon pictus), the cheetah (Acinonyx jubatus), and the lion (Panthera leo). Over-hunting and competition with livestock have severely reduced their population, some of them being now near extinction. Numerous bird species cross the area during their regular migrations.

5.3 Local Resources

Politically, Mali is a republic modeled after the French system of government from whom the country gained independence on September 22, 1960. The President of the Republic is democratically elected by popular vote to a five year term. The National Assembly is the legislative branch of the government to which members are elected by popular vote to serve five year terms. The country is divided into eight administrative districts. The legal system is based on French civil law. The official language is French, although numerous local tribal dialects are spoken throughout the country. Over 90% of the population is Muslim.

The population of Mali is estimated to be in excess of 11.5 million people comprised of the following principal ethnic groups: Mande (50%), Peul (17%), Voltaic (12%), Songhai (6%) and Tuareg (10%). With a per capita GDP of $1,200 (2005 estimate), Mali is among the poorest countries in the world. Malians experience the daily hardships associated with life in a harsh semi-desert environment. Life expectancy at birth is 49 years and the adult literacy rate is 46%. There are however a surprising number of human resources and services available to mining companies exploring for gold in this country.

The vulnerable and erratic nature of the Malian economy is due to factors such as rainfall, fluctuating international market prices for its principle export products (cotton and gold), rising oil prices and regional instability, most recently by civil disruption in Côte D’Ivoire. The pursuit of institutional and structural reform remains a priority and greater diversification of the economy is needed for recent economic recovery to be sustainable.

The local currency is the CFA-Franc (BCEAO) which is pegged to the Euro (657.6909 CFA = 1 Euro, December 31, 2013). The exchange rate to the US dollar is 475.262CFA as of December 31, 2013.

Economic activity is largely confined to the area irrigated by the Niger River in the south half of the country. Over 80% of the labour force is engaged in farming and fishing. Cotton remains the major export and limited industrial activity is related to processing of agricultural products.

Land use in Mali mainly consists of subsistence farming, grazing of domestic animals and commercial cotton production. Arable land is concentrated in the southern part of the country, and comprises less than 4% of the total surface. Small crops usually consist of maze, millet, rice, peanuts and melons. Domestic animals consist of sheep, goats or cattle.

Mining, particularly gold mining has become a key industry which has attracted significant foreign investment, generated high levels of employment outside of the capital city of Bamako and has assisted with development of new infrastructure projects.

Mali has a long history of gold mining that goes back thousands of years and many Malian civilizations were built on the production and trading of gold. Mali reformed its mineral code in 1991 and has attracted large amounts of foreign investment to the country. Over a 10 year period, Mali has become Africa's third biggest gold producer after South Africa and Ghana, with gold production representing 36% of Mali's GDP.

Gold production, as reported by the Malian government, jumped 15% in 2012 to 50 t, from 43 t in 2011, as miners followed through with expansion plans despite a political crisis and a war. Output from Mali's southern gold mines was expected to expand further to 57 t during 2013.

Non-qualified labour is available in the region for exploration and mining activities, but specialized labour is provided from Kayes, Bamako or abroad.

5.4 Infrastructure

Local infrastructure is basic, with few supplies or support services available in the Kéniéba area. Most equipment and supplies are imported from Europe to the port of Dakar in Sénégal and shipped by truck to the property area via Saraya.

The state telephone company SOTELMA and France's Orange network operate a telephone service in the village of Kéniéba. At the Tabakoto mine site, a local cellular telephone net receiver has been established and both wireless and LAN inter-/intra-net systems have been established.

At the moment, there is no electricity supply from a national grid to the Tabakoto Property. Publicly available information states that the closest potential source of hydroelectric power is the Manantali Dam located about 100 km to the northeast of the Tabakoto Operations on the Bafing River, a tributary of the Sénégal River which flows northwest to the Atlantic Ocean. The power produced is split between Mali, Sénégal and Mauritania and is apparently very unreliable. Plans to utilize this as a source of power for Randgold's Loulo Mine, approximately 24 km to the northwest of Tabakoto, apparently never came to fruition and all mines in the region are still reliant on diesel generated electricity. There is also continued discussion regarding extending the power line to Kéniéba, which if it happens, could also be utilized at the Tabakoto camp (Currie, 2008). Endeavour has a 22 megawatt diesel generator power plant located near the process plant to supply power to the operation.

Water supply to the processing plant is primarily sourced from the Falémé River, and is supplemented by recycled water from the tailings dam.

5.5 Physiography

The Kéniéba District is at an average elevation of 120 m above sea level. Low-rolling peneplained plateaus cut by moderately well-developed drainage systems cover most of the property.

Rising above the plateaus in some areas are long ridges capped by hard ferruginous laterite crusts (cuirrasse) that extend for several kilometres. Immediately to the east of the property there is the prominent west facing Tambaoura escarpment formed by sandstone cliffs which rise to over 350 m elevation.

The district of Kéniéba is largely vegetated by tall grass and wooded savannah. Abundant seasonal streams traverse the area and flow southward into the Doundi River and then westward into the Falémé River that forms the Mali-Sénégal border.

Land use consists of subsistence farming and grazing of domestic animals. Crops usually consist of maze, millet, rice, peanuts and melons. Stands of mango trees are present, particularly in lower lying areas near perennial watercourses. Domestic animals consisting of sheep, goats or cattle graze the largely grass covered areas.

5.5.1 Typical Landscape in the Property Area

The Tabakoto Property is located in a low-rolling, peneplained plateau cut by moderately-well developed drainage systems (Figure 5-2 and 5-3). Average elevation in the Property is 160 m amsl, ranging from 140 m amsl to 230 m amsl. Some higher ridges, capped by hard ferruginous laterite crusts (cuirrasse), extend for several kilometres. Seasonal streams criss-cross the area, generally flowing southward into the Falémé River that forms the Mali-Senegal border. The physiography of the Kofi Property is similar (Figure 5-4).

Figure 5-2 Tabakoto Topography Map

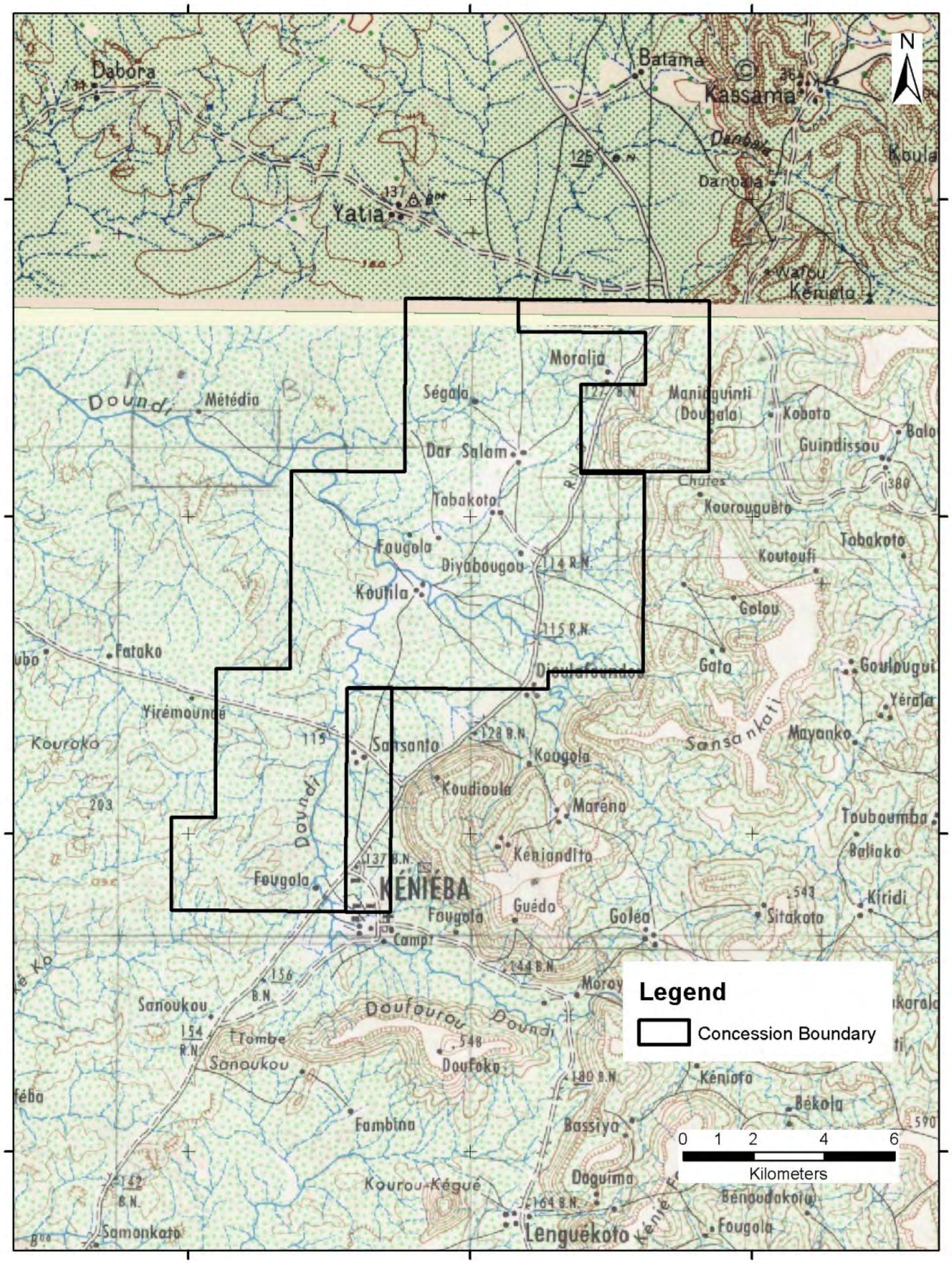
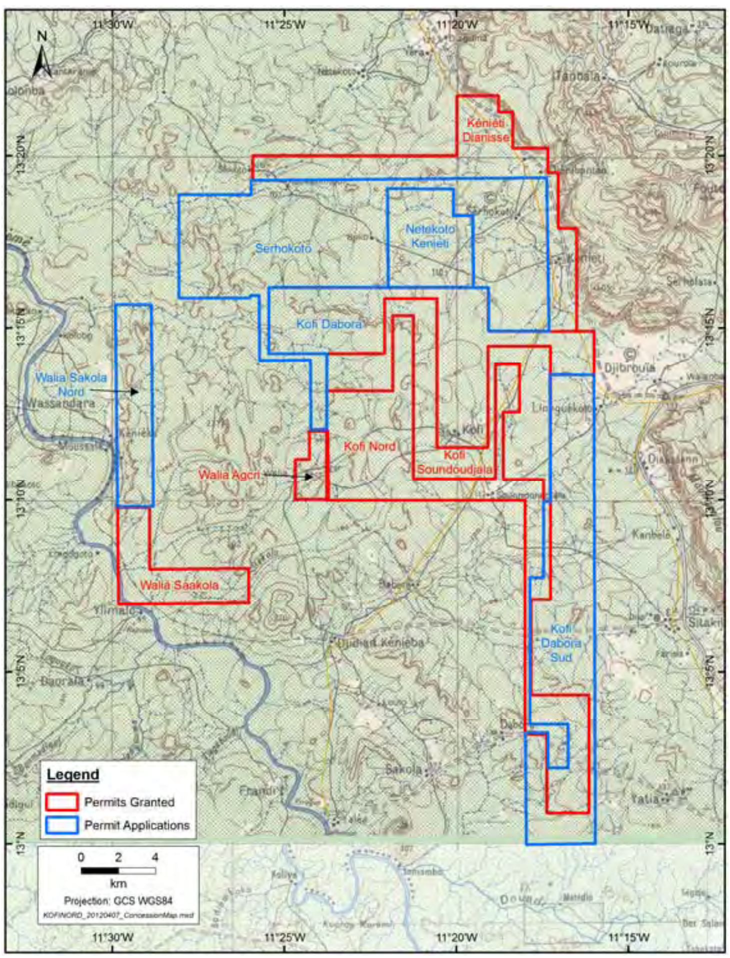


Figure 5-3 Typical Landscape in the Property Area

Figure 5-4 Kofi Topography Map



6 History

An excellent account of the history of mining in the area, dating back to the third century is presented in a previous Technical Report entitled, "Technical Report MR-09/002, Resource Estimate of the Tabakoto, Ségala, Dar Salam and Dioulafoundou Deposits Mali – West Africa, for Avion Gold Corporation", authored by Rivera, Ghazanfari and Puritch and dated July 10, 2009. This report also presents details of all exploration and drilling on the Properties up to 2009. This report was filed on SEDAR and the reader is referred to it for a more detailed account of previous history.

An updated Technical Report for Tabakoto was prepared by Armstrong et al, (2011) and is filed on SEDAR and the reader is referred to it for details of the period up to 2011. A Technical Report for Kofi was prepared by Puritch et al, (2012) and is filed on SEDAR providing details of the history of the Kofi Property.

6.1 Historical Mineral Resource and Mineral Reserve Estimates

For details of historical mineral resource and mineral reserve estimates of Tabakoto, the reader is referred to Armstrong et al, (2011).

6.1.1 2011 NI 43-101 Compliant Resource Estimate

In July 2011, NI 43-101 compliant resource estimates were completed for the Tabakoto Project, including Ségala, Tabakoto, Djambaye II, Dioulafoundou and Dar Salam Deposits (Armstrong et al, 2011). The Tabakoto, Ségala and Djambaye II resource estimates have been updated in this Technical Report and therefore the estimates noted in this Section are provided here for reference purposes only. The Dar Salam resource was not changed from the July 2011 Technical Report (Armstrong et al, 2011). Ségala West, Ségala NW, Dioulafoundou resource models have not been updated but the resource estimates for Dioulafoundou have been depleted from mining, and the Ségala W-NW resource was updated with current reporting parameters.

Details of the NI 43-101 compliant resource estimates are provided in the report and summaries are presented in the tables below.

Table 6-1 Tabakoto Property Resource Estimates (Armstong et al, 2011)

Deposit	Classification [1-3]	Tonnes	Au g/t	Au oz	OPEN PIT/UG
Tabakoto NE	Measured	26,900	5.28	4,600	UG
	Indicated	1,047,000	5.57	187,600	UG
	Inferred	496,000	5.19	82,900	UG
Tabakoto NW	Measured	5,000	7.75	1,200	OP
	Indicated	102,000	4.48	14,800	OP
	Inferred	86,000	3.31	9,100	OP
	Measured	17,000	5.92	3,200	UG
	Indicated	627,000	5.81	117,100	UG
	Inferred	660,000	5.67	120,200	UG
Tabakoto South/Dabo	Indicated	120,000	4.22	16,300	OP
	Inferred	194,000	4.83	30,100	OP
	Indicated	271,000	7.70	67,100	UG
	Inferred	697,000	5.28	118,400	UG
Djambaye II	Indicated	751,000	3.78	91,300	OP
	Inferred	1,595,000	3.30	169,200	OP
	Indicated	3,000	2.52	200	UG
	Inferred	950,000	3.43	104,700	UG
Ségala Main	Measured	3,000	4.41	400	UG
	Indicated	2,548,000	5.29	433,000	UG
	Inferred	1,442,000	4.35	201,500	UG
Ségala NW	Measured	4,000	4.43	600	UG
	Indicated	885,000	3.61	98,200	UG
	Inferred	257,000	3.40	28,100	UG
Dioulafoundou	Indicated	598,000	4.99	95,900	OP
	Inferred	257,000	6.35	52,500	OP
	Indicated	49,000	4.64	7,300	UG
	Inferred	395,000	5.41	68,700	UG
Dar Salam	Indicated	266,000	2.57	22,000	OP
	Inferred	445,000	2.53	36,200	OP
	Indicated	45,000	3.37	4,800	UG
	Inferred	418,000	3.64	48,900	UG

(1) Mineral resource estimates based on a gold price of USD$1,000 per ounce and a 96% process plant recovery.
(2) Mineral resources which are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.
(3) The quantity and grade of reported inferred resources in this estimation are uncertain in nature and there has been insufficient exploration to define these inferred resources as an indicated or measured mineral resource and it is uncertain if further exploration will result in upgrading them to an indicated or measured mineral resource category.

Table 6-2 Tabakoto Property Open Pit and Underground Resource Estimates (Armstrong et al, 2011)

Deposit Type	Classification 1-3	Tonnes	Au g/t	Au oz.
Open Pit	Measured & Indicated	1,842,000	4.08	241,500
	Inferred	2,577,000	3.59	297,100
Underground	Measured & Indicated	5,525,900	5.23	924,100
	Inferred	5,315,000	4.53	773,400

(1) Mineral resource estimates based on a gold price of USD$1,000 per ounce and a 96% process plant recovery.
(2) Mineral resources which are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.
(3) The quantity and grade of reported inferred resources in this estimation are uncertain in nature and there has been insufficient exploration to define these inferred resources as an indicated or measured mineral resource and it is uncertain if further exploration will result in upgrading them to an indicated or measured mineral resource category.
(4) "UG" indicates Underground and "OP" Open Pit.

Table 6-3 Tabakoto Property Total Resource Estimate (Armstrong et al, 2011)

Classification 1-3	Tonnes	Au g/t	Au oz.
Measured	55,900	5.59	10,000
Indicated	7,312,000	4.94	1,155,600
Measured & Indicated	7,367,900	4.94	1,165,600
Inferred	7,892,000	4.22	1,070,500

(1) Mineral resource estimates based on a gold price of USD$1,000 per ounce and a 96% process plant recovery.
(2) Mineral resources which are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.
(3) The quantity and grade of reported inferred resources in this estimation are uncertain in nature and there has been insufficient exploration to define these inferred resources as an indicated or measured mineral resource and it is uncertain if further exploration will result in upgrading them to an indicated or measured mineral resource category.
(4) "UG" indicates Underground and "OP" Open Pit.

6.1.2 2008 NI 43-101 Compliant Resource Estimate - Kofi

SRK Consulting (UK) Ltd completed an NI 43-101, compliant mineral resource estimation for AXMIN Limited on the Kofi Project in January 2008. This report covered 8 deposits, namely; Betea North, Central and South, Kofi A, Kofi B, Kofi C, Blanaid and A Linear. Ordinary Kriging was used with top-cuts applied to each zone. At a cut-off grade of 1.0 g/t Au an Indicated Mineral Resource of 3.60 Mt at 2.5 g/t Au and an Inferred Mineral Resource of 5.26 Mt at 2.2 g/t Au was reported (Roberts, 2008).

Table 6-4 Kofi Property Resource Estimates (Roberts, 2008)

Deposit	Classification	Tonnes	Au g/t	Au oz
Betea North	Inferred	473,000	1.6	25,000
Betea Central	Indicated	1,514,000	2.3	111,000
	Inferred	981,000	1.6	52,000
Betea South	Inferred	1,169,000	2.0	74,000
Kofi A	Inferred	378,000	2.0	25,000
Kofi B	Indicated	1,216,000	2.1	83,000
	Inferred	160,000	1.7	9,000
Kofi C	Indicated	873,000	3.5	99,000
	Inferred	913,000	3.7	109,000
Blanaid	Inferred	510,000	2.4	39,000
A Linear	Inferred	675,000	1.7	36,000
Total	**Indicated**	**3,602,000**	**2.5**	**293,000**
	Inferred	**5,259,000**	**2.2**	**368,000**

6.2 Previous Feasibility Studies

In September 2002, Nevsun commissioned Metallurgical Design and Management Pty Ltd ("MDM") to undertake a Feasibility Study on the Tabakoto Project to demonstrate the viability of the project and identify an appropriate development strategy. The study was completed in September 2002 and detailed in the report "Nevsun Resources Limited Tabakoto Property Bankable Feasibility Study" ("the FS"). Based on recommendations made in the FS, Nevsun completed an infill drilling program in early 2003 and commissioned Snowden Mining Industry Consultants Pty Ltd ("Snowden") to update the resource estimate contained within the FS. An updated resource estimate was completed in March 2003 and detailed in the report "Tabakoto Gold Deposit, 2003 Update to Northern Extension Area Resource".

Snowden completed a mineral reserve estimate, to a pre-feasibility level (±25%). The study assumed that the Ségala Deposit would be mined following completion of the mining operations at the Tabakoto open pit; hence, the Ségala reserve estimate was dependent on a contemporaneous feasibility study completed on the Tabakoto Deposit.

6.2.1 Expansion of Tabakoto Processing Facility

In 2011 Avion prepared an in-house study of the feasibility to expand the existing mineral processing plant. The study involved the doubling of the milling capacity from 2,000 tpd to 4,000 tpd through the introduction of a SAG Mill and other associated modifications throughout the plant.

The plant expansion involved installing a new 5,000 kW SAG mill in closed circuit with the existing ball mill. A unique feature of this expansion was the ability to return to the pre-expansion circuit during periods of SAG mill maintenance ensuring ongoing production albeit at a reduced rate. Expansion plans included improvements in capacity for CIL, refining, elution, thickening, gravity circuit, tailings impoundment, fresh water delivery and pumping capacities throughout the plant. The gravity circuit was to be modified to include an Intense Leach Reactor ("ILR") and dedicated electro-winning cells to process the increased volume of gravity recoverable gold.

Avion awarded Engineering, Procurement, Construction, Management ("EPCM") contract to GENIVAR Limited Partnership of Montreal in August 2010. This project was delayed due to instability and a military coup between March 2012 and April 2012 in Mali. Construction recommenced 2013 after stability was restored in the country and Endeavour acquired Avion, and the Tabakoto Operation. Final commissioning commenced during March 2013 and the plant was fully commissioned by June 2013.

6.2.2 2011 NI 43-101 Reserves Estimates

Details of the NI 43-101 compliant reserves estimates are provided in the P&E Technical Report referred to in Section 6.1 and summaries are presented in the tables below.

A summary of mineral reserves at the Tabakoto Mining Operations is presented in Table 6-5. The mineral reserves as of 2011 were estimated at 7.2 million tonnes at 3.9 g/t Au.

Table 6-5 Tabakoto Mining Operations Mineral Reserve Estimates (Armstrong et al, 2011)

Deposit Type	Classification[1-6]	Tonnes	Au g/t	Au oz
Underground	Proven	50,000	4.67	7,500
Underground	Probable	4,580,000	4.50	662,000
	Proven & Probable	**4,630,000**	**4.50**	**669,500**
Open Pit	Proven	381,000	4.48	54,900
Open Pit	Probable	1,023,000	3.93	129,200
	Proven & Probable	**1,404,000**	**4.08**	**184,100**
Stockpile	Proven	1,207,000	1.53	59,500
Stockpile	Probable	0	0.00	0
	Proven & Probable	**1,207,000**	**1.53**	**59,500**
Total	Proven	1,638,000	2.31	121,900
Total	Probable	5,603,000	4.39	791,200
	Proven & Probable	**7,241,000**	**3.92**	**913,100**

(1) The mineral reserves have been classified in accordance with requirements of NI 43-101 and the CIM standards.
(2) Reserve estimates are based on a gold price of USD$1,183 per ounce and a 94% process plant recovery.
(3) Andrew Bradfield, P.Eng. and Don Dudek, P.Geo. Sr. Officers of Avion and Qualified Persons, as such term is defined under NI 43-101, are responsible for the mineral reserve estimates and have reviewed and approved the scientific and technical information in this document relating to those estimates.
(4) The mineral reserves in this Technical Report were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council.
(5) See Section 22.2 of this report for a discussion of certain risks and uncertainties that may affect the above estimates.
(6) "Independent Technical Report and Resource Estimate on the Tabakoto Project, Mali, West Africa for Avion Gold Corporation" SEDAR Report by Armstrong et al, dated February 14, 2011.

6.3 Historic Production

Gold production on the mine since 2005 is tabulated in Table 6-6.

Table 6-6 Historic Production

Operator	Period	Tonnes	Au g/t	Contained Oz	Produced[3] Oz	Comments	Ore Sources
Nevsun[1]	2005					Pre-production stripping	Tabakoto Open Pit
	2006	476,792	2.97	45,491	41,111	1st Gold Pour in late March 2006	Tabakoto Open Pit
	2007	496,356	3.89	62,121	54,617	Operations suspended Sept 5, 2007	Tabakoto and Segala Open Pits
Avion Gold[2]	2009	644,997	2.57	53,375	51,291	Restart February 2009	Segala Main and Segala NW Open Pits
	2010	796,660	3.01	77,135	87,631		Segala Main, Segala NW and Tabakoto South Open Pits
	2011	804,534	3.28	84,818	91,200		Tabakoto Underground, Dioulafoundou, Segala NW and Tabakoto South Open Pits
	2012	866,488	4.55	126,735	111,630		Tabakoto Underground, Djambaye II Open Pit, Dilouafoundou Open Pit
Endeavour	2013	1,063,034	3.77	128,835	125,588		Tabakoto Underground, Djambaye II Open Pit
	Total	**5,148,861**	**3.49**	**578,510**	**563,068**		

(1) Plant feed - source is Nevsun MD&A's for 2006 and 2007.
(2) Mine production – source in Tabakoto mine records.
(3) Annual gold production as reported.

The difference between the Avion Gold 2012 mined (contained ounces) versus produced ounces is accounted for by stockpile accumulations prior to the plant expansion project in 2013.

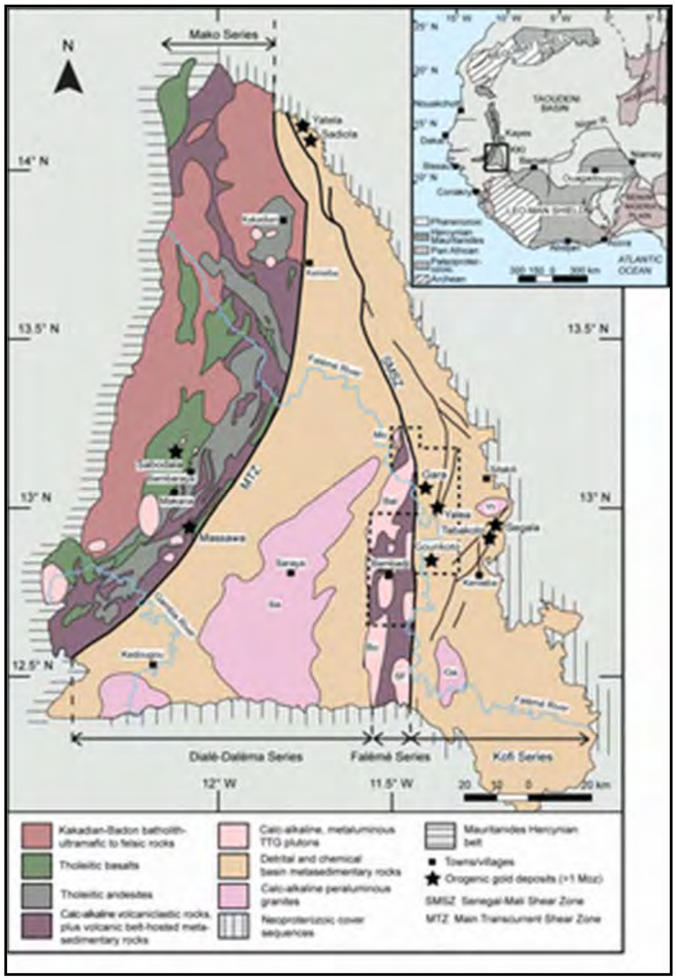
SEMICO is projecting production of 140,000 to 155,000 ounces from Tabakoto Operations in 2014.

7 Geological Setting and Mineralisation

7.1 Regional Geology

The geology and tectonic framework of West Africa, is dominated by cratons of Archaean and Lower Proterozoic age, Pan-African mobile zones of Upper Proterozoic age and intracratonic sedimentary basins ranging from the Proterozoic to the Quaternary (Figure 7-1).

Figure 7-1 Regional Geology Setting of the Kédougou-Kéniéba Inlier (After Lawrence et al, 2013)



The Precambrian history of this part of West Africa is commonly described by Wright et al (1985) as a process of progressive accretion of a series of successively younger mobile or orogenic zones or belts to the old crustal nuclei of early Archaean age. The West African Craton, which underlies the project area, stabilized about 1.99 Ga after the accretion of vast areas of Lower Proterozoic (or Birimian) formations at the end of the Eburnean orogenic event (Ledru et al, 1991).

The Tabakoto (Semico) Property is located in the eastern part of the Paleoproterozoic Kédougou-Kéniéba Inlier. The Inlier represents the westernmost exposure of the Birimian Supergroup (2050–2200 Ma) of the West African Craton (Lawrence et al, 2013). The Kédougou-Kéniéba Inlier is bounded on its western margin by the Hercynian Mauritanide Orogenic Belt (Villeneuve, 2008) and is unconformably overlain by flat-lying sandstones of the Paleozoic Taoudeni Basin (Wright et al, 1985)

The Birimian rocks of the Kédougou-Kéniéba Inlier have been subdivided into the western Mako Series (granite-greenstone belt) and the eastern Dialé-Daléma Series. They are separated by the Main Transcurrent Zone (MTZ). The Mako Belt consists of tholeiitic basalt and andesite lavas, with intercalated volcanic agglomerates and banded tuffs that are intruded by a complex sequence of pre- and syntectonic mafic and felsic plutons. The volcanic and intrusive rocks' geochemical and isotopic signatures are consistent with a volcanic-arc setting (Lawrence et al, 2013).

The Dialé-Daléma Series is composed of marine sedimentary rocks, interbedded locally with calc-alkaline ash- and lapilli-tuffs (Bassot, 1987; Hirdes and Davis, 2002) and intruded by late plutons, dikes and sills of intermediate to felsic compositions. The Dialé-Daléma Series is generally considered to be younger than the Mako Series (Lawrence et al, 2013). The Semico Block permit is underlain by the Dialé-Daléma Series. West of the Malian Shear Zone Endeavour geologists subdivide the Series into two parts; the Loulo Basin Series and the Kofi Formation. The Kofi Formation is further subdivided on the presence or absence of secondary tourmaline.

7.1.1 Loulo Basin Series

The Loulo Basin Series is a distinct and linear trough of rocks bounded to the west of the Senegal-Malian Shear Zone and to the east by a ferruginous brittle fault zone exposed on the Kofi property, informally named the Amar Fault. The stratigraphy of this belt of rocks is unique when compared to rocks of the Kofi Formation that lie east of the Amar Fault. The Loulo Basin Series has a significant component of coarse clastic rock including; conglomerate, breccia and sandstone in addition to the greywacke and fine clastic rocks (argillite) that make up the Kofi Formation. Limestone (layered carbonate) occurs at the top of the stratigraphy of the Loulo Basin Series. In the absence of a detrital erosional source it is believed to be exhalative in origin. The depositional environment of the Loulo Basin is uncertain. It may be a shallow disconformable extensional basin or perhaps a submarine intracontinental rift.

The Loulo Basin Series is a highly prospective area. The corridor contains more than 30 million ounces of gold. The largest and most significant gold deposits in the Kéniéba-Kédougou Inlier all occur within this corridor and include: Fekola, Gounkoto, Gara (and all the other Rand Gold deposits), Sadiola, Yatela and Endeavour's Kofi C deposits.

7.1.2 Kofi Formation

East of the Amar Fault, the sedimentary rocks of the Kéniéba-Kédougou Inlier make up the Kofi Formation. The Kofi Formation is composed of deep marine sedimentary rocks, predominantly greywacke and fine clastic rock (argillite) in a turbiditic depositional environment. There is a notable absence of carbonates, conglomerate, sedimentary breccia and mature sandstone in the Kofi Formation.

The Endeavour geologists have subdivided the Kofi Formation on their property into two parts (Figure 7-3). The two groups both have similar sedimentary rocks as noted above. The Kofi A group rocks that have been locally selectively replaced by tourmaline presumably by a post depositional boron rich fluid front the eastern limit of which has been mapped by Endeavour geologists. The Kofi B group does not contain any tourmaline and is composed of similar turbiditic greywacke and argillite.

7.1.3 Regional Tectonic and Structural History

The Proterozoic Birimian greenstone rocks have undergone deformation during the Eburnean Orogeny which dates roughly from 2400 to 1600 Ma. The principal metallogenic events occurred between 2120 and 1971 MA (Jebrak and Marcoux, 2008). The last orogenic event in West and Central Africa was the Pan-African of Upper Proterozoic to Lower Paleozoic age (600-450 Ma). This event completed the addition of new crustal material to the older shield areas composed of Archaean cratons and Proterozoic mobile belts.

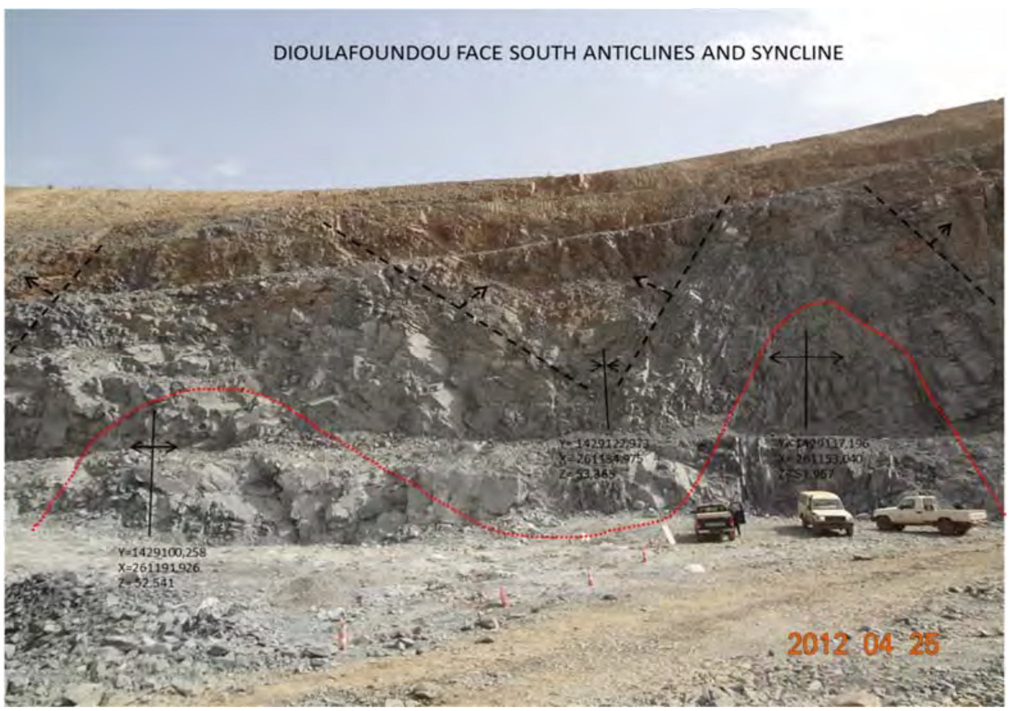
The Pan-African also overprinted and partially obliterated older pre-existing sequences of Archaean-Late to Proterozoic age. Pan-African mobile belts rim the western margins of the West African and Congo Shields. The Pan-African belt of Central Africa (also known as the Trans-Saharan mobile belt) occupies a vast area along the eastern margin of the West African and the northwestern margin of the Congo Craton. To date evidence for this latter event has not been observed in project area within the Kéniéba-Kédougou Inlier.

The Eburnean orogeny deformed the Birimian rocks in West Africa between 2400 and 1600 Ma (Jebrak and Marcoux 2008). Lawrence et al, (2013) observes that the Birimian rocks of the Kédougou-Kéniéba Inlier show a polycyclic deformation and metamorphic history related to the Eburnean orogenic event (Ledru et al, 1991; Dabo and Aïfa, 2010; 2011). Three distinct tectono-metamorphic events occurred deforming the rocks in the area.

7.1.4 D1

The first deformation phase (D1) is a compressive event linked to the initial accretion of the Birimian terrains (Milési et al, 1989, 1992; Ledru et al, 1991). A D1 phase of thrusting tectonics affected the Lower Birimian tourmalinized sediments. This first tectonic phase is characterized by isoclinals overturned to recumbent accordion style folds (Figure 7-2) associated with axial plane schistosity which is mainly transposed in the bedding (Dabo and Aifa 2010, Lawrence et al, 2013).

Figure 7-2 F1 Folding on South Wall of Dioulafoundou Pit (courtesy A. Maiga)



7.1.5 D2

Later deformation (D2; and also D3) is associated with transcurrent movement and the formation of the major regional-scale, north-south shear zones (Main Transcurrent Zone and the Senegal-Mali Shear Zone) and subsidiary structures. In the Loulo area, Lawrence et al, (2013) identify a D2 phase of compressional (D2a) and transpressional (D2b) tectonics associated with the major schistosity, S2, which is N-S to SW-NE trending, mainly dipping to the south-east. The S2 schistosity is mostly displayed in the large shear zones where it steeply dips locally toward the north-west. A north-west vergence thrusting phase (D2c) of flats and ramps, associated with reverse folds, represents the last Eburnean event. This geometrical feature is characteristic of a ''positive flower structure''. These different Eburnean compressional phases are separated by extensional deformation which is characterized by sedimentary deposits and volcanic flows (Lawrence et al, 2013).

On the Tabakoto permit block, the D2 event generated SW-NE trending shears and a well-developed S2 cleavage, mainly dipping to the southeast. The shears typically show a dextral sense of movement locally; the fabric can dip north-west, suggesting local overturning or thrusting as suggested by Lawrence et al, (2013).

7.1.6 D3

The D3 event is expressed by auriferous SE- NW and E-W fractures and shears with oblique dips towards the south, and southwest. The NW-SE D3 structures typically show a sinistral movement and generally reverse faults. They cross cut and offset locally the D1 and D2 fabric. Dabo and Aifa (2011) also have observed that this event generated E-W structures. Steeply dipping auriferous East-West structures with a dextral sense of strike movement which cross cut and offset all aforementioned fabrics, have been mapped in the project area. These structures can be highly mineralized and contribute to the bonanza zones in the deposits on the Property.

Barren East–West, shallow southerly dipping (20-30^{o}) fault structures with sinistral movements have also been observed.

All three deformational events produced structural fabrics that can be measured in rocks of the Tabakoto Property. Regional green schist facies metamorphism is associated with both compressive and transcurrent phases of deformation (Lawrence et al, 2013). Local contact metamorphism to amphibolite facies has been identified in proximity of the larger intrusive bodies.

The transcurrent deformation is synchronous with gold mineralization and the emplacement of several calc-alkaline granites ie.; the Saraya, Yatia, Gamaye peraluminous granites, the Falémé granitoids, and the youngest generation of subcircular Mako plutons (Lawrence et al, 2013). Contact metamorphism associated with the intrusions has been observed locally (i.e. at the Ségala deposit).

The Ségala and Moralia granites on the Ségala Mining Permit show an elongation in the SW-NE direction, The Yatia granite shows an E-W elongation. Exposures of the Moralia granite east of the Ségala deposit, generally shows a well-developed NE foliation. In the absence of age dating, it is believed that the granitoid intrusives (Tabakoto dikes, Ségala, Yatia, Moralia etc.) were intruded (early) during the D2 event. At least in the case of the Tabakoto granitoid dikes, they intruded along a pre-existing structure.

Intrusions of intermediate composition also intrude the rocks of the Tabakoto permit area. There appear to be two events: (1) at Djambaye II the main host of the ore is an intensely albitized diorite or quartz diorite, which intruded along structures parallel to the regional D1 folding; (2) Diorite dikes, which are typically hosted by NE structures, are also present. They have been observed not only at Djambaye II but have also been seen at Ségala and Dioulafoundou.

Biotite bearing mafic dikes (lamprophyre) cross cut the rocks in spatial association with the Tabakoto Trend. Their relative age is unclear as they seem to occupy structures related to D1 and D2. In the Tabakoto mine in at least one case they are associated with gold mineralization, however it is unclear to the author whether this was fortuitous and the dike intruded along a pre-existing gold bearing structure or they are associated with its own hydrothermal gold event.

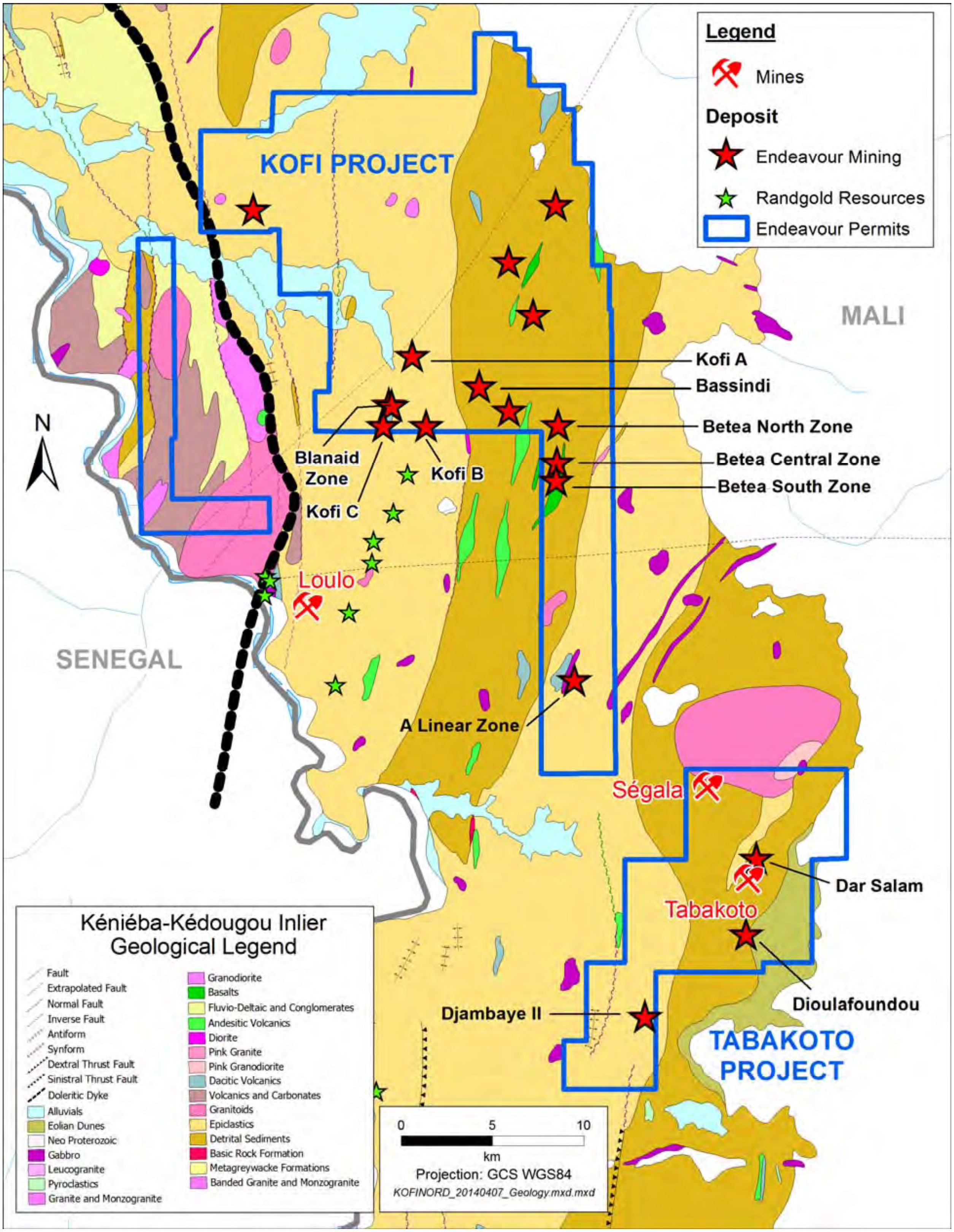
Gabbro of likely Proterozoic age intrudes the rocks of the Tabakoto permit area. They are easily identified by their magnetic signature and are exposed at the west end of the Ségala Pit where they appear to cross cut the mineralization.

Kimberlite intrudes the rocks of the window, there are disagreements about their ages but in general they are believed to be Proterozoic.

Diatreme dikes were intersected in drilling at Ségala and one small dike is exposed at the west end of the Ségala pit where it intrudes the gabbro. It is unclear how they relate to the intrusive history but are thought to possibly be related to the Kimberlitic intrusive event discussed above.

Phanerozoic dolerite dikes crosscut the rocks of the area and appear to intrude along pre-existing structures. They are unrelated to the gold mineralization in the window.

Figure 7-3 Geology of Tabakoto and Kofi Projects

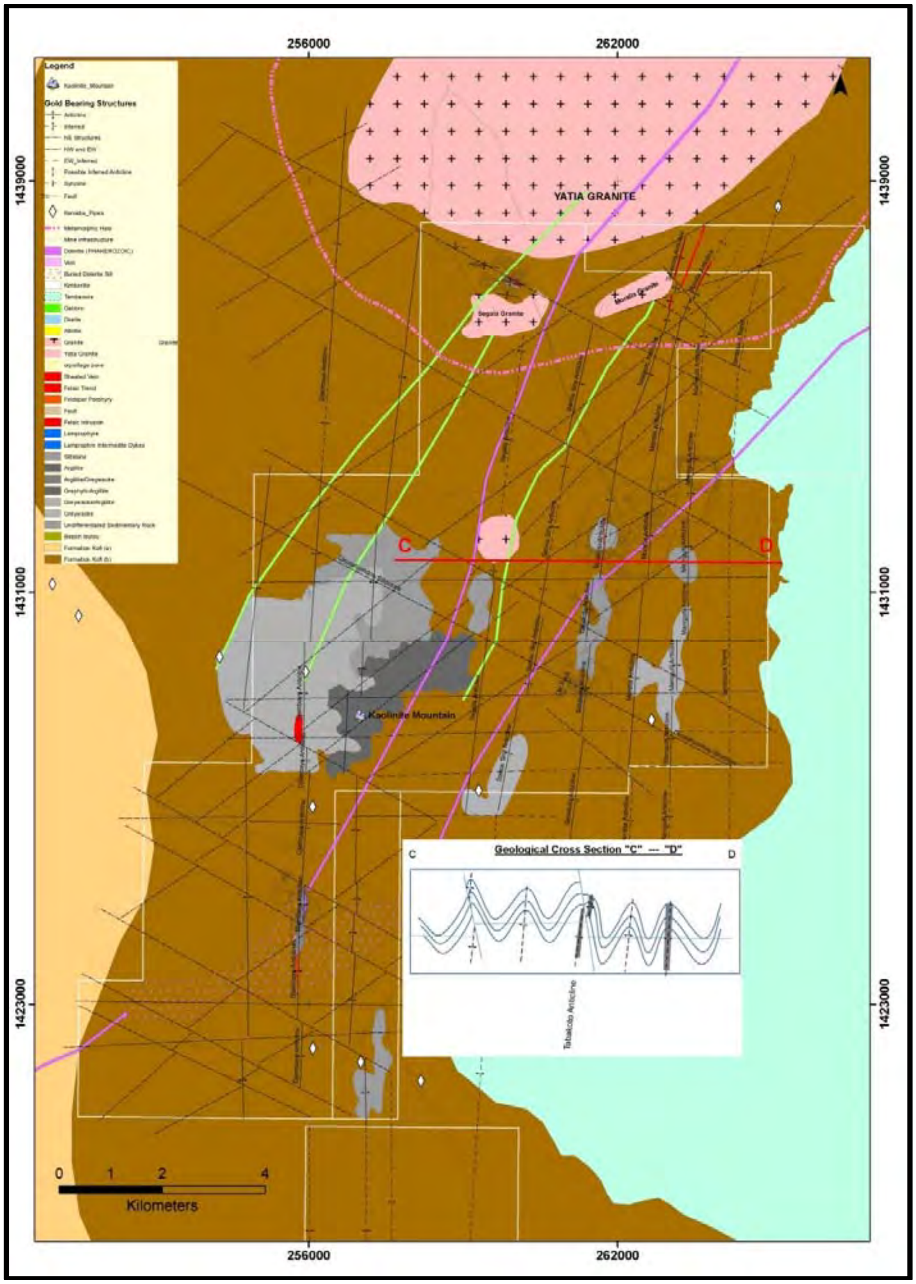


7.1.7 Tabakoto Deposits

The Tabakoto deposit is broadly distributed into three strike-continuous gold zones, namely the North, Main, and South zones. The zones were originally interpreted to be generally aligned in a north-south direction over a total strike length of approximately 2,400 metres and to a maximum depth of 580 metres vertically.

Subsequent work has significantly modified this early interpretation. It is likely that additional mineralized cross-structures will be defined and that future drilling will continue to extend the zones to depth (Figure 7-4).

Figure 7-4 Tabakoto Property Geology

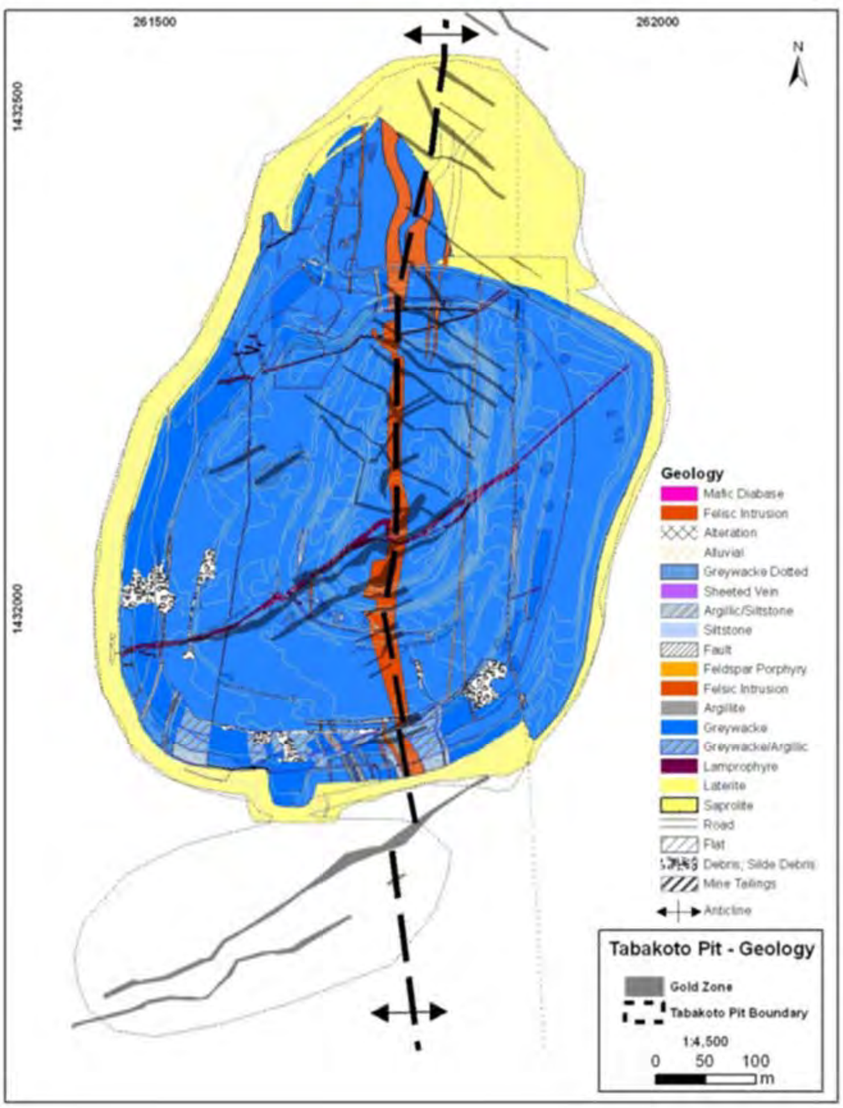


7.1.7.1 Structure

Structural studies of the Tabakoto opencast liberated evidence for at least three deformation events, locally termed D1 to D3. D1 is characterized by the development of the north-trending Tabakoto anticline (F1) and NNE-trending cleavage (S1). D2 is characterized by a non-pervasive, disjunctive cleavage (S2) and minor mesoscopic thrust-folds (F2). D3 is represented by an array of NE-ENE trending faults and subordinate NNW-trending faults that form a conjugate set.

The Tabakoto Deposit occurs within and proximal to the core of a tight, upright anticline (or anticline couple), whose axial surface dips steeply (70° to 85°) eastward. The folded metasediments are variably intermixed such that no obvious marker units exist, and the anticline is defined strictly by common sedimentary facing directions. A suite of metre to decametre scale, felsic to intermediate feldspar (+/- quartz) porphyritic and non-porphyritic dikes cut the folded sequence along the length of the core of the anticline, (Figure 7-5). A typical cross section of the Tabakoto South zones is illustrated in Figure 7-6.

Figure 7-5 Tabakoto Deposit, Geology and Structure



The felsic to intermediate dikes are concentrated within two main intrusive corridors in the northern portion of the deposit, namely a western corridor (15-30 m wide) dominated by intermediate (diorite, quartz diorite) dikes and an eastern corridor (20-75 m wide) dominated by felsic dikes. The corridors are generally about 40 m apart (up to 80 m in the north) and merge into one principal corridor (50-110 m wide) in the central part of the deposit. Brittle faults and gabbro-dolerite and lamprophyre dikes transect the folded assembly.

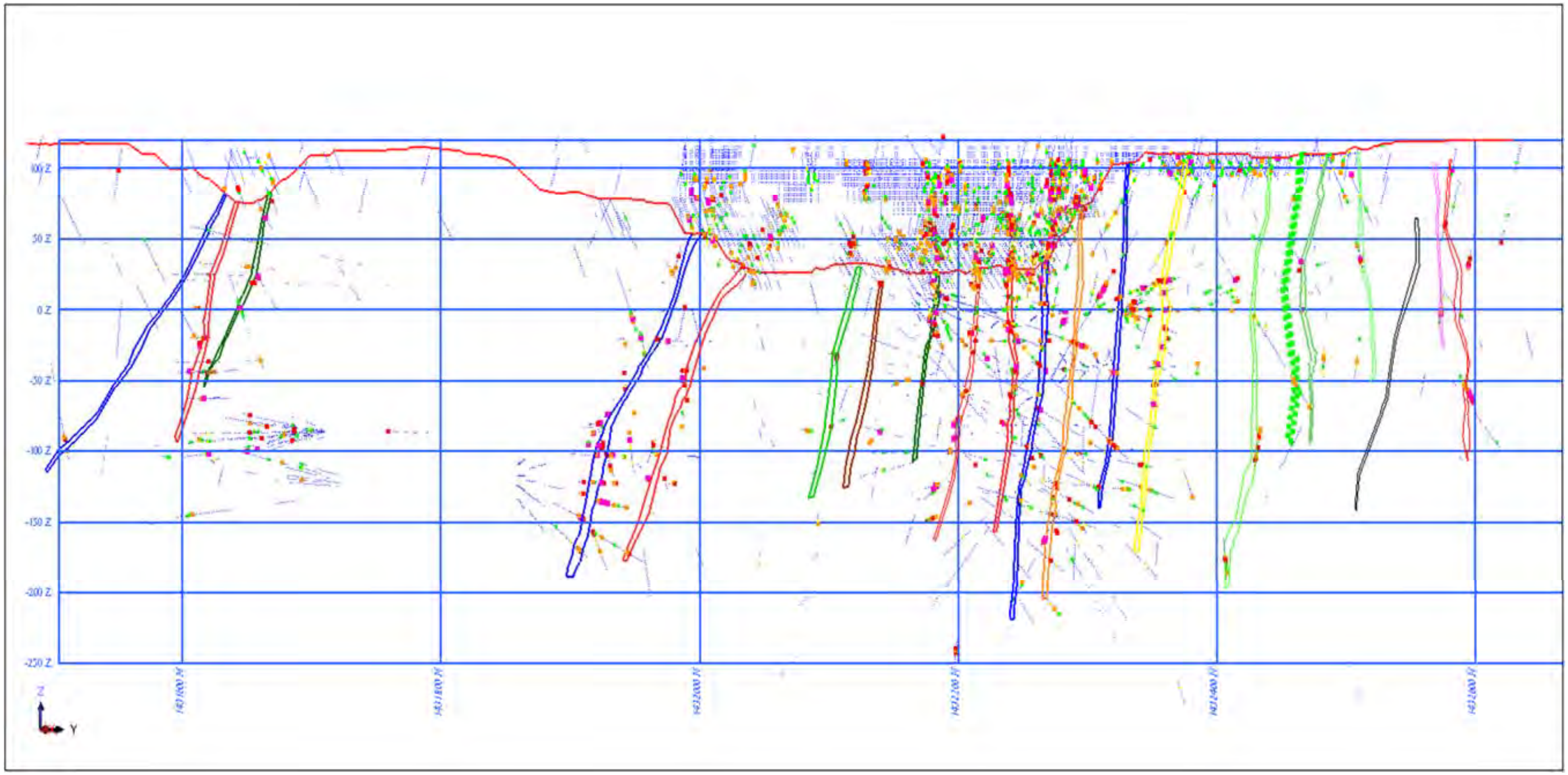
The main north-south direction of the Tabakoto fold hinge is intersected by numerous northeast (060° Azi) and northwest (305° Azi) striking structures. These cross-structures are directly related to the bulk of the modelled and interpreted gold mineralization at the Tabakoto deposit. Some of the northeast trending structures extend away from the pit with possible strike extents in the order of 15 kilometres.

Modelling of the mineralization in the Tabakoto pit has defined approximately 18 discrete northwest and 15 northeast trending cross-structures. The timing of these structures is post north south structures and it is clear that the northeast-trending cross-structures have been intruded by lamprophyric dikes that are themselves locally mineralized with arsenopyrite and gold. The northeast structures display both right and left-hand movement and dip steeply to the southeast.

The mineralized, northeast-trending structures generally appear to have right-lateral offsets. It is not clear if there is any offset on the steeply dipping, northwest-trending structures. Testing of the cross-structures indicates a consistent steep to moderate east to south east plunge of the higher grade zones.

The Tabakoto Deposit, which is essentially represented by a close collection of cross-structures, mimics regional patterns where through-going northeast and northwest-trending faults are common. The Tabakoto deposit appears unique in that both structural directions occur in close proximity to each other.

Figure 7-6 Typical Cross Section of Tabakoto South/Dabo Zone



The dike corridors, and associated host rocks along the length of the anticlinal axis, form the locus of preferential alteration (silicification, sericitization and/or carbonatization). They are also the focus of intrusion of narrow (cm to dm scale) gold bearing (+/-albite, carbonate) quartz vein systems, development of quartz crackle vein and quartz flooded breccia zones, and development of fine to medium grained disseminated arsenopyrite with subordinate pyrite and free gold. Visible gold occurs in all lithologies and gold grades range widely owing to a nugget effect.

Gold mineralization appears to be mainly associated with zones of fracturing and brecciation within and proximal to the axial zone of the Tabakoto anticline. The fracture zones and the associated mineralization are not restricted to any particular lithology but rather follow the cross-structures as they intersect the axial trace of the anticline. Brittle deformation appears to be best developed within the relatively competent units of the felsic and intermediate porphyritic dikes. In other places the mineralization follows silicified and carbonatized sediments. Weak gold mineralization is also intersected whenever the intrusions in the core of the fold are intersected by drilling, suggesting that there is likely an earlier north-south controlled gold mineralizing event. The competent north-south zone likely serves as a host to crosscutting mineralized structures.

The main alteration type appears to be silicification, with subordinate iron-carbonatization feldspathization (albitization) and sericitization, which all together contribute to a “creamy to creamy pink alteration”. Related to this alteration are variable amounts of disseminated to patchy arsenopyrite, pyrite and pyrrhotite as well as trace amounts of chalcopyrite and sphalerite. Very intense creamy alteration commonly replaces the original rock, resulting in diffuse zones of uncertain protolith. Creamy alteration, while related to gold mineralization is not ubiquitously associated with high gold values, and in several localities well-altered material returned very low gold values. It is possible that this style of alteration may not be temporally related to gold mineralizing events. Early alteration likely provided the ground preparation needed to allow brittle fracturing and the subsequent infiltration of gold mineralizing fluids. At the same time, as there are many phases of dike intrusion, there are likely to be many phases of alteration, not all of which will result in gold mineralization.

Occasionally very high-grade gold mineralization is related to weak to strong silicification and micro-fracturing in sediments. Barely visible hairline silicified fractures also locally host visible gold. The felsic porphyritic dikes themselves are almost ubiquitously silicified and albitized, although the intensity of alteration is highly variable and contain varying amounts of arsenopyrite and pyrite mineralization. Easterly-trending structures are also inferred to exist, however, no significant amounts of gold mineralization or easterly-trending structures have been noted along this structural direction in the Tabakoto pit.

Figure 7-7 and Figure 7-8 present the geological domain wire frame model used in the resource estimation for the Tabakoto deposit. The resource estimate considers two areas; one over the Tabakoto South/Dabo zones; and the other over the northwest-trending zones located north of the Tabakoto Pit.

Figure 7-7 Tabakoto Deposit 3-D Geological Domain Wireframe Plan

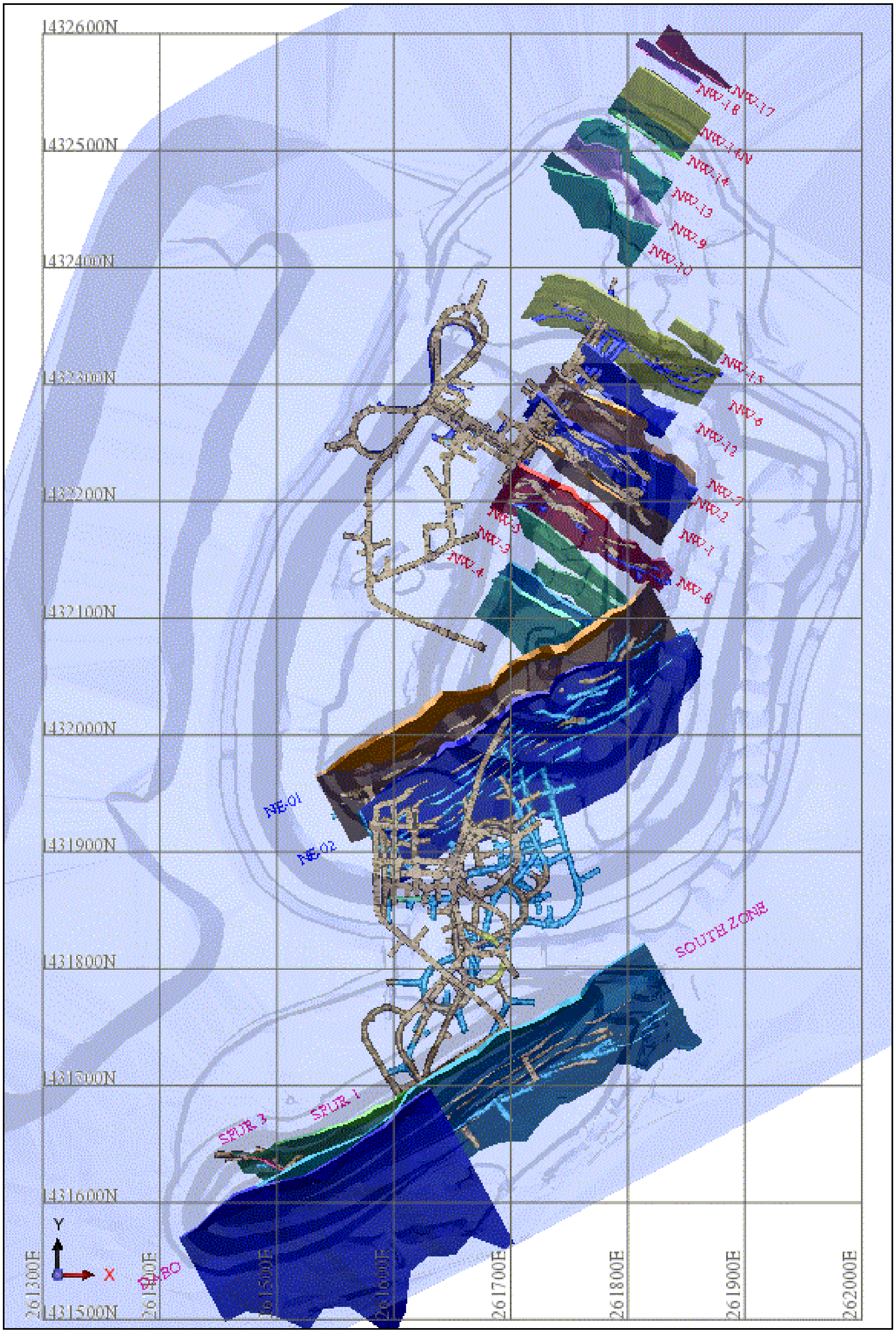
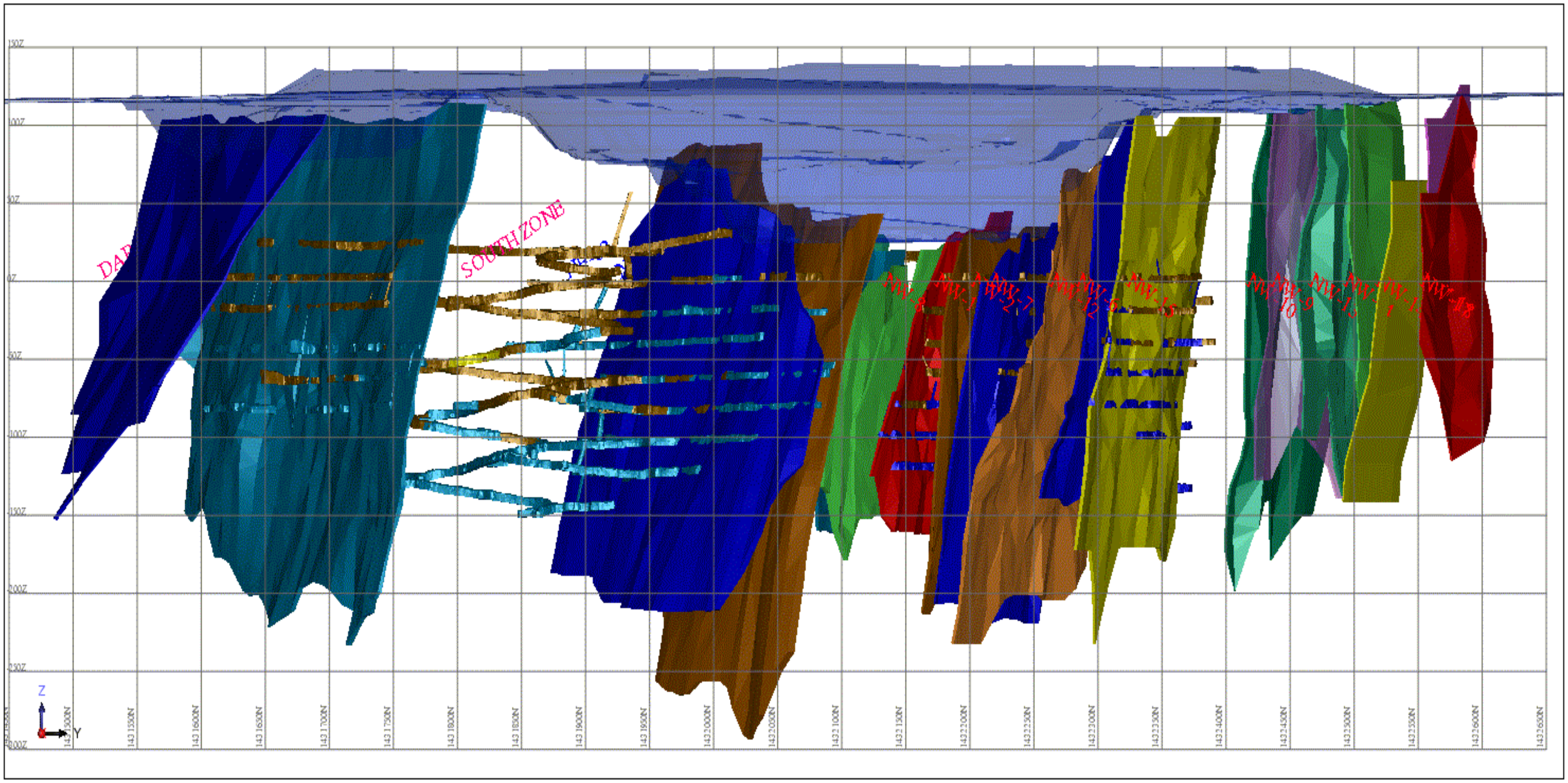


Figure 7-8 Tabakoto Deposit 3-D Geological Domain Wireframe Section



7.1.8 Ségala

The lithology of the Ségala deposit is dominated by faulted and fractured contact metamorphosed greywacke, siltstone and argillite which is locally graphitic. Contact metamorphism is to hornblende-hornfels facies with development of hornblende, biotite, chloritoid and chlorite. The central portion of the pit is occupied by a complex array of quartz veins and breccias that form a cataclasite lode/breccia.

Three intrusive bodies crop out in the Ségala open pit:

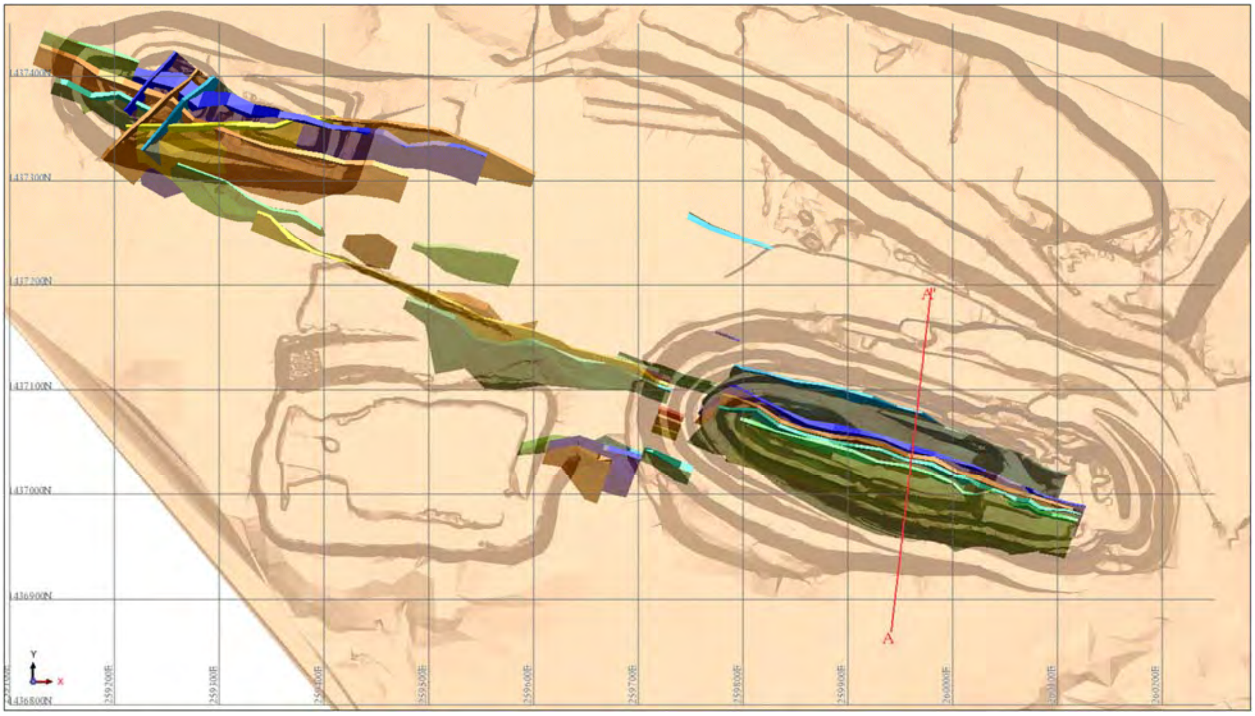
1. ***NNE trending granite dike.*** A 5-10 m wide granite dike is readily identified by a distinct homogenous pink zone of potassic alteration on upper benches and batters in the saprolite profile at the far western end of the Ségala open pit. Coarse potassic feldspar and quartz crystals occur in broken rock fragments. The granite dike is interpreted as co-magmatic with the Ségala granite to the south of the open pit.
2. ***Quartz-rich granitoid dikes*** (locally referred to as quartz-porphyry), western end of the Ségala open pit. Two branches of these dikes can be seen in pit bottom. They trend WNW and are similar to quartz-rich granitoids which crop out in the Tabakoto open pit.
3. ***Dolerite dikes***: Occurs as limited outcrop in saprolite at the western end of the Ségala open pit.

Structural studies of the Ségala opencast show evidence for progressive deformation of the rock mass during, and subsequent to, emplacement of the Yatia granodiorite; the Ségala open pit is situated at the margin of the inner and middle contact metamorphic aureole and wholly with the structural aureole of the Yatia granodiorite. An igneous foliation that likely parallels the entire margin of the granitoid is interpreted to have formed during emplacement of the pluton concomitant with prograde contact metamorphism and development of hornblende-biotite-chloritoid mineral assemblages. The mean principal orientation of the igneous foliation is 289/74S. Small-scale WNW-trending shears and steeply SSW plunge folds were formed during softening of the wall rock (ductile deformation) and plastic flow.

With respect to NNE trending granite dikes and WNW-trending quartz-rich granitoid dikes, they are not crosscut by faults and fractures, foliations or lineations and are thus interpreted to be late, that is, the emplacement of the Ségala granite is interpreted to be late and after cooling of the Yatia granodiorite.

The Ségala deposit comprises three mineralized zones, the Main, Northwest, and Far Northwest Zones Resource estimates on the Main Zone and the North West zone have been calculated and are included in this report (Figure 7-9).

Figure 7-9 3D View of the Ségala Deposits illustrating the Main and North West Zones



7.1.8.1 Ségala Main Zone

The Ségala Main Zone has been traced along a strike of 750 metres, has an average width of 40 m and continuity of mineralization to a depth of at least 600 metres. The mined, and currently deemed mineable portion of the zone, extends for about 350 to 400 metres along strike and ranges up to 40 metres true thickness with an average true thickness of close to 15 metres. The Main Zone consists of a central, wider core of alteration and mineralization bound to the north and south by several 0.5 to 5 metre wide bands of more intense alteration and mineralization. See Figure 7-10 for a typical cross section and Figure 7-11 for 3-D wireframes of the mineralisation of the Ségala Main deposit.

Figure 7-10 Ségala Main Zone Typical Cross Section

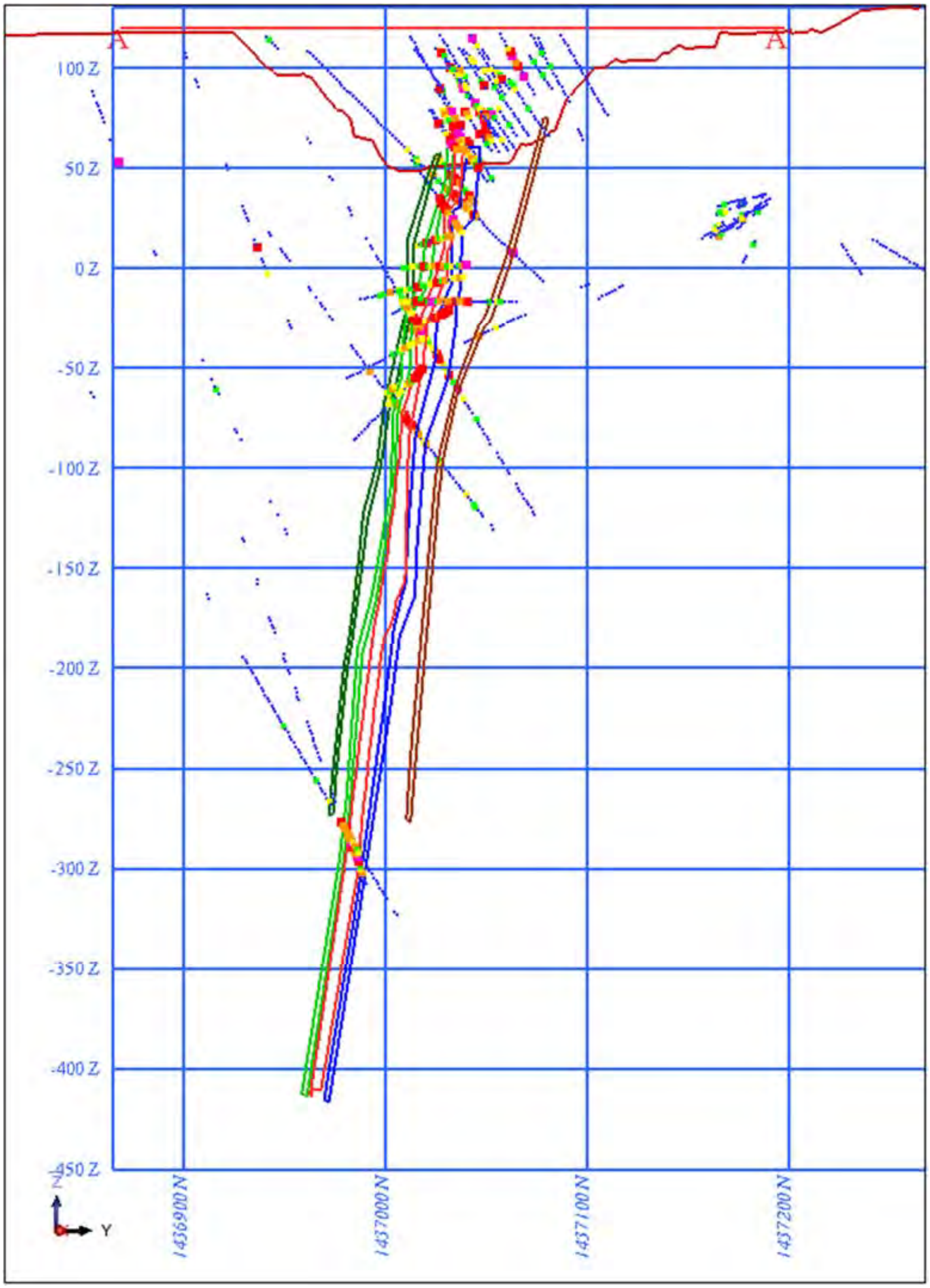
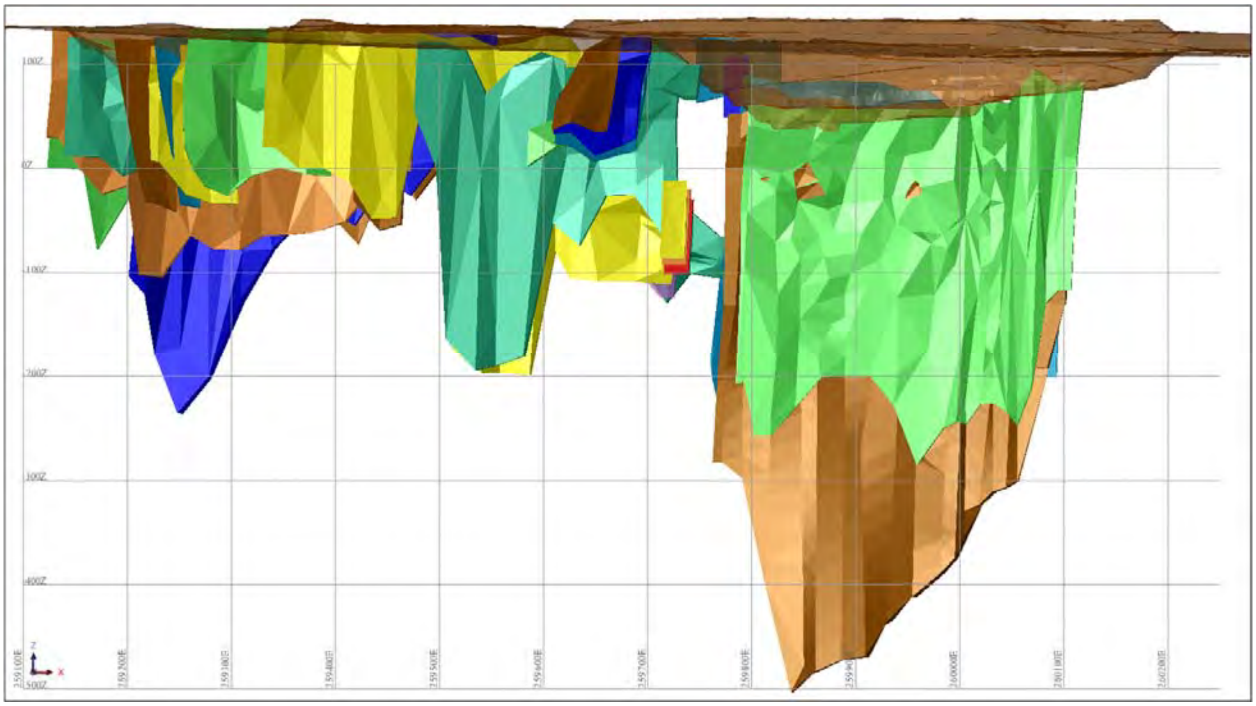


Figure 7-11 Ségala Deposit 3D Longitudinal Section



The Ségala Main zone is a structurally controlled alteration and mineralization system that is hosted within the core of an isoclinal anticline whose axial trace trends ESE (approx. 110° Azi) and dips steeply to the south at about -80°. The anticline is made up of somewhat deformed and altered metasediment (greywacke and argillite) that display variably intense carbonate, sericite, silica, aluminous and chlorite alteration. A series of quartz stringers and veins intrudes this package.

Gold mineralization is associated with late, narrow, iron carbonate-quartz veins and stringers that intrude the silicified and carbonatized sediment. The veins and stringers usually display somewhat bleached selvages containing coarse to fine grained arsenopyrite crystals and finer disseminated to patchy pyrite (pyrite is also seen to replace arsenopyrite). Many of these stringers and veins are oriented parallel to local foliation but there are others that are believed to be oriented north-east south-west as well as north south. To a significantly lesser degree, gold is also associated with fractured felsic and intermediate feldspar porphyry dikes. Mineralization appears to plunge steeply to the east.

The mineralization is hosted within a wide alteration envelope of carbonatization and sericitization which has bleached the sedimentary units to a light brown to grey colour. Pyrite and arsenopyrite disseminations occur with associated quartz-carbonate and quartz-arsenopyrite veinlets. The hanging wall and foot wall zones are separated by mostly aluminosilicate-altered argillite units which are occasionally graphitic. Visible gold is contained in some of the veins and fabric of the rock, preferentially in those veins having arsenopyrite along the vein selvages.

Faults are observed throughout the pit but are more evident in the west and eastern ends. A strong fault zone is associated with the diabase intrusion that cuts the western end of the pit however, there does not seem to be much horizontal offset. Smaller-scale faults, with common right lateral offsets, offset the zone at either end of the pit and appear to be associated with the end of the main part of the mineralized zone. It is also assumed that a large, northerly trending fault lies just east of the defined main zone where a prominent lineament is evident.

7.1.8.2 Ségala North West Zone

The Ségala NW Zone has been tested along more than a 1,500 metre strike and detail drilled over a 500 metre strike length and to approximately 220 metres depth. This zone is hosted by east-southeast trending, weakly to well foliated package of variably altered argillite, siltstone and greywacke. These rocks are cut by several episodes of quartz veins, of which a set of northeast trending, steeply dipping veins are known to contain abundant gold and were selectively mined by artisanal miners. The strike of the NW Zone appears to be parallel to the Main Zone. North-east striking structures play a significant role in emplacement of gold as is also evident in the Tabakoto NE zones. Graphitic/carbonaceous zones are noted to carry some gold values.

Mineralized feldspar porphyries were also intersected in narrow sheeted structures. The alteration in the NW Zone is not as well developed in comparison to the Main Zone, lacking a distinct alteration halo and having a more weathered profile. The depth of oxidation is in the order of 40 to 60 metres as opposed to the Main Zone, which has depths of oxidation ranging from 5 m in the east to 25 m in the west.

The degree of iron carbonate and sericite alteration is significantly less and the mineralization associated with quartz veining is subtler. The alteration occurs proximal to the quartz-carbonate veins containing arsenopyrite mineralization. Quartz veining and stringers are interpreted to trend both northeast-southwest and east-west. Mineralized zones at the NW Zone are more discrete and wide spread than in the Main Zone with larger widths of lower grade gold mineralization being more common. Visible gold is contained in some of the veins, especially a cm-scale northeast-trending set.

7.1.8.3 Ségala Far NW Zone

Another south-east trending zone of gold mineralization lays several hundred metres north of the NW zone and is called the Far NW Zone. This package of mineralized rocks can be traced for several kilometres along strike and has similar host rocks, alteration and style of mineralization to Ségala NW.

7.1.9 Djambaye II

The Djambaye II zone is hosted by a north-trending felsic intrusion(s) (and proximal sediments) that lies in the axis of a northerly-trending fold hinge. Mineralization is stockwork style in character, pyrite dominant, with subordinate arsenopyrite and often associated with quartz veins. Higher grade zones are inferred to occur near cross-structures.

The Djambaye II mineralized structure/zone dips at -70 degrees to the east, has been traced by drilling for approximately 4,400 metres and is still open to the north, south and to depth (Figure 7-12 and 7-13).

Figure 7-12 Long Section View of Djambaye II M&I Resource June 2013 Model

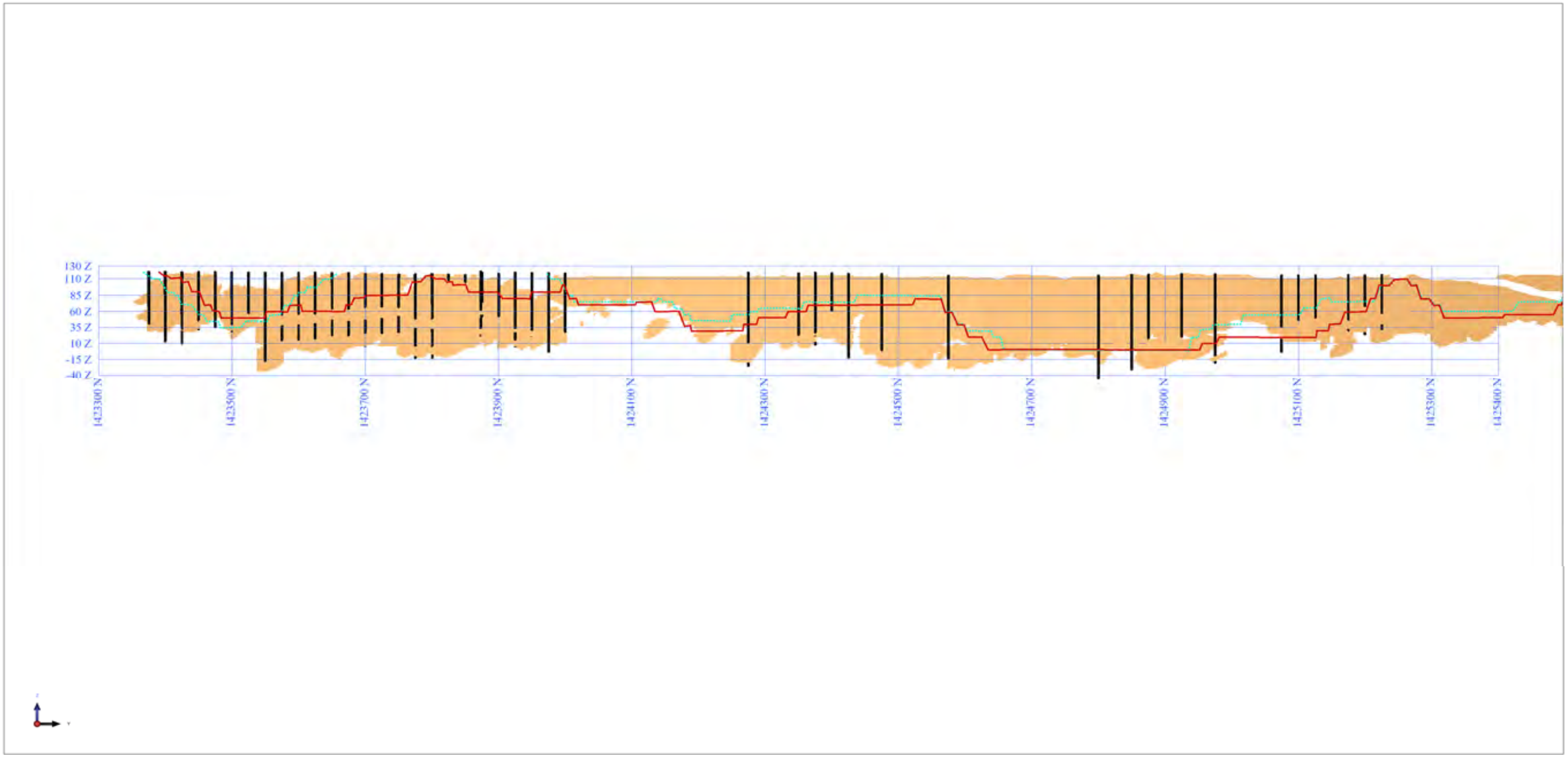
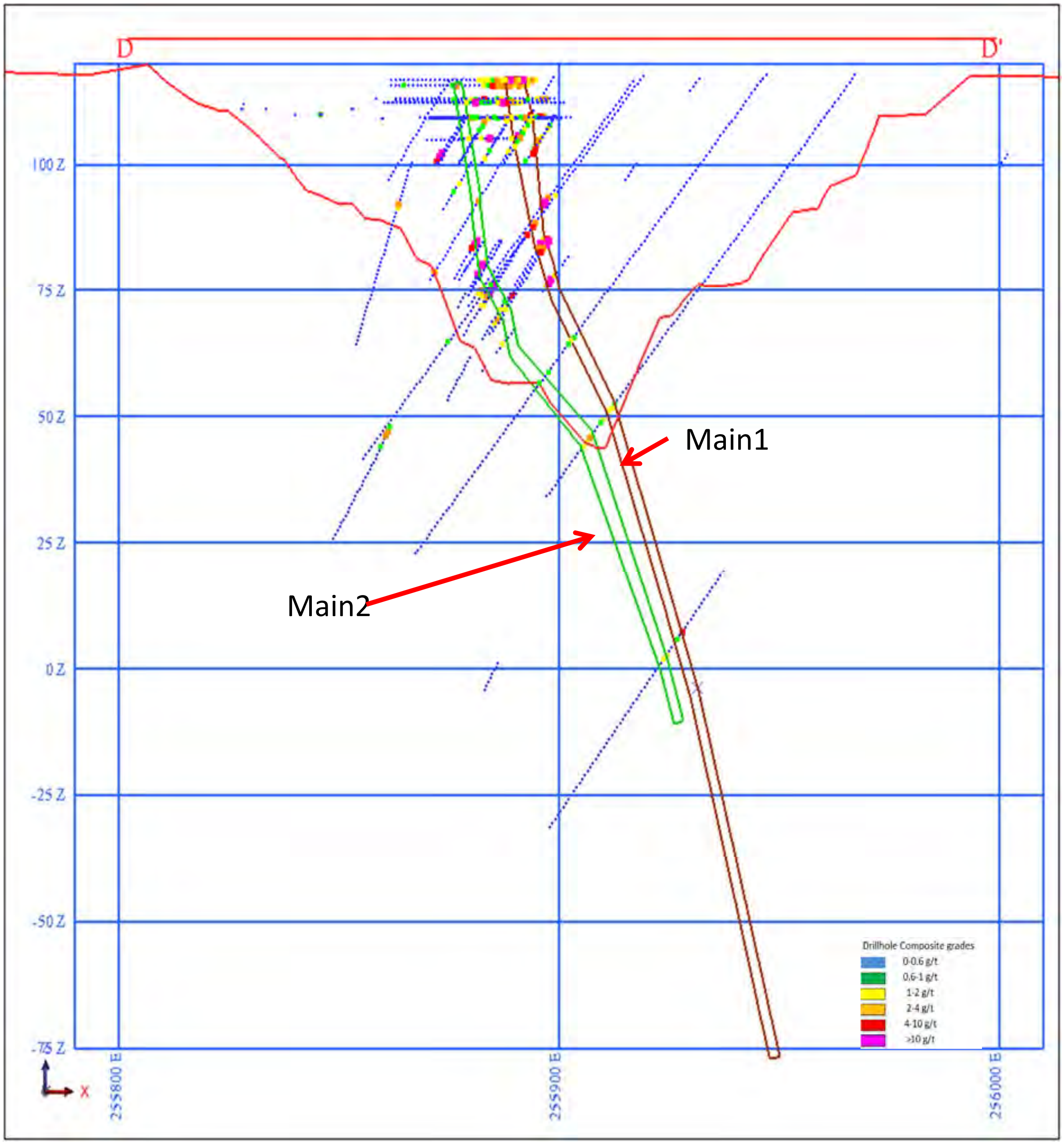


Figure 7-13 Typical Cross Section of Djambaye II



The Djambaye II mine is located in a sedimentary environment dominated by alternating greywacke and argillite.

Sediments exposed in Djambaye II open pit correspond to the east limb of an asymmetric antiform with the east limb longer than the west limb. Late Dolerite bodies cutting across the sediments are visible in the east wall of the pit. Centimetre scale mafic dikes also cut across the sediments. A set of late EW faults cut across the dolerite and the sediments in the northern portion of the pit. The late EW faults dip to the south (70/198) and show a reverse displacement resulting in a down throw of the north of the pit. These faults although very late after the formation of the gold mineralization would probably have an impact on the geometry of the ore body.

Sediments exposed on the west wall in the southern portion of the pit are folded. This folding (F2) gave rise to an open fold with an axial planar cleavage dipping gently to the north 06/360.

To date gold mineralization found at Djambaye II is primarily hosted in quartz vein or felsic (rhyodacite) dike structures, with structural control being the dominant feature. Alteration associated with the structures consists of local silification of the metasediments. A carbonate-chlorite + sericite assemblage is also locally found associated with the veins and in narrow alteration envelopes around the veins.

The dominant control for the mineralization at Djambaye II zone is the N-S striking dikes as well as N-E cross-cutting quartz stringer zones that develop within the dikes. The dikes and quartz veins are all hosted in Birimian metasediments. The true thickness of the Djambaye II structure is estimated to range from 0.73 to 7.42 metres and averages 2.61 metres.

The west side of Djambaye II pit is limited by a major N-S steep fault. The fault dips 84 degrees towards the east (84/100) and shows a strike slip dextral displacement. Sediments steepen in the vicinity of the N-S fault and flatten towards the east.

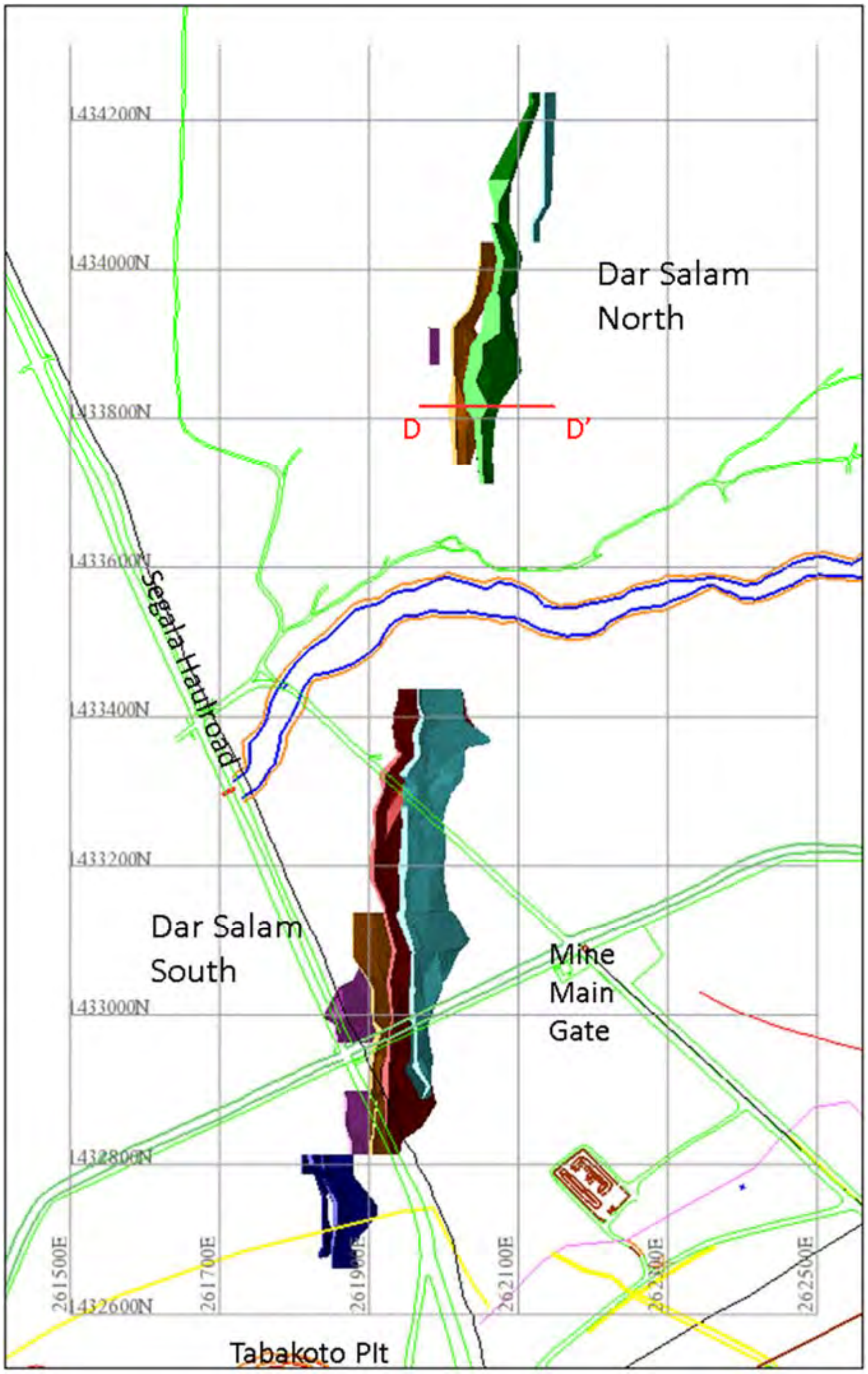
The albitite does not show any sign of foliation, just millimetre scale cracks with pyrite and arsenopyrite. That suggests that the orebody was formed after the folding and the formation of S1 foliation. NE trending structures are prominent in Djambaye II Pit and some of the NE faults are filled with dioritic intrusive.

7.1.10 Dar Salam

The Dar Salam Deposit is comprised of a number of zones extending over nearly a kilometre of strike. Mineralisation is observed in quartz veining and in felsic dikes in a deeply saprolitised setting within greywackes. Figure 7-14 shows the location of the Dar Salam mineralized zones.

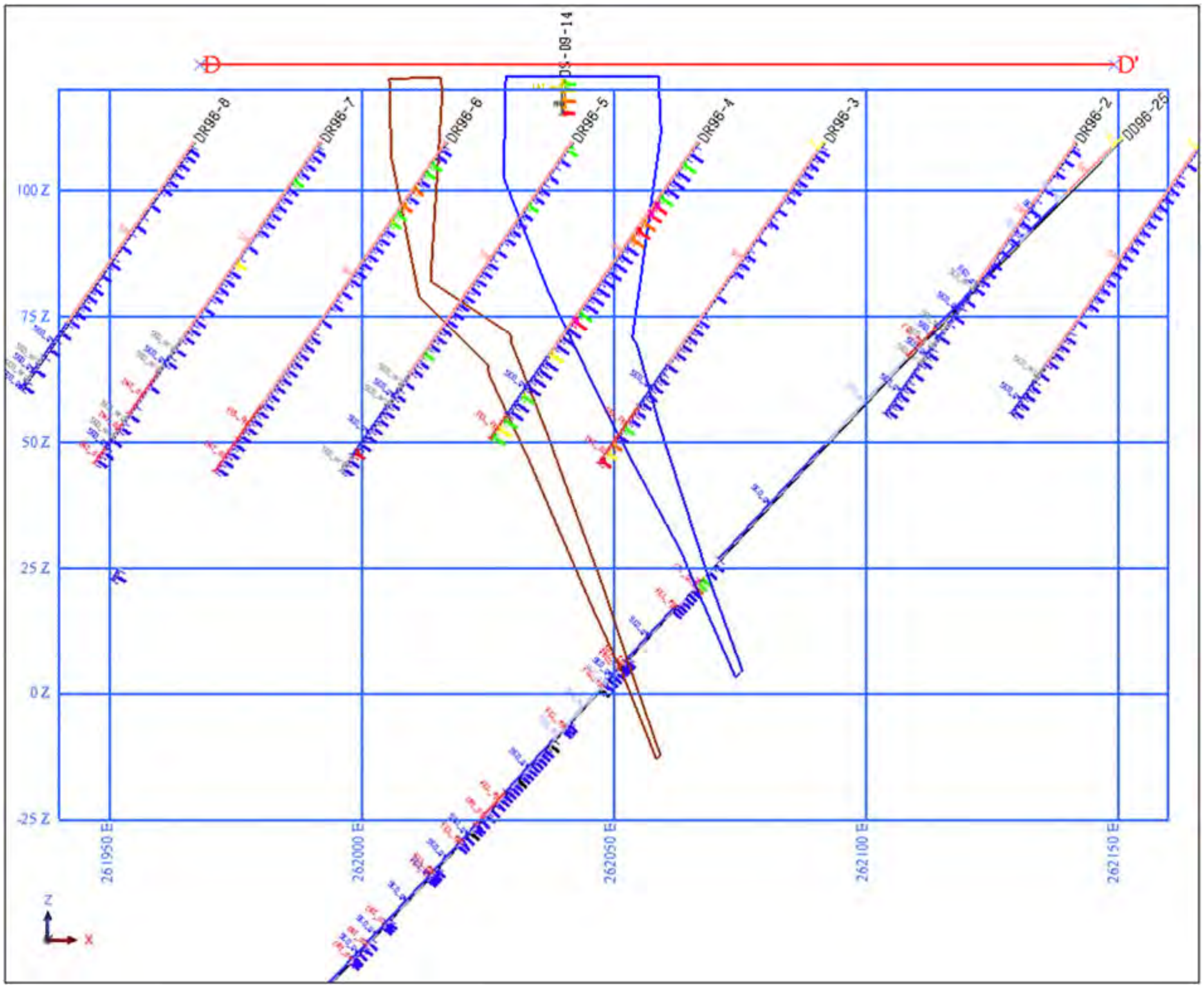
The Dar Salam South extends over a strike of 630 m north-south, has variable widths of between two and 25 m, with a combined average width of 10 m and continuity of mineralization to a depth of at least 300 m. Mineralization in this zone is similar to that seen at Tabakoto and is most likely an extension to the Tabakoto system (Chisholm, 1996). Minor quartz veins with up to 5% pyrite and/or arsenopyrite associated with felsic and/or intermediate dikes is typical. Coarse gold has been reported in drill core. Cross structures within silicified metasediment are also seen to carry significant gold values in places.

Figure 7-14 Dar Salam Deposit Surface Geology Plan



The Dar Salam North Zone comprises several north-northeast trending, up to a combined width of 35 m, low grade gold zones that extend along a strike of more than 500 metres and are open to the north and to depth. Within this area there is a higher grade central core that has an average width of five metres, dips steeply to the east and extends to a depth of at least 140 metres (Figure 7-15). Locally there appears to be gold enrichment that crosses geological boundaries within the saprolite, especially west of the steep east dipping mineralized bands.

Figure 7-15 Longitudinal Section of Dar Salam North



7.1.11 Dioulafoundou

The Dioulafoundou deposit lies approximately 2.3 kilometres south of the Tabakoto Pit, and consists of two parallel, northwest-trending lenses of mineralization, the longest of which can be traced for approximately 400 metres along strike. The mineralized zones plunge steeply to the west, dip steeply to the north, and have been traced to 300 metres vertically, with a maximum width of 18 metres and an average width of between two and five metres. This zone remains open down plunge.

This deposit lies at the junction of a package of north-south trending silicified felsic dikes, probably the southern continuation of the Tabakoto Trend and a northwest trending fracture zone. Figure 7-16 shows the surface projection of the mineralization at Dioulafoundou. A typical section of the deposit is illustrated in Figure 7-17.

Figure 7-16 Dioulafoundou Deposit Surface Plan

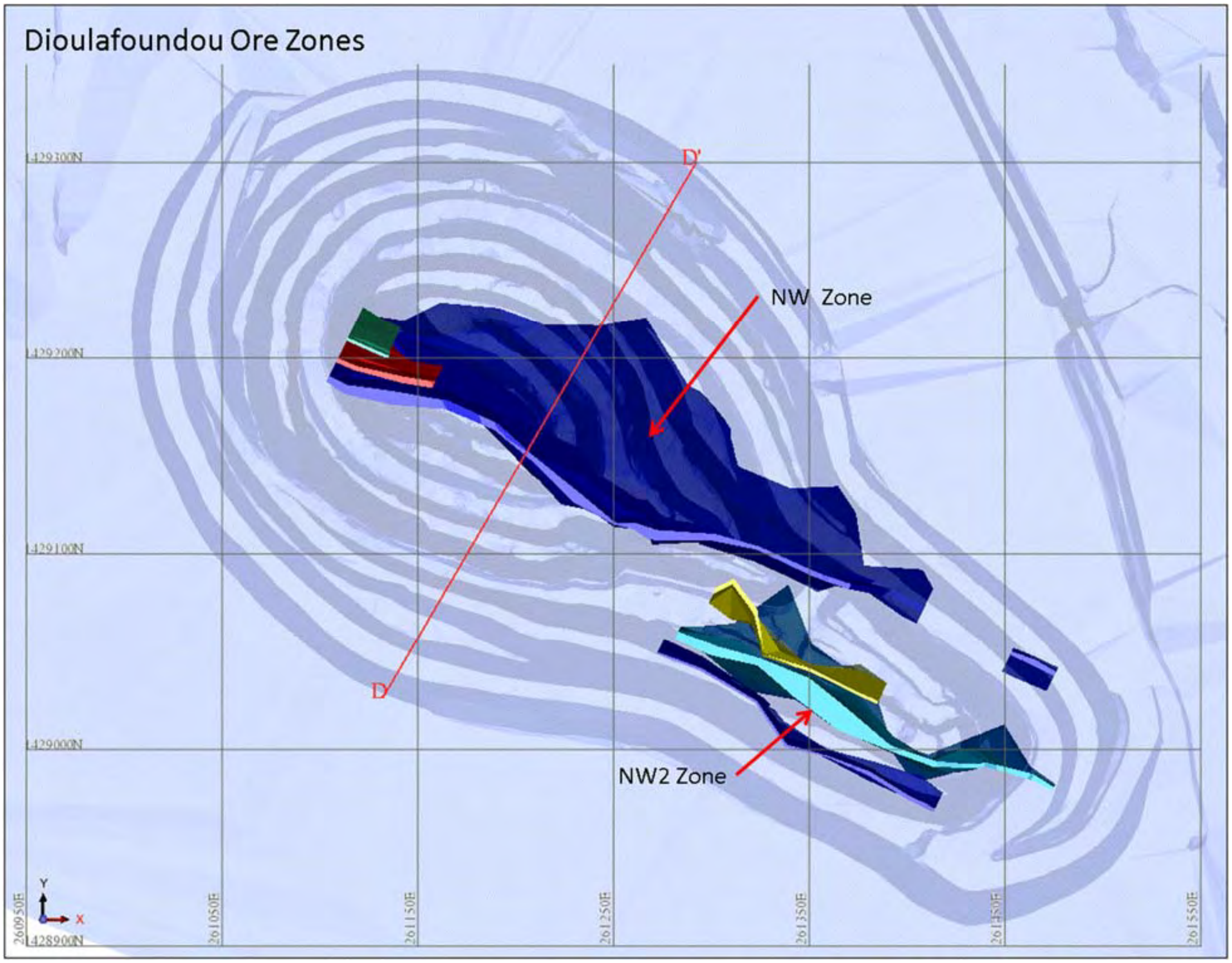
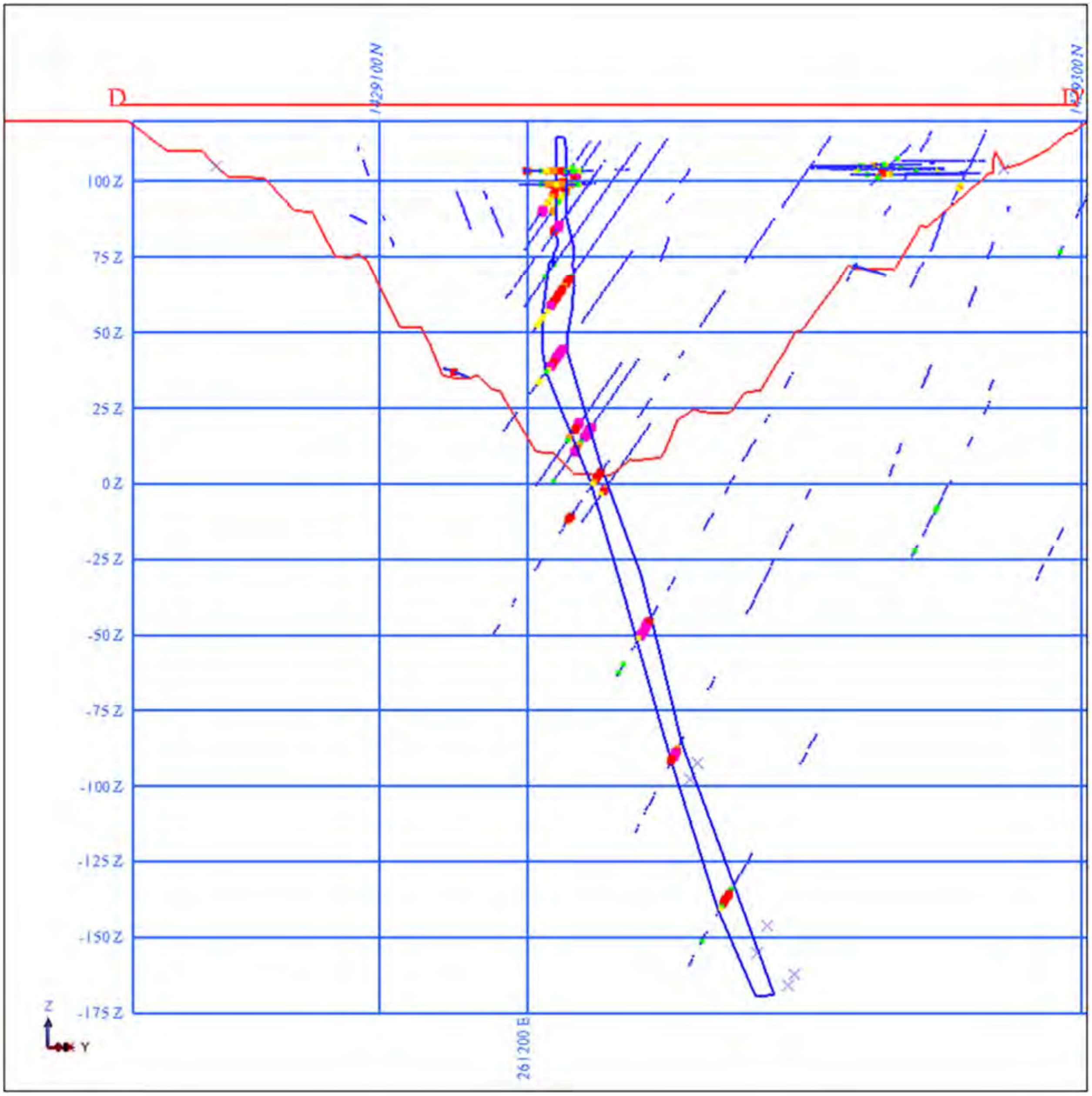


Figure 7-17 Dioulafoundou Deposit Composite Longitudinal Section Looking North



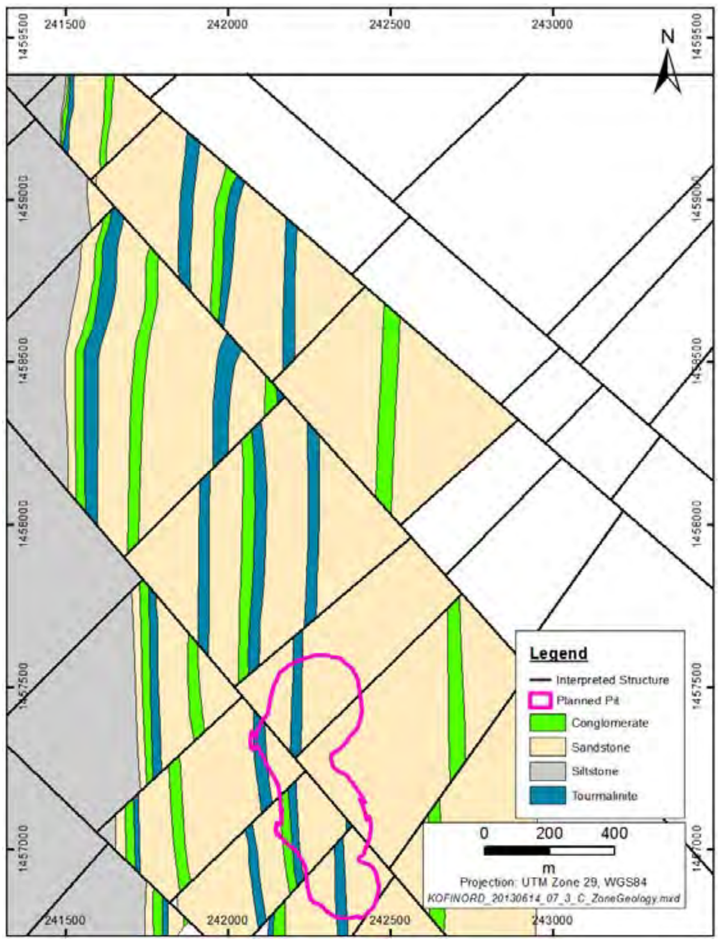
7.2 Kofi Project Geology

The gold deposits of the Kofi Property all show similar characteristics and are associated with north trending structures related to the early phase of deformation. Host rock porosity both primary and secondary is important and can increase the thicknesses of the auriferous zones. Later deformations which manifest themselves as shear and fault structures contribute additional precious metal resources to the deposit by introducing additional gold during the subsequent deformational events (Puritch et al, 2012).

7.2.1 Kofi C

Although the Kofi C deposit is located 40 km from the Tabakoto Property it shares many similarities of host rock, structural features and the style alteration. The Kofi C deposit is a lode gold style of deposit which is structurally controlled, hosted within intercalated sedimentary rocks which have been intruded by a series of narrow dikes or sills (Figure 7-18). The mineralisation is associated with quartz-vein stockwork and sulphides (pyrite).

Figure 7-18 Kofi C Deposit Geology

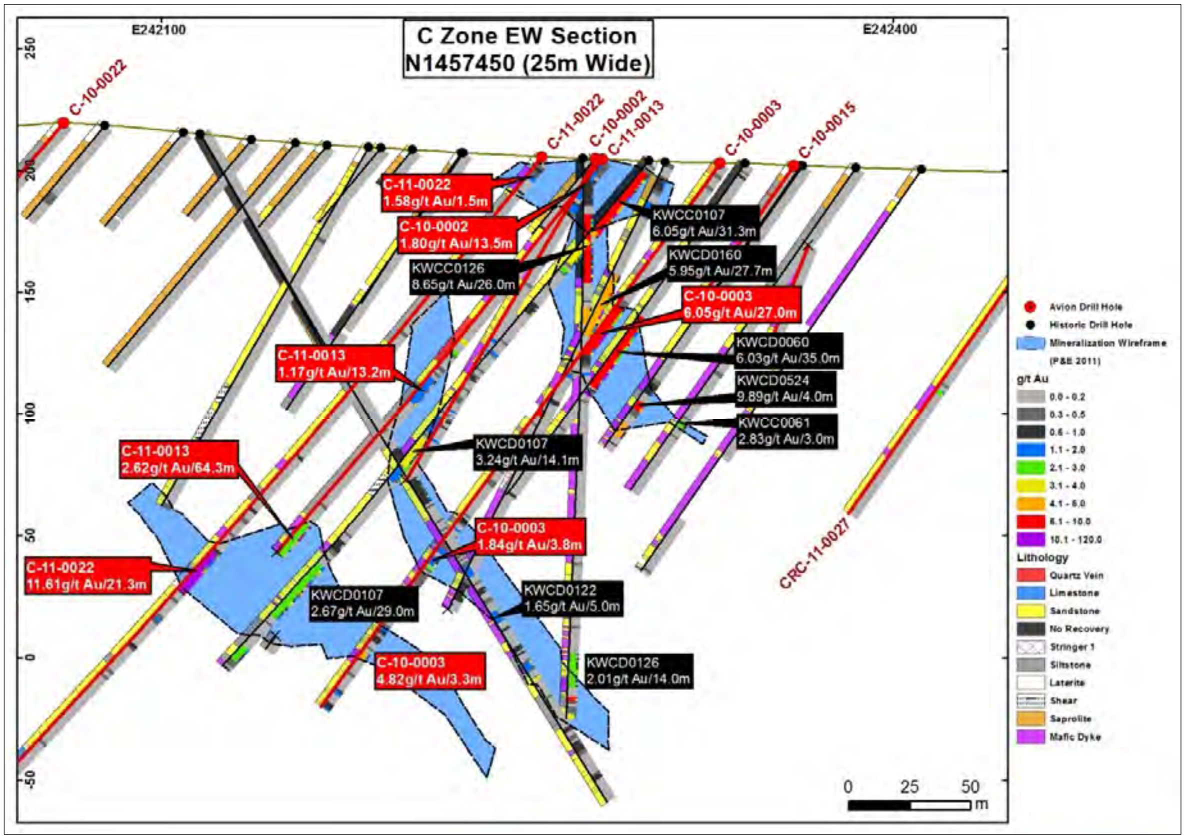


The orebody is characterized by series of moderately east-dipping plunging lenses of mineralization that in total can be traced for approximately 700 metres along strike and up to 275 metres depth. Individual lenses of mineralization can range up to 40 to 50 metres in width with an average width of 10 to 15 metres. The zones extend south to the permit boundary and are open to the north of the last drill intercept. The hole furthest north had the best near surface intersection, and returned an intercept of 6.04 g/t Au over 51.4 metres (Puritch et al, 2012).

The Kofi C deposit is hosted predominantly in metasediments ranging from siltstone to conglomerate and locally breccia that are found in the eastern limb of an interpreted north-trending anti-formal fold. It is believed that the porosity of the coarser clastic sediments and breccia allowed the introduction of auriferous hydrothermal fluids. Limestone has been identified through drilling along the western edge of the zone. This unit provides a marker unit that has been used to assist in the definition of drag folds associated with the primary folding event.

The gold zones at Kofi C appear to be series of stacked crescent shaped lenses (Figure 7-19). Structural data from oriented core suggest that these crescent shaped ore lenses are the result of open space created by drag folding during the primary folding event. The lenses are modestly east dipping and plunge shallowly to the north (Puritch et al, 2012).

Figure 7-19 Kofi C Deposit Vertical Cross Section 1457450 N



The upper-most lens appears to lie just under a 5 to 10 m laterite cover and is interpreted to represent a lag deposit of the mineralized zone that is hosted by saprolite, just below the laterite. Additional closely-spaced drilling will be required to validate this interpretation.

Two generations of dikes crosscut the units and appear to follow existing structures. Syenite dikes were intruded during an early phase of volcanism and a later a series of mafic (gabbroic) dikes cross cut all the units. In both cases the dikes commonly exhibit chilling on their margin and local hornfels metamorphism of the enclosing rocks.

7.2.2 Kofi A and Kofi B

Mineralization of the Kofi A and B deposits is hosted in a series of sub-parallel steeply west-dipping shears which trend north at 20°. Gold mineralization is hosted in coarse clastic and lesser fine clastic sedimentary rocks of the Kofi Formation. Kofi A Zone has an approximate strike length of 315 m (Figure 7-20) and Kofi B zone (Figure 7-21) has an approximate strike length of 400 m (Puritch et al, 2012).

Figure 7-20 Kofi A Deposit Geology

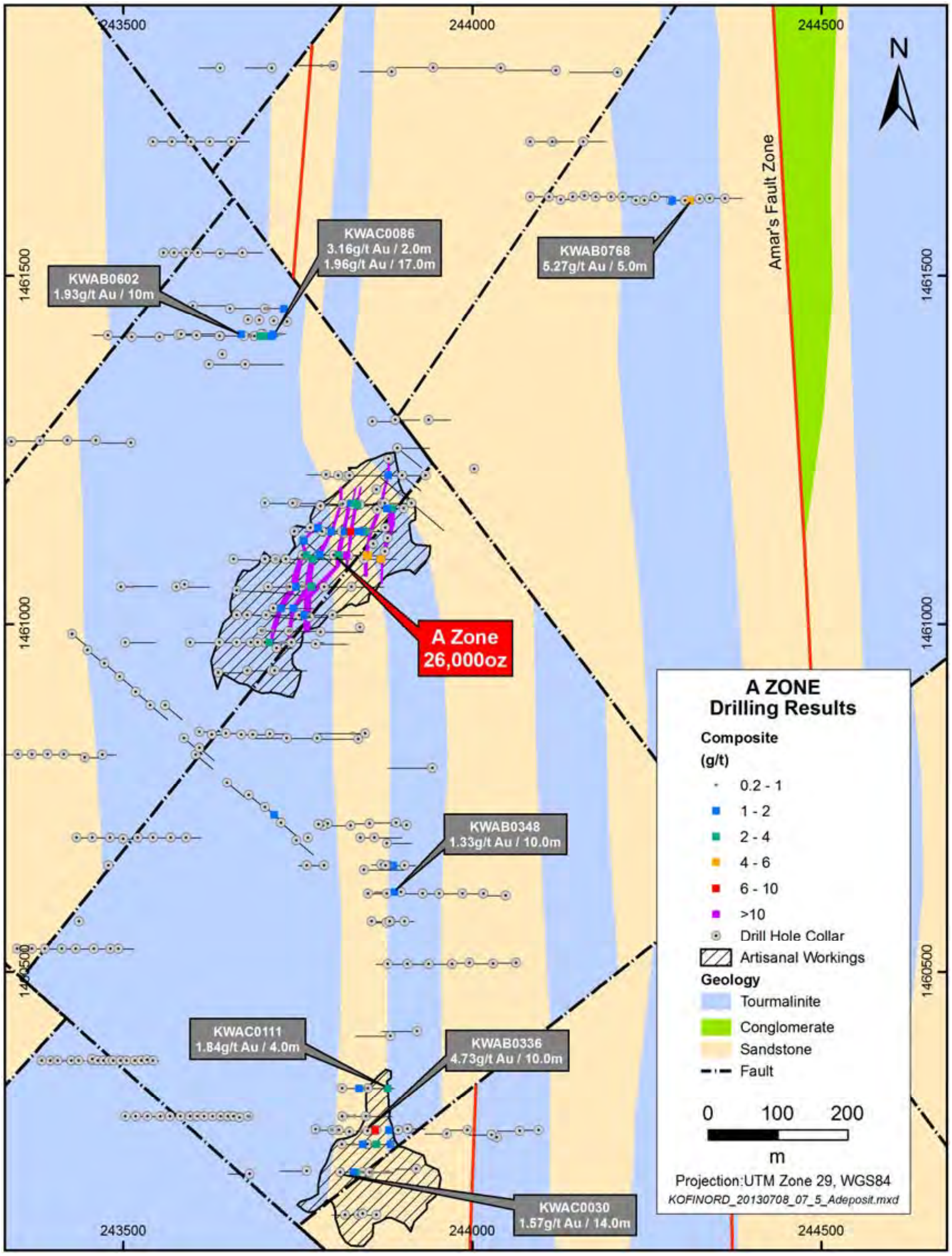
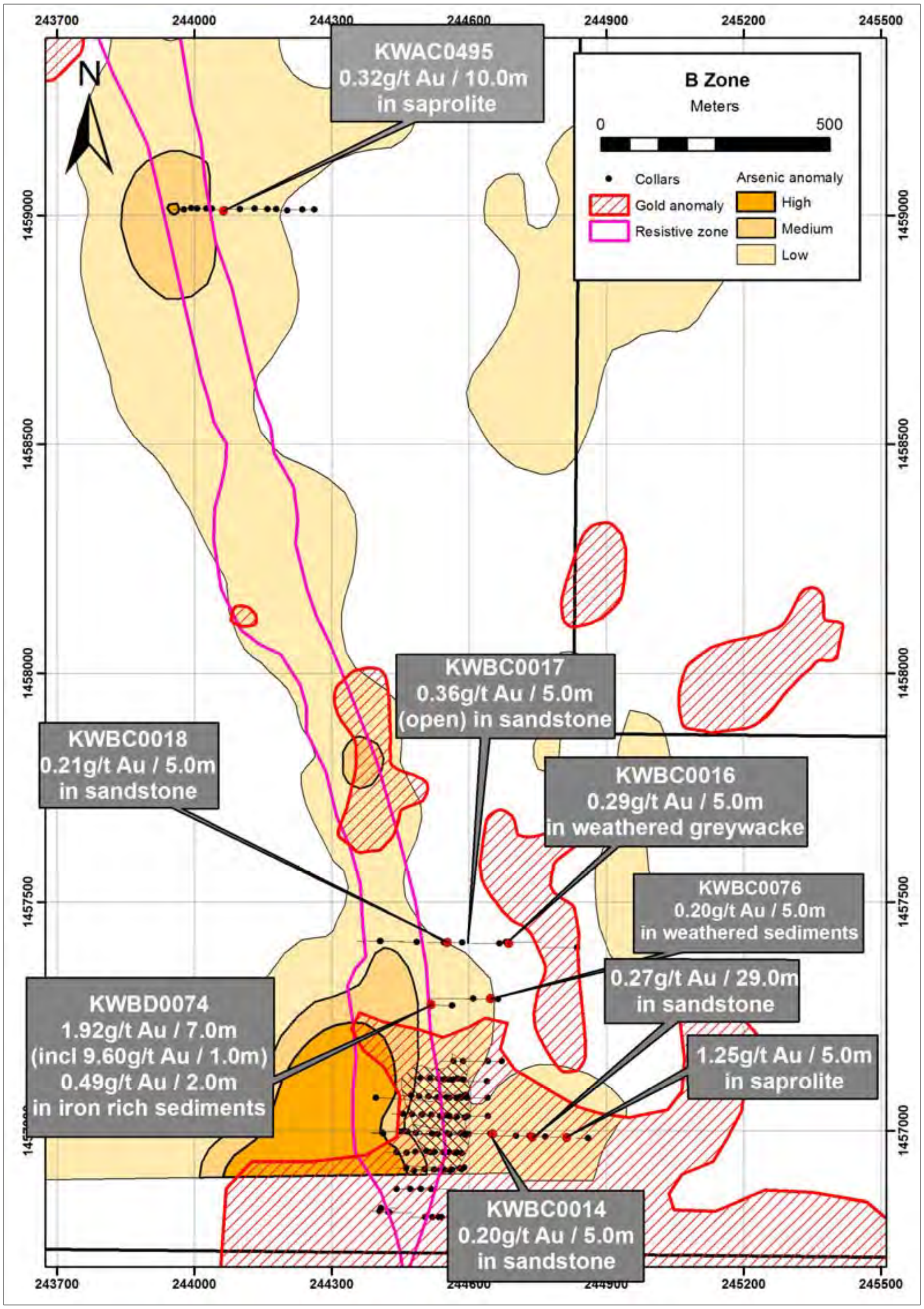


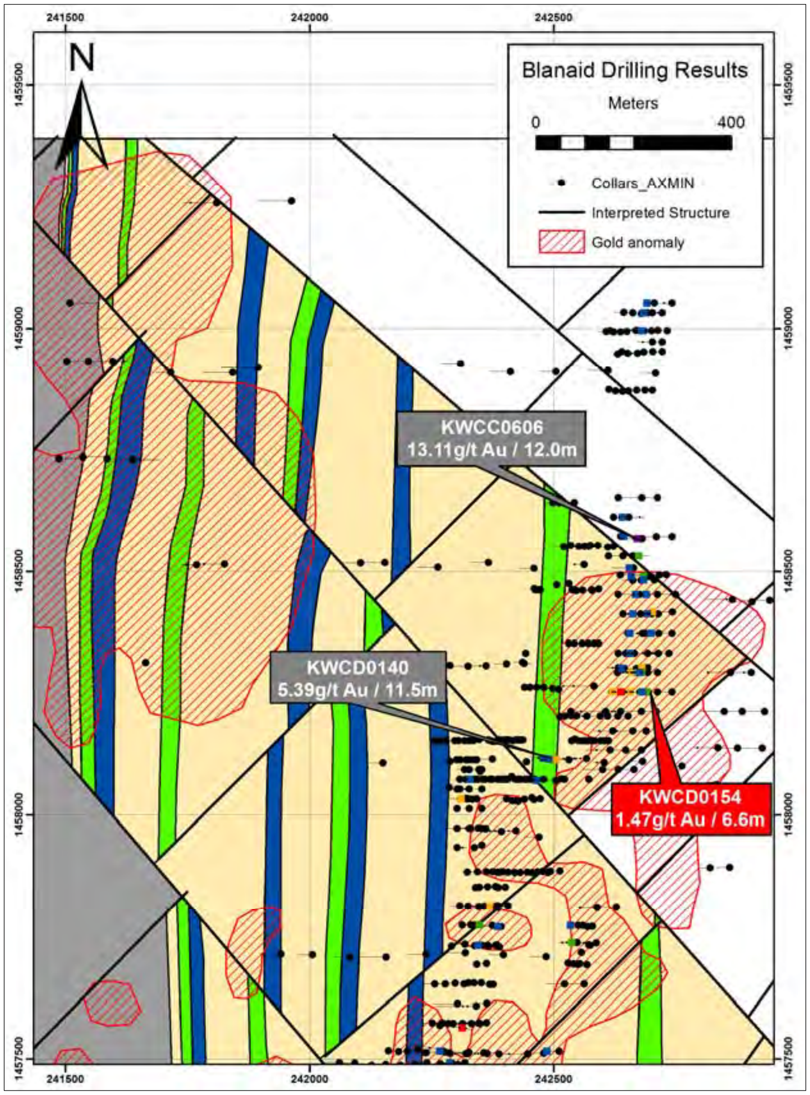
Figure 7-21 Kofi B Deposit Geochemistry



7.2.3 Blanaid

The Blanaid deposit lies between the Kofi C and the Kofi A approximately 1 km northeast of Kofi C. The zone is oriented north-south beneath lateritic cover. Using RC and limited diamond drilling, AXMIN extended the north-south trending, west dipping mineralized structure to a strike length of approximately 350 m (Figure 7-22). The structure is open at depth and along strike to the north (Puritch et al, 2012).

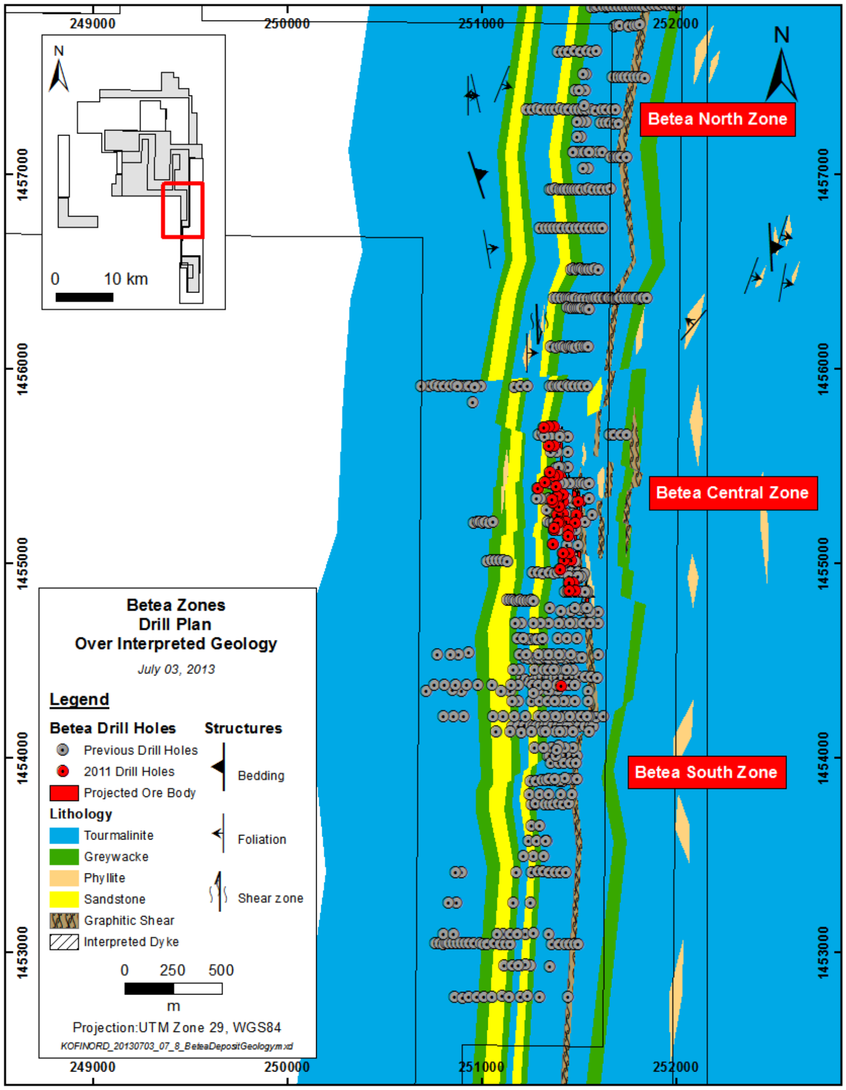
Figure 7-22 Blanaid Deposit Geology



7.2.4 Betea North, Central and South

The Betea deposit is comprised of three parts, Betea South, Betea Central and Betea North. The zone has a combined strike length of approximately 3.5 km (Figure 7-23) and a geochemical trace that extends for approximately 5 km. Avion carried out an RC drill program over the zone in the second quarter of 2011 comprising 40 holes totalling 6,305 m that focused on the Betea Central zone. This work led to a better understanding of zone controls and allowed Avion to focus the drilling into those areas that returned higher grade, multiple zones and wider mineralized intervals (Puritch et al, 2012).

Figure 7-23 Betea Deposit Geology

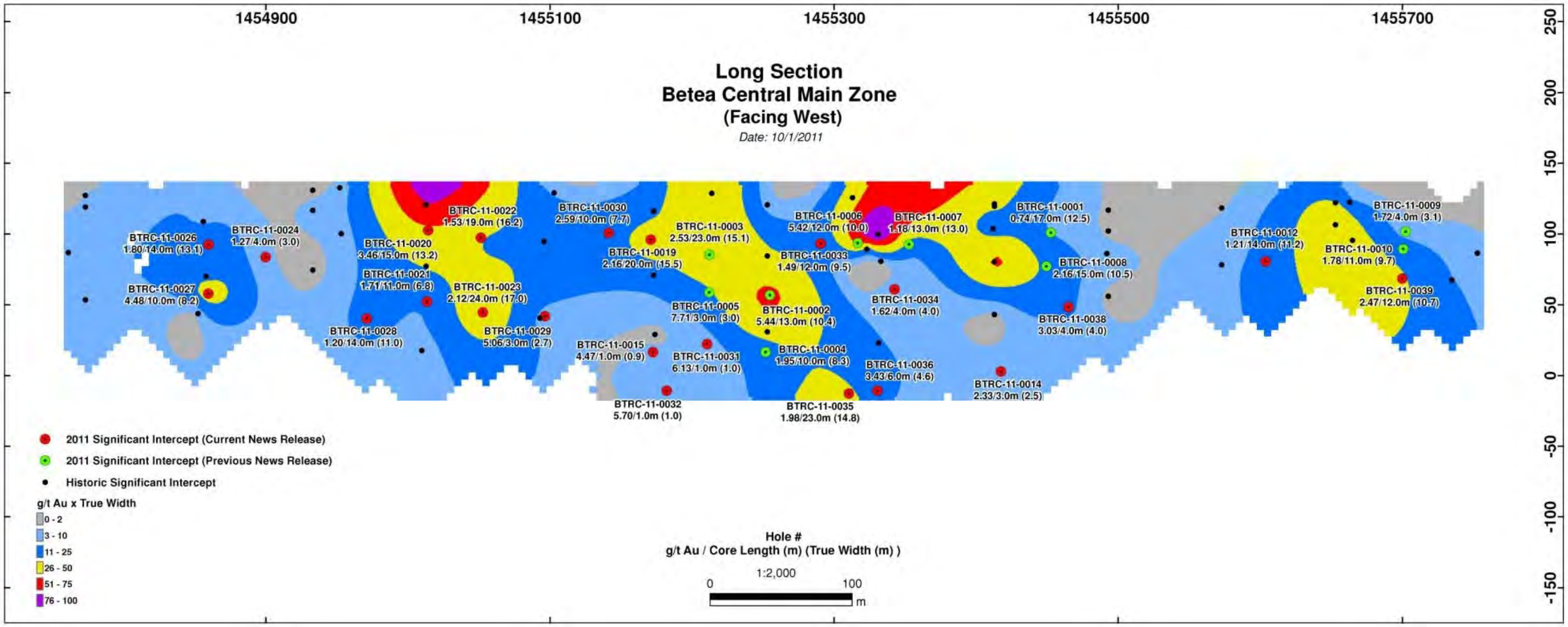


The Betea Central Zone is dominantly underlain by tourmalinized sandstone, sandstone and greywacke and lesser fine clastic rock.

Gold mineralization occurs in multiple, north-trending, steeply dipping, quartz-rich shear zones that cut through a wide package of tourmalinized sediments (likely greywackes). These zones and the rocks that host them are cross cut by NE and NW trending faults and shears which offset the geology. In some cases the NE-trending structures have been observed to thicken the gold zones locally and it is hypothesized that these structures are associated with a later gold bearing event that has introduced additional gold to the system.

Gold mineralized has been traced to a maximum of 175 m vertically and range up to 25 m true thickness. Based on drilling, the high grade zones in one of the better developed structures have a moderate north plunge with strike lengths of 100 to 150 m (Figure 7-24). The system is open at depth and along strike (Puritch et al, 2012).

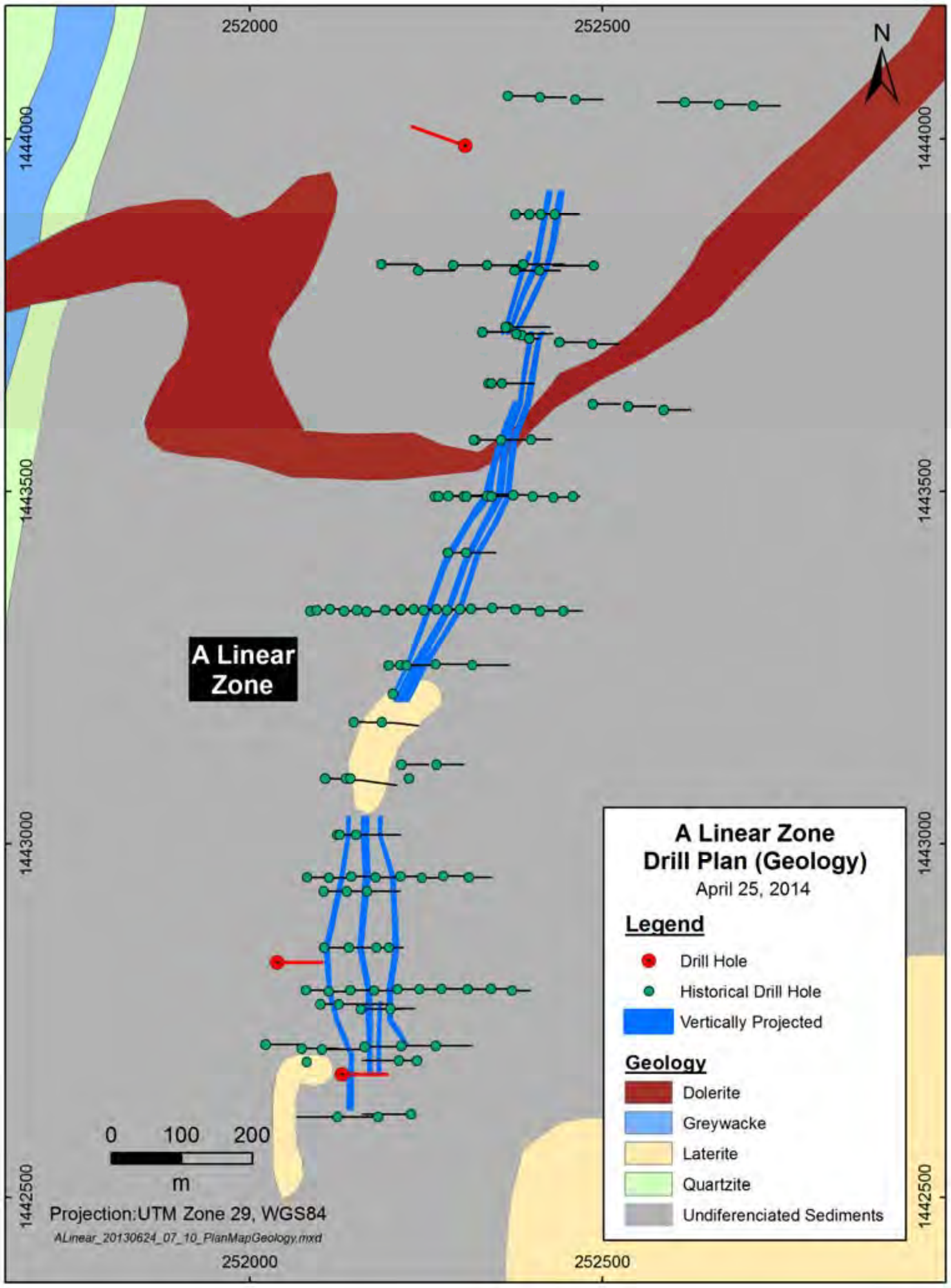
Figure 7-24 Betea Deposit Longitudinal Section



7.2.5 A Linear

The A-linear Deposit, located at the far south-eastern part of the property, has a strike length of approximately 1,200 m, and appears to be open at depth, (Figure 7-25). The host rock is predominantly clastic sedimentary rock, which is cross cut at the north end by a sub-horizontal dolerite dike. Shear zones trend approximately 10° and are steeply dipping, and geological mapping suggests that these shears may be axial planar to an anti-formal structure (Puritch et al, 2012).

Figure 7-25 A Linear Deposit Geology



8 Deposit Types

The known gold deposits of the Tabakoto Gold Mine and Kofi Property are typical of lode style gold deposits. They can be grouped within the "Orogenic Type" of gold deposits. The known Tabakoto gold deposits, can be specifically grouped with the Turbidite-Hosted suite of deposits (Groves et al, 1998, Goldfarb et al, 2005, Robert et al, 2007)

The Tabakoto and Kofi deposits are hosted in the Birimian turbiditic sedimentary rocks and intrusive rocks that have been deformed during the Eburnean Orogeny. The deposits are structurally controlled and hosted in structures associated all the deformational events of the Eburnean Orogeny. While individual structures associated each of the deformational events can host mineable deposits, multiple generations of structure enhances the probability of mineable ore.

The deposits can be further divided into three broad types as follows:

- Shear Zone hosted (Ségala and Ségala NW);
- Fracture and cross structure hosted (Dar Salam, Tabakoto, Dioulafoundou and Kofi C);
- Intrusive hosted (Djambaye II).

8.1 Shear Zone Hosted Deposits

The Ségala and Ségala NW Deposits are considered to be part of a structurally controlled alteration and mineralization system that is hosted by the core of an isoclinal anticline whose axial trace trends ESE (approx. 110°) and dips steeply to the south at approximately -80°. The anticline is made up of somewhat deformed and altered metasediment (greywacke and argillite) that display variable intensities of alteration of chlorite, carbonate, sericite, sulphide and silica. A series of quartz stringers and veins intrude this package.

8.2 Brittle Fracture Zone Hosted Deposits

At the Dar Salam, Tabakoto and Dioulafoundou and Kofi C Deposits, a geological model for gold mineralization proposed by Nielsen (2004) favours the emplacement of gold-bearing mineralization along structures developed during north-northeast directed isoclinal folding.

The salient features of this model include:

- Emplacement of intermediate to felsic dikes along the axial trace of north-south to north-north-east trending isoclinal folds
- Intrusive activity was coincident with a moderate temperature metamorphic event and hydrothermal fluid flow
- Pervasive silicification and sericite + quartz + Fe-carbonate alteration within and adjacent to dikes and along intersecting north-east, north-west and easterly trending structures
- Mineralization is preferentially hosted within silicified felsic to intermediate dikes and adjacent sedimentary strata along the axial trace of the north-northeast trending Tabakoto anticline. Here, zones of silicification formed competent hosts susceptible to brittle fracturing and increased hydrothermal fluid flow and subsequent gold deposition. In addition to north-south trending corridors, gold is hosted within subsidiary but intersecting north-east, north-west and easterly trending structures characterized by increased veining, sulphide mineralization and locally, silicification of the hosting sedimentary units.

Gold mineralization correlates with an increase in:

- Intrusive activity (density of dikes);
- Density/frequency of structures intersecting the north-south dike corridor;
- Silicification and/or sericite + quartz + Fe-carbonate alteration;
- Pyrite and arsenopyrite mineralization, as well as minor pyrrhotite and chalcopyrite;
- Quartz and sulphide veining.

Veining at Tabakoto displays a protracted history of development with the dominant vein orientations compatible with the development within pre-existing extensional and shear structures formed during NNE directed folding. There is development of moderate to steeply southeast plunging mineralized zones ("ore shoots") coincident with the intersection of north trending and subsidiary north-east, north-west and easterly trending mineralized corridors. Late reactivation of these structures has facilitated the emplacement of intermediate, mafic and lamprophyre dikes.

8.3 Intrusive Hosted

Most of the gold mineralization at Djambaye II is stockwork-style, hosted within the intrusion, which is different from Tabakoto where the mineralization is predominantly associated with more discrete veining. Currently the model proposed for Djambaye II is that of an intrusion hosted- stockwork.

From previous work by Great Quest, including thin section data, the dominant alteration type at Djambaye II was identified as albitization with lesser amounts of silicification (quartz veining) and sulphidation (pyrite and subordinate arsenopyrite). At the southern end of the Djambaye II trend strong silicification and arsenopyrite mineralization were noted, but only low gold values were returned. At this time it is not clear what controls higher grade intercepts along the Djambaye II trend. It is suspected however, that cross-structures locally control the grade. The Djambaye II trend is also different from the Tabakoto trend in that the grades in the dominant host intrusion are generally higher than they are along the Tabakoto trend.

9 Exploration

The main exploration activities completed by Endeavour (and previously as Avion Gold Corp.) and by other companies include:

- Soil sampling
- Ground geophysics
- Airborne geophysics
- Trenching
- Auger drilling
- RC drilling
- Core drilling

The results of these activities are described in the following sections. This report essentially describes the surface exploration work conducted since the last Technical Report by Armstrong et al (2011). For details of the exploration conducted on the property prior to 2011 readers are referred to the previous Technical Report.

9.1 Soil Sampling

Endeavour and its predecessors have completed soil sampling programs throughout the property. The surveys vary from regional sampling programs with line spacing of approximately 400 metres to detailed surveys at 100 metre line spacing or less. Details of the soil survey coverage and authors are illustrated in Figure 9-1. Soil samples are located in the field by means of a hand held GPS. A hole is manually excavated to approximately 50 cm depth to expose saprolite. A one kilogram sample is collected of the saprolite, all relevant geology recorded against the sample ID, and returned for assay. If lateritic cover is too deep or impenetrable, a sample of laterite will be excavated by hammer and chisel and collected for analysis.

Analyses are generally performed for gold only, but periodic campaigns are re-analysed for multi-element in order to correlate trends of associated trace elements.

Figure 9-2 illustrated Ranked Gold in Soil results to date. All the significant trends identified through structural analyses are adequately mapped by the gold in soil results. Large portions of the area are covered by hard pan laterite and are consequently featureless on this compilation however major trends can still be traced, and targets identified for further follow up.

Figure 9-1 Soil Surveys Date of Execution and Authors

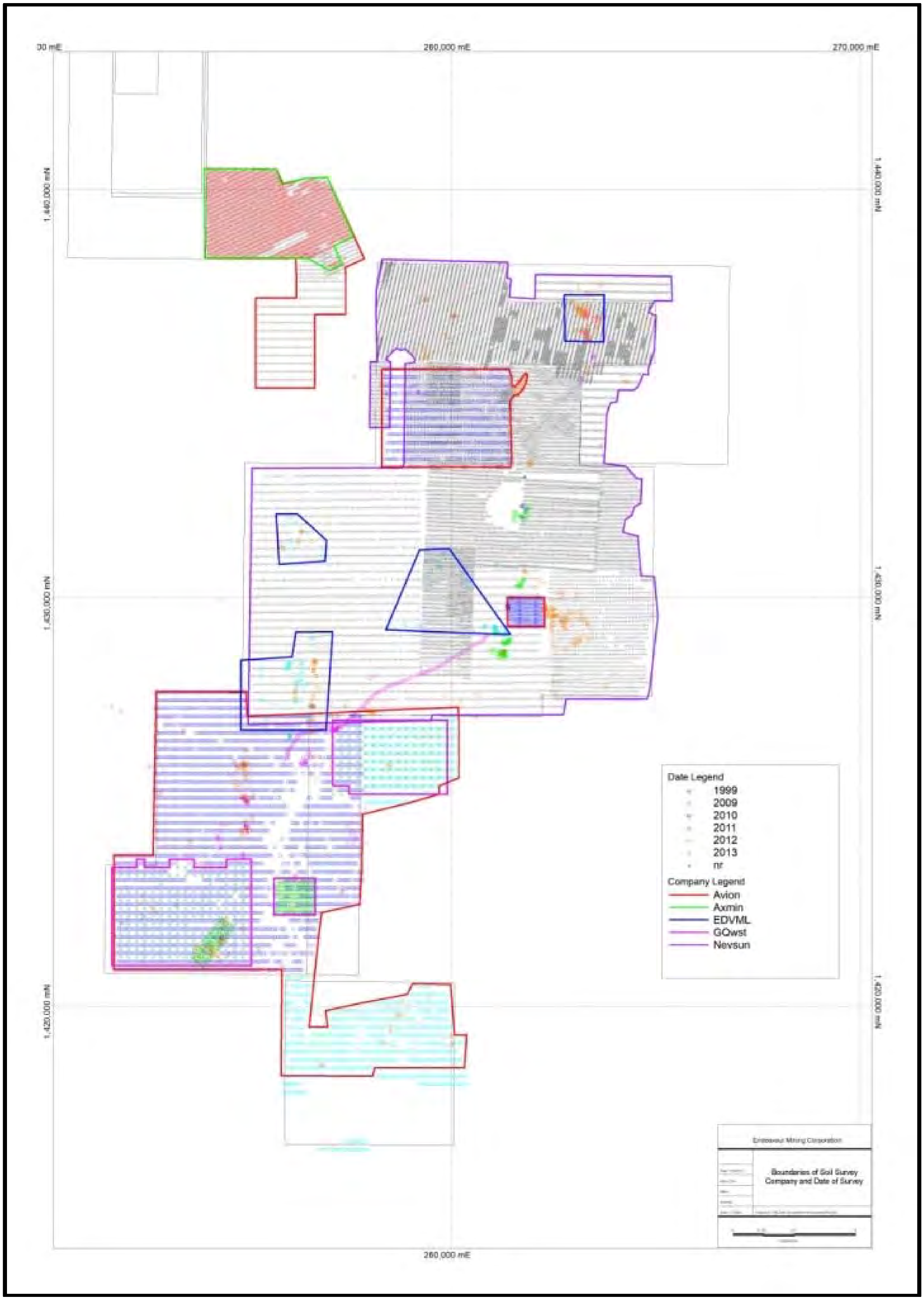
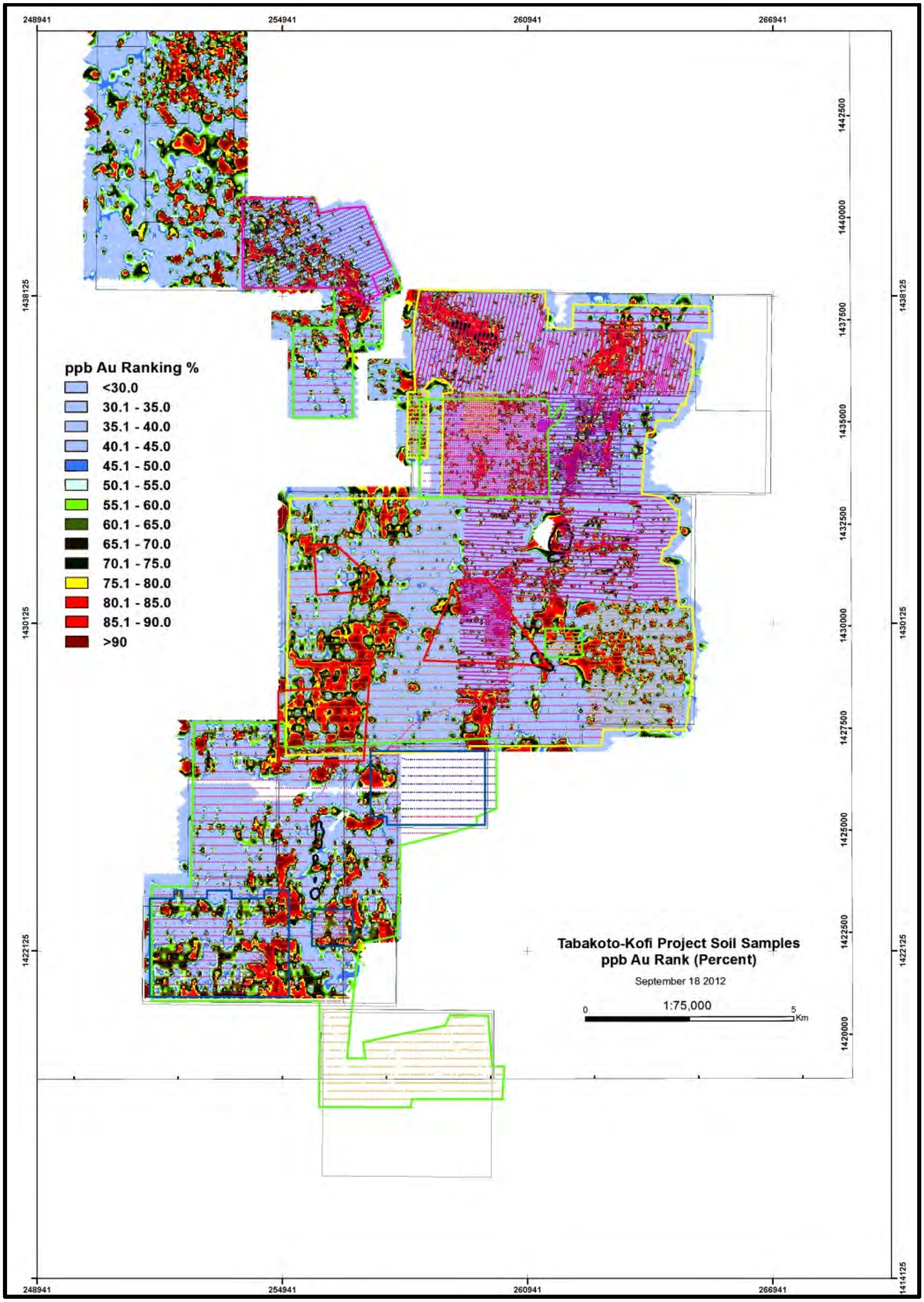


Figure 9-2 Ranked Gold in Soil Results



9.2 Ground Geophysics

9.2.1 Ground Magnetic Surveys

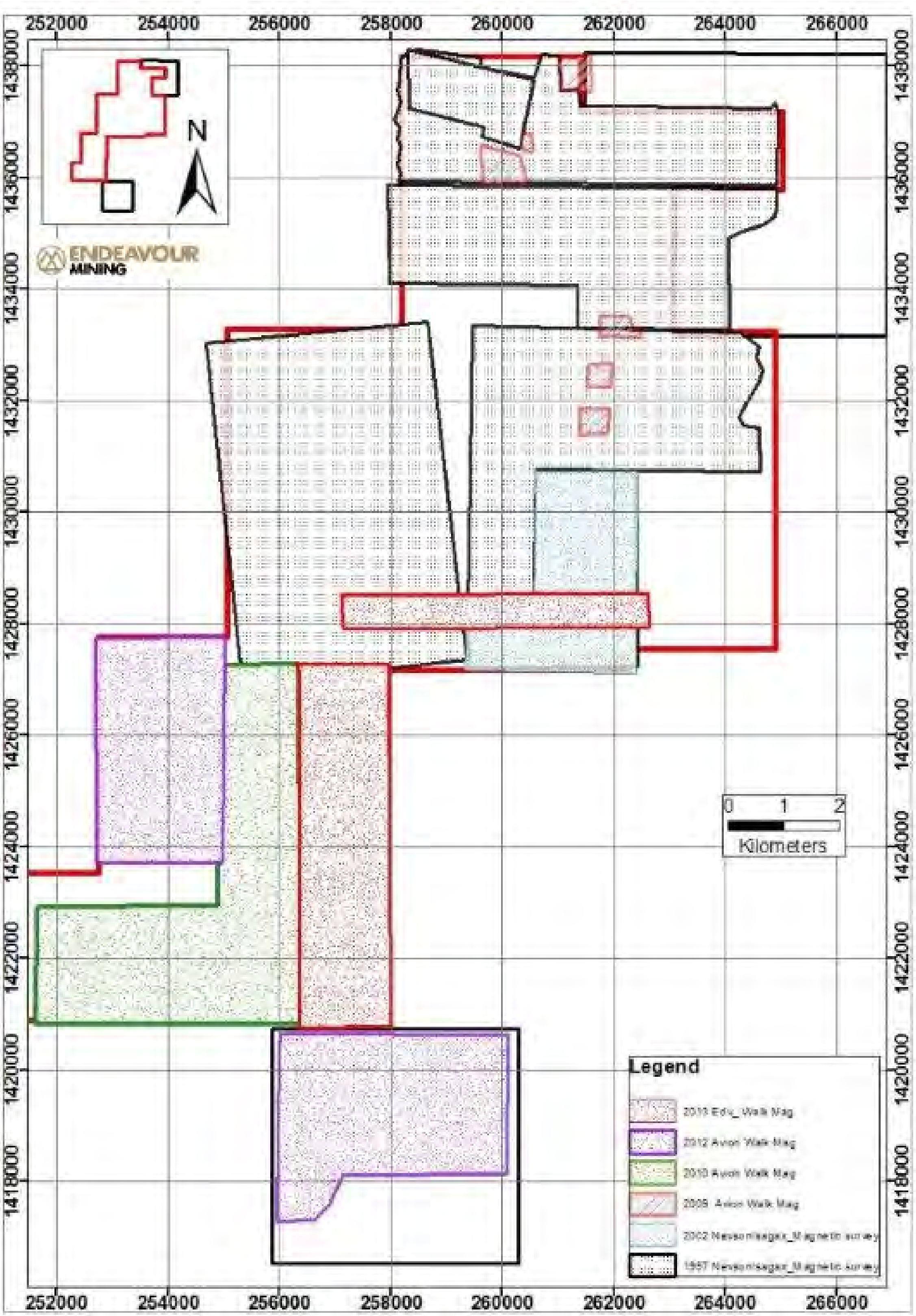
Avion/Endeavour has completed ground magnetic surveys which cover approximately 75% of the property. No ground geophysical surveys were completed in 2011; however Table 9-1 and Figure 9-3 show the line kilometres of ground magnetometer work that was completed in 2012 and 2013. Surveys were completed by Endeavour staff using a GEM system GSM-19 walking magnetometer and base station. The surveys were generally completed on the blocks at line spacing of 100 metres between lines.

Figure 9-3 illustrates the area of the property now covered by ground magnetic surveys.

Table 9-1 Ground Magnetic Surveys

Location	**Year**	**Line-km**
Djambaye II in-fill	2010	228.7
Comifa	2012	79.8
Doufourou in-fill	2012	119.6
Kenieba-Est	2013	82.6
Fougala	2013	15.6
Total Ground Mag		**526.3**

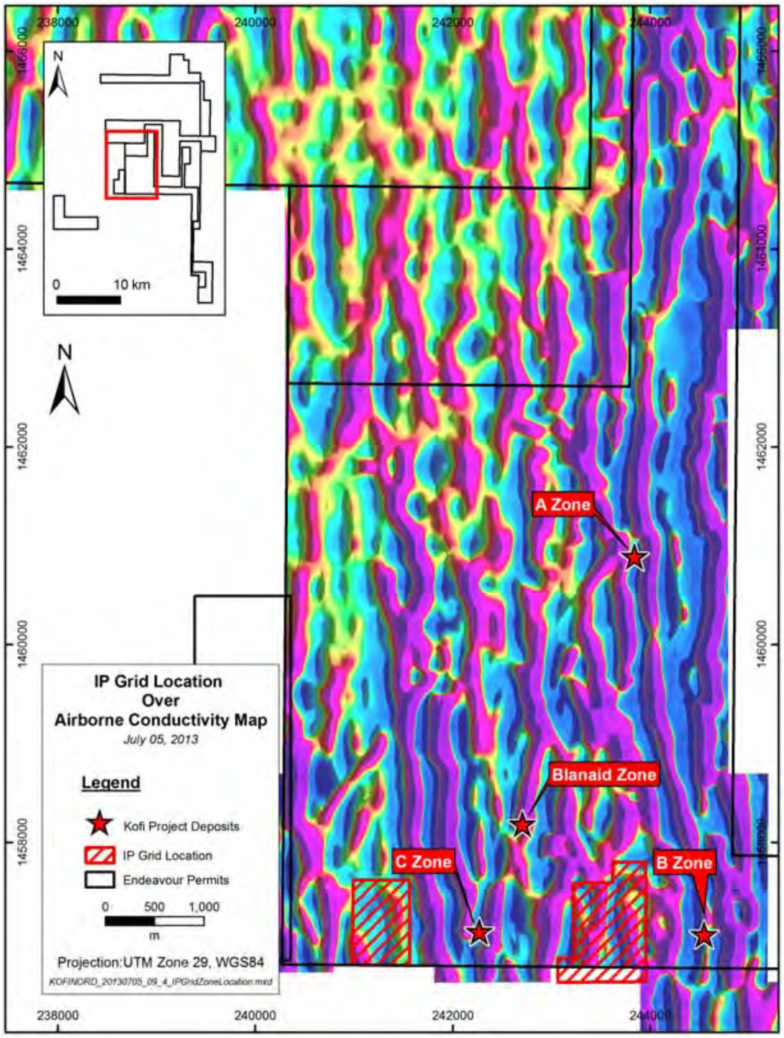
Figure 9-3 Ground Magnetic Surveys Map



9.2.2 Ground Induced Polarization Surveys

Two geophysical grids, situated in proximity to Kofi C, had IP surveys completed over them. The goal of the IP was to fill in the gaps from the previous surveys, in the hope of refining the geology in the vicinity of Zone C. Results of the surveys demonstrated the continuity of the highly resistive rock units (Figure 9-4).

Figure 9-4 Ground Induced Polarization Surveys Map



9.3 Airborne Geophysics

In January 2011 Avion contracted with Geotech Airborne Limited to complete a Helicopter Borne Versatile Time Domain Electromagnetic (VTEM) and Airborne Magnetometer survey of the Semico Permit Block. In total, 773 line kilometres at a line spacing of 200 metres with a nominal terrain clearance of 75 metres, were completed on the Semico Permit Block.

9.4 Trenching and Pitting

9.4.1 Dar Salam Trenching (2012)

During the period of this review trenching has only occurred at the Dar Salaam prospect (Figure 9-5). Two hockey stick shaped trenches were excavated at Dar Salam in the spring of 2012 and were designed to expose the bedrock geology and assist in the interpretation of the deposit geology and ore controls.

The north trench constructed on the north-eastern side of the road was excavated to a depth of approximately 10 metres and failed to intersect bedrock. The trench exposed a thick sequence of alluvium material consisting of mottled saprolite clay.

The trench southwest of the road intersected saprolitized bedrock in the near surface (Figure 9-5 and Figure 9-6). A NW fault has been interpreted between the two trenches to explain the discrepancy of the depth to bedrock between the two trenches. The south trench comprises mixed sedimentary rock with a lesser saprolitized felsic intrusive. Quartz veining is ubiquitous which follows and demarcates structures related to the deformations (D1-D3) which are identified throughout the area.

Figure 9-5 2012 Trench Location at Dar Salam Prospect

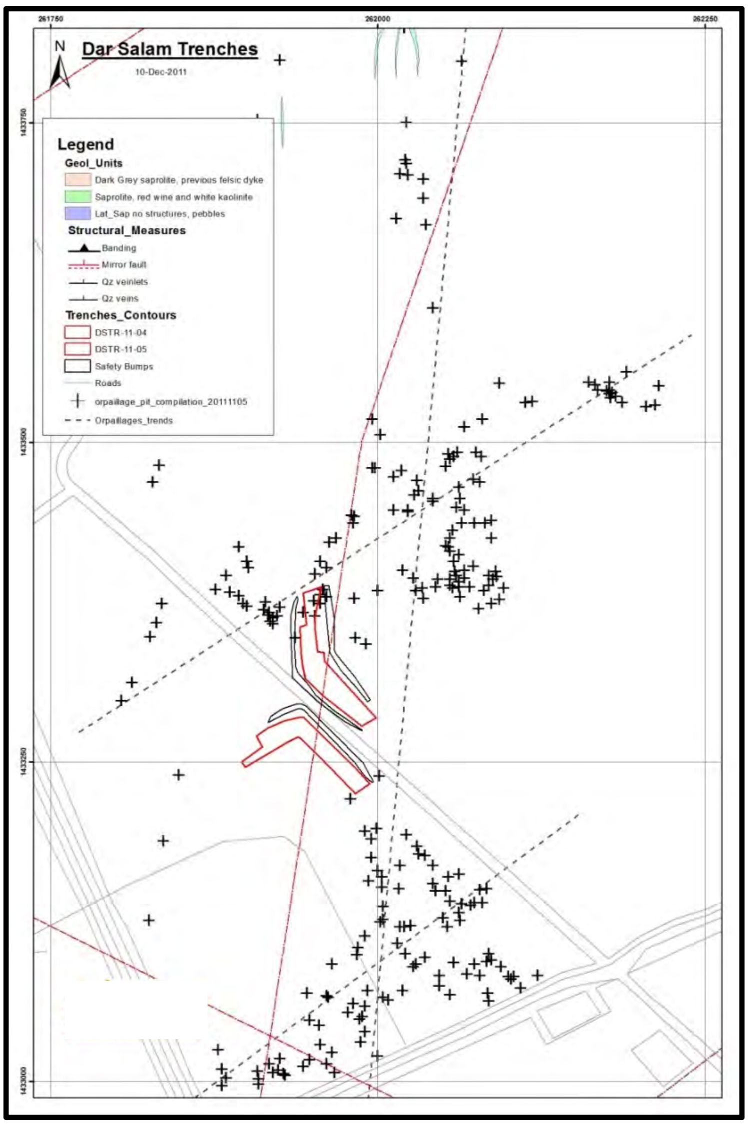
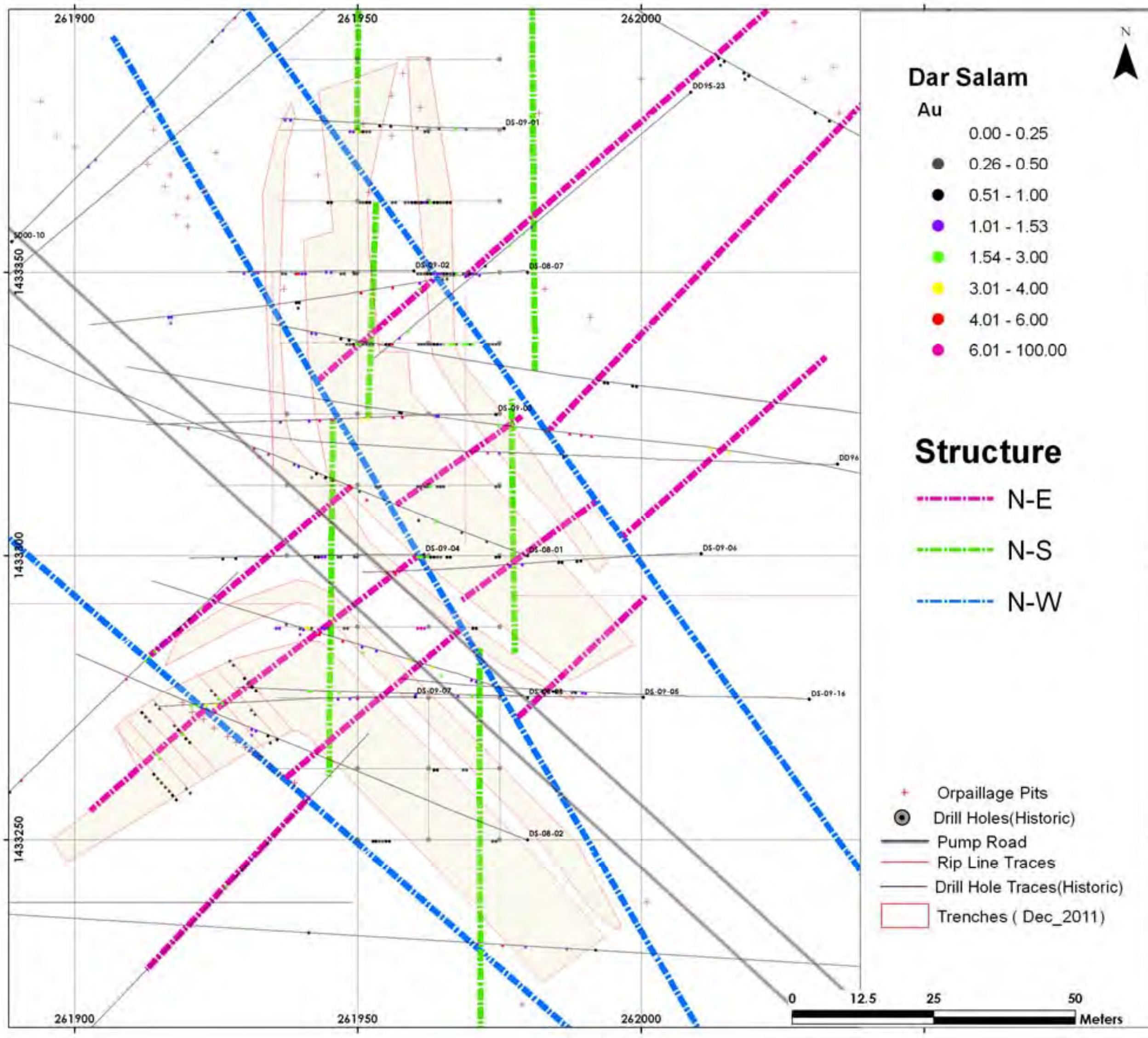


Figure 9-6 Dar Salam Prospect Trench Map with Structural Interpretation



9.5 Core Resampling Program Blanaid Zone

An in-fill sampling program was completed on diamond drill core of the Blanaid Zone, following a reinterpretation of the geological cross sections. The reinterpretation of the cross sections was based on an updated geological model, and resampling was successful to a degree, in validating the new model. The program revealed the necessity to undertake the same program on other areas of the permit. It is believed that similar zones could be discovered, and as such, improve the potential of the permit as a whole (Puritch et al, 2012).

10 Drilling

10.1 Drilling Methods

The company has employed auger drilling techniques to develop the geochemical coverage of the area, particularly where lateritic regolith masks the terrain and traditional soil sampling is ineffective. A single sample is collected at the end of hole, usually at 6-8 metres depth and in saprolite.

Reverse Circulation (RC) drilling has been employed throughout the area, particularly on resource definition work and on resource conversion of known deposits. Endeavour owns an RC Drilling Rig which is operated by competent operators. This rig has limited depth capability however and is not fitted with auxiliary air or boosters. It is therefore only employed in a 'reconnaissance mode' on targets identified through geochemical and geophysical surveys.

Commercial contract RC drilling companies are employed in the larger programmes where penetration and high production rates are essential. A number of operators have drilled on the property including FORACO, WADS and Boart Longyear.

Diamond Drilling is extensively used for resource, lithological and geotechnical drilling. This method has always been contracted, and various legitimate operators have drilled on the property. All the underground drilling is performed using LM75 underground drill rigs. This work is currently contracted to FORACO who drill exploration and development holes on behalf of SEMICO.

Detail of the drilling performed since the last Technical Report is provided in the following subsections of this Technical Report. Sampling practices and procedures that are adopted on the property are provided in Section 11. Drilling results that have been included in the current Resource Estimates are reported in Section 14.

10.2 RC Drilling

Table 10-1 demonstrates the extent and location of RC drilling completed on the property since the last technical report. Figure 10-1 to Figure 10-5 show the location and extent of the RC drilling on the Tabakoto property. Figure 10-6 shows the drilling on the Kofi C deposit. The focus of the drilling programs was primarily to improve confidence in the resources of the known deposits. Additionally, where budgets permitted, new regional targets were tested.

Table 10-1 RC Drilling Summary

Prospect	#Holes	Total meters	Total
2011			
Djambaye Deposit	157	12,565	179 holes (15,338m)
Frontiere	1	108	
Fougala	9	910	
Tabakoto	11	1,691	
Segala	1	64	
2012			
Djambaye Deposit	65	8,341	240 holes (20,643m)
Frontiere	5	640	
Fougala	5	553	
Dioulafoundou	3	360	
Tabakoto	0	0	
Dar Salam	7	554	
Moralia	9	1,205	
Segala Deposit	34	3,304	
Segala Granite	8	948	
Kofi C	94	4,737	
2013			
Djambaye Deposit	88	10,314	134 holes (12,597m)
Moralia	40	1,985	
Segala	6	298	

Figure 10-1 RC Drilling at the Djambaye II Deposit and Frontier Prospect

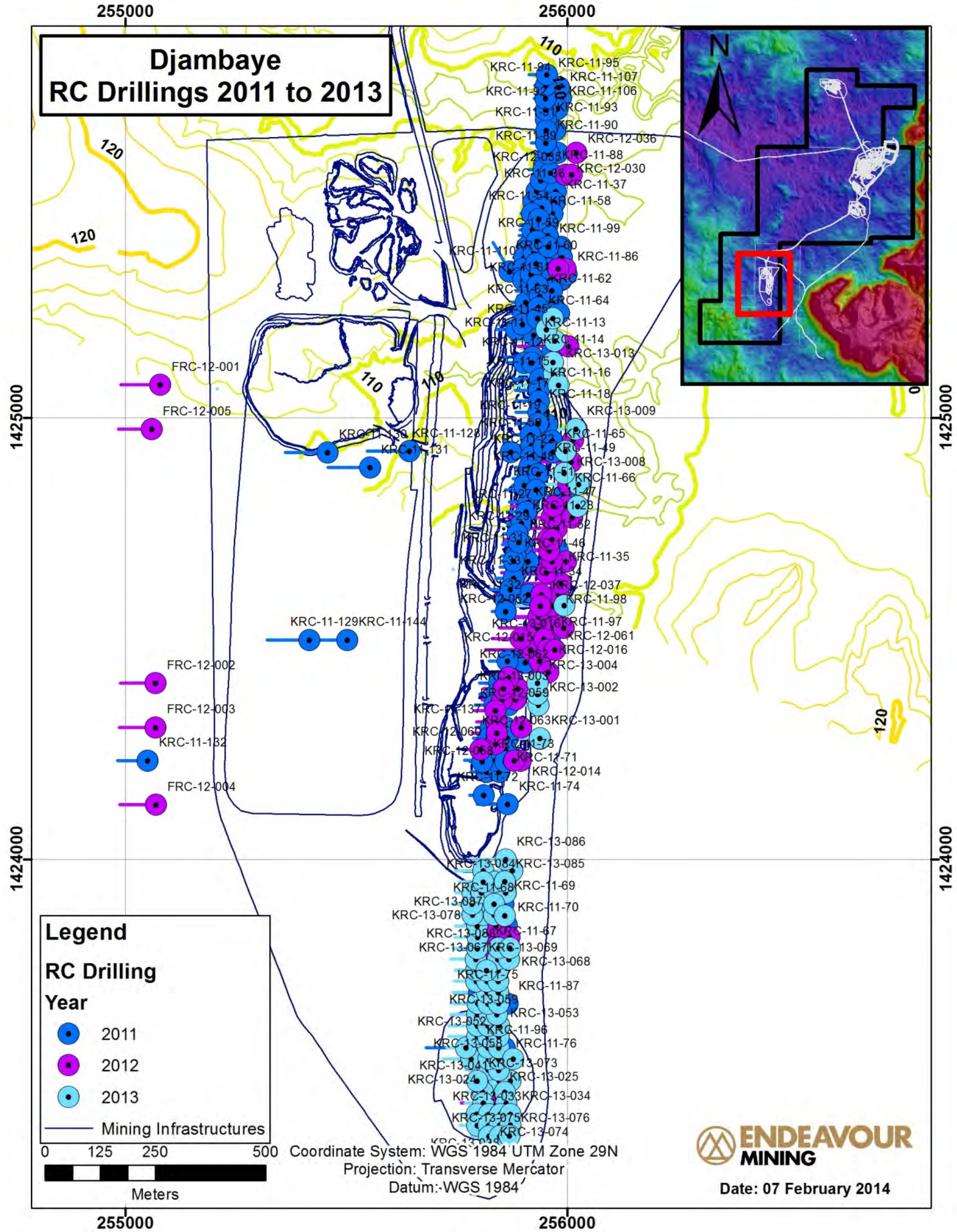


Figure 10-2 RC Drilling at the Tabakoto Deposit

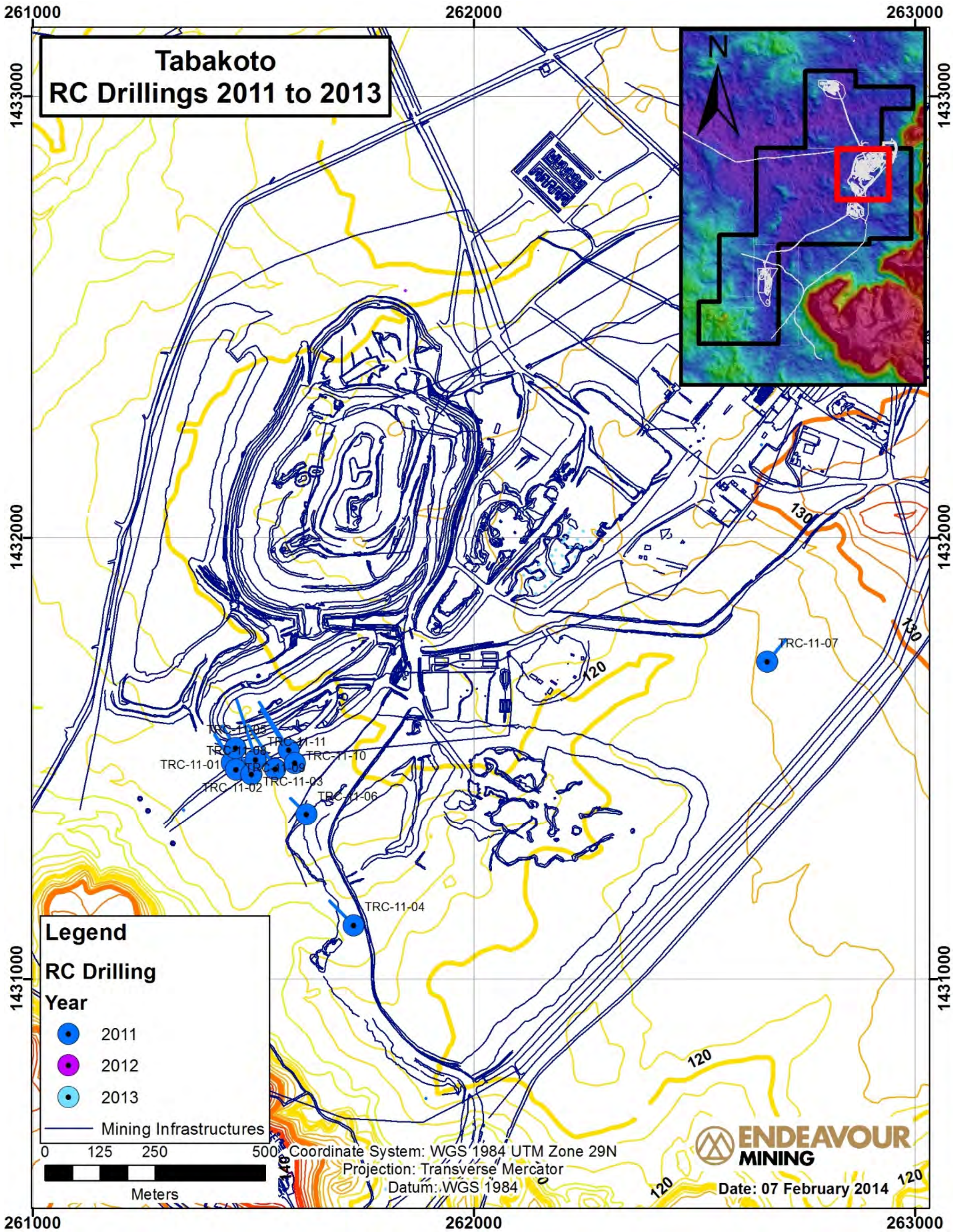


Figure 10-3 RC Drilling at the Ségala Deposit

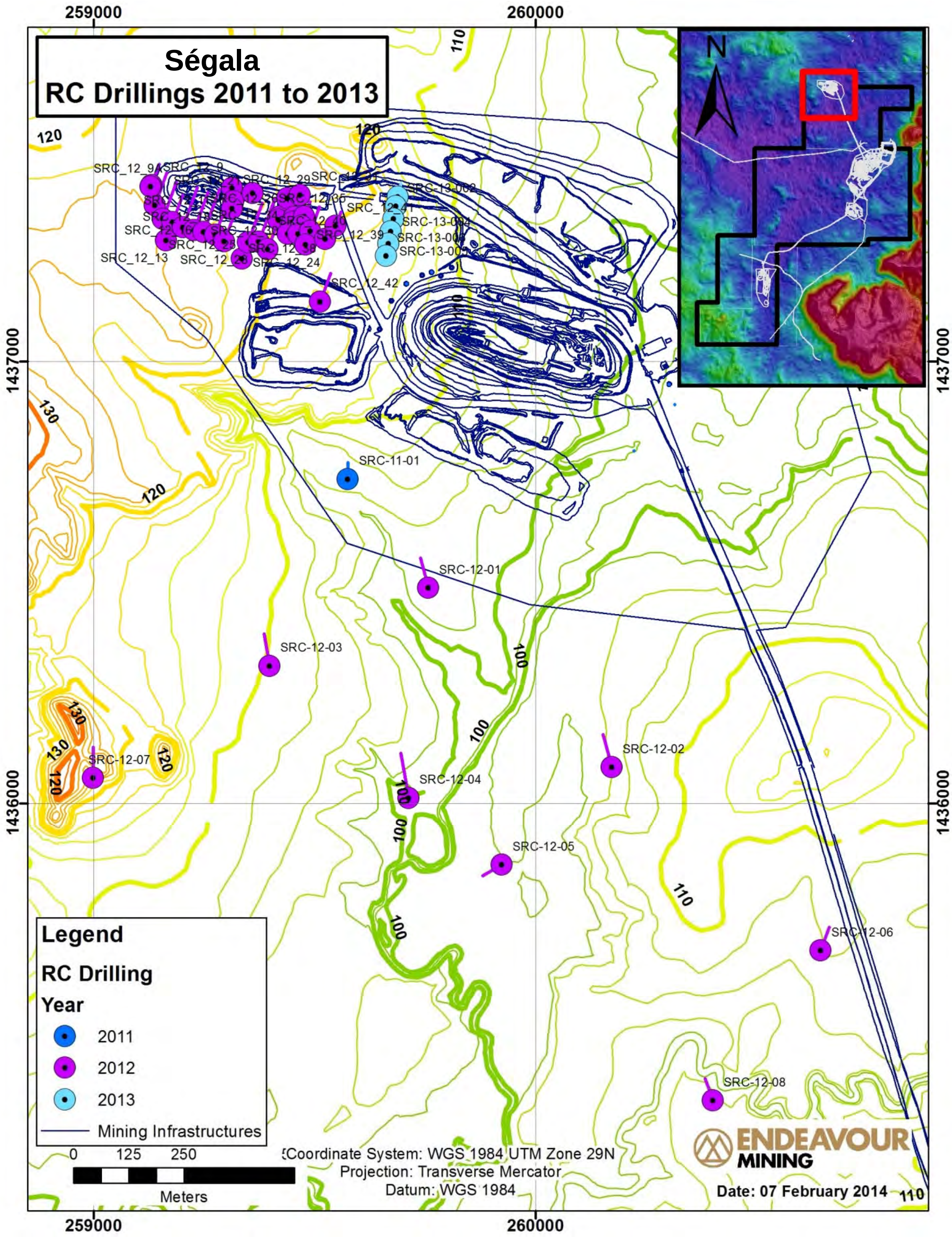


Figure 10-4 RC Drilling at the Dioulafoundou Deposit

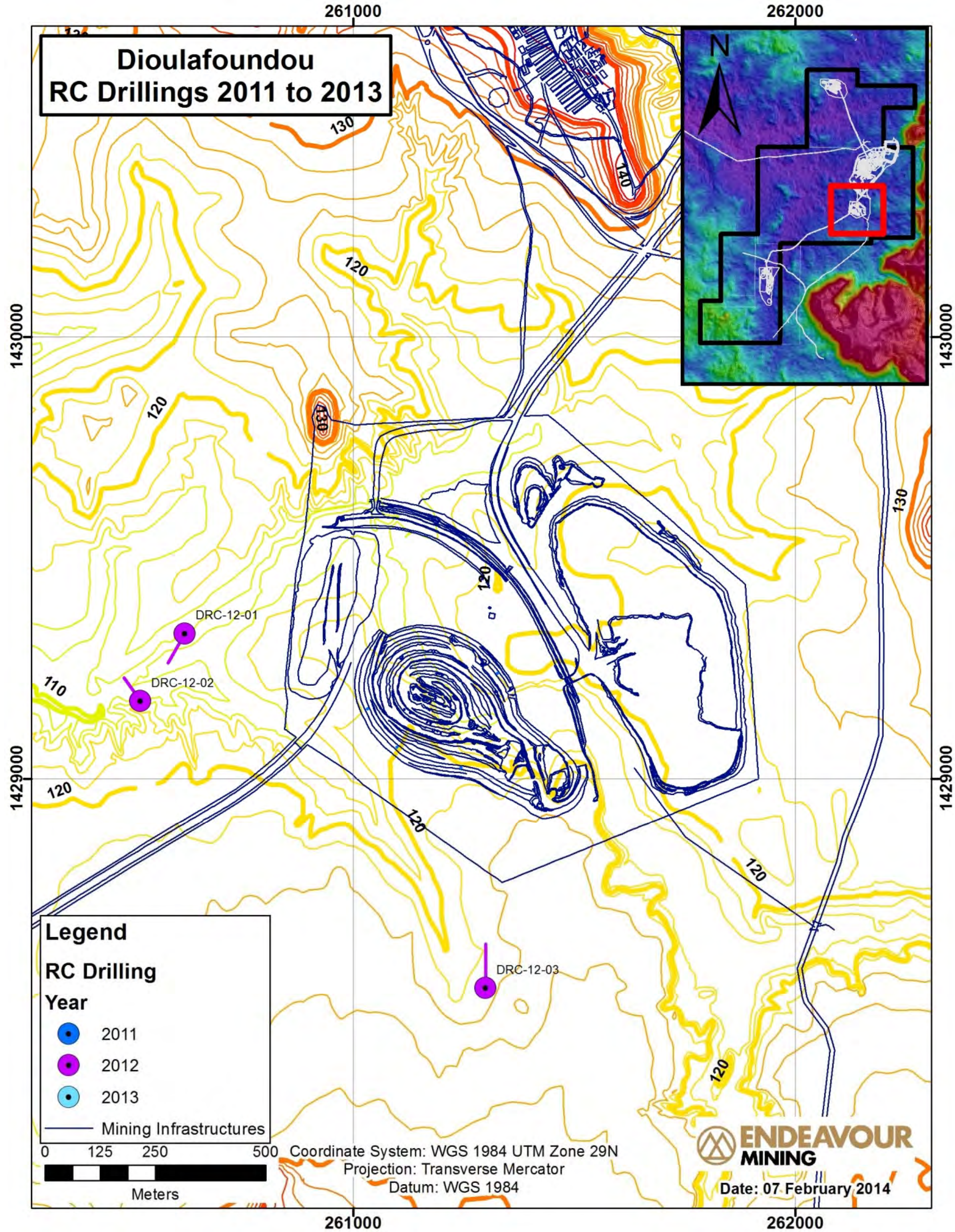


Figure 10-5 RC Drilling at the Dar Salam Prospect

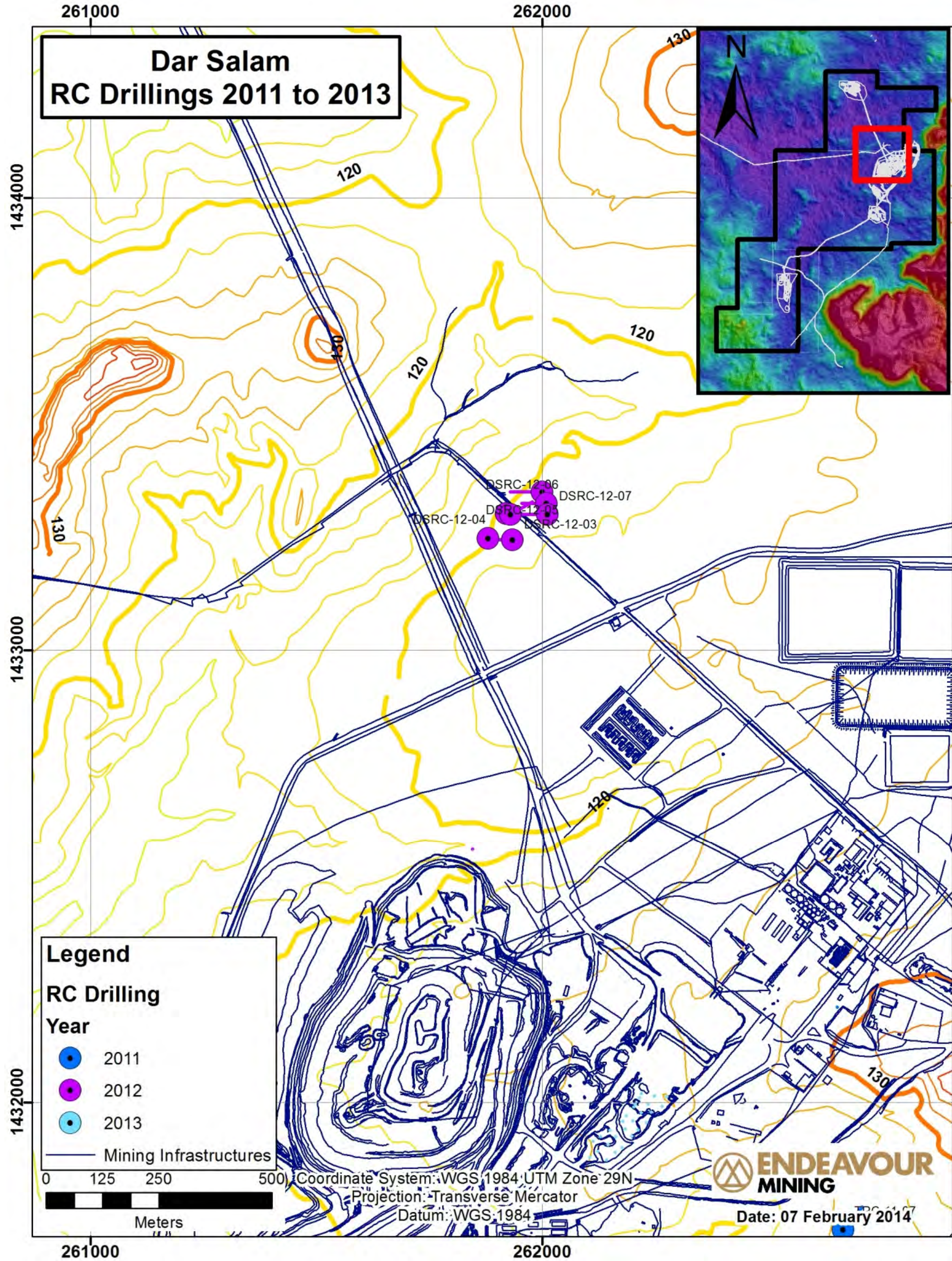
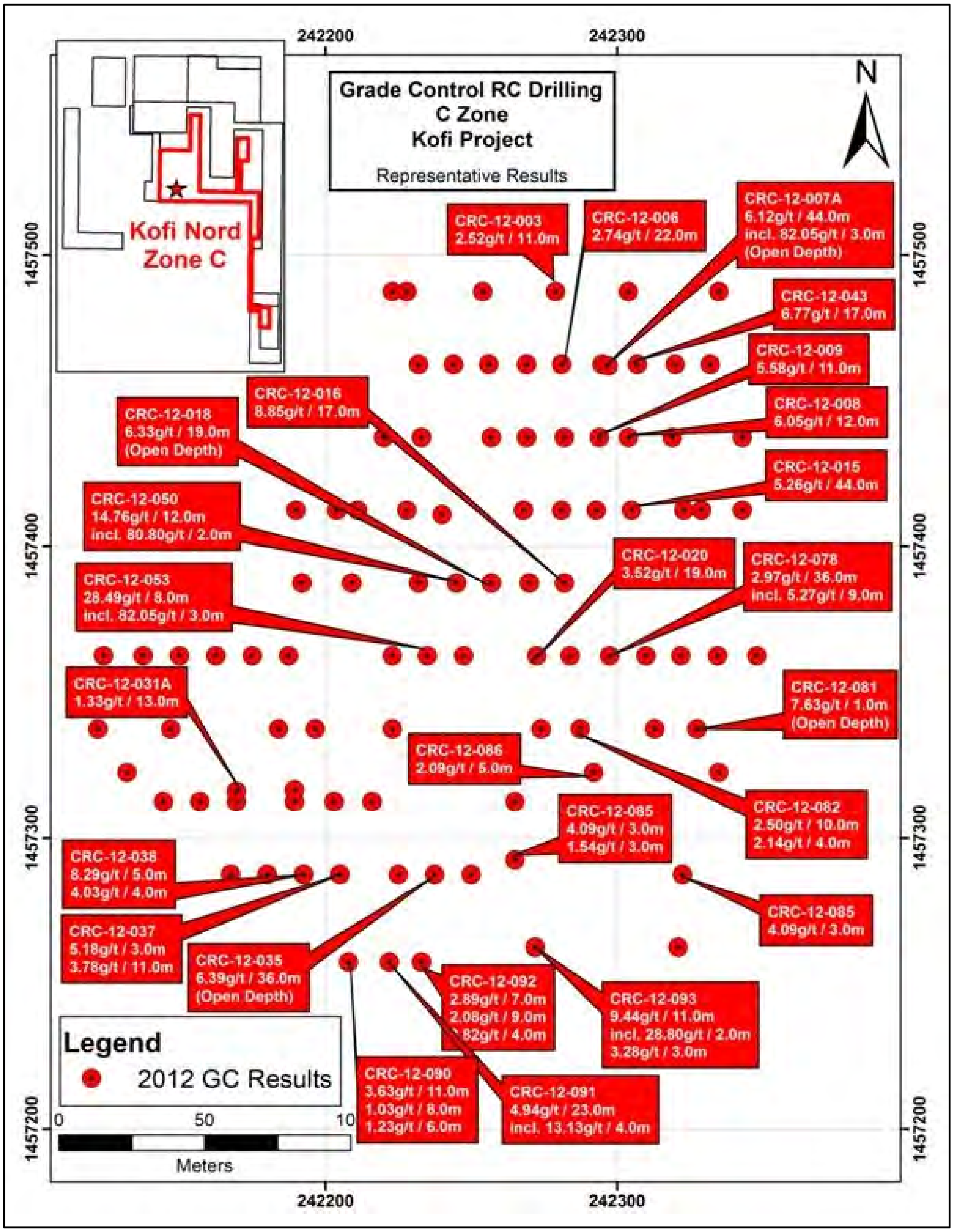


Figure 10-6 RC Drilling at the Kofi C Deposit



10.3 Diamond Drilling

Table 10-2 shows the extent and location of diamond drilling completed on the property since the last technical report, which occurred in 2011. Figure 10-7 to Figure 10-9 show the location and extent of the RC drilling on the property. The focus of the drilling programs was primarily to enhance the resources of the deposits being mined.

Table 10-2 Diamond Drilling Summary

Prospect	# Holes	Total metres	Total
2011			
Djambaye II Deposit	11	1,555	79 Holes (16,381m)
Tabakoto Deposit	51	10,987	
Ségala Deposit	17	3,838	

Figure 10-7 Diamond Drilling at the Djambaye II Deposit

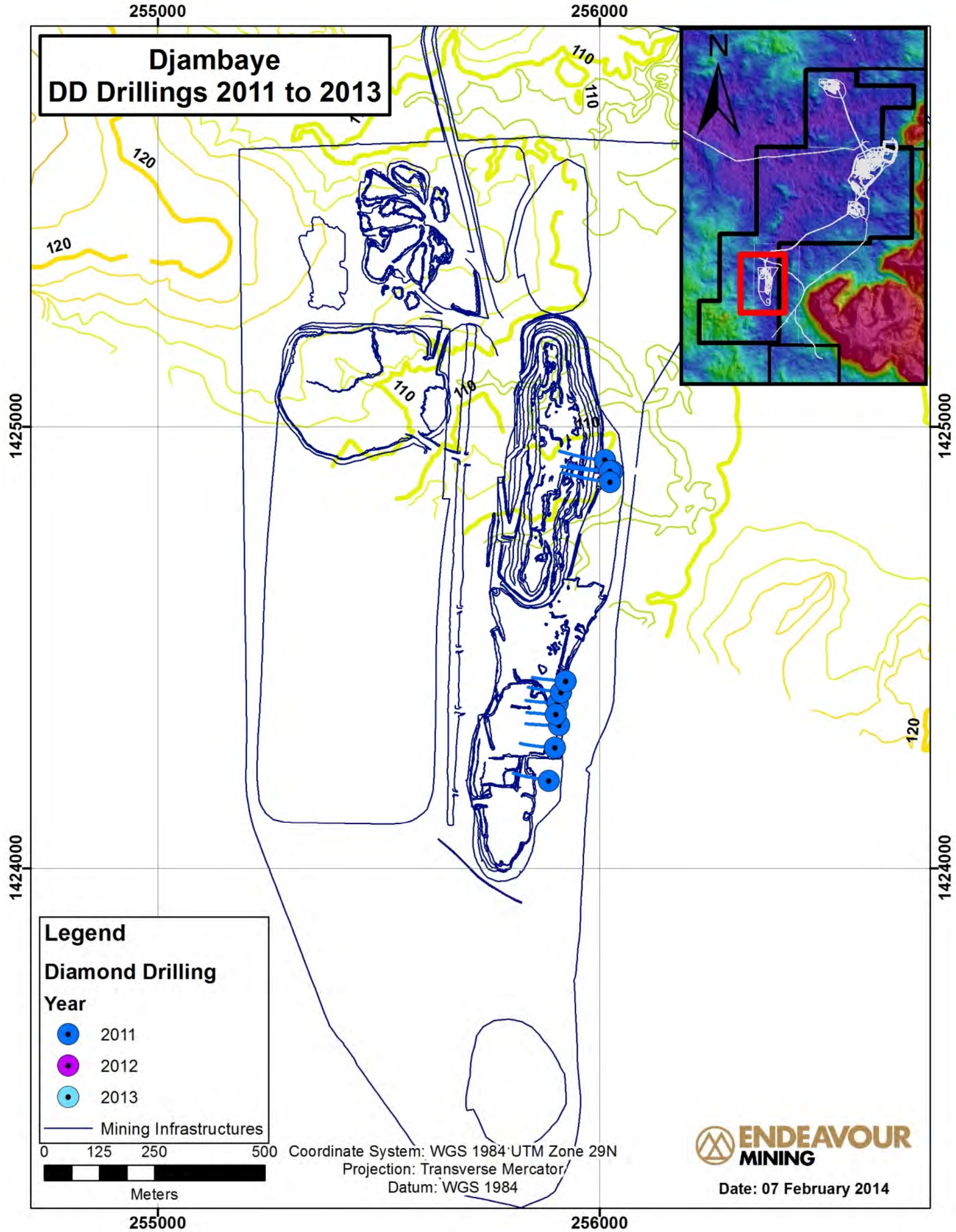


Figure 10-8 Diamond Drilling at the Tabakoto Deposit

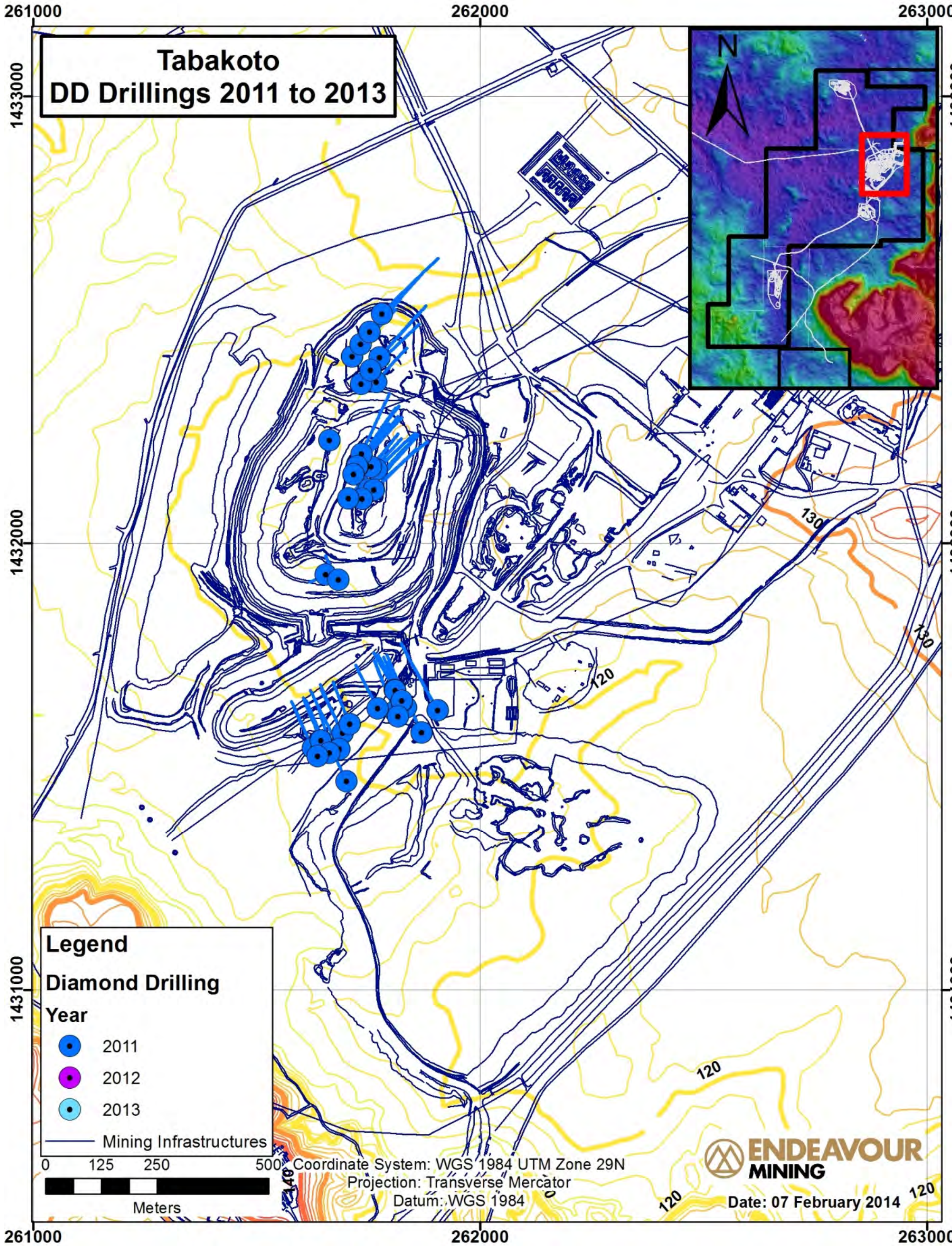
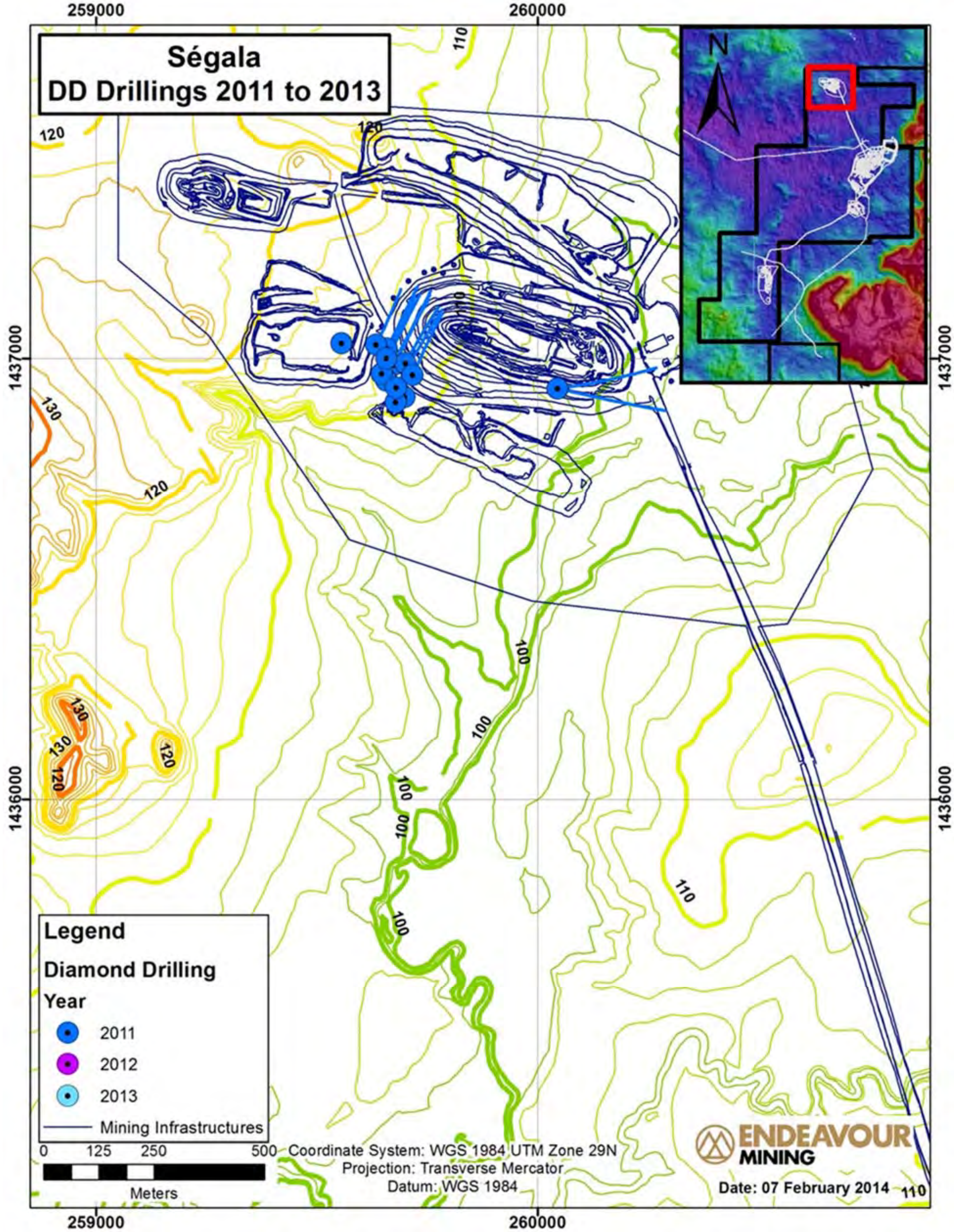


Figure 10-9 Diamond Drilling at the Ségala Deposit



10.4 Collar Surveys

Upon completion of the RC and Core drilling, all holes are surveyed by the Mine Survey department using a Differential GPS. Each hole collar is marked in the field with a length of drill pipe and cemented in place.

10.5 Downhole Surveys

All core holes are surveyed with a Reflex instrument that records depth, pullback, raw Azimuth (from which is deducted the current magnetic declination to give a true azimuth, inclination, roll, magnetic field, temperature in Celsius, date and time measured). All of this information is captured in the core logging database.

10.6 Logging and Sampling Procedures

10.6.1 Reverse Circulation Drilling

All RC samples are collected from the drill rig cyclone on a one metre basis into large (pre-marked) plastic bags (with sample tickets) then riffle split in a 4 tier riffle splitter to collect sub-samples for assay. RC samples are collected and submitted for assay on a one metre basis and the entire hole is sampled. The splitter is cleaned with compressed air after every sample. The cyclone is blown clean after every metre of drilling. If wet samples are encountered they are decanted into a tub and excess water drained off. They are then sun dried and the dried sample treated in the normal way.

Sample labels are inserted into the bag containing the split sample. Chip boxes are labelled at the drill site and sample chips added per metre of drilling. Sampling is overseen by a geologist who records the samples and logs the cuttings according to a standard logging template, recording any intersections of note such as transition, fresh, first water intersect etc. The RC crew consists of one geologist and three sampling helpers.

The completed hard copy log sheets are input into the database by the geologist according to pre-defined rock codes. Several QC checks are performed by the system and all fields must be populated before being accepted by the database. Data input is regularly checked by the supervising geologist.

The insertion of QC material prior to despatch to the Laboratory is described in Section 11 of this report. Chip boxes are catalogued and stored in a steel container at the Exploration Offices for future reference. Reject samples are stored under cover at the exploration offices. Pulps that get returned from the laboratory after initial free storage period are stored in steel containers at the Exploration Department.

10.6.2 Core Drilling

Again this process is managed by a Geologist and three sample assistants. All core drilling is oriented. As the core run is removed from the core barrel it is carefully laid out in core boxes and all the pieces are carefully oriented to fit. The top of the core is immediately marked and a line drawn on the top of the core making sure that the way up orientation is meticulously marked from box to box.

Once the core boxes and core blocks are marked the core boxes are carefully transported to the Exploration department where logging and sampling may commence.

The core boxes are laid out on logging tables and the core is washed. Magnetic susceptibility readings are taken along the entire length of core and recorded. RQD measurements are taken along the entire core and recorded. Initial geological logging also occurs at this time.

The uncut core is photographed (wet) and the photographic record appropriately stored in the database.

Detailed geological logging is then completed according to a prescribed format for ease of entry into the database. During this process the geologist defines the sampling intervals and notes the areas of suspected high grade (where blank samples will be inserted after a high grade interval).

After preparing sample tags and preparing QC insertions, the core is sent to be cut. The split core is returned to the core boxes (both halves) to ensure that there has been no loss of core in the cutting process. The samples are then selected and bagged and consigned to the laboratory. The sampling and QAQC protocol is describes in more detail in Section 11 of this Technical Report.

Logging of RC chips and drill core is undertaken according to a standard system that has been developed over the years. This is to ensure that appropriate fields are filled on the logging sheets and that correct and unambiguous data is imported into the database system. The database systems will run QC checks to ensure that there are no blank fields and that the correct collar ID's are inserted and that the sample IDs are unique. The supervising geologist will out put the data and check for errors and consistency. Logging is performed according to Lithology, Mineralogy, Structure, Alteration, RQD, and Mineralisation.

11 Sample Preparation, Analyses, and Security

11.1 RC Sampling

RC sampling is conducted according to the procedures outlined below:

1. The sample is collected from the Drill cyclone after each metre is drilled as described in Section 10 of this report.
2. After splitting the sample at the drill site the uniquely bagged (with label and sample ticket) samples and sample rejects are returned to the Exploration Offices.
3. Samples of about 2-3 kg are required for laboratory analysis. This quantity allows for sufficient material for analytical work and is also is leaves sufficient material for other study and/or re-testing. These sample bags are then individually sealed and placed into rice bags (about 12 per bag) and the rice bag is sealed and is marked with the code name for the submission.
4. Duplicate samples are collected periodically in the sequence outlined below. The sample will be collected by splitting a 4-5 kg sample using the splitter. If the position of a duplicate in the sequence coincides with a '' No sample”. The duplicate will be collected <u>at the next sampling opportunity</u> (the next time there is material in the cyclone) and the duplicate data (interval and duplicate of which sample) is immediately recorded in the sample book.
5. The chief sampler records notes in the field for each sample. These notes should include drillhole ID, interval sampled and any other relevant data. If the sample is a duplicate of a previous sample then the notes also indicate that this is a duplicate and of which sample number it is a duplicate. If the sample is a Standard then the standard number code will be shown in the notes. If the sample is a blank then then the notes will indicate if it is a blank and its blank number code if available. “NO SAMPLE” intervals are recorded.

11.2 RC Drilling QAQC

11.2.1 Duplicates

- Duplicate sample are collected in the field (using the Splitter) every 20th sample; Duplicate starts at tag # 01 (01, 21, 41, 61, 81).
- When a duplicate a sample is taken it is record in the sample book, which interval and sample # that it is duplicating.
- If the location of a duplicate sample happens to be a “No Sample” the duplicate is inserted at the next sampling opportunity and every 20 samples thereafter.

11.2.2 Blanks

- Blanks are inserted every 20 samples; Blank insertion starts at tag # 15 (15, 35, 55, 80, 105, etc.).
- The blank samples are inserted in sample bags and consigned along with the live samples.
- The blank number code is recorded in the sample book.
- When suspected High Grade is intersected in the drilling, a blank sample is inserted immediately following the “High Grade” sample.

11.2.3 Standards

- Standards are inserted every 25 samples.
- Standard insertion starts at tag # 25 (25, 50, 75, 100).
- The Standard code number is recorded in the Sample Book.
- Standard samples are prepared in advance at the exploration office to eliminate the possibility of contamination by RC drilling dust on site.

The standard selection for a particular sample number is done in a random fashion. To accomplish this, standards are all placed in a rice bag and the operator reaches blindly into the bag to retrieve a pre-prepared standard.

Once the samples are prepared for shipping and chain of custody paperwork is completed they are collected by the commercial laboratory and shipped to their facility for analyses. Once the commercial Laboratory takes custody via signed chain of custody form, Laboratory protocols take effect.

Pulps are returned to Endeavour. The returned pulps are stored in a locked steel container. Sample rejects when retained are stored in the core repository.

11.3 Core Drilling

Sampling of diamond drilling core is conducted according to the procedures outlined below:

1. Once the cut core is returned from cutting it is laid out in an appropriate location with the core boxes in order. Samples are collected in the order laid out in the sample book that was identified during the logging process (Section 10. of this Technical Report), double checking areas where duplicates are needed in case additional cutting is required.
2. Samples are collect from core as per the intervals determined above.
3. Each sample is placed in a double plastic bag with the tag inserted and the number visible. Rice bags are filled with individual samples until full and then sealed and the Sample IDs clearly marked on the outside of the Rice Bag.
4. The data is record in the Sampling Crew Chief's record book.
5. The laboratory consignment sheets are prepared and when there are sufficient samples, the commercial laboratory will collect the samples for analysis.

11.4 Core Drilling QAQC

11.4.1 Duplicates

- Duplicate sample collected 20 samples. The drill interval will be quartered to provide a duplicate sample. Duplicates start at tag # 15 (15, 35, 55, 75, 95).
- The duplicate sample is record in the sample book, which interval and sample # that it is duplicating.
- If the location of a duplicate sample happens to be a "No Sample" the duplicate is inserted at the next sampling opportunity and every 20 samples thereafter.

11.4.2 Blanks

- Blanks are inserted every 20 samples; Blank insertion starts at tag # 10 (10, 30, 50, 70, 90, etc.).
- Again the blank sample and the blank number code are recorded in the sample book.
- When "High Grade" is intersected, a blank is inserted immediately following the "High Grade" sample.

11.4.3 Standards

- Standards are inserted every 25 samples.
- Standard insertion starts at tag # 05 (05, 30, 55, 80).
- The Standard code number is recorded in the Sample Book for the appropriate sample ID.
- Standard samples are prepared in advance at the exploration office to eliminate the possibility of contamination.

- The standard selection for a particular sample number must be in a random fashion. To accomplish this, standards are all placed in a rice bag and the operator reaches blindly into the bag to retrieve a pre-prepared standard.

11.5 Sample Storage and Security

All samples of soil, rock and chips etc. collected in the field either from ground prospecting, soil sampling, RC and Diamond drilling are returned to the exploration office placed in a secure location. The exploration office is located behind the gates of the mine site and ingress and egress is controlled by mine site security.

Once the samples are prepared for shipping and chain of custody paperwork is completed, they are picked up by the commercial laboratory and shipped to their facility for analyses.

Once the commercial Laboratory takes custody via signed chain of custody form, Laboratory protocols take effect.

Pulps are returned to Endeavour. The returned pulps are stored in a locked steel container. Sample rejects when retained are stored in the core repository.

11.6 Sample Analyses

After sample collection, and shipment to the laboratory, no employee, officer, director or associate of Endeavour is involved in any aspect of the commercial laboratory sample preparation or analysis of samples from the exploration activities on the Tabakoto property.

Only laboratory staff has access to the samples once they receive the samples and sign the chain of custody form.

Analyses are generally for Gold only, but periodically multi-element work is conducted and other whole rock analyses. Specific Gravity determinations have periodically been performed by commercial laboratories.

11.6.1 Sample Preparation

Samples consigned to the laboratory include soil, rock, RC cuttings and core samples. The standard sample preparation procedures apply to all samples which include:

- Weighing and entry into Laboratory LIMS
- Drying of sample (oven dry at 105°)
- Crushing of sample to 2 mm
- Splitting of sample to produce a 1.5 kg split and a reject sample
- Pulverising sample to 85% passing 75 u in a ring and puck pulveriser

Every 50th sample is screen tested to check the above standards of crushing and pulverising. The live pulverised sample is further split into 50 gm samples for fire assay. All sample pulps are retained for a period by the laboratory and thereafter returned to Endeavour for storage.

11.6.2 Sample Analysis

The majority of samples are analysed for gold only using a standard 50 gm Fire Assay with gold detection by flame AAS to a 0.01 ppm detection limit.

Periodically samples are selected for multi-element analyses. Typically a multi-acid digest method is used with an ICP-OES finish on 36 elements.

Occasionally whole rock analyses are required. Typically pellets are prepared and analysed by XRF for 36 elements.

All sample analyses are reported electronically in .csv format for easy transfer to the database. Certificates of analysis are prepared by the laboratory for each sample consignment and these are kept on file at the Exploration Department.

11.7 Specific Gravity Data

Specific Gravity data being used in the resource estimates is detailed in Section 14 of this Technical Report. Bulk density data being used in the mining estimates are detailed in Section 15 of this Technical Report.

11.8 Conclusion on Sample Preparation, Security and Analytical Procedures

The opinion of the authors is that the sample preparation, security, and analytical procedures are adequate for the purposes of exploration, resource estimation and mining.

12 Data Verification

12.1 Quality Assurance and Quality Control Programs

Endeavour has standard Quality Assurance and Quality Control (QAQC) programs that include regular insertion of field duplicates, certified reference materials, blanks, and check assays completed at an umpire laboratory. Quality control materials are assessed in a corporate standard QAQC analysis spreadsheet. This spreadsheet is auto-generated within the database management system each time batches of new assay results are imported. Statistics are compiled on a monthly basis for internal review.

Table 12-1 Summary of Analytical Quality Control Data Produced By Tabakoto

Sampling Program	# of samples in Period	%	Comment
Sample Count	64739	100%	
Field Blanks	2492	3.8%	
QC samples			
OREAS 10c	25	0.04%	
OREAS 10pb	124	0.2%	
OREAS 67a	42	0.1%	
OREAS 6pc	28	0.04%	
OREAS 7pb	125	0.2%	
	344	0.5%	OREAS
OxF100	8	0.01%	
OxF65 / OxF85	556	0.9%	
OxJ64	295	0.5%	
OxJ68	4	0.01%	
OXL63	79	0.1%	
OxL78	291	0.4%	
OxL93	236	0.4%	
SH55	124	0.2%	
Si42	266	0.4%	
Si64	142	0.2%	
SL46	2	0.003%	
	2003	3.1%	Rocklabs
Field Duplicate	3026	4.7%	
Total QC Samples	7865	15.8%	
Check Assay to Umpire Laboratory			

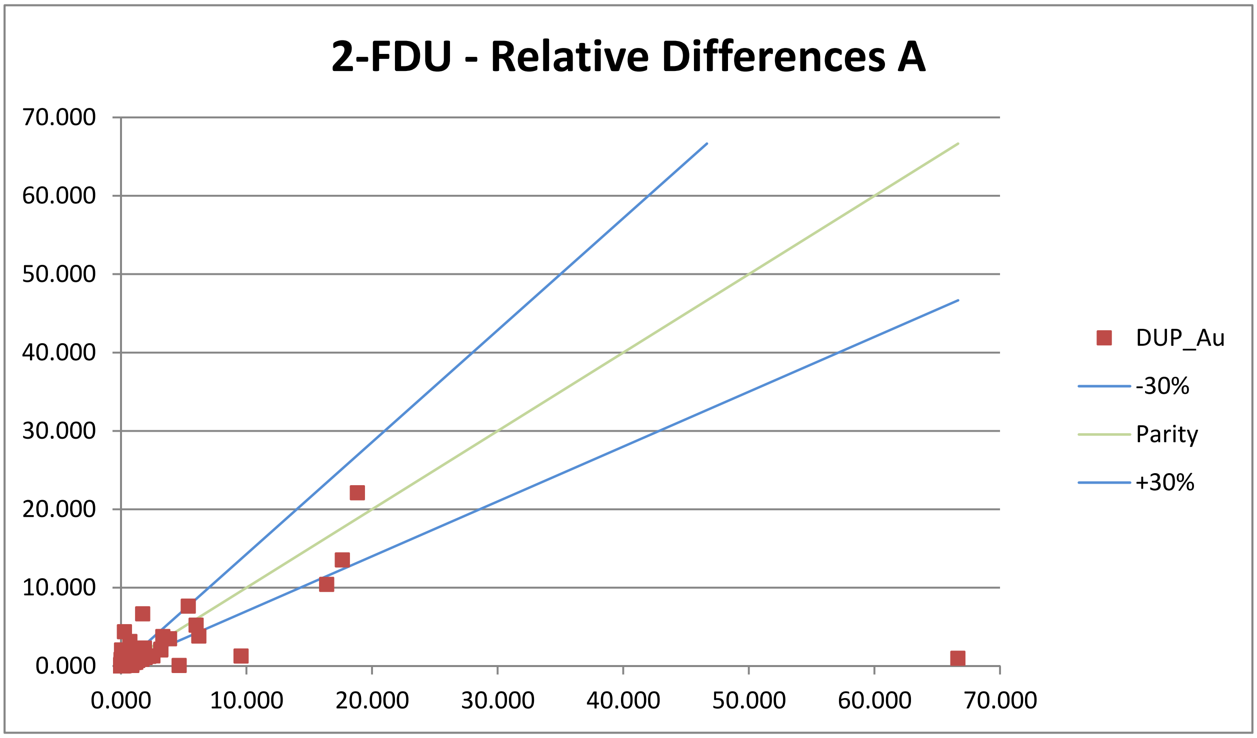
Sample batches with failed QAQC samples are reviewed and are re-assayed or partially re-assayed where appropriate. Multiple QAQC samples are inserted in each batch so that batch QAQC does not rely on a single sample result. If one QAQC sampled failed and the remainder were within limits then no action would be taken. If more than one sample failed then initially a number of samples in sequence before and after failed QAQC samples would be re-assayed. If the majority of QAQC samples failed the entire batch would be re-assayed.

12.1.1 Field Duplicates

Field duplicates for each of the drilling / trenching programs are generated by collecting a second equal sample from the same sample interval and assigning two contiguous sample numbers to these identical samples. Generally, over the reporting period, 1 duplicate sample was taken in any given 20-30 sample sequence.

The assay results of the duplicates are evaluated in the corporate standard QAQC analysis spreadsheet. 2 types of charts depicting the relative difference (RD) between the sample pairs are reviewed:

Figure 12-1 2011 RC RD Analysis Charts



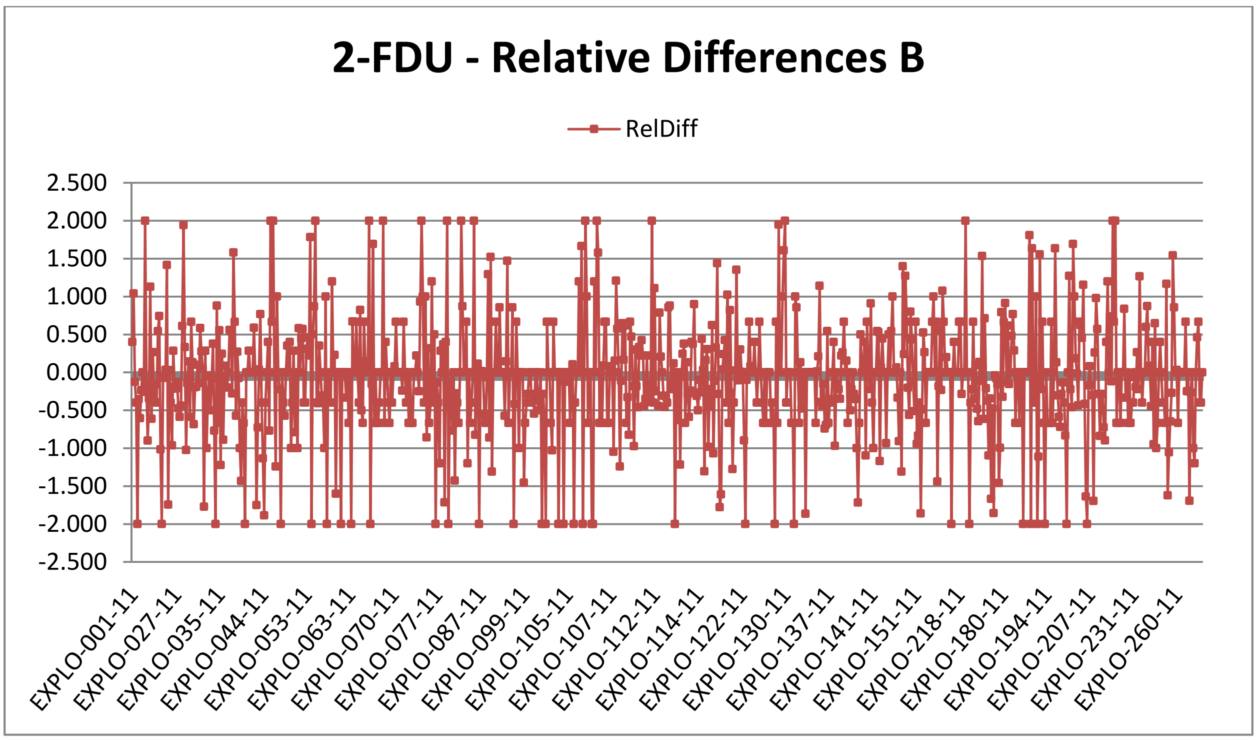
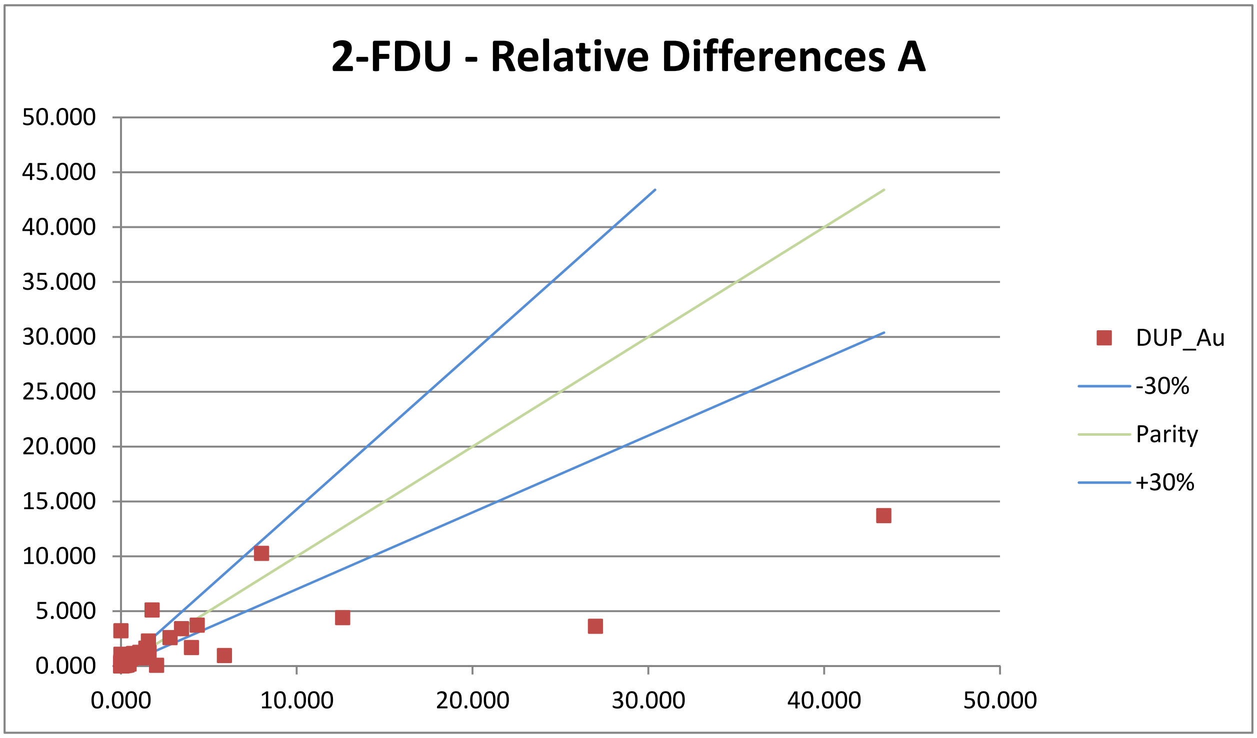


Figure 12-2 2012 RC RD Analysis Charts



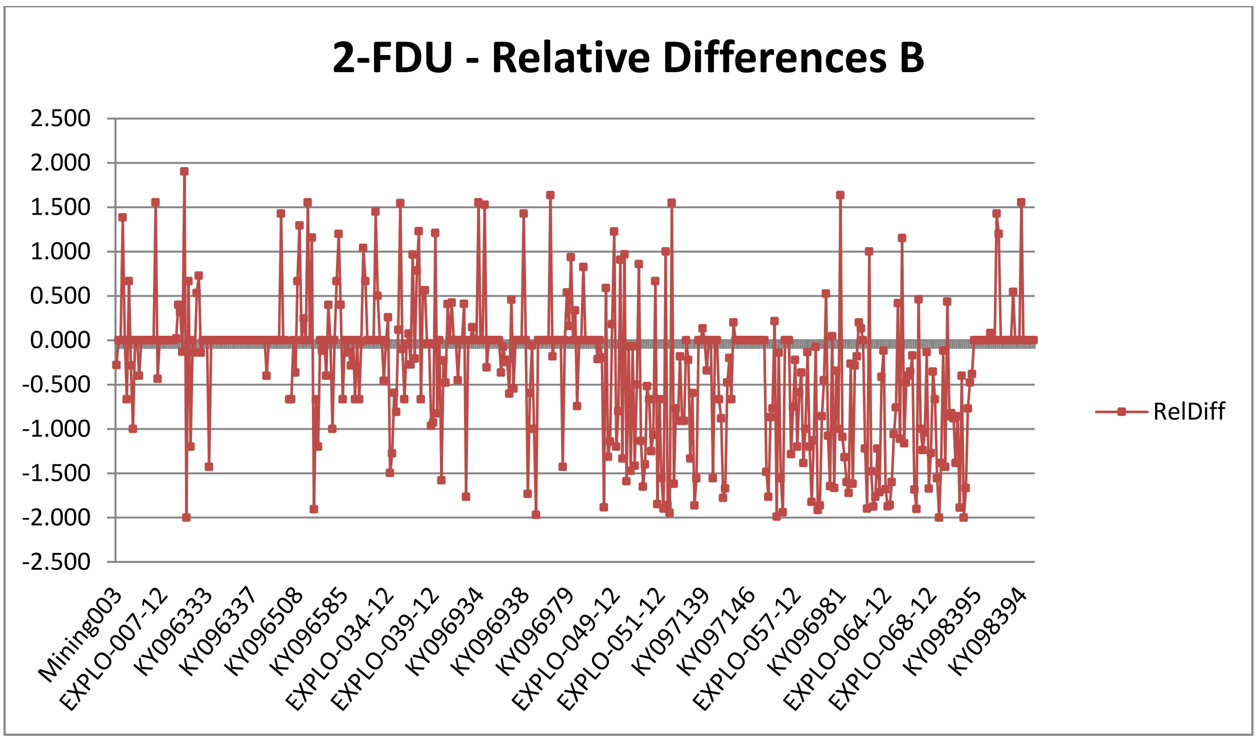
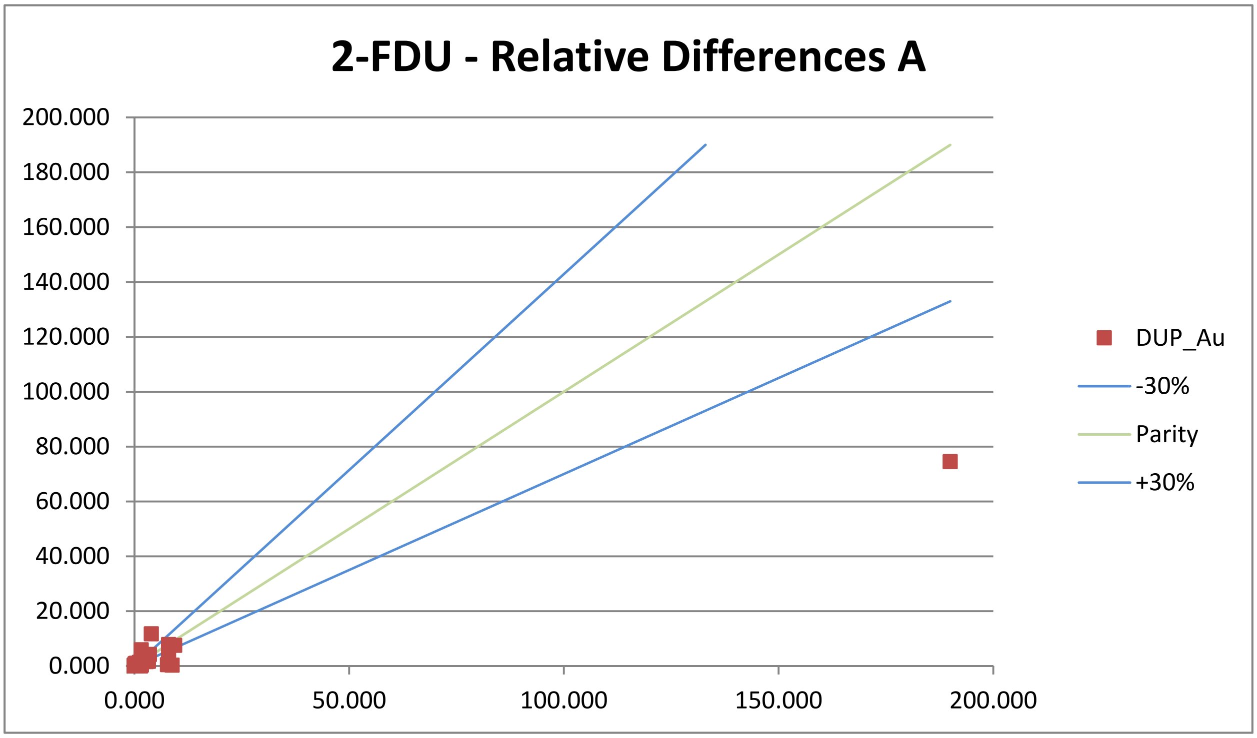
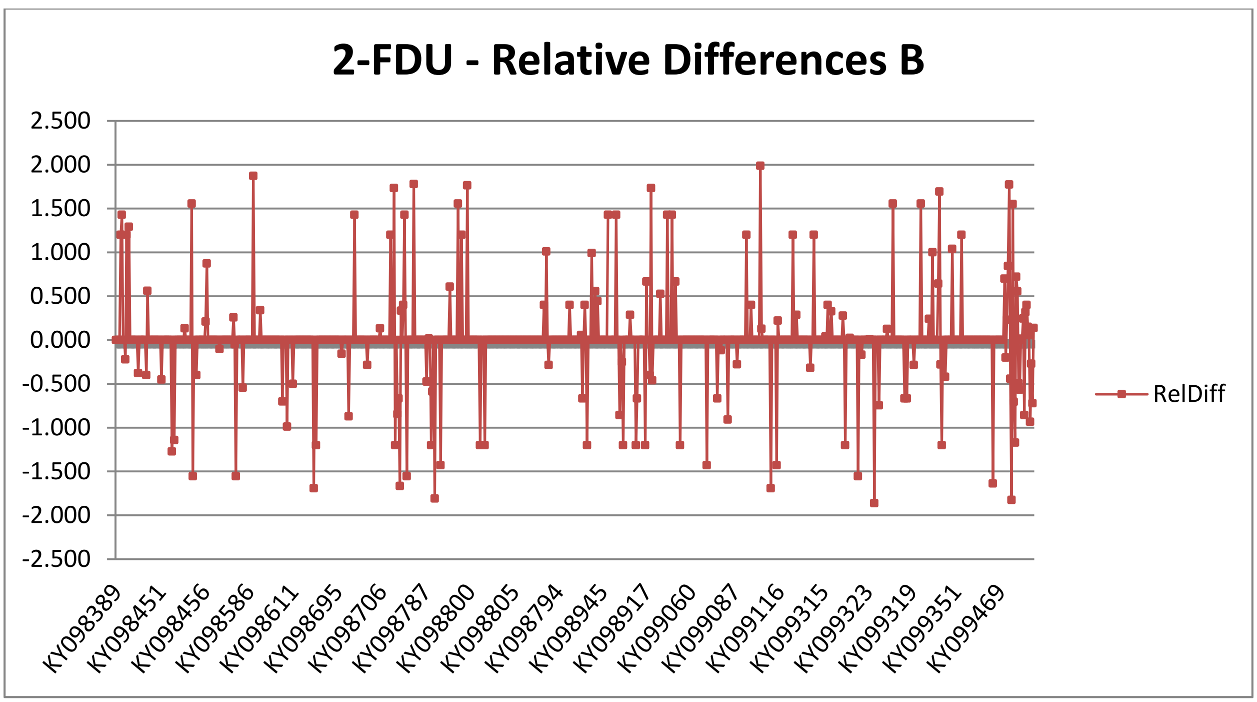


Figure 12-3 2013 RC RD Analysis Charts





In addition, the calculated absolute difference (AD) and absolute relative difference (ARD) are reviewed.

When a duplicate pair exceeds set thresholds for both the AD and ARD this pair is failed.

The performance of these duplicates during the reporting period is within acceptable limits, with the exception of duplicate samples generated in the 2011 DDH program. This performance is summarized in Table 12-2.

Table 12-2 Summary of Field Duplicate Performance Over Reporting Period

Year	Drill Type	QAQC Sample Type	Total No. samples	Total Failed	Percentage Failure
2011	Trench	Field Duplicates	6	1	16.67%
2011	RC	Field Duplicates	837	58	6.93%
2011	DDH	Field Duplicates	286	57	19.93%
2012	Trench	Field Duplicates	5	1	20.00%
2012	RC	Field Duplicates	447	31	6.94%
2013	Auger	Field Duplicates	68	0	0.00%
2013	Trench	Field Duplicates	16	3	18.75%
2013	RC	Field Duplicates	790	28	3.54%

12.1.2 Certified Reference Materials

Certified Reference Material (CRM) was sourced from 2 suppliers: Ore Research and Exploration PTY LTD (OREAS) and Rocklabs. CRM's were generally purchased in bulk. Well trained geotechnician's prepared 30-50 gram sachets in a controlled environment. All manufactured CRMS were well organized in boxes, clearly labelled and stored in a secure office.

Generally, over the reporting period, 1 CRM was inserted into any given 20-30 sample sequence.

The assay results of the CRM samples are evaluated in the corporate standard QAQC analysis spreadsheet. Data from each CRM is portrayed in standard charts depicting the behavior of the CRM's over time.

Figure 12-4 2011 RC CRM Analysis Chart – Rocklabs Oxide Low Grade Au Standard OxF65

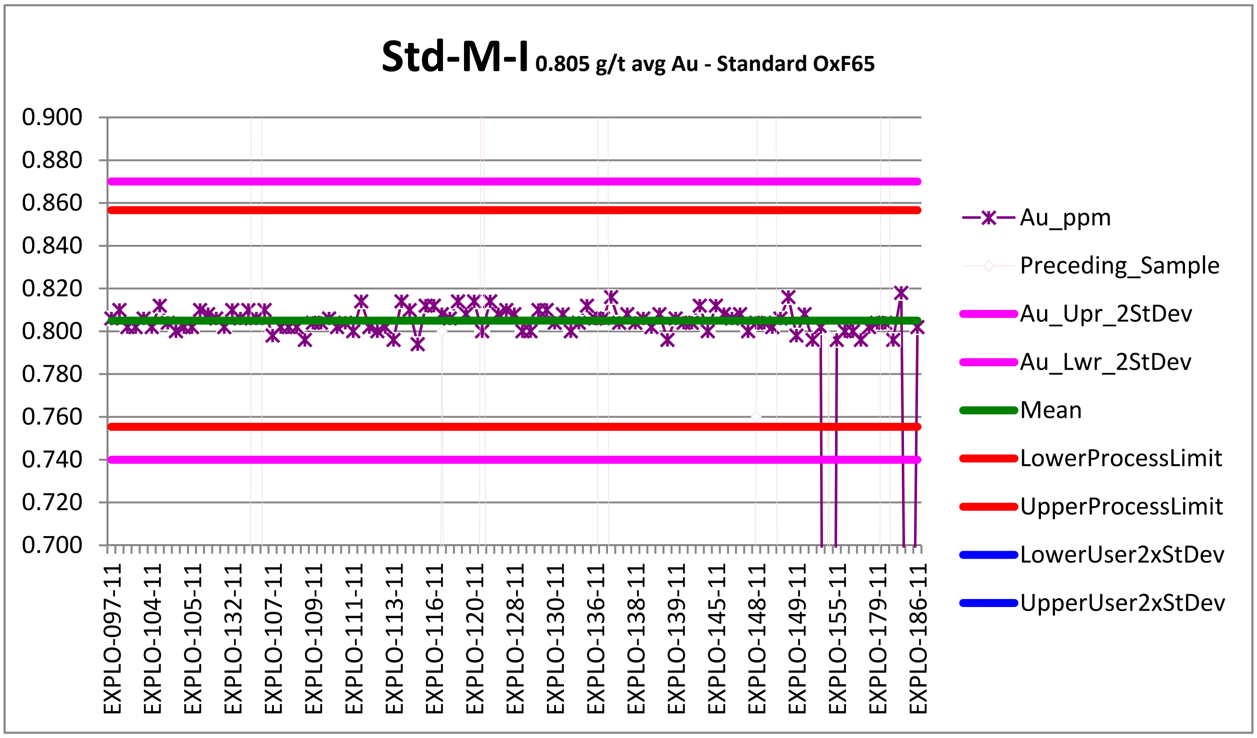


Figure 12-5 2011 RC CRM Analysis Chart – Rocklabs Oxide Medium Grade Au Standard OxJ64

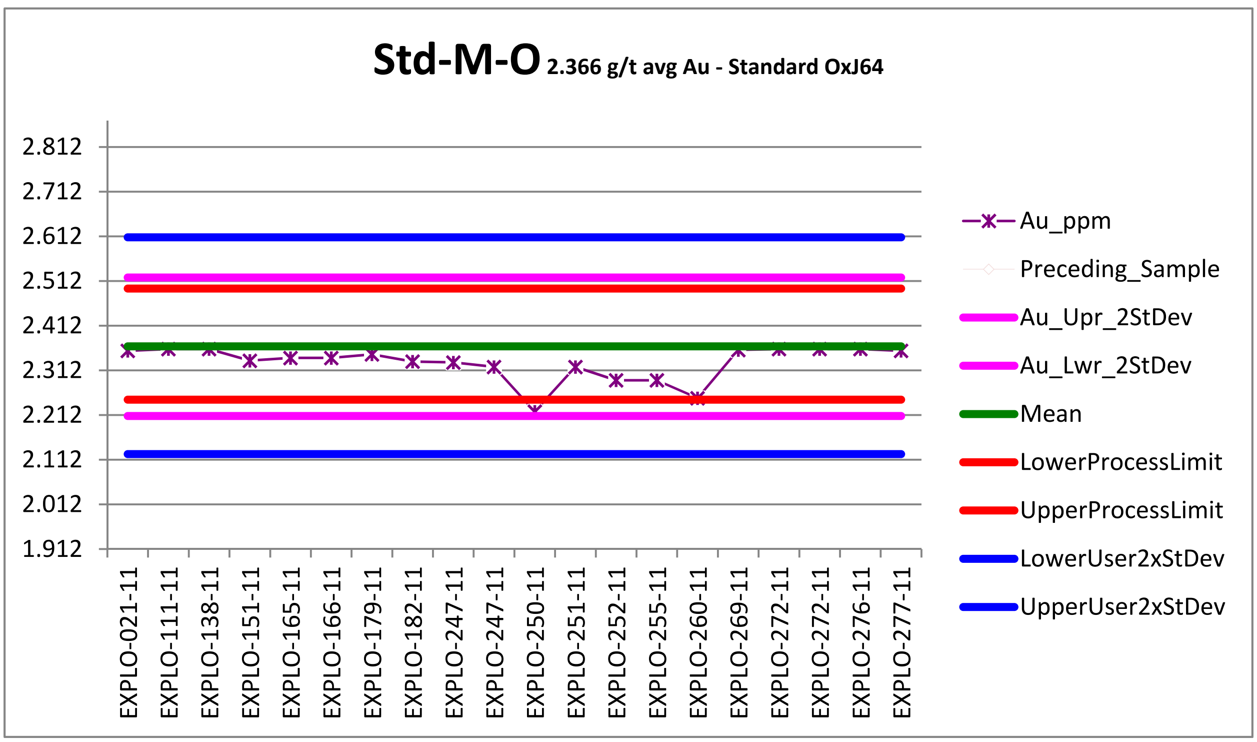


Figure 12-6 2011 RC CRM Analysis Chart – Rocklabs Oxide High Grade Au Standard OxL78

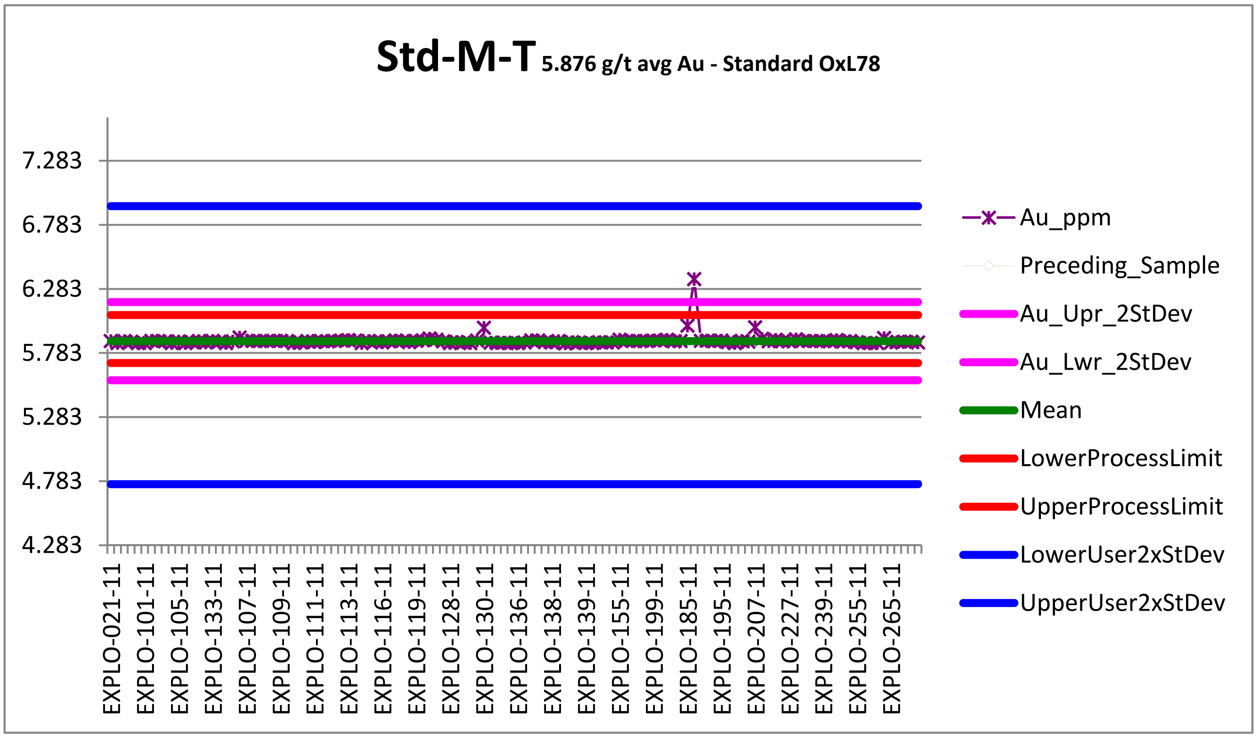


Figure 12-7 2011 RC CRM Analysis Chart – Rocklabs Sulphide Medium Grade Au Standard Si42

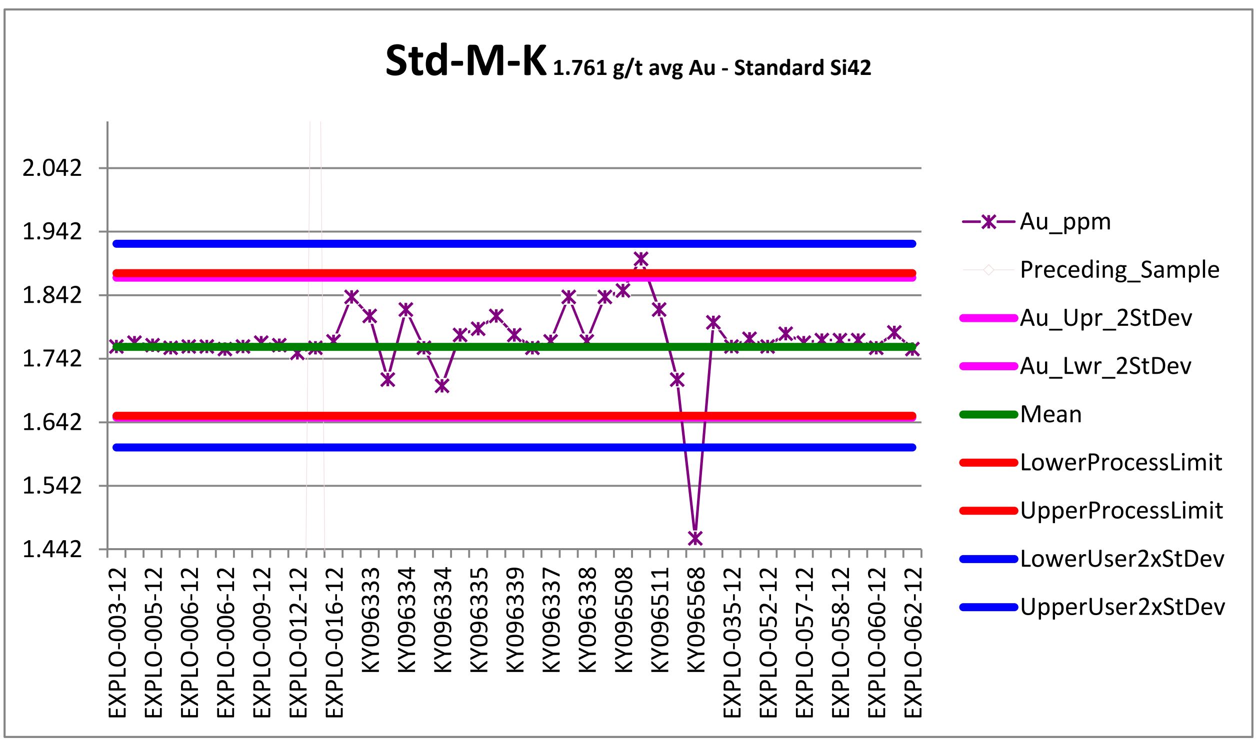


Figure 12-8 2011 RC CRM Analysis Chart – OREAS Oxide Medium Grade Au Standard 7pb

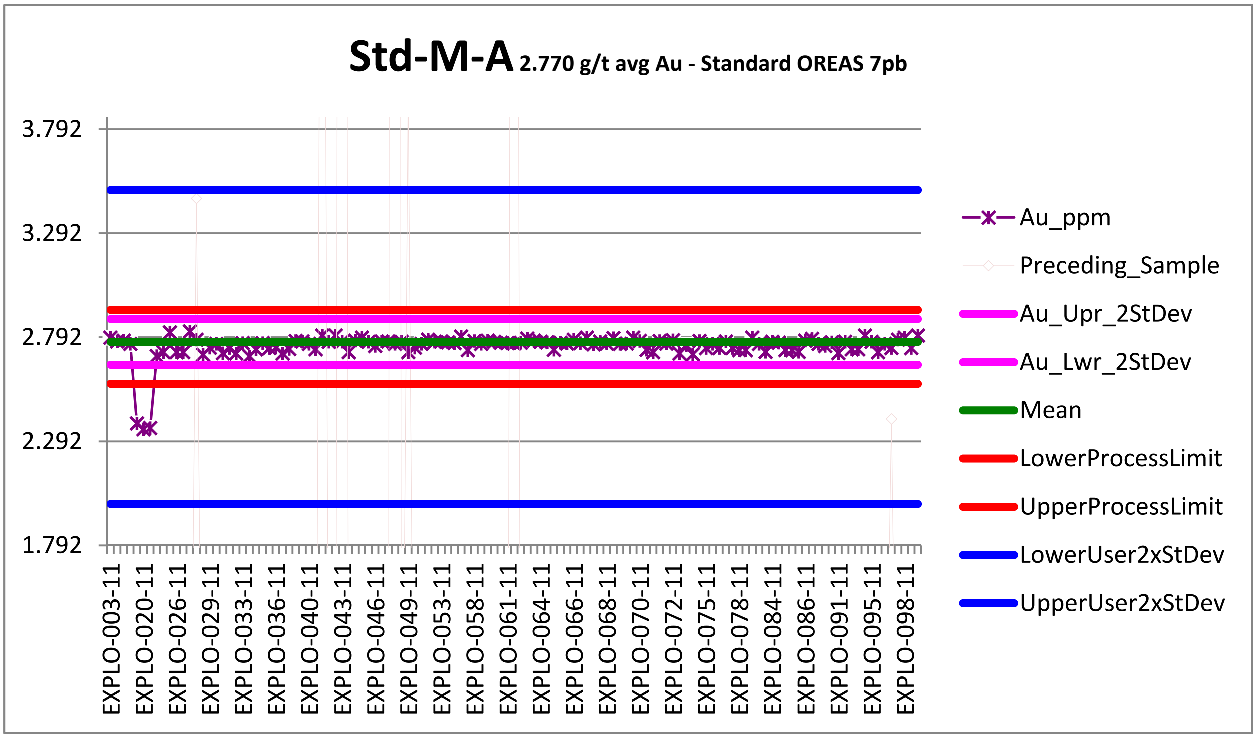


Figure 12-9 2012 RC CRM Analysis Chart – Rocklabs Oxide Low Grade Au Standard OxF65

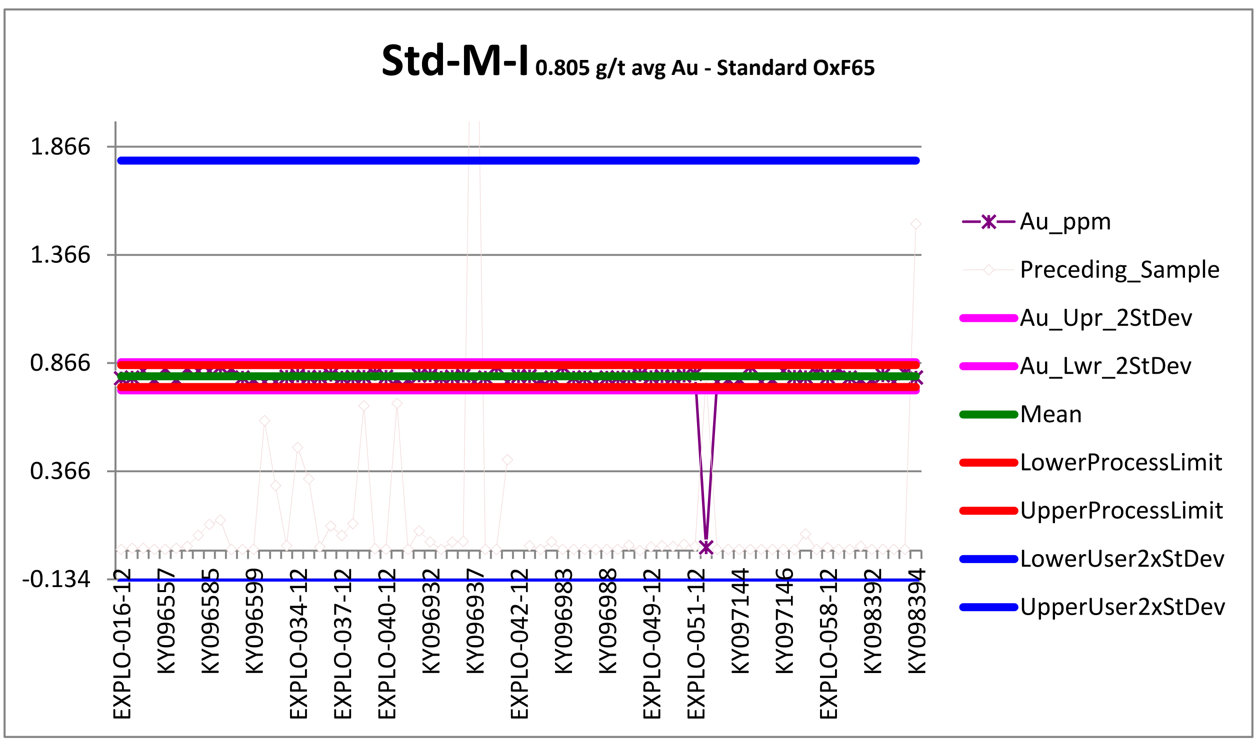


Figure 12-10 2012 RC CRM Analysis Chart – Rocklabs Oxide Medium Grade Au Standard OxJ64

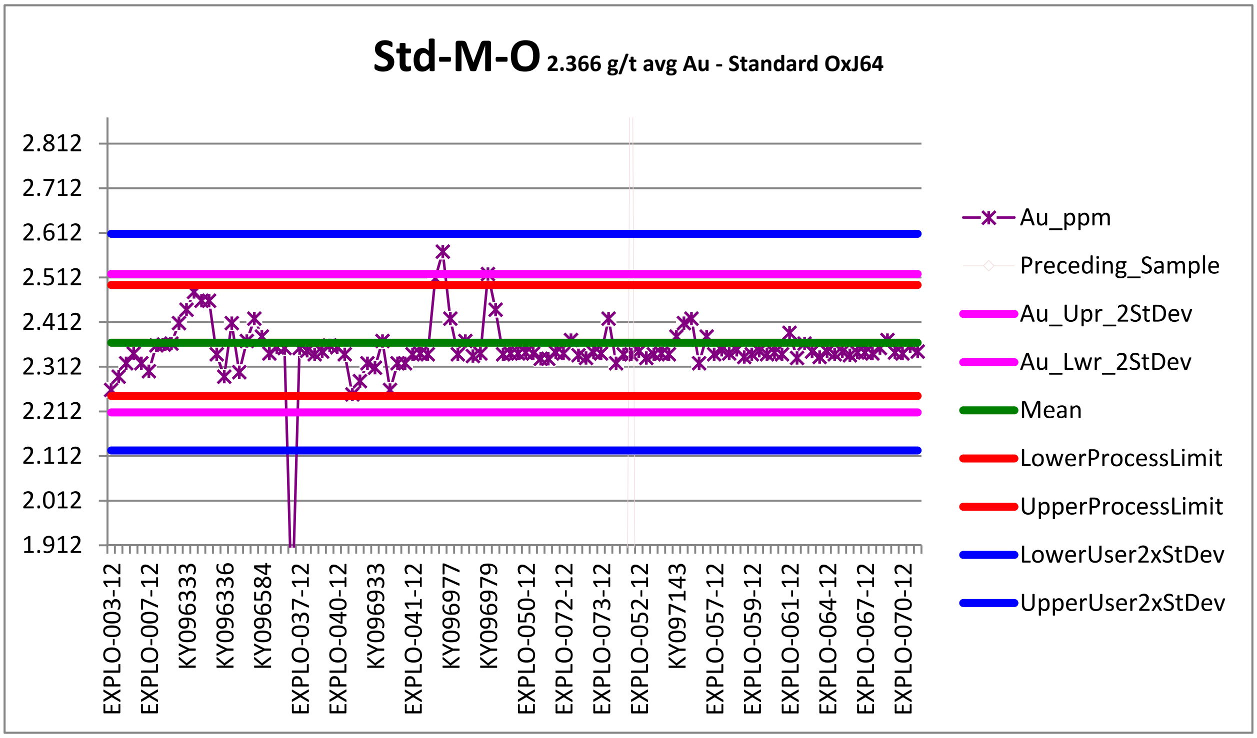


Figure 12-11 2012 RC CRM Analysis Chart – Rocklabs Oxide High Grade Au Standard OxL78

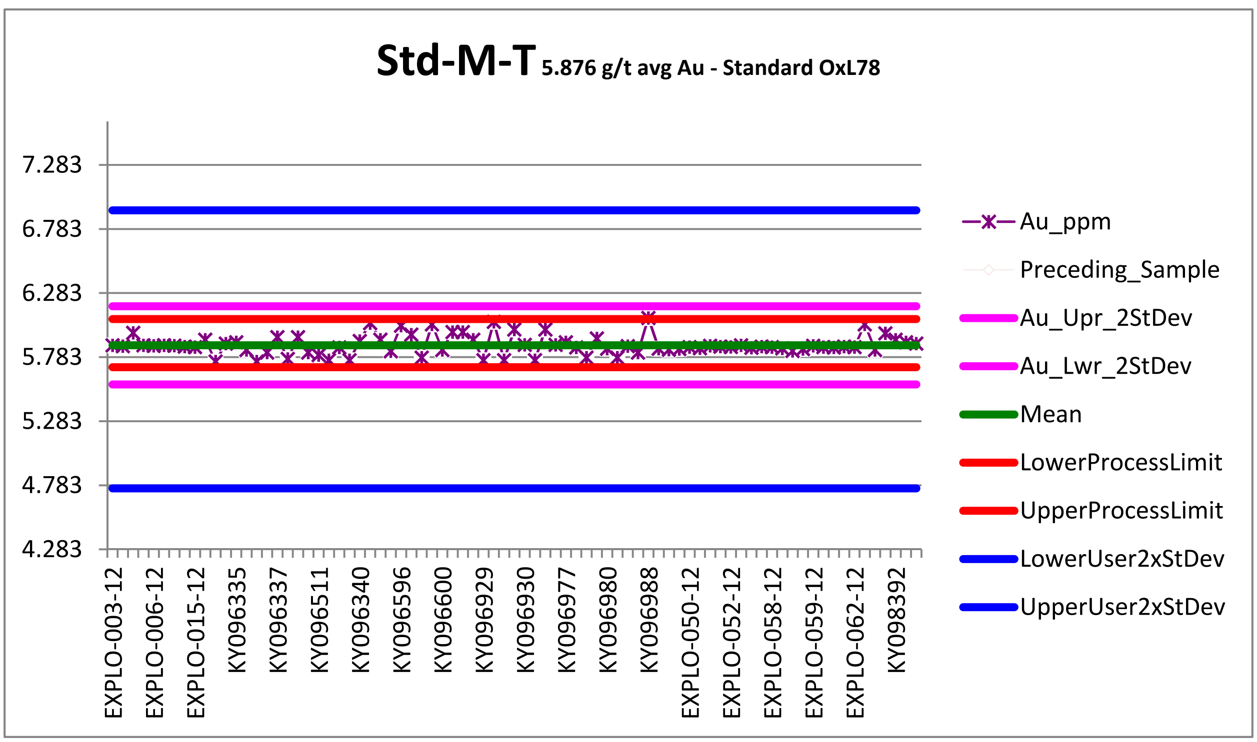


Figure 12-12 2012 RC CRM Analysis Chart – Rocklabs Sulphide Medium Grade Au Standard Si64

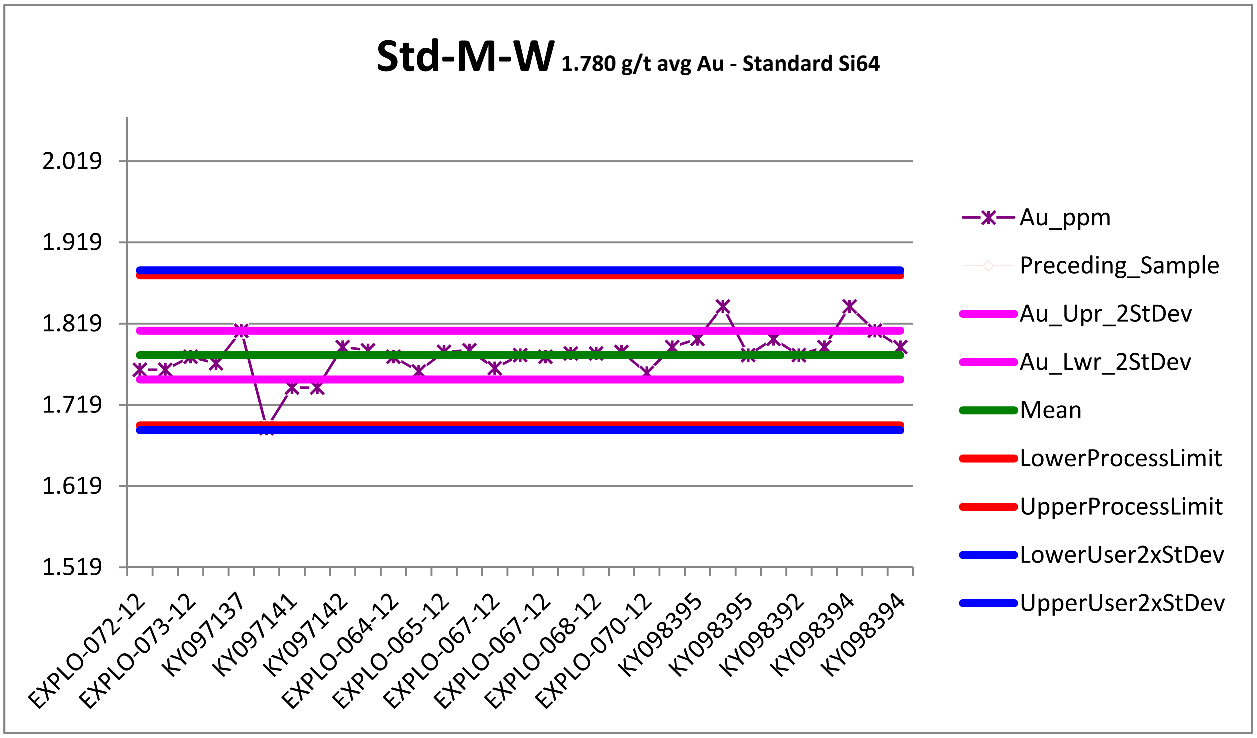


Figure 12-13 2013 RC CRM Analysis Chart – Rocklabs Oxide Low Grade Au Standard OxF65

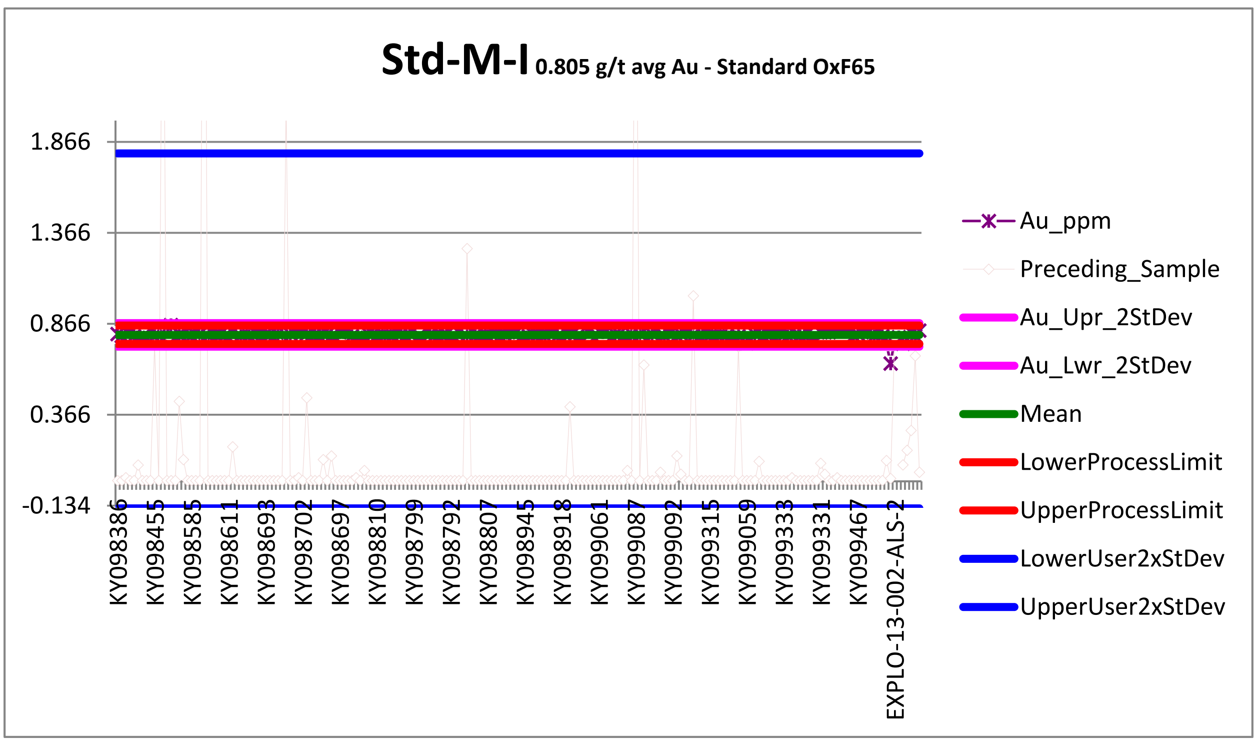


Figure 12-14 2013 RC CRM Analysis Chart – Rocklabs Oxide Medium Grade Au Standard OxJ64

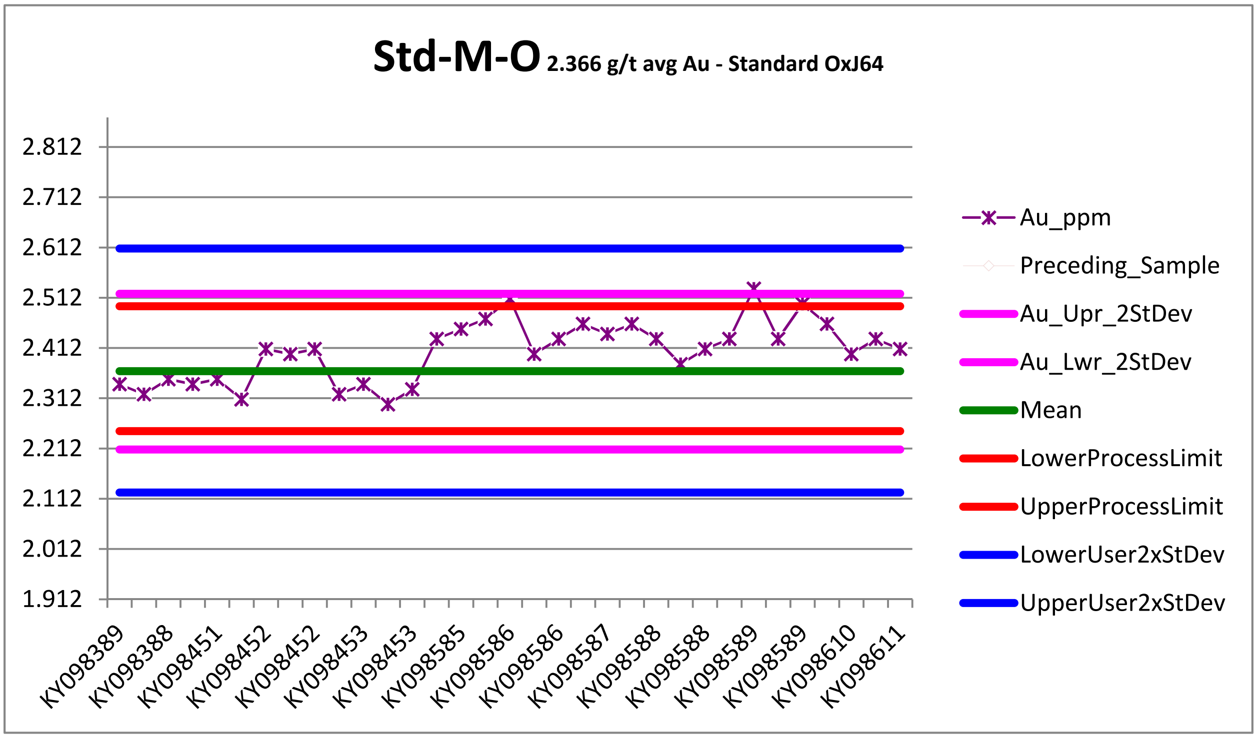


Figure 12-15 2013 RC CRM Analysis Chart – Rocklabs Oxide High Grade Au Standard OxL93

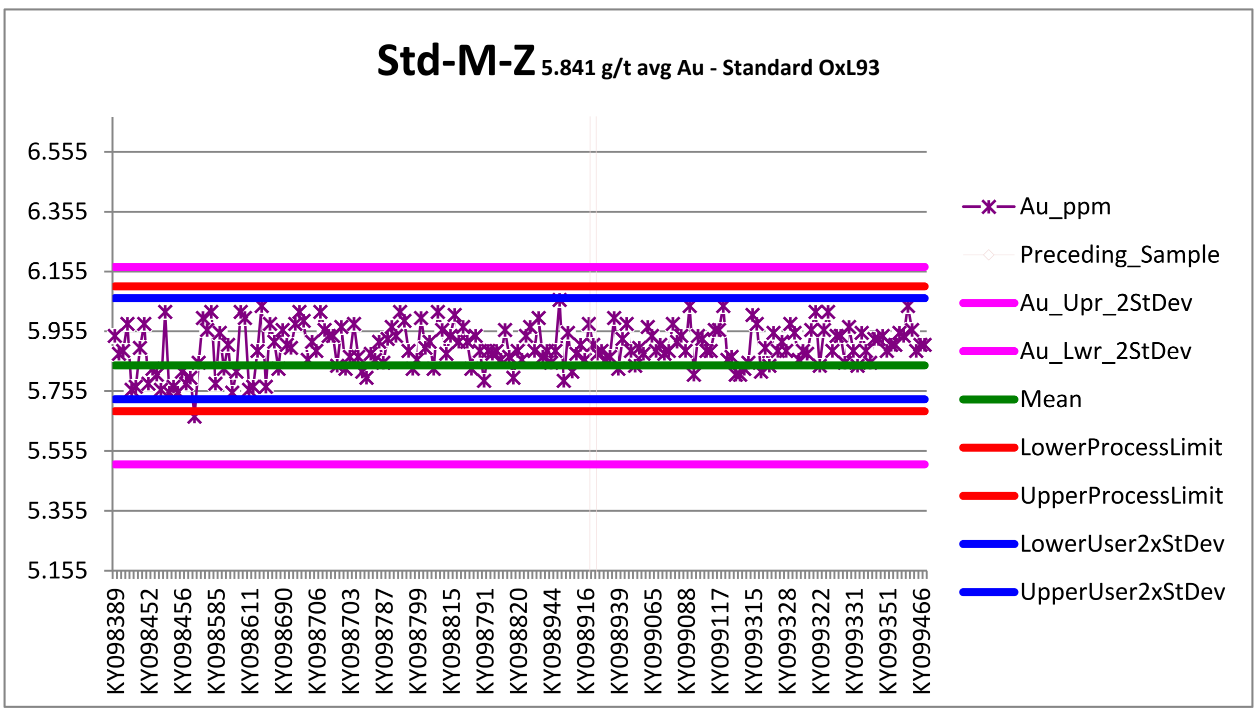
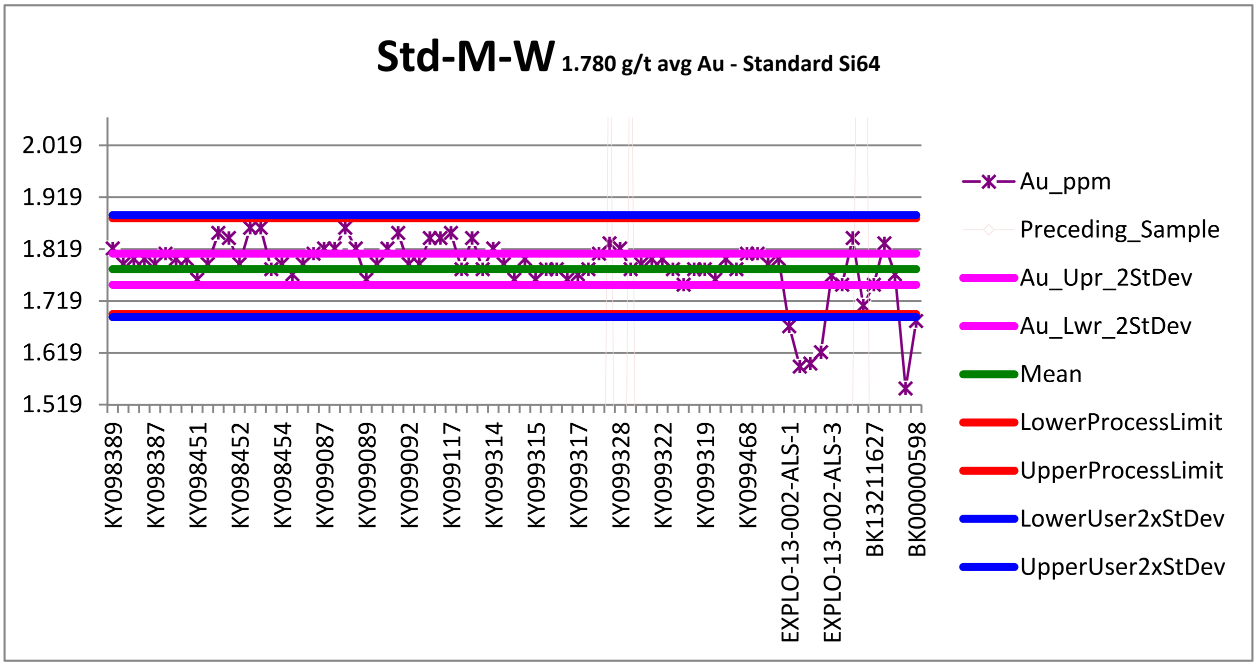


Figure 12-16 2013 RC CRM Analysis Chart – Rocklabs Sulphide Medium Grade Au Standard Si64



CRM samples that exceed both the manufacturers certified average and standard deviation in addition to the general population trend are deemed to have failed.

With very few exceptions the CRM material from both Rocklabs and OREAS performed within acceptable limits. Generally there was more variability in CRM sample results from the commercial labs versus the Tabakoto Mine lab. Additionally, as expected, there was more variability in CRM sample results in medium and high grade CRM's versus lower grade CRM's.

12.1.3 Blanks

Blank material was collected from two main sources: an unmineralized dolerite dike/sill that runs through the laterite plateau upon which the Tabakoto camp is located and the Tambaoura sandstones close to the Tabakoto mine. Large bulk samples of this material were collected and random samples were sent to a laboratory for analysis. The results of this analysis confirmed that this material is gold barren.

The assay results of the blank samples are evaluated in the corporate standard QAQC analysis spreadsheet. Data for the blank analysis portrayed in standard charts with a 0.05 ppm threshold bar. All Blank samples that exceed the 0.05 ppm threshold are compared to the preceding sample. If the preceding sample is relatively elevated in gold the Blank sample is deemed to be contaminated and is failed.

The performance of this blank material over the reporting period is within acceptable limits, with the exception of blank samples used in the 2011 DDH program. This suggests that the laboratories followed good sterilization procedures during both sample prep and analysis. This performance is summarized in Table 12-3.

Table 12-3 Summary of Blanks Performance Over Reporting Period

Year	Drill Type	QAQC Sample Type	Total No. samples	Total Failed	Percentage Failure
2011	Trench	Blanks	9	1	11.11%
2011	RC	Blanks	277	14	5.05%
2011	DDH	Blanks	287	43	14.98%
2012	Trench	Blanks	7	0	0.00%
2012	RC	Blanks	448	7	1.56%
2013	Auger	Blanks	70	0	0.00%
2013	Trench	Blanks	14	0	0.00%
2013	RC	Blanks	769	5	0.65%

Figure 12-17 2011 RC Blank Analysis Chart

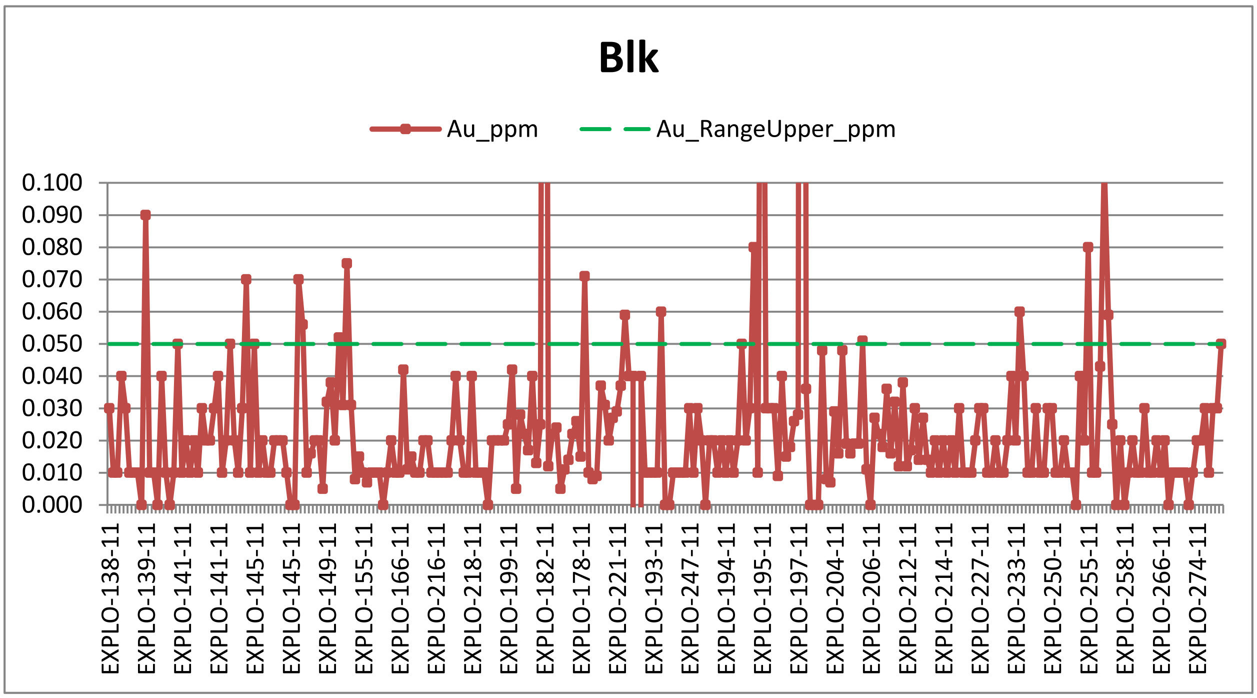


Figure 12-18 2012 RC Blank Analysis Chart

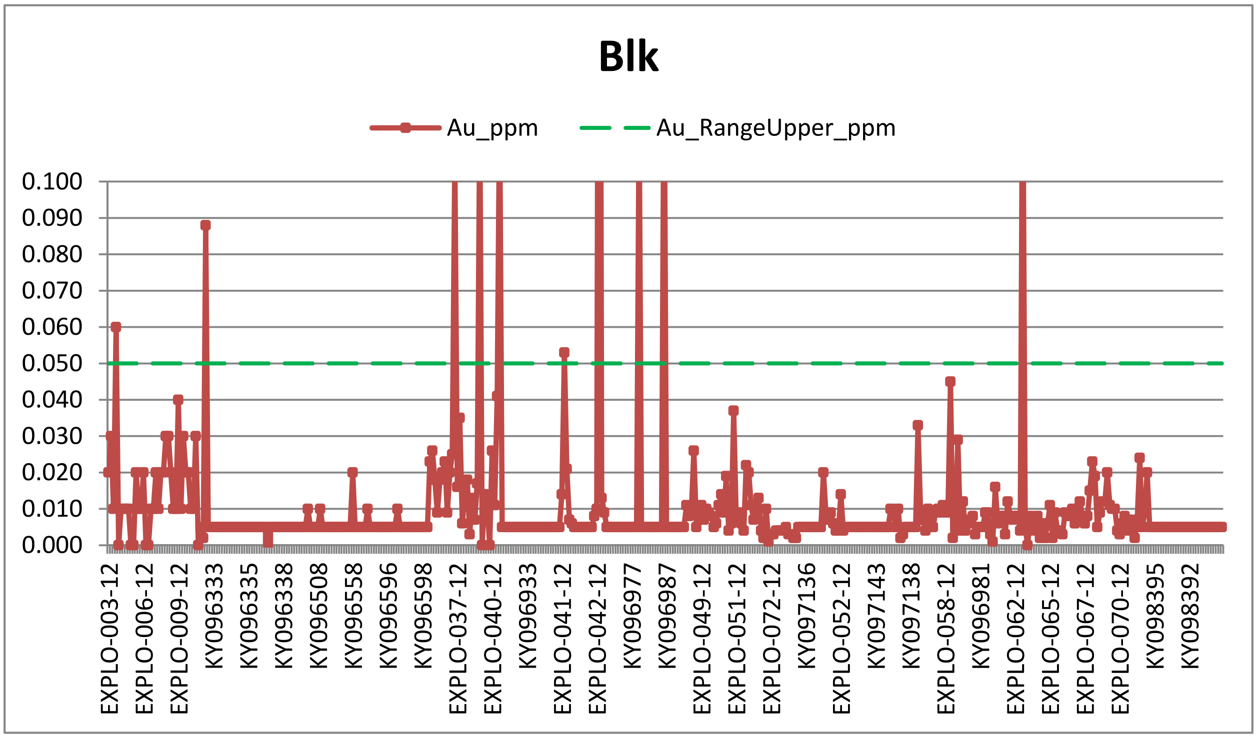
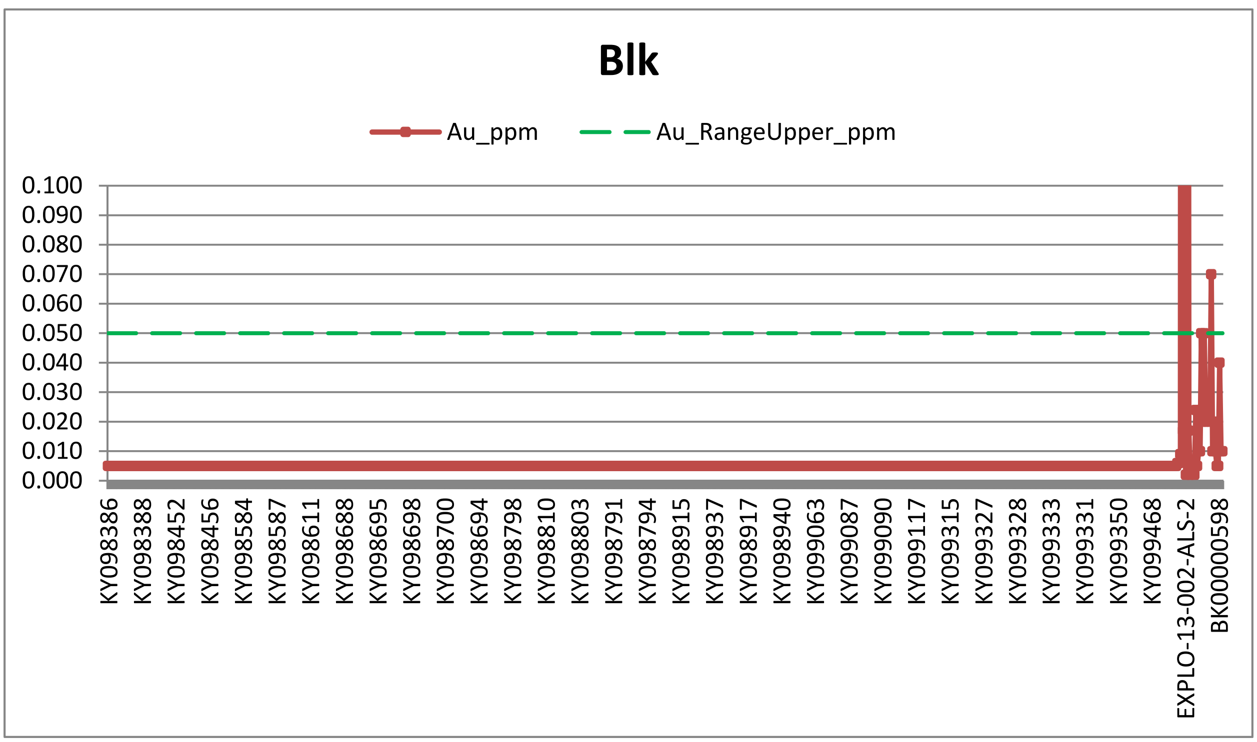


Figure 12-19 2013 RC Blank Analysis Chart



12.1.4 Check Assays or Umpire Laboratory Results

The Kofi Property was visited by Mr. Antoine Yassa, P.Geo. from October 25 to 27, 2011. Ten samples were collected from six holes. The samples were documented, bagged, and sealed with packing tape and were taken by Mr. Yassa to the ALS Lab in Bamako, Mali for analysis. Gold was analyzed on a 50 g aliquot by fire assay with AA finish.

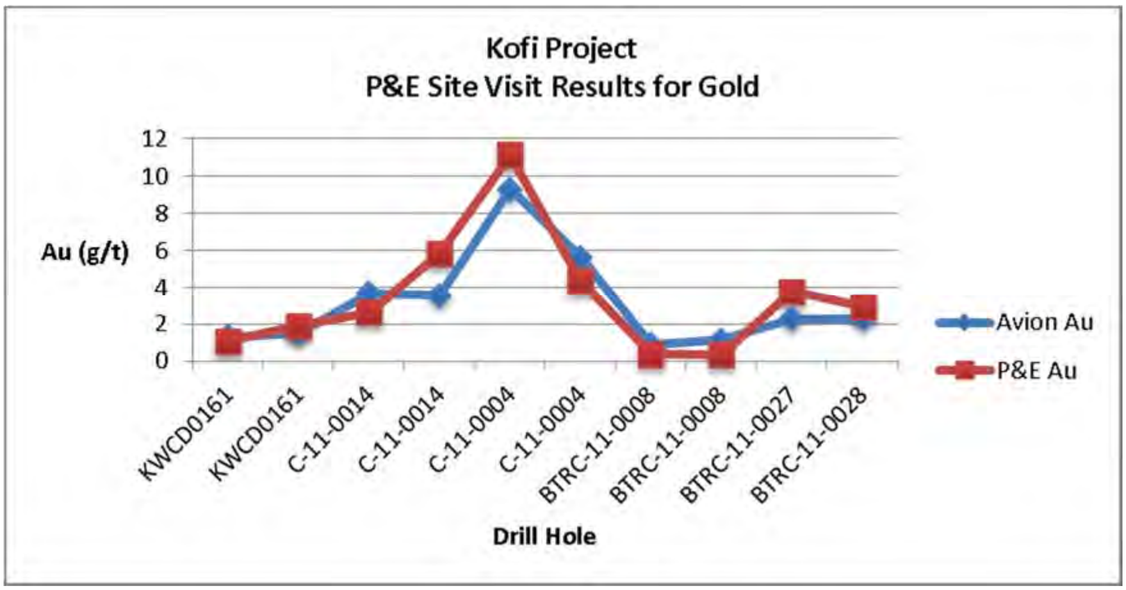
ALS Minerals has developed and implemented at each of its locations a Quality Management System (QMS) designed to ensure the production of consistently reliable data. The system covers all laboratory activities and takes into consideration the requirements of ISO standards.

ALS maintains ISO registrations and accreditations. ISO registration and accreditation provides independent verification that a QMS is in operation at the location in question. Most ALS Minerals laboratories are registered or are pending registration to ISO 9001:2008, and a number of analytical facilities have received ISO 17025 accreditations for specific laboratory procedures.

At no time, prior to the time of sampling, were any employees or other associates of Avion advised as to the location or identification of any of the samples to be collected.

A comparison of the P&E independent sample verification results versus the original assay results for Au can be seen in Figure 12-20 (Puritch et al, 2012).

Figure 12-20 P&E Site Visit Sample Results for Gold



After Puritch et al, 2012.

Mr. Eugene Puritch, P.Eng and Mr. Kirk Rodgers, P.Eng, visited the Kofi C Project most recently on February 13, 2013 for the purpose of doing the site visit and completing an independent verification sampling program. Visits were made to the Kofi C drill sites, and drill collars were captured with GPS readings and pictures.

Nine samples were collected from nine diamond drillholes by taking a quarter split of the half core remaining in the box. An effort was made to sample a range of grades. The samples were cut, packed and brought by Mr. Puritch to P&E in Brampton, ON. From there the samples were sent via courier to AGAT

Labs in Mississauga, ON. At no time were any employees of Endeavour advised as to the identification of the samples to be chosen during the visit.

At AGAT Labs, the samples were received, prepared, and assayed for gold, and bulk densities were also determined.

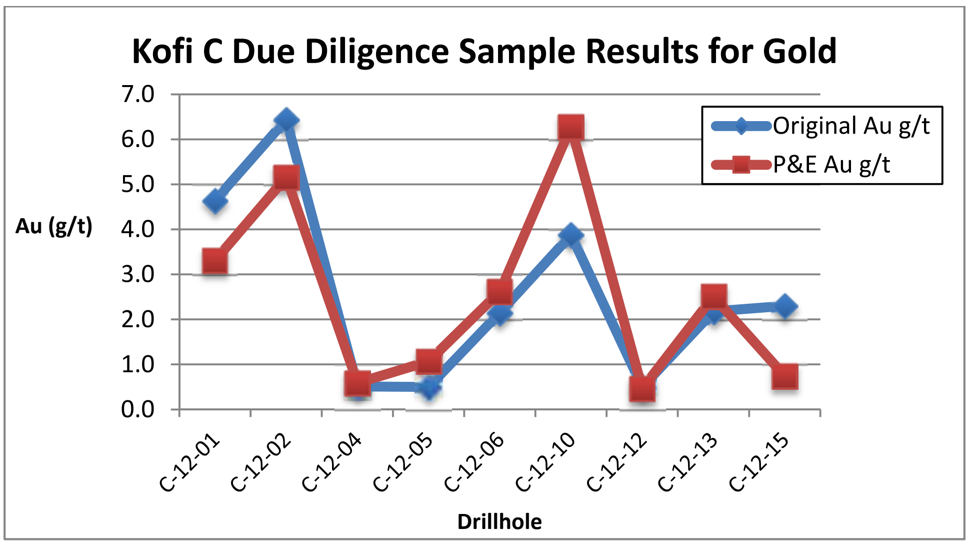
AGAT is an independent lab, and has developed and implemented at each of its locations a Quality Management System (QMS) designed to ensure the production of consistently reliable data. The system covers all laboratory activities and takes into consideration the requirements of ISO standards.

AGAT maintains ISO registrations and accreditations, which provide independent verification that a QMS is in operation at the location in question. Most AGAT laboratories are registered or are pending registration to ISO 9001:2000.

Samples were analysed for gold using lead-collection FA with an AAS or gravimetric finish.

A comparison of the results is presented in Figure 12-1.

Figure 12-21 Kofi C Due Diligence Sample Results for Gold



After Puritch et al, 2012.

12.2 Twinned Drillholes

No twinning of holes has been conducted during the period of this report.

12.3 Data Verification on Import

From March 2011 to March 2013, data was managed within an in house designed and built Access database. This database had limited data entry error control in place.

In March 2013, an industry standard Microsoft SQL Data Management System (DBMS) was implemented. This DBMS includes multiple layers of stringent error control to eliminate typical data entry error and data mismatching based on industry standard data models and the users requirements / codification. During the implementation of the new DBMS, all historic data was imported. During the importation process errors were flagged and error reports produced. The strict error control within the DBMS required that all errors be corrected or inconsistent data be modified to comply with the data model and user codification to be fully imported. Going forward from March 2013 all data was entered directly through the new DBMS. The users were trained to review all data entry during and after capture to ensure accuracy. All assay results were imported directly into the central SQL. The importation interface is designed to import laboratory data in its native format issued directly from the laboratory LIMS.

All fully compiled data is available to the Tabakoto exploration team via direct export from the DBMS. The exploration team, in the normal course of evaluating the drilling data in analysis software, can further assess the accuracy of the data. All errors are corrected directly in the DBMS interface.

Finally the resource specific data is compiled by the corporate database manager in the required format before delivery to the resource evaluator.

The resource evaluator performs a final audit in their resource software of choice via built in QAQC modules.

12.4 Conclusions on Data Verification

The opinion of the qualified persons responsible for this section is that the data has been verified and is adequate for the purposes used in this Technical Report.

13 Mineral Processing and Metallurgical Testing

13.1 Tabakoto Metallurgical Testing

In August 2009, three ore samples from Tabakoto were sent to FL Smidth Dawson Metallurgical Labs in Salt Lake City, Utah for test work. The purpose of this test work was to obtain an initial indication of leachability of the ore, and ore variability at a relatively coarse size. Three additional samples were sent in October 2009, with a request to follow the same test outline. Results of the first three samples were reported in Report P-4102 and of the second three samples in Report P-4102-A. This section is a summary of report P-4102-A, which reports on the results of all six samples.

Laboratory test work was performed on all six samples as follows:

- Assay screen analysis of head sample for Au content at a 2 inch crush
- Bottle roll cyanide leach with 1 g/L NaCN solution
- Assay Screen analysis of cyanide leach residue for Au content
- Gravity concentration of ball mill ground ore using hand panning

As the purpose of this test work was to obtain an initial indication of leachability of the ore at a relatively coarse size, and ore variability for a few samples, the results of all six samples are presented in this section.

13.1.1 Sample Description and Head Analysis

Three samples were received on August 19, 2009, and three samples were received on October 22, 2009. Each sample consisted of two 5-gallon buckets of ore. The two buckets were combined to make one composite for each sample. Each composite was air dried, and crushed to minus 2” with a jaw crusher. The sample was coned and quartered at the 2” size and three each 4 kg charges split out. Two of the 4 kg charges were used in the test work. The third 4 kg charge was stage crushed to a minus 10 mesh size. Sub-charges were split from the minus 10 mesh fraction using a rotary splitter. A description of the samples is given in the following tables.

Table 13-1 Description of Samples Sent for Metallurgical Testing

P-4102: EDV - Tabakoto Samples Received August 19, 2009			
Composite Number	Bucket ID	Dry Weight kg	Sample Top Size
#1	C10364	25.1	6 inch
	C10365	26.7	4 inch
#2	C10366	24.7	12 inch
	C10367	22.6	8 inch
#3	C10368	23.1	2 inch
	C10369	23.0	2 inch

P-4102-A: EDV - Tabakoto Samples Received October 22, 2009			
Composite Number	Bucket ID	Dry Weight kg	Sample Top Size
#4	C10401	26.1	5 inch
	C10402	26.5	" "
#5	C10403	21.6	3 inch
	C10404	20.6	" "
#6	C10405	27.0	5 inch
	C10406	29.4	" "

One sub-charge was pulverized and submitted for Au head analysis by fire assay. The head gold assay is compared to back-calculated head assays determined from the various tests.

Table 13-2 Head Grade Analyses

P-4102: EDV - Tabakoto: Head Au Assay Summary						
	Assay - g/t Au					
	Head	Head	Back Calc Head			
	Fire	Assay	Leach	Gravity	Average Au Assay	
Composite	Assay	Screen	Test	Test	**g/t**	**oz/t**
P-4102						
#1	0.49	0.34	0.52	0.50	0.46	0.014
#2	0.18	0.16	0.19	0.30	0.21	0.006
#3	0.77	0.65	1.29	1.29	1.00	0.029
P-4102-A						
#4	0.96	1.36	1.62	1.03	1.24	0.036
#5	0.71	0.65	1.19	2.13	1.17	0.034
#6	2.04	4.70	2.01	2.46	2.80	0.082

13.1.2 Test Results

13.1.3 Head Assay Screen Analysis

A split of the minus 2" ore was wet/dry screened through 100 mesh, and a sample of each screen fraction submitted for fire Au assay. Results of the assay screen analysis are given in the following summary below (Table 13-3).

Table 13-3 Head Assay Screen Analysis Results

P-4102: EDV - Tabakoto: Head Assay Screen Summary

	Comp #1 (C10364, C10365)			Comp #2 (C10366, C10367)			Comp #3 (C10368, C10369)		
	T#4			T#5			T#6		
	Weight	Au		Weight	Au		Weight	Au	
Screen Fraction	Dist. %	Assay g/t	Dist. %	Dist. %	Assay g/t	Dist. %	Dist. %	Assay g/t	Dist. %
+2"	0.0			0.0			0.0		
+1"	12.9	0.003	0.1	37.3	0.08	19.2	1.2	0.13	0.2
+1/2"	21.6	0.12	7.8	26.3	0.23	38.2	22.9	0.35	12.3
+1/4"	16.2	0.44	21.2	11.7	0.14	10.4	20.1	0.44	13.6
+10 mesh	23.2	0.43	29.3	13.1	0.10	8.1	20.5	0.57	17.9
+35 mesh	13.6	0.48	19.4	5.3	0.22	7.4	14.1	1.29	27.8
+100 mesh	5.8	0.58	10.0	2.4	0.32	4.9	10.1	0.90	13.9
-100 mesh	6.7	0.61	12.1	3.8	0.49	11.7	11.1	0.84	14.2
Total	100.0	0.34	100.0	100.0	0.16	100.0	100.0	0.65	100.0

P-4102-A: EDV - Tabakoto: Head Assay Screen Summary

	Comp #4 (C10401, C10402)			Comp #5 (C10403, C10404)			Comp #6 (C10405, C10406)		
	T#10			T#11			T#12		
	Sulphide Segala - argillaceous			Oxide Tabakoto - south pit wall			Sulphide Tabakoto - LG stockpile		
	Weight	Au		Weight	Au		Weight	Au	
Screen Fraction	Dist. %	Assay g/t	Dist. %	Dist. %	Assay g/t	Dist. %	Dist. %	Assay g/t	Dist. %
+2"	0.0			0.0			0.0		
+1"	65.0	1.31	62.7	15.5	0.21	5.0	45.8	2.90	28.3
+1/2"	15.0	1.40	15.4	9.3	0.18	2.6	20.7	11.40	50.3
+1/4"	6.2	0.97	4.4	2.2	0.62	2.1	10.2	0.56	1.2
+10 mesh	6.8	1.40	7.0	14.9	0.27	6.2	12.1	4.41	11.4
+35 mesh	2.9	1.54	3.3	24.3	0.21	7.9	5.0	2.64	2.8
+100 mesh	1.2	2.75	2.5	12.9	1.47	29.3	2.0	3.74	1.6
-100 mesh	2.9	2.22	4.7	20.9	1.45	46.9	4.3	5.02	4.6
Total	100.0	1.36	100.0	100.0	0.65	100.0	100.0	4.70	100.0

13.1.4 Cyanide Leach

The minus 2 inch ore was cyanide leached by bottle rolling with 1 g/L NaCN solution. Results indicated 93% of the gold was extracted after 72 hours of leaching for composite #5, about 84% for composites #1 and #3, but only about 50% for composites #2, #4, and #6. Due to variation in head grade, the amount of gold extracted in the leach ranged from 0.09 to 1.11 g/t Au, as shown in Table 13-4 and Figure 13-1 below.

The extraction rate curves indicated that except for composite #3 and #5, gold was still leaching after 72 hours of agitation. The extraction rate curves are shown in the Figure 13-2.

Table 13-4 Cyanide Leach Test Summary

P-4102: EDV - Tabakoto: Cyanide Leach Test Summary minus 2" crushed ore, 1.0 g/L NaCN, 72 Hr Bottle Roll							
		g/t Au - Assay				kg/t	
Test		Leach	Calc	Au Extraction		Ca(OH)2	NaCN
#	Composite	Residue	Head	g/t	%	added	consump.
	P-4102						
1	Sample #1 (C10364, C10365)	0.08	0.52	0.44	84.3	4.8	0.23
2	Sample #2 (C10366, C10367)	0.10	0.19	0.09	47.8	1.0	0.37
3	Sample #3 (C10368, C10369)	0.20	1.29	1.09	84.7	2.6	0.35
	P-4102-A						
13	Sample #4 (C10401, C10402) Sulphide Segala	0.79	1.62	0.83	51.1	0.8	0.38
14	Sample #5 (C10403, C10404) Oxide Tabakoto	0.09	1.19	1.11	92.9	2.1	0.05
15	Sample #6 (C10405, C10406) Sulfide Tabakoto	0.93	2.01	1.09	54.2	0.6	0.42

Figure 13-1 Two-inch Cyanide Leach

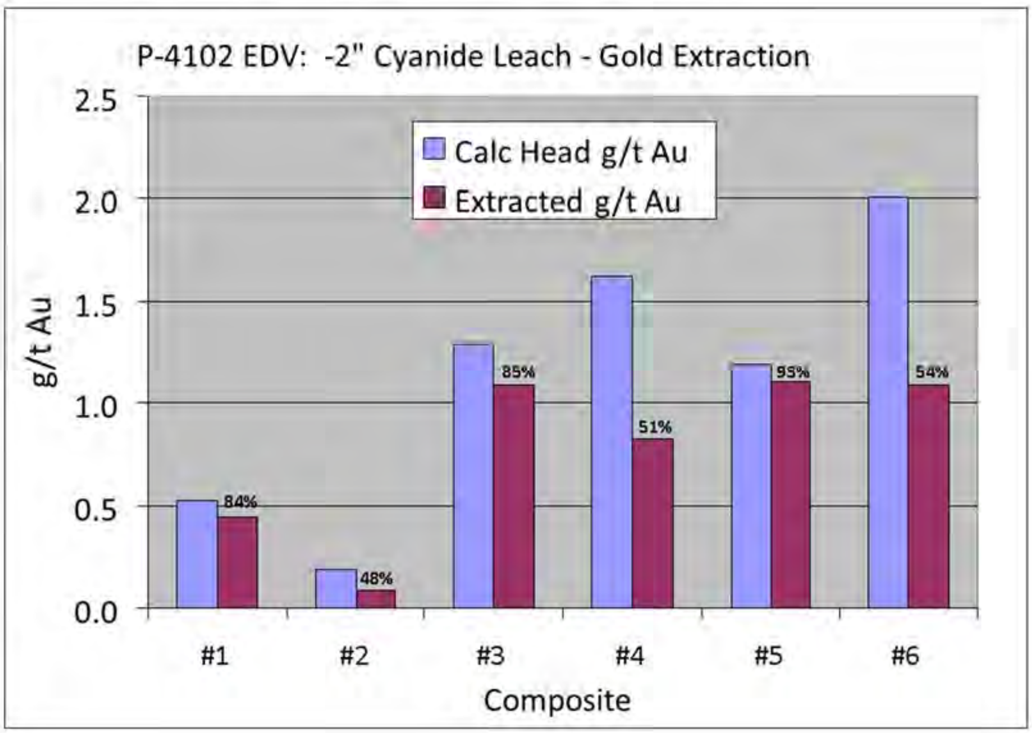
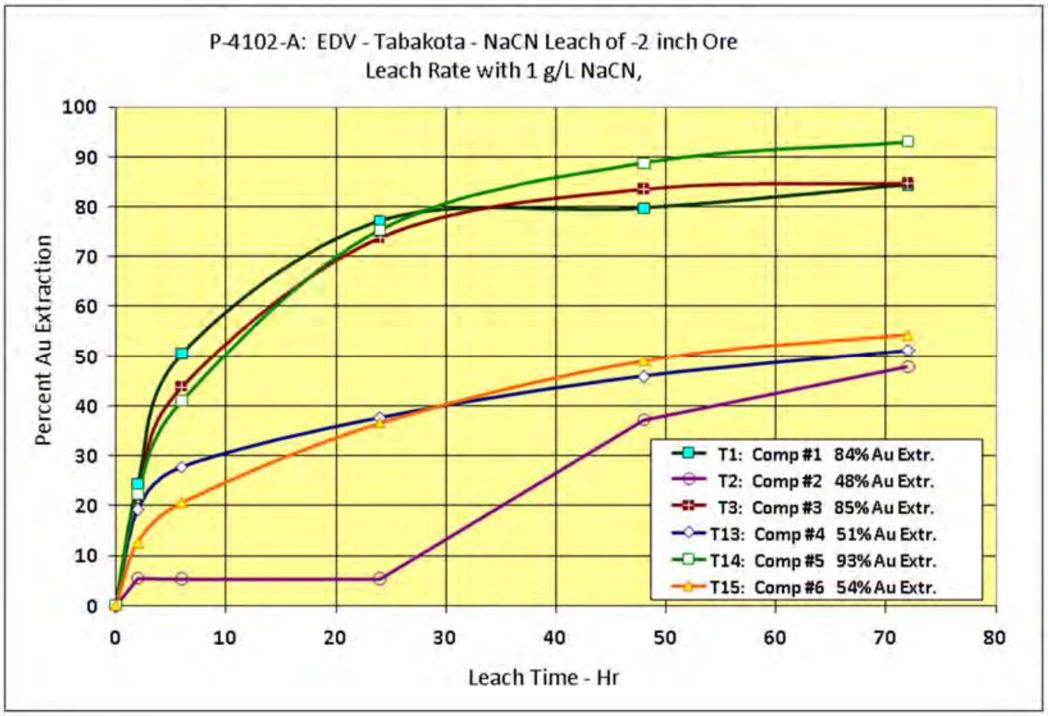


Figure 13-2 Percent Gold Extraction with Cyanide Leach



13.1.5 Leach Residue Assay Screen Analysis

An assay screen analysis was performed on the residue of each cyanide leach, at the same size fractions as for the head sample. The entire minus 2" leach residue was wet/dry screened through 100 mesh, and a sample of each screen fraction submitted for fire Au assay. Results of the assay screen analysis are given in the following summary table. Analysis indicated a haphazard pattern of gold assay at the different size fractions tested. As a result, from 44% to 62% of the gold contained in the leach residue was present in just one of the coarser size fractions assayed for samples #1, 2, 5, and 6, and an anomalously high assay for the +10 mesh fraction of sample #4 (Table 13-6).

Table 13-5 Leach Residue Assay Screen Summary

P-4102: EDV - Tabakoto: Leach Residue Assay Screen Summary									
	Comp #1 (C10364, C10365)			Comp #2 (C10366, C10367)			Comp #3 (C10368, C10369)		
	Leach T#1			Leach T#2			Leach T#3		
	Weight	Au		Weight	Au		Weight	Au	
Screen Fraction	Dist. %	Assay g/t	Dist. %	Dist. %	Assay g/t	Dist. %	Dist. %	Assay g/t	Dist. %
+1"				16.2	0.03	5.31			
+1/2"	1.1	0.64	8.8	21.8	0.29	61.6	12.0	0.32	19.5
+1/4"	2.8	0.05	1.8	8.3	0.04	3.2	9.8	0.44	22.0
+10 mesh	5.5	0.66	43.5	5.3	0.18	9.6	8.3	0.66	27.9
+35 mesh	1.6	0.46	9.1	0.7	1.35	8.9	2.1	0.86	9.1
+100 mesh	2.7	0.07	2.3	0.5	0.14	0.6	2.7	0.23	3.0
-100 mesh	86.3	0.03	34.5	47.3	0.02	10.8	65.1	0.06	18.5
Total	100.0	0.08	100.0	100.0	0.10	100.0	100.0	0.20	100.0

P-4102-A: EDV - Tabakoto: Leach Residue Assay Screen Summary									
	Comp #4 (C10401, C10402)			Comp #5 (C10403, C10404)			Comp # 6 (C10405, C10406)		
	Leach T#13			Leach T#14			Leach T#15		
	Sulphide Segala: Argillaceous			Oxide Tabakoto: South Pit Wall			Sulfide Tabakoto: Low Grade		
	Weight	Au		Weight	Au		Weight	Au	
Screen Fraction	Dist. %	Assay g/t	Dist. %	Dist. %	Assay g/t	Dist. %	Dist. %	Assay g/t	Dist. %
+1"	34.2	0.65	28.0	0.0			34.6	1.43	53.2
+1/2"	18.5	1.59	37.1	0.5	0.06	0.4	24.9	0.61	16.3
+1/4"	6.7	1.50	12.7	0.9	0.06	0.6	11.3	1.14	13.8
+10 mesh	2.1	5.35	14.4	5.9	0.76	52.2	10.4	1.01	11.3
+35 mesh	0.1	0.93	0.1	8.0	0.07	6.5	3.0	0.68	2.2
+100 mesh	0.0	1.35	0.0	18.2	0.04	7.7	0.2	2.37	0.6
-100 mesh	38.4	0.16	7.8	66.4	0.04	32.6	15.6	0.15	2.6
Total	100.0	0.79	100.0	100.0	0.09	100.0	100.0	0.93	100.0

Of particular note was the fact that all six samples physically broke down significantly during the bottle roll leach tests. Whereas the weight percent of -100 mesh in the leach feed samples was 7%, 4%, 11%, 3%, 21%, and 4% for Samples #1, 2, 3, 4, 5, 6 respectively, the weight percent of -100 mesh in the leach residue samples was 86%, 47%, 65%, 38%, 66%, and 16%, respectively. Agitation in bottle roll leach tests is typically very mild, so it is presumed the breakage is due to the soft nature of the ore. The bottles were rolled for 72 hours. Sample #6 was not as soft as the others, but it was still broken down significantly. The size comparison between head and residue samples is shown in Figure 13-3 through Figure 13-8.

Figure 13-3 Head and Residue Size Comparison Sample 1

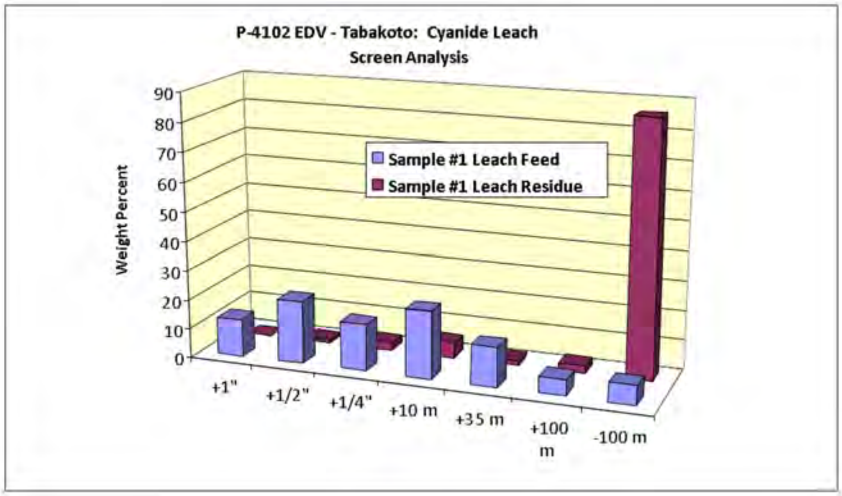


Figure 13-4 Head and Residue Size Comparison Sample 2

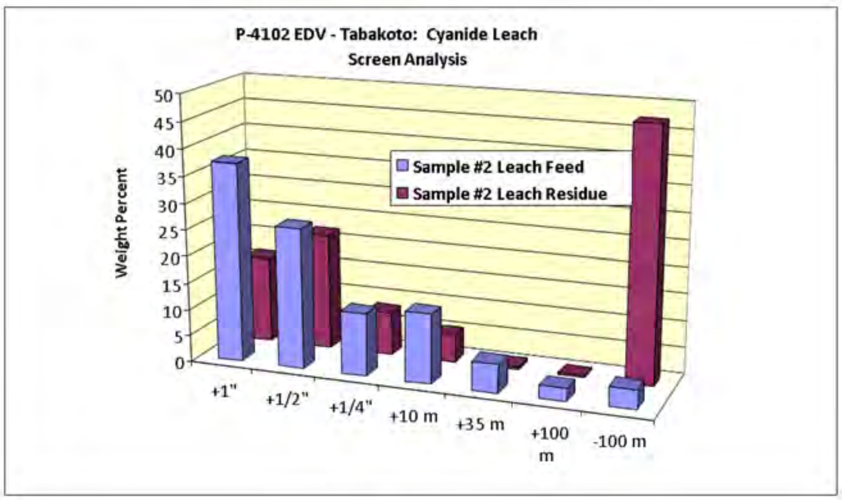


Figure 13-5 Head and Residue Size Comparison Sample 3

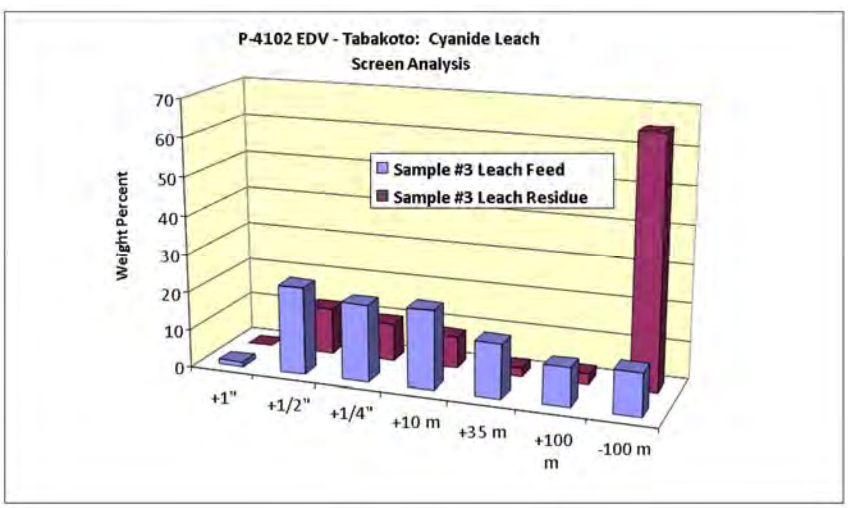


Figure 13-6 Head and Residue Size Comparison Sample 4

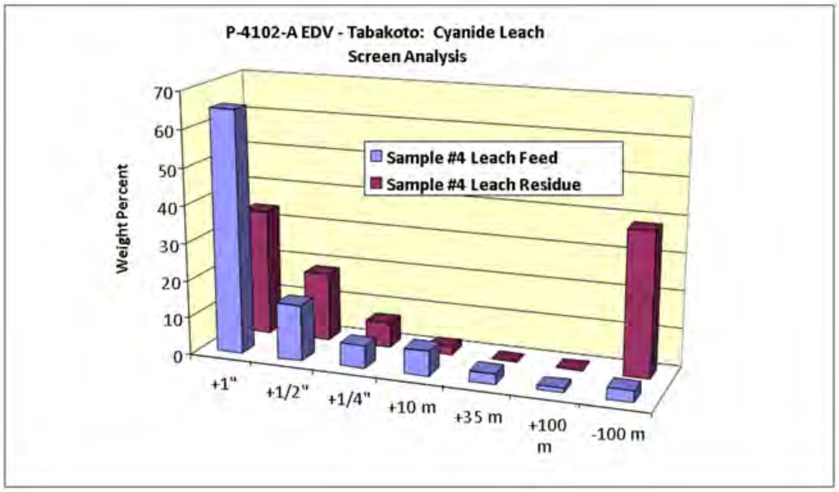


Figure 13-7 Head and Residue Size Comparison Sample 5

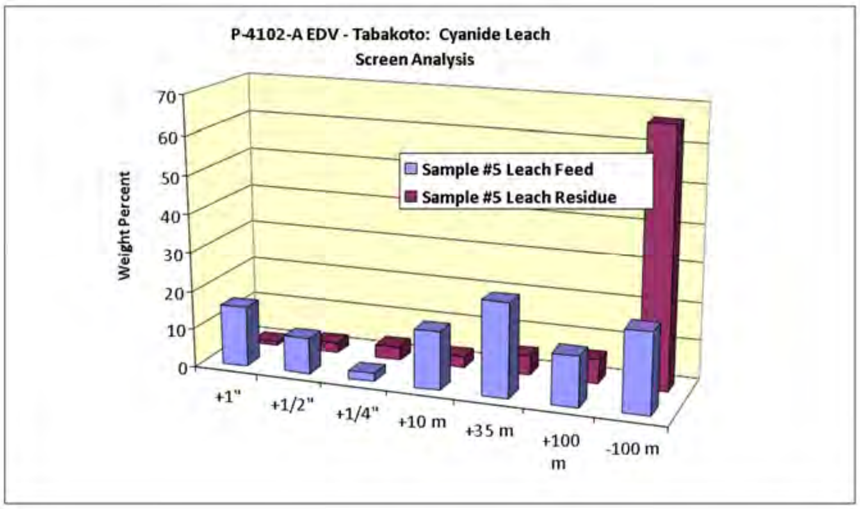
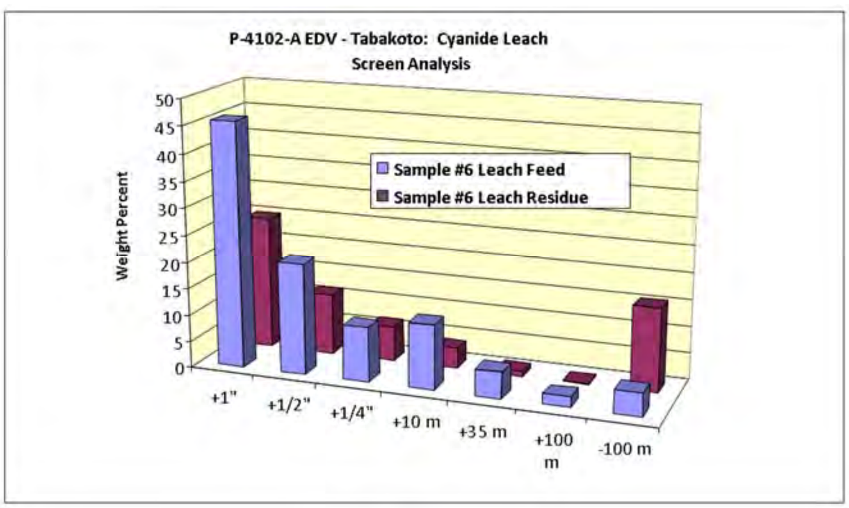


Figure 13-8 Head and Residue Size Comparison Sample 6



13.1.6 Gravity Concentration

The ore samples were treated by gravity concentration for gold recovery. Results as shown in Table 13-6 indicated an average of 0.73 g/t Au was recovered from the six samples, or about 57% of the average 1.29 g/t Au calculated head. The samples were ball mill ground to about 80% minus 200 mesh, then processed by hand panning using a gold trap bowl. The samples were panned twice to maximize recovery, and were concentrated until less than 1% of the ore weight was retained. The pan concentrate was examined using an optical microscope. A significant number of relatively large particles of free gold were observed, as noted in Figure 13-9 below.

Table 13-6 Gravity Concentration Test Summary

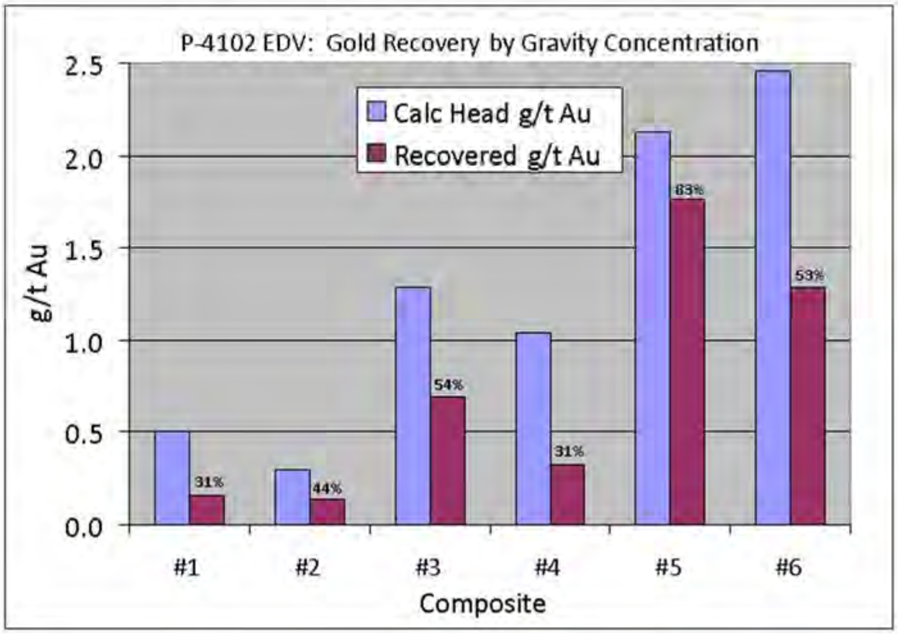
P-4102: EDV - Tabakoto: Gravity Concentration Test Summary

Gravity Concentration by Hand Panning

Test #	Sample ID	Grind Time Minute	Grind P80 micron	Gravity Con Wgt.%	g/t Au - Assay Gravity Con	g/t Au - Assay Gravity Tails	g/t Au - Assay Calc Head	Au Recovered g/t	Au Recovered %
	P-4102								
6	Comp #1 (C10364, C10365)	15	70	0.85	19	0.35	0.50	0.16	31.4
7	Comp #2 (C10366, C10367)	15	68	0.11	124	0.17	0.30	0.13	44.2
8	Comp #3 (C10368, C10369)	15	76	0.62	113	0.61	1.29	0.69	53.5
	P-4102-A								
16	Comp #4 (C10401, C10402)	15	82	0.52	62	0.71	1.03	0.32	31.4
17	Comp #5 (C10403, C10404)	15	78	0.07	2717	0.36	2.13	1.77	83.0
18	Comp #6 (C10405, C10406)	30	78	0.10	1293	1.17	2.46	1.29	52.5

Test #	Visual Observations on Vanning Plaque:
6	5 pieces of very flattened Au seen at about 100, 250, 300mm; ± dozen Au nuggets at 100, 150mm.
7	1 nugget at 500x1600mm, angular, low purity?; 1 piece at 50x50, 5 at 50x250, 1 at 250x250mm.
8	1 half-flattened 250x500mm piece seen, nuggets at about 50, 100, 150mm and several about 20mm.
16	1 piece 250x250 mm Au seen (with arsenopyrite?)
17	1 piece of flattened Au seen at 500x1400 mm, 1 at 250mm, ±4 Au nuggets at 100x100 mm.
18	2 pieces of flat Au seen at 500x500 mm, 3 at 200x300 mm, several flat/nugget at 100x100 and 50x50 mm

Figure 13-9 Gold Recovery by Gravity Concentration



13.1.7 Discussion

Tests suggested approximately 63% Au recovery could be expected by cyanide leaching of the second set of ore samples received, based on an average 1.01 g/t Au recovery from an average 1.61 g/t Au back calculated head. This compares to an average 0.54 g/t recovery from an average 0.67 g/t Au back calculated head for the first set of samples received. Results indicated the major portion of unleached gold to be in the coarse size fractions, presumably present as mostly coarse gold particles.

Again, relatively coarse particles of free gold were observed in the gravity concentration tests. An average of 0.33 g/t Au from an average 0.70 g/t Au calculated head was recovered from the first set of samples received. An average 1.13 g/t Au was recovered from the higher grade, second set of samples received, which averaged 1.87 g/t Au, for about 60% gold recovery by gravity techniques (Table 13-7).

Table 13-7 Average Gold Recovery Values Leach and Gravity

Average Recovery Values - g/t Au				
Sample Set	Leach		Gravity	
	Head	Recovery	Head	Recovery
Comp 1-3	0.67	0.54	0.70	0.33
Comp 4-6	1.61	1.01	1.87	1.13

13.2 Kofi C Metallurgical Testwork

13.2.1 Historical Metallurgical Testwork

Metallurgical testing has been carried out by both Axmin and Avion. Axmin's metallurgical testing was carried out over two time periods - in 2007 by SGS in South Africa and in 2008 by Transworld, located in

Ghana. This work was then summarized by Quarmby in 2009. This latter report also identifies the sources of the "SGS/Transworld" samples.

Axmin also carried out some preliminary cyanide leach tests which returned poor results with only 64% of the gold recovered. This work was discussed by Roberts, 2008.

In 2007, SGS Lakefield carried out bottle roll tests on 7 samples from the Kofi B, Kofi C and Betea zones reflecting oxide, transition and sulphide style mineralization. The samples were crushed to 80% passing 75 micron and subjected to leaching over a 48 hour period. This work indicated Au extractions ranging from 57.0% to 99.4% (Table 13-8).

Table 13-8 SGS Testwork Results

SGS Cyanidation Testwork 2007				
Sample No.	**Ore Zone**	**Type**	**Grade (g/t)**	**Au Recovery (%)**
A599901	Zone B	Ox	6.07	93.75
A599909	Zone C	Su	8.93	99.17
A599911	Zone B	Tr	11.38	94.69
A599913	Zone B	Su	3.57	56.98
A599914	Kofi S Betea	Su	9.3	99.26
A99917	Zone C	Tr	1.95	99.22
A599920	Zone C	Ox	8.37	99.43

Subsequent metallurgical work by Transworld did not duplicate the poor results from the Kofi B zone sulphide sample. Transworld conducted bottle roll tests of nine samples from the same three zones tested by SGS. These samples were pulverized with 50 grams split out for fire assay and the remainder leached for 36 hours. Recoveries ranged from 84.7% to 98.6% (Table 13-9).

Table 13-9 Transworld and SGS Testwork Results

Transworld and SGS Cyanidation Testwork							
		Percentage Recoveries (%)					
		Cyanide Leach/hr (Transworld)					**Cyanidation + Carbon (SGS)**
Oxidation Zones	**Prospect**	**6**	**12**	**18**	**30**	**36**	**(48 hrs)**
Oxide	Zone C	72.01	73.77	76.66	87.28	87.42	99.43
	Zone B	53.46	68.23	70.57	85.83	90.03	93.75
	Kofi S (Betea)	61.65	61.85	66.52	93.38	97.29	
Transition	Zone C	61.53	68.51	72.52	86.81	84.70	99.22
	Zone B	71.00	78.01	74.95	98.17	98.59	94.69
	Kofi S (Betea)	57.61	60.21	62.02	70.39	81.27	
Sulphide	Zone C	69.73	83.91	84.92	96.18	98.51	99.17
	Zone B	61.23	71.96	80.98	90.97	90.84	56.98
	Kofi S (Betea)	48.60	60.28	128.49	61.76	91.54	99.26
Average Recovery		61.87	69.64	79.74	85.64	91.13	91.79

13.2.2 Recent Metallurgical Testwork

A metallurgical testwork program was conducted by SGS Lakefield in the third quarter of 2013. The program included Bond Work index measurements, gravity concentration and cyanidation performance testwork. The objectives were to establish the grindability of the ores, confirm recoveries, establish lime and cyanide consumption rates, to confirm amenability to processing in the expanded Tabakoto mill.

13.2.2.1 Sample Description

Samples of mineralization were selected by Endeavour Mining to represent three Kofi C deposit weathered zones; saprolite, transitional and sulphide (“fresh rock”). Selected intervals used in the composite samples are recorded in Table 13-10 to Table 13-12 (Puritch et al, 2013).

Table 13-10 Saprolite Composite Samples

Hole	Sample	From m	To m	Assay g/t	Weight kg
C-10-008	K0020444	13	15	1.91	0.5
C-10-008	K0020445	15	18	0.17	2
C-10-008	K0020446	18	19.5	0.43	1.6
C-10-008	K0020447	19.5	22.5	1.15	2.7
C-10-008	K0020448	22.5	25.5	2.84	4
C-10-008	K0020449	25.5	27	13.24	4
C-10-008	K0020450	27	28.5	9.52	2.5
C-10-008	K0020451	28.5	30	4.52	3.8
C-10-008	K0020452	30	31.5	0.35	3.9
C-10-008	K0020453	31.5	33	1.82	4.3
C-10-008	K0020454	33	34.5	1.21	3.6
C-10-008	K0020455	34.5	36	1.58	3
C-11-009	K0020456	3	4.5	1.12	3.8
C-11-009	K0020457	4.5	6	1.27	4.3
C-11-009	K0020458	6	7.5	3.92	4
C-11-009	K0020459	7.5	9	2.63	3.1
C-11-009	K0020460	9	10.5	18	2.1
C-11-009	K0020461	10.5	12	5.7	3
C-11-009	K0020462	12	13.5	1.79	2.5
C-11-0010	K0020463	12.5	13.5	7.2	1.5
C-11-0014	K0020464	7.5	9	1.02	3.8
C-11-0014	K0020465	9	10.5	1.52	3.1
C-11-0014	K0020466	10.5	12	0.1	3.2
C-11-0014	K0020467	12	13.5	11.8	2.8
C-11-0014	K0020468	13.5	15	0.06	3.1
C-11-0014	K0020469	15	16.5	1.96	2
C-11-0014	K0020470	16.5	18	0.58	2.6
C-11-0014	K0020471	18	19.5	0.51	2.1
	Total	**28 samples**			**82.9***

**mass weighted average = 3.39 g/t*

Table 13-11 Saprock/Transitional Composite Samples

Hole	Sample	From m	To m	Assay g/t	Weight kg
C-11-0003	K0020472	38.3	39.45	2.63	3.1
C-11-0003	K0020473	39.45	40.5	0.82	2.1
C-11-0003	K0020474	40.5	42	2.57	5
C-11-0003	K0020475	42	43	2.27	3.2
C-11-0003	K0020476	43	44	2.95	3.7
C-11-0003	K0020477	44	45	6.2	3.2
C-11-0003	K0020478	45	45.9	8.9	2.9
C-11-0003	K0020479	45.9	46.7	0.95	3
C-11-0003	K0020480	46.7	47.35	0.43	2.3
C-11-0003	K0020481	47.35	48.5	0.97	1.8
C-11-0003	K0020482	48.5	49.2	1.69	2.7
C-11-0003	K0020483	49.2	49.9	1.79	3
C-11-0003	K0020484	49.9	50.7	2.98	2.9
C-11-0003	K0020485	50.7	51.7	4.3	3.7
C-11-0003	K0020486	51.7	52.7	1.44	3.6
C-11-0003	K0020487	52.7	53.58	0.6	2.8
C-11-0003	K0020488	53.58	54.35	2.48	3.2
C-11-0003	K0020489	54.35	55.16	0.005	3
C-11-0003	K0020490	55.16	56.05	2.28	3.1
C-11-0009	K0020491	47.5	48.5	3.44	2.8
C-11-0009	K0020492	48.5	50	4.7	4.1
C-11-0009	K0020493	50	51.5	3.87	3.6
C-11-0009	K0020494	51.5	52.85	4.7	4.3
C-11-0009	K0020495	52.85	54	0.51	4.2
C-11-0009	K0020496	54	55	0.005	5.2
	Total	**25 samples**			**82.5***

**mass weighted average = 2.59 g/t*

Table 13-12 Fresh/Sulphide Composite Samples

Hole	Sample	From m	To m	Assay g/t	Weight kg
C-11-003	K0020497	98	99.25	1.71	2.4
C-11-003	K0020498	99.25	100.3	0.12	1
C-11-003	K0020499	100.5	101.3	4.2	2
C-11-003	K0020500	101.8	102.4	2.95	2.6
C-11-003	K0020501	102.4	103.6	1.46	2.7
C-11-003	K0020502	103.6	104.8	6.8	2.3
C-11-003	K0020503	104.8	105.9	2.26	2.5
C-10-005	K0020504	72.51	73.61	1.08	2.7
C-10-005	K0020505	73.61	74.7	1.06	2.6

Hole	Sample	From m	To m	Assay g/t	Weight kg
C-10-005	K0020506	74.7	75.96	1.64	2.6
C-10-005	K0020507	75.96	77.22	3.22	2.8
C-10-005	K0020508	77.22	78.41	2.75	1.2
C-10-005	K0020509	78.41	79.6	2.72	2.7
C-10-005	K0020510	79.6	81	1.56	2.7
C-10-005	K0020511	81	82	2.85	2.7
C-10-005	K0020512	82	83	0.68	2.6
C-10-005	K0020513	83	84	0.33	2.7
C-10-005	K0020514	84	85.28	7	2.7
C-10-006	K0020515	96.7	97.8	10.44	2.8
C-10-006	K0020516	97.8	98.9	1.23	3
C-10-006	K0020517	98.9	99.98	1.27	2.2
C-10-006	K0020518	99.98	101.1	0.15	3.2
C-10-006	K0020519	101.1	102.3	3.23	1.7
C-10-006	K0020520	102.3	103.6	3.32	2.8
C-10-006	K0020521	103.6	105	0.87	2.9
C-10-006	K0020522	105	106.4	3.25	2.9
C-11-003	K0020523	80.3	81.35	3.18	2.3
C-11-003	K0020524	81.35	82.4	3.91	2.3
C-11-003	K0020525	82.4	83.45	0.91	2.5
C-11-003	K0020526	83.45	84.5	3.81	2.5
C-10-0012	K0020527	78	79	3.07	2.3
C-10-0012	K0020528	79	80	2.18	2.3
C-10-0012	K0020529	80	81	0.13	1.9
C-10-0012	K0020530	81	82	6.12	2
C-10-0012	K0020531	82	83	0.61	2.1
C-10-0012	K0020532	83	84	0.57	2.3
C-10-0012	K0020533	84	85	0.84	2.3
C-10-0012	K0020534	85	86	2.91	2.1
C-10-0012	K0020535	86	87	4.73	2.3
C-10-0012	K0020536	87	88	4.16	2.3
C-10-0012	K0020537	88	89	3.89	2.4
C-10-0012	K0020538	89	90	2.82	2.2
C-10-0012	K0020539	90	91	6.88	2.1
C-10-0012	K0020540	91	92	0.09	1
	Total	**44 samples**			**104.2***

**mass weighted average = 2.74 g/t*

In addition two sulphide zone variability samples were selected; the compositions are recorded in Table 13-13 and Table 13-14.

Table 13-13 Sulphide A Variability Sample

Hole	Sample	From m	To m	Assay g/t	Weight kg
C-10-002	K0020541	228.8	230	1.38	2.6
C-10-002	K0020542	230	230.8	4.78	2
C-10-002	K0020543	230.8	231.7	2.32	1.8
C-10-002	K0020544	231.7	233.2	2.7	3.1
C-10-002	K0020545	233.2	234.4	4.48	3
C-10-002	K0020546	234.4	235.2	11.82	1.7
C-10-002	K0020547	235.2	236.2	4.09	2.1
C-10-002	K0020548	236.2	237	0.27	2
C-10-002	K0020549	237	238.3	3.38	1.5
C-10-002	K0020550	238.3	239.3	0.64	2.6
C-11-0010	K0020551	70.1	71.5	0.56	2.9
C-11-0010	K0020552	71.5	73	1.19	3.3
	Total	**12 samples**			**28.6***

**mass weighted average = 2.82 g/t*

Table 13-14 Sulphide B Variability Sample

Hole	Sample	From m	To m	Assay g/t	Weight kg
C-10-0002	K0020553	164.7	166.8	2.94	2.9
C-10-0002	K0020554	166.8	167.3	1.79	2.3
C-10-0002	K0020555	167.3	167.9	0.44	1.2
C-10-0002	K0020556	167.9	169.1	2.32	2.8
C-10-0002	K0020557	169.1	170.6	0.99	3.4
C-10-0002	K0020558	170.6	171.9	2.84	2.6
C-10-0002	K0020559	171.9	173	2.24	2.4
C-10-0002	K0020560	173	174.1	1.96	2.4
C-10-0002	K0020561	174.1	175	0.87	2.1
C-10-0002	K0020562	175	176	1.75	2
C-10-0002	K0020563	176	176.5	1.61	1
C-10-0002	K0020564	176.5	177.4	0.32	2.2
C-10-0002	K0020565	177.4	178.2	0.05	2.3
	Total	**13 samples**			**29.6***

**mass weighted average = 1.63 g/t*

13.2.2.2 Grindability

Bond ball mill work indices were measured for sulphide and transitional samples. At a P80 of 150 mesh, Bond indices were 17.3 kWh/t (metric) for the sulphide composite and 15.9 kWh/t (metric) for the transitional composite, indicating material of medium hardness (Puritch et al, 2013).

13.2.2.3 Gravity Concentration

Gravity concentration tests were conducted to prepare feed for one series of cyanidation tests on each of the primary composites. Gravity concentration recovered 28 to 48% of the gold (Table 13-15).

Table 13-15 Gravity Concentration

Comp	Test No.	Related Cyanidation	Feed P80, µm	Product	Mass %	Au g/t	Au %Dist
Saprolite	GV 1	CN 10		Mozley Concentrate	0.059	2,158	40.5
		CN 11	113	Knelson + Mozley Tailing	99.94	1.88	59.5
		CN 12		Head (calculated)		3.16	
Transition	GV 2	CN 13		Mozley Concentrate	0.034	2,231	27.7
		CN 14	129	Knelson + Mozley Tailing	99.97	2	72.3
		CN 15		Head (calculated)		2.76	
Sulphide	GV 3	CN 16		Mozley Concentrate	0.085	1,172	48.1
		CN 17	123	Knelson + Mozley Tailing	99.92	1.07	51.9
		CN 18		Head (calculated)		2.06	

After Puritch et al, 2013

13.2.2.4 Cyanidation

Two series of cyanidation tests were run on each main composite sample. Cyanidation performance was excellent, with high gold extractions and moderate reagent consumptions (Table 13-15, Table 13-16 and Table 13-17).

Table 13-16 Direct Cyanidation

Test	CN Test No.	K80 µ	Au Extraction (%) CN Leach (h) 4	6	24	48	Residue Au g/t	Calc Head Au, g/t	Reagents, kg/t NaCN	CaO
Saprolite										
Direct	CN 1	112	51	59	89	94.6	0.18	3.35	0.08	2.50
Direct	CN 2	93	47	61	90	94.5	0.17	3.09	0.13	2.45
Direct	CN 3	61	34	51	82	97.6	0.07	2.88	0.16	2.24
Transition										
Direct	CN 4	113	15	29	94	95.7	0.12	2.77	0.79	0.57
Direct	CN 5	87	12	28	94	97.6	0.07	2.91	0.76	0.50
Direct	CN 6	49	7	91	98	98.5	0.04	2.66	1.41	0.47
Sulphide										
Direct	CN 7	94	22	49	91	94.3	0.15	2.63	0.89	0.42
Direct	CN 8	77	20	53	92	94.6	0.13	2.39	0.93	0.41
Direct	CN 9	58	28	94	96	95.7	0.10	2.33	1.13	0.48

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Table 13-17 Gravity Plus Cyanidation

Test	CN Test No.	K80 µ	Au Extraction (%) Grav+CN Leach (h)				Residue Au	Calc Head	Reagents, kg/t	
			4	6	24	48	g/t	Au, g/t	NaCN	CaO
Saprolite										
GV 1	CN 10	112	73	79	87	92.7	0.18		0.07	2.1
GV 1	CN 11	70	69	78	95	97.4	0.06	3.16	0.05	2.18
GV 1	CN 12	58	67	80	94	98.9	0.03		0.13	2.13
Transition										
GV 2	CN 13	113	46	60	94	96.5	0.08		0.52	0.53
GV 2	CN 14	75	38	51	96	98	0.06	2.76	0.93	0.45
GV 2	CN 15	68	29	40	96	98.3	0.04		0.69	0.54
Sulphide										
GV 3	CN 16	86	57	71	92	94.7	0.13		0.88	0.44
GV 3	CN 17	82	56	71	95	95.2	0.12	2.06	1	0.43
GV 3	CN 18	54	53	66	94	95.9	0.1		1.11	0.44

After Puritch et al, 2013

The effect of finer grinding is minor within the limits tested, suggesting that a relatively coarse grind can be adopted with little effect on recovery. Average extractions for all grinds at 48 hour retention time are summarized in Table 13-16. Although gravity concentration can recover a significant fraction of the gold from all material tested, the effect on overall recovery is very minor, suggesting the absence of coarse gold (Puritch et al, 2013).

Table 13-18 48 Hour Gold Extraction, All Grinds

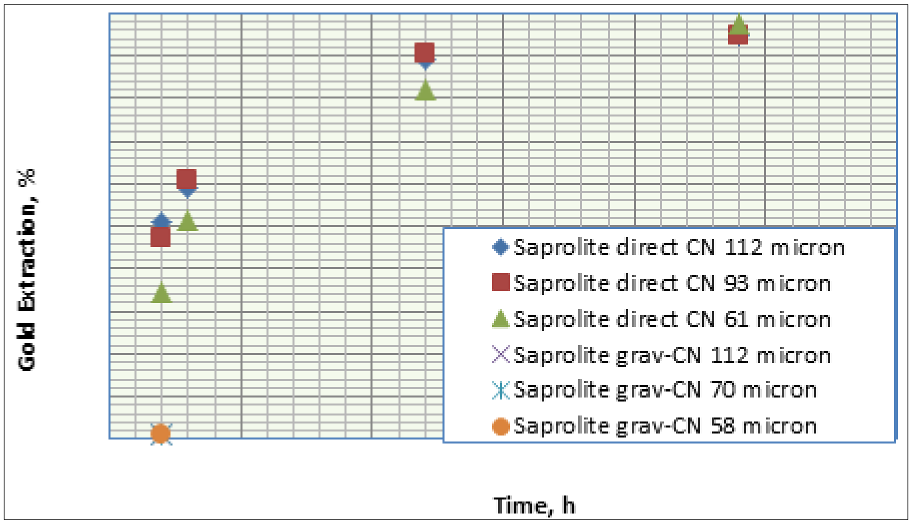
Material and Process	%
Saprolite direct	95.6
Saprolite with gravity	96.3
Transition direct	97.3
Transition with gravity	97.6
Sulphide direct	94.9
Sulphide with gravity	95.3

After Puritch et al, 2013

At an average mill throughput of 4000 t/d (Kofi C blended in at 1000 t/d), the available retention time in the Tabakoto mill and leach tanks is 42 hours. At this mill tonnage and assuming that the head grade is approximately as tested, the expected gold extraction for all zones is 94% (Puritch et al, 2013).

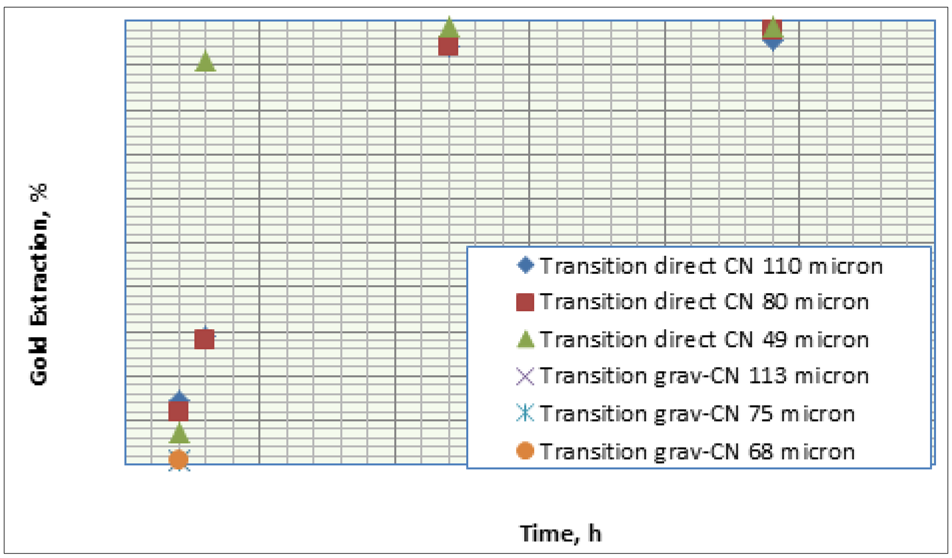
The saprolite, transition and fresh rock leach kinetics are illustrated in Figure 13-10 to Figure 13-12.

Figure 13-10 Saprolite Leach Kinetics



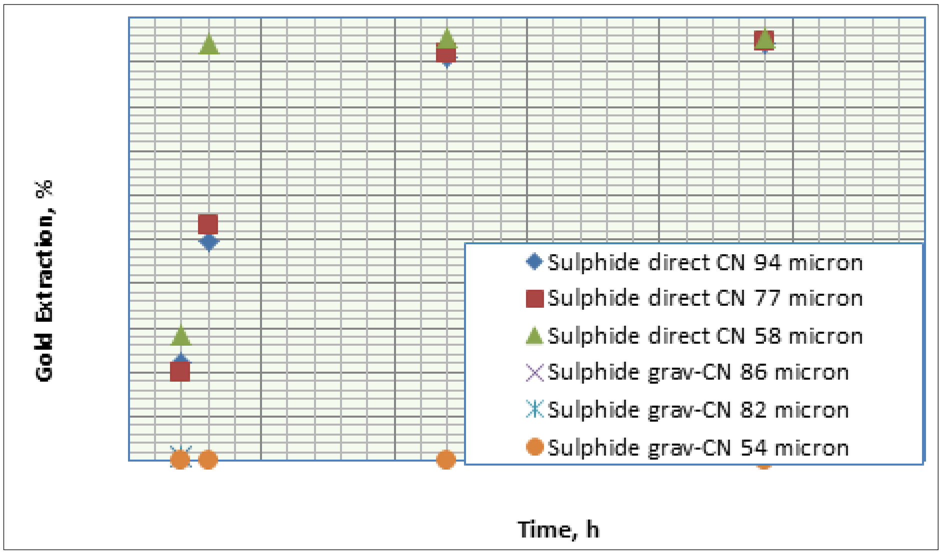
After Puritch et al, 2013

Figure 13-11 Transition Leach Kinetics



After Puritch et al, 2013

Figure 13-12 Sulphide Leach Kinetics



After Puritch et al, 2013

Table 13-19 summarizes cyanide and lime consumptions for all tests. Transition and sulphide samples show similar consumptions, whereas saprolite consumes much less cyanide and significantly more lime. The Tabakoto mill June year-to-date consumptions are reported at 0.53 kg/t cyanide and 1.64 kg/t lime. When transition or sulphide material is being processed reagent costs could increase by $1.00 - $1.50/t of Kofi material above current mill levels. When saprolite material is processed, a reagent cost reduction of about $1.00/t may be achieved (Puritch et al, 2013).

Table 13-19 Reagent Consumption

Material and Process	Cyanide (kg/t)	Lime, (kg/t)
Saprolite direct	0.12	2.4
Saprolite with gravity	0.08	2.13
Transition direct	0.98	0.51
Transition with gravity	0.71	0.51
Sulphide direct	0.99	0.44
Sulphide with gravity	0.99	0.43

After Puritch et al, 2013

13.2.2.5 Variability Testwork

High grade and low grade sulphide composite samples were tested to explore the effect of grade on extraction. Table 13-20 summarizes the results, with the main sulphide composite data included for reference. The results suggest that recovery does not increase with increasing grade (Puritch et al, 2013).

Table 13-20 Sulphide Sample Variability Test Results

Test	CN Test No.	K80 µ	Au Extraction (%) Grav+CN Leach (h)				Residue Au g/t	Calc Head Au, g/t	Reagents kg/t	
			4	6	24	48			NaCN	CaO
Sulphide										
GV 3	CN 16	86	57	71	92	94.7	0.13		0.88	0.44
GV 3	CN 17	82	56	71	95	95.2	0.12	2.06	1	0.43
GV 3	CN 18	54	53	66	94	95.9	0.1		1.11	0.44
Sulphide Variability A										
GV4	CN16	87	61	80	91	93.9	0.16	2.6	0.73	0.3
Sulphide Variability B										
GV5	CN20	119	77	86	94	95.5	0.08	1.65	0.59	0.25

After Puritch et al, 2013

Variability sample B (lower grade) calculated head from the test was close to expected grade but variability sample A (high grade) calculated head was lower than the 3.29 g/t estimated from drill core samples.

Gravity gold recovery from samples A and B were 36% and 45% respectively, compared to 48% for the primary sulphide composite.

The grind reported for variability sample B was significantly coarser than planned which suggests that ore hardness might increase with decreasing grade; however, additional testwork would be required to assess this possibility (Puritch et al, 2013).

14 Mineral Resource Estimate – Dec. 31, 2013 Resource Update

14.1 Introduction

The purpose of this report section is to update the mineral resources estimation based upon current drillhole data, mine geology interpretations and mine production through 31 December 2013 of the nine (9) deposits of Tabakoto Gold Mine Project and also the mineral deposits on the Kofi Nord Property.

Updated interpretations and mineral resource estimates have been completed for the five Semico deposits that have new drillhole data. These deposits are:

1. Tabakoto NW zones
2. Tabakoto NE zones
3. Tabakoto South zones
4. Ségala Main zones
5. Djambaye II zone

Mineral resources estimates for the Dar Salam deposit was not changed from the July 2011 Technical Report (Armstrong et al, 2011). The Dioulafoundou and Ségala W-NW resources were unchanged from the 2012 end-of-year resource report. The models were from the July 2011 update (Armstrong et al, 2011), but depleted from mining and updated with current reporting parameters.

The work completed by geology personnel in 2012 end-of-year mineral resource estimates follows on from previous estimates undertaken by P&E Mining Consultants Inc. and Avion Gold Corporation as reported in the 43-101 Technical Report from July 2011 entitled "Technical Report on the Tabakoto Mining Operations Mali, West Africa", Report No. 217 (Armstrong et al, 2011).

The information presented below is a summary of the work completed for the current resource models in 2013 and previously in 2011 as appropriate for each deposit. More detailed internal reports exist for each deposit (Mineral Resource Estimation summary Report prepared as of December 31, 2012 by Kevin Harris).

All resources herein are in compliance with NI 43-101 and CIM standards. This resource estimate was carried out by Hassan Said Tabakoto Mine Resource Geologist and Kevin Harris QP (CPG) Endeavour Group Resource Manager. The resources are estimated as of the effective date of December 31, 2013.

14.2 Raw Data

14.2.1 Tabakoto Drillhole Database

All drilling data is maintained in Access databases from the underground and surface exploration. The underground exploration and development drillholes are logged directly into Geoticlog database and merged with assay data. The data is then validated and merged with the surface drillhole database into a Surpac drillhole database. The Surpac drillhole database for Tabakoto, Ségala and Djambaye II were updated to include all available RC and DDH drillholes up through December 2013 and verified. These databases are:

- Tabakoto_db_2013_ug.mdb
- Ségala_dtbase20100603.mdb
- Djambaye_dbase2010.mdb
- Dioulafoundou2010.mdb
- Dar_salam_database.mdb

The following Table 14-1 summarizes data for drillholes and vertical cross-sections utilized in the resource estimates.

Table 14-1 Tabakoto Database Summary

DATABASE AND DRILL SECTION SUMMARY						
Deposit	**Total Drillholes**	**Drillholes in Wireframes**	**Constrained Assays**	**No. of Sections**	**Section Orientation (looking)**	**Section Spacing (m)**
Tabakoto NE	803	760	2,885	18	240°	20m
Tabakoto NW	1,875	1,708	6,241	15	125°	20m
Tabakoto South , SW Spurs & Dabo	1,032	789	2,638	24	0°	20m
Djambaye II	1959	250	2071	196	0°	12.5m
Ségala Main	1139	270	4883	19	290°	12.5-25m
Ségala W-NW	775	196	2571	31	290°	25m
Dioulafoundou	281	113	1,275	18	296°	25m
Dar Salam	250	131	2,141	64	0°	25m

All remaining drill data outside the wireframes were not in the areas that were modeled for these resource estimates. All data are expressed in metric units and grid coordinates are in a UTM system.

14.2.2 Kofi Drillhole Database

All drilling data were provided electronically as spreadsheets or text files. The information provided included collar coordinates, drillhole survey data, assay values and lithology intervals. All data are expressed in metric units, and grid coordinates are relative to a UTM system.

A total of 307 drillholes fall within the limits of economic mineralization for the Kofi-C deposit (Table 14-23) and were used for mineral resource modeling and estimation (Figure 14-1). Of the 307 drillholes used, 85 are diamond drillholes and 222 are RC drillholes (Puritch et al, 2013).

Table 14-2 Kofi Project Database Summary

DATABASE AND DRILL SECTION SUMMARY							
Deposit	**Total Drillholes**	**Drillholes in Wireframes**	**Constrained Assays**	**No. of Section s**	**Section Orientation (looking)**	**Section Spacing (m)**	**Section Names**
Betea	678	225	2,054	79	0°	50	1,453,550 N → 1,457,450 N
Kofi A	578	24	251	11	0°	25	1,460,975 N → 1,461,225 N
Kofi B	160	60	1,356	8	0°	50	1,456,800 N → 1,457,150 N
Kofi C	419	210	4,978	29	0°	25	1,456,825 N → 1,457,525 N
Blanaid	339	36	426	16	0°	25	1,458,250 N → 1,458,625 N
A Linear	142	27	232	26	0°	50	1,442,650 N → 1,443,900 N

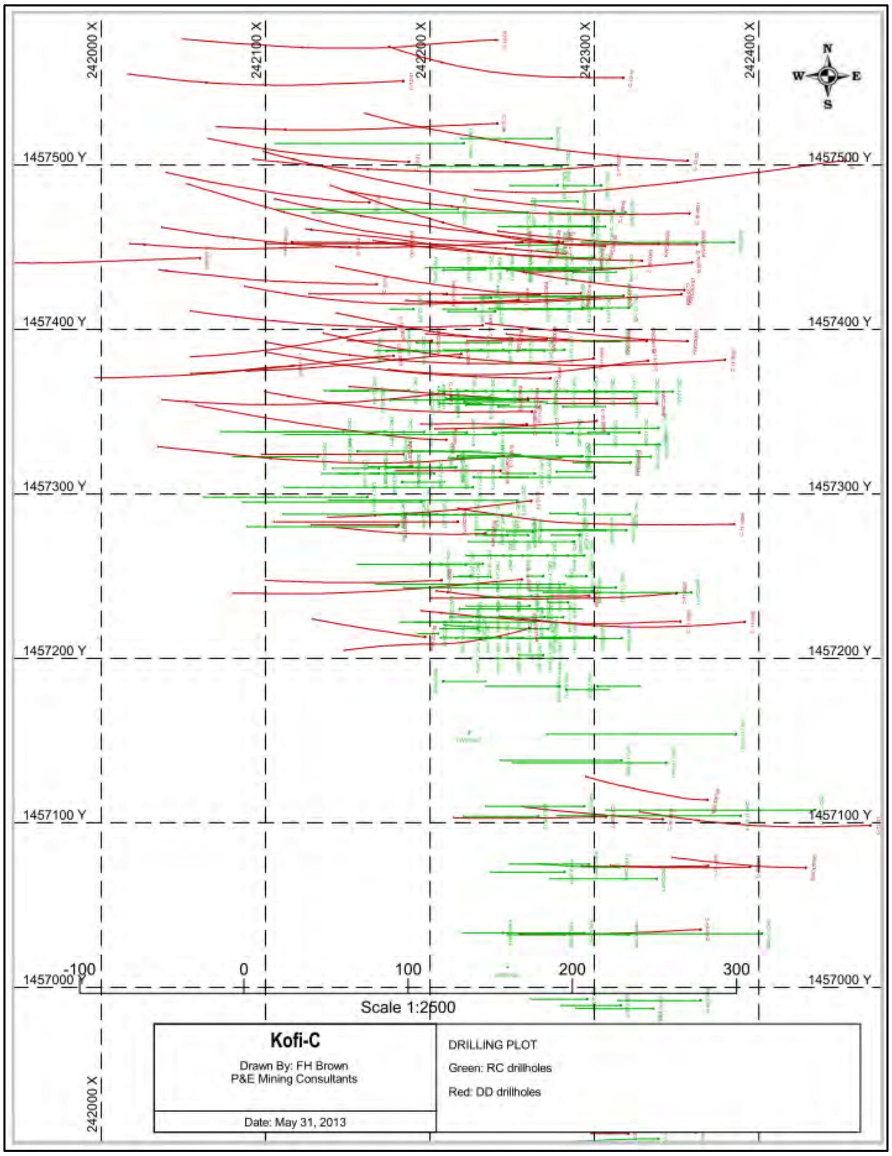
After Puritch et al, 2012

Table 14-3 Kofi C Database Summary

Database Summary		
Drillhole Type	**Record Count**	**Total Metres**
Reverse Circulation	222	16,297.00
Diamond Drilling	85	19,891.42
Total	**307**	**36,188,42**

After Puritch et al, 2013

Figure 14-1 Kofi C Drill Plan



After Puritch et al, 2013

14.2.3 Tabakoto Data Verification

Verification of the drillhole data was completed to ensure that there were no unexplained gaps in the data, no overlapping intervals, unusual collar elevations, or other problems with the survey data. A few minor data entry errors were observed and corrected. The authors believe that the Tabakoto database is suitable for mineral resource estimation.

14.2.4 Kofi C Data Verification

Industry standard validation checks were completed on the supplied databases. P&E typically validates a mineral resource database by checking for inconsistencies in naming conventions or analytical units, duplicate entries, interval, length or distance values less than or equal to zero, blank or zero-value assay results, out-of-sequence intervals, intervals or distances greater than the reported drillhole length, inappropriate collar locations, and missing interval and coordinate fields. P&E noted no significant validation errors. P&E believes that the supplied database is suitable for mineral resource estimation (Puritch et al, 2013).

14.3 Resource Estimation Procedures

Mineral resources at Tabakoto have been estimated using the method of inverse distance cubed (ID3) to interpolate grades into the block models. The interpolation parameters used to update the model are based on updated geostatistics from the current interpretations and data as well as was reported in the 43-101 Technical Report from July 2011 by P&E Mining Consultants (Armstrong et al, 2011). Composites coded as within the mineralized domains were used to estimate gold grade into blocks located within the mineralized domain solids. Estimation was run in three passes with the only difference being the anisotropy factors, search ellipse distance and minimum number of informing samples. Grade capping was applied for each deposits, no grade estimation was made outside of the domain solids.

Geological, structural and gold grade controls are used to interpret mineralized domain outlines. The models estimate resources into blocks with dimensions appropriate to the mining method and average drillhole spacing for each deposit. Continuity of gold grades was characterized by geology, drillholes and mine geology data which provided much better correlation of the ore zones and a higher confidence.

The mineral resource estimates within each block have been classified by using solid wireframe, drillhole spacing, and number of samples to flag blocks as measured, indicated, and inferred. Improved geological knowledge in terms of level of geologic and structural confidence in the mineralization coupled with the increased data density, the continuity of mineralization and the increased reliability of the database, have allowed resource to be classified with higher confidence.

3-D data analysis and interpretations, wireframing, compositing, exploratory data analysis, variogram calculation and modeling, and resource estimation at Tabakoto have been performed using Surpac software.

14.4 Modeling Domains

14.4.1 Domain Interpretation

The nine Tabakoto deposit domain boundaries were determined from lithology, structure and grade boundary interpretation from visual inspection of drillhole cross-sections and plan views. The Tabakoto NE, NW, South, Ségala, and Djambaye II deposit domains were updated in this update in Surpac by Hassan Said Mine Resource Geologist and Kevin Harris Endeavour Group Resource Manager. The remaining resource areas were not updated and referenced to the previous 43-101 Technical Report from July 2011 by P&E Mining Consultants (Armstrong et al, 2011). The outlines were influenced by the selection of mineralized material above 1.0 g/t Au sample cut-off grades in the open pit areas and 2.0 g/t Au sample cut-off grades in the underground areas and approximately 2 metre minimum width that demonstrated a lithological and structural zonal continuity along strike and down dip. The interpreted cross-section outlines were snapped to drillhole traces in three dimensions then formed into 3D wireframes that were used to allocate mineralization domain codes, statistical analysis, grade interpolation and resource reporting purposes.

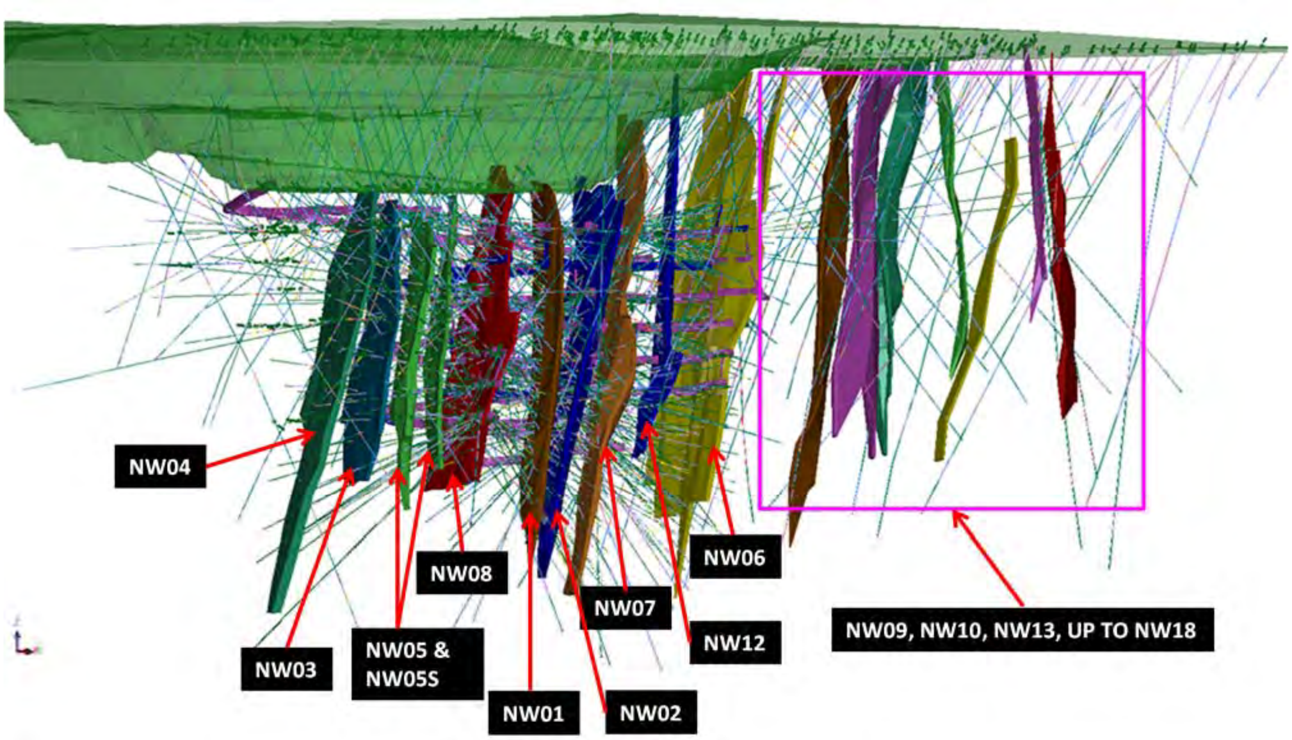
In some cases mineralization below cut-offs was included for the purpose of maintaining zonal continuity. Smoothing was utilized to remove obvious jogs and dips in the domains and incorporated a minor addition of inferred mineralization. This exercise allowed for easier domain creation without triangulation errors from solids validation.

14.4.2 Tabakoto North West Zones Mineralization Domains

Nine mineralized zones were interpreted and updated for this mineral resource estimation in the Tabakoto Northwest mineralization domains. These zones are; NW01, NW02, NW03, NW04, NW05, NW06, NW07, NW08, and NW12. The remaining zones north of NW06 were not changed due to limited new drilling data in those areas. There are eighteen known mineralized zones in Tabakoto NW mineralization domains (Figure 14-2).

The main mineralized Tabakoto NW zones dip steeply (80-90 degrees) to the south-southwest and strike northwest (~304 degrees) and plunge steeply to southeast. Mineralization is structurally controlled, low-sulphide gold-quartz vein system deposits. The drilling in the central part of the deposit is sufficiently close spaced that the orientations of mineralized zones are adequately defined. The current interpretation of the NW trending mineralization is that it occurs along the NW shear structures, but it is enriched as high-grade shoots when cut by cross structures (NE, N-S, EW trending), folding, shearing, and brecciation.

Figure 14-2 Tabakoto North West Mineralization Zones



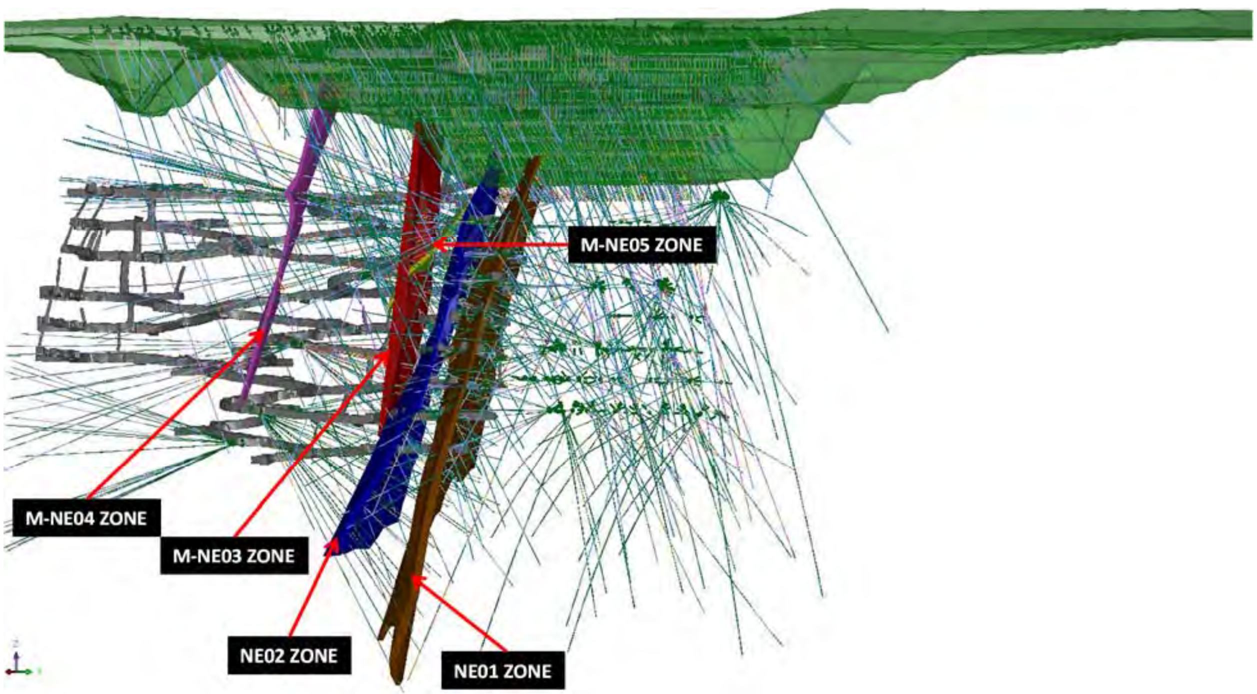
14.4.3 Tabakoto North East Zones Mineralization Domains

Two mineralized zones were interpreted and updated for this mineral resource estimation in the northeast mineralization domains, which are NE01 and NE02 (Figure 14-3).

The previous interpretations south of NE02 which indicated mineralized zones which were interpreted into M-NE-03, M-NE-04, and M-NE-05 need further investigation in terms of drilling and re-interpretation to be fully defined and to evaluate this area for additional resources. Much of the mineralization in this area seems related to the dikes along the north trending Tabakoto structure and appear to have limited strike length. Mineral resource estimates for these zones were not updated and are unchanged from earlier work.

The main mineralized zones at Tabakoto NE zones dip steeply (~70-80 degrees) to the south/southeast and strike northeast (~62 degrees) direction. The NE ore zones can be traced up to 350 metres along strike and the intersections of NE zones with the other major structures of the east, NW and the north-south Tabakoto zone create the higher grade zones.

Figure 14-3 Tabakoto North East Mineralization Zones



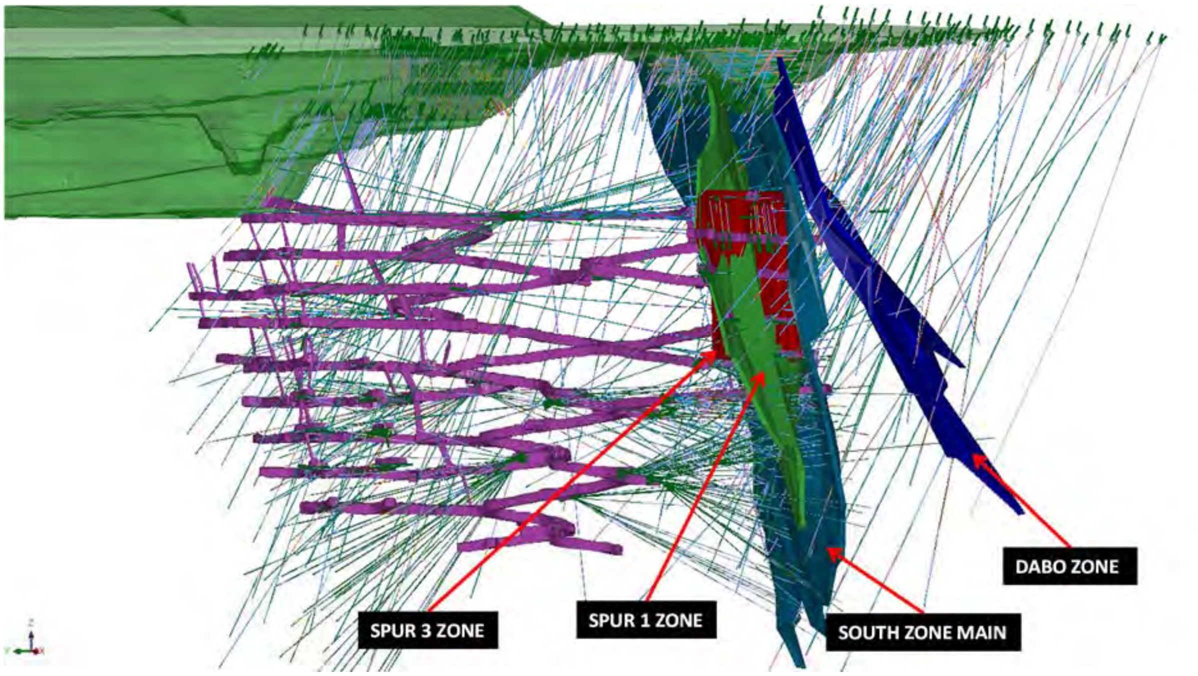
14.4.4 Tabakoto South Zones Mineralization Domains

Three mineralized zones were interpreted and updated for this mineral resource estimation in the South Zones mineralization domains. They are the South zone, Spur 1 zone and Spur 3 zone (Figure 14-4). The fourth zone is Dabo and was not changed in this update because there was no new drilling data in that area.

The main mineralized zone at Tabakoto South zones dips steeply (~80-85 degrees) towards the south to southeast (South Zone and Dabo) and steeply to the NW for Spur Zones. The South and Dabo zones strike NE (~62 degrees) and plunge moderately to shallowly towards the northeast. The gold mineralization at

Tabakoto South Zones has been defined over a strike of some 500 metres and up to approximately 225 metres vertically. The mineralization characteristics in the South zones are similar to the previous two domains and it is narrow but relatively high grade and is the longest vein delineated at the Tabakoto mining operations.

Figure 14-4 Tabakoto South Mineralization Zones



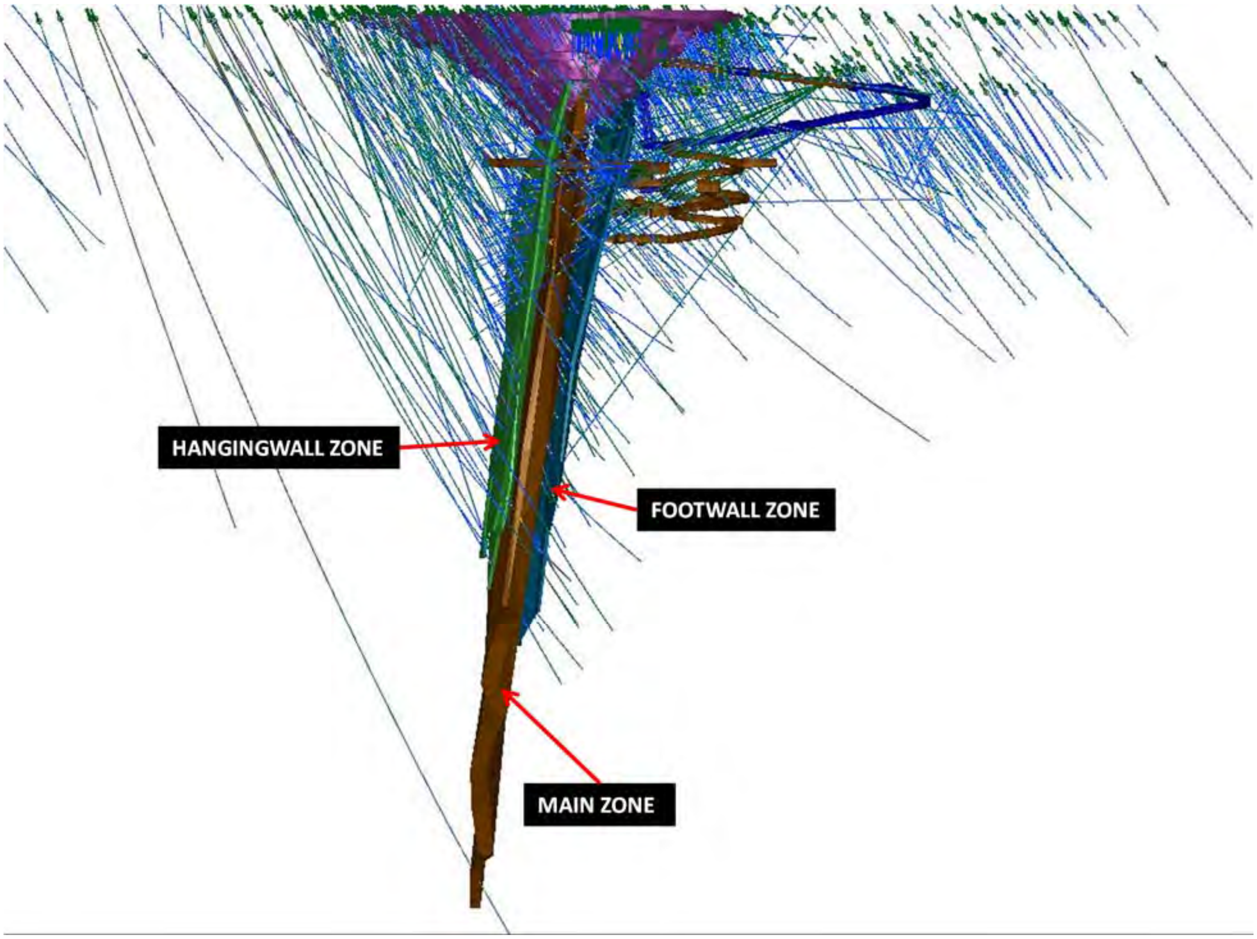
14.4.5 Ségala Main Zones Mineralization Domains

Five mineralized zones were interpreted and updated for this mineral resource estimation in the Ségala main mineralization domains, which are Main1, HW1, HW2, FW1 and FW2 zones. In many areas some of the zones are very close together and would be difficult to separate from a practical mining scenario and for that reason the three middle zones were combined into one zone to provide a better mining model with the internal dilution expected (Figure 14-5).

The mineralized zones in Ségala Main zones dip steeply (~80-85°) towards the south, and strike ~108°. The gold mineralization at Ségala Main deposit has been defined over a strike of some 350 metres and up to approximately 550 metres vertically within a mineralized corridor up to 65m wide and is open at depth. The higher grades appear associated with NE crossing structures. At Ségala gold mineralization occurs as coarse (+1 mm) visible gold within quartz-carbonate veins and stock-works typically hosted within sheared felsic intrusives and hydrothermally altered metasediments adjacent to intrusives.

Gold also occurs as extensive wall rock (~15 m) mineralization in both the hanging wall and footwall to these felsic intrusives, within altered metasediments with silica-carbonate-sericite-ankerite-sulfide assemblages.

Figure 14-5 Ségala Main Mineralization Zones

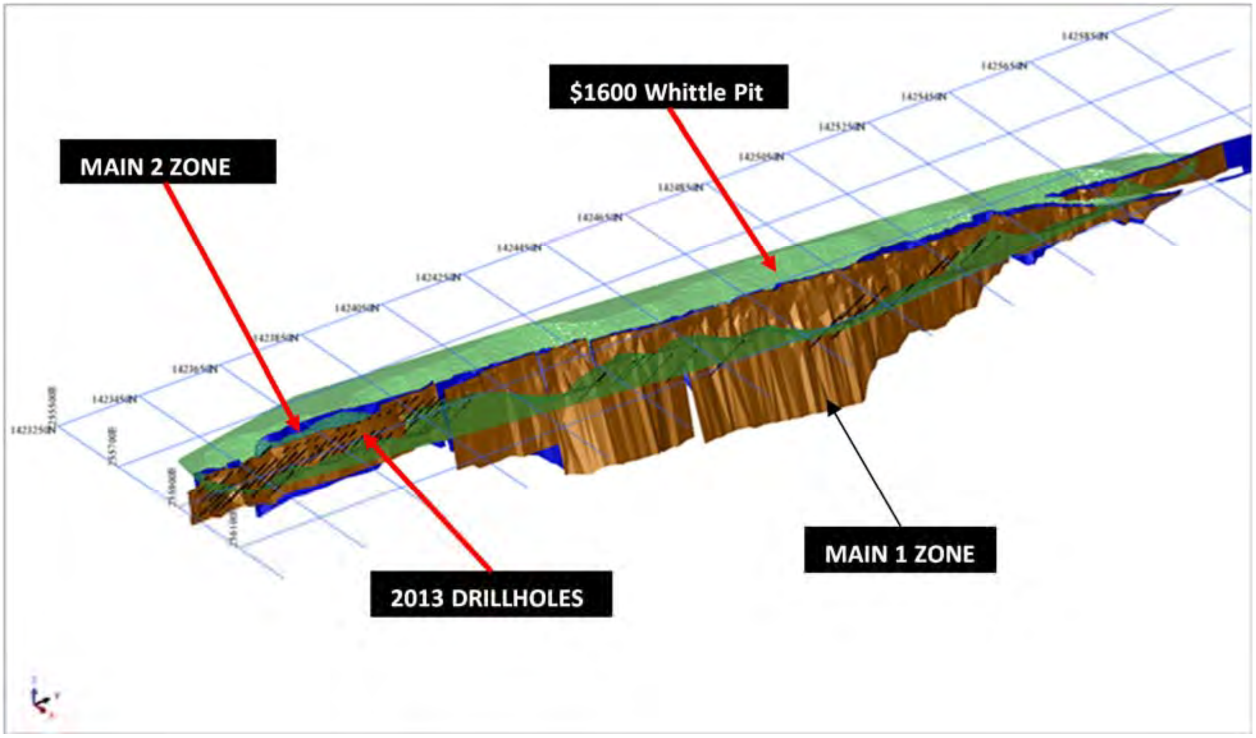


14.4.6 Djambaye II Zones Mineralization Domains

Two main mineralized zones were interpreted and updated for this mineral resource estimation in the Djambaye II deposit, which are Main1 (eastern zone) and Main2 (western zone) (Figure 14-6).

The main mineralized structure/zone in Djambaye II dips 70-80 degrees towards the east and general strike is in a N-S direction. The gold mineralization at Djambaye II has been defined over a strike of some 2,500 metres and is still open to the north, south and to depth. The mineralization is mostly confined to two dikes from 2-5 meters wide. The mineralization is stockwork style in character, pyrite dominates, with subordinate arsenopyrite and often associated with quartz veins. High grade zones are mostly confined near cross-structures.

Figure 14-6 Djambaye II Mineralization Zones



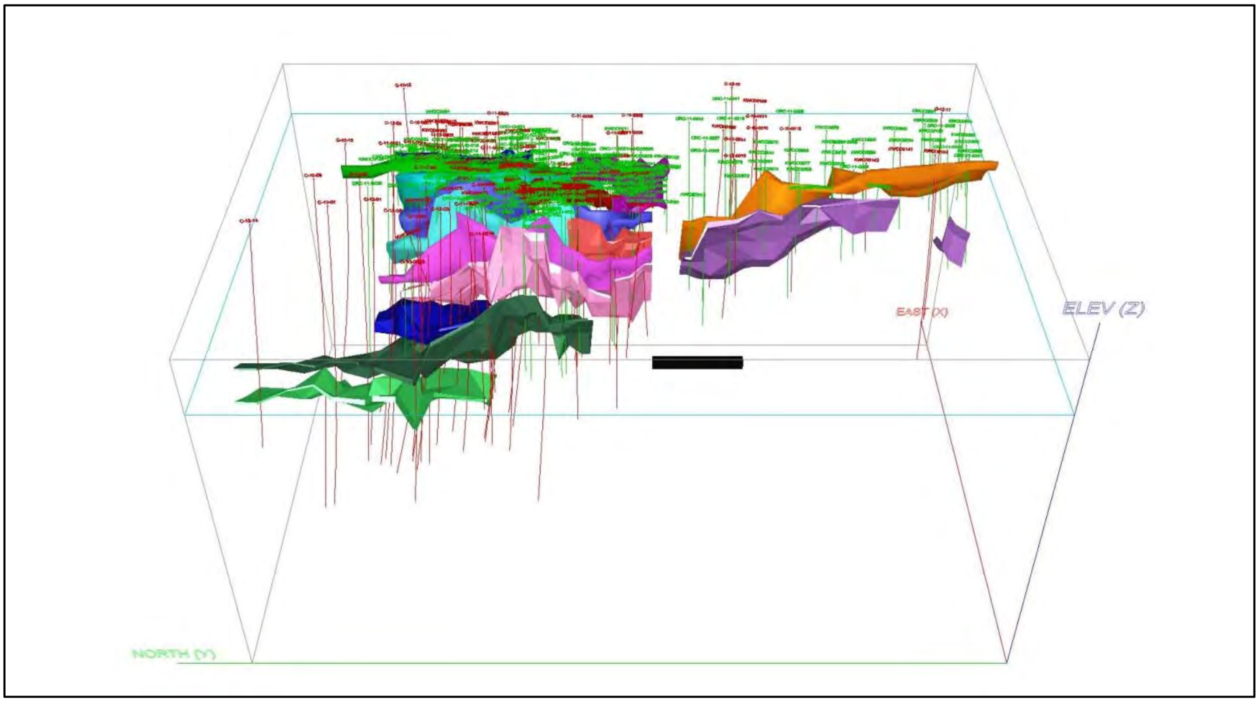
14.4.7 Kofi C Mineralization Domains

Individual deposit domain boundaries were determined by interpretation of lithology, structure and assay grades from visual inspection of drillhole sections. The domain outlines were influenced by the selection of mineralized material above 0.25 g/t Au that demonstrated reasonable continuity along strike and down dip. Where necessary, mineralized material below this grade was included to maintain zonal continuity (Puritch et al, 2013).

On each section polyline interpretations were extended from drillhole to drillhole but not typically extended more than fifty metres into untested areas. The interpreted polylines were then combined into a true three dimensional representation. A total of fifteen mineralization domains were defined (Figure 14-7). Mineralized domains were used for rock coding, statistical analysis and compositing limits (Puritch et al, 2013).

A saprolite surface was generated by Laplace gridding of logged lithological contacts, and extended across the area of interest (Puritch et al, 2013).

Figure 14-7 Kofi C Isometric View of Modeled Domains Looking East



After Puritch et al, 2013

14.4.8 Kofi Project Mineralization Domains (Outside Kofi C)

The Kofi Project mineralized domains, outside of the Kofi C deposit, include the Kofi A, Kofi B, Blanaid, and Betea deposits (Figure 14-8 to 14-11).

Figure 14-8 Kofi A – 3D Domains

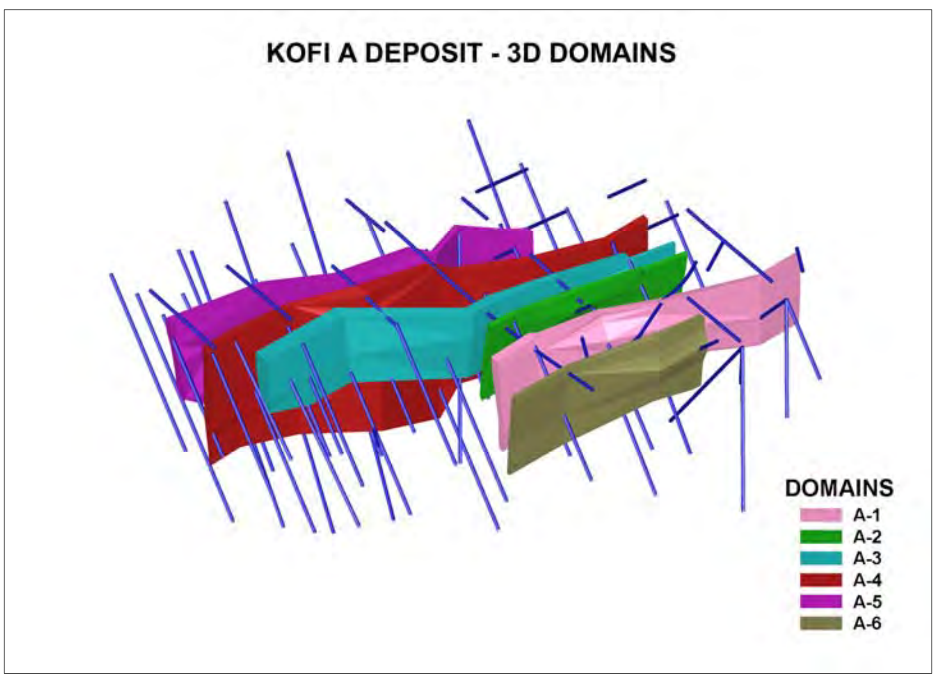


Figure 14-9 Kofi B – 3D Domains

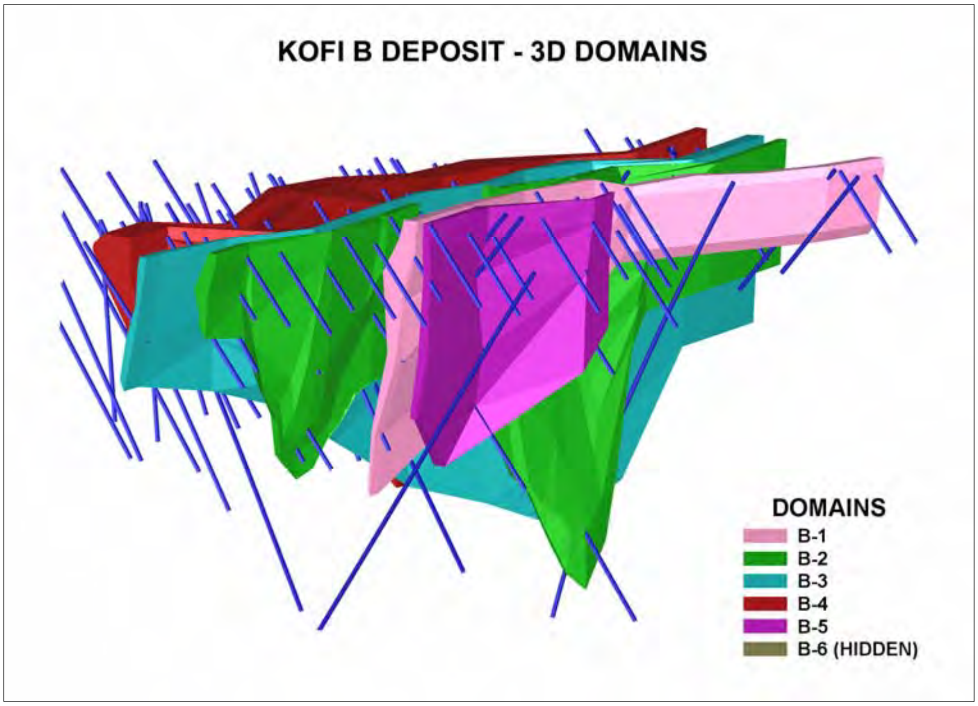


Figure 14-10 Blanaid – 3D Domains

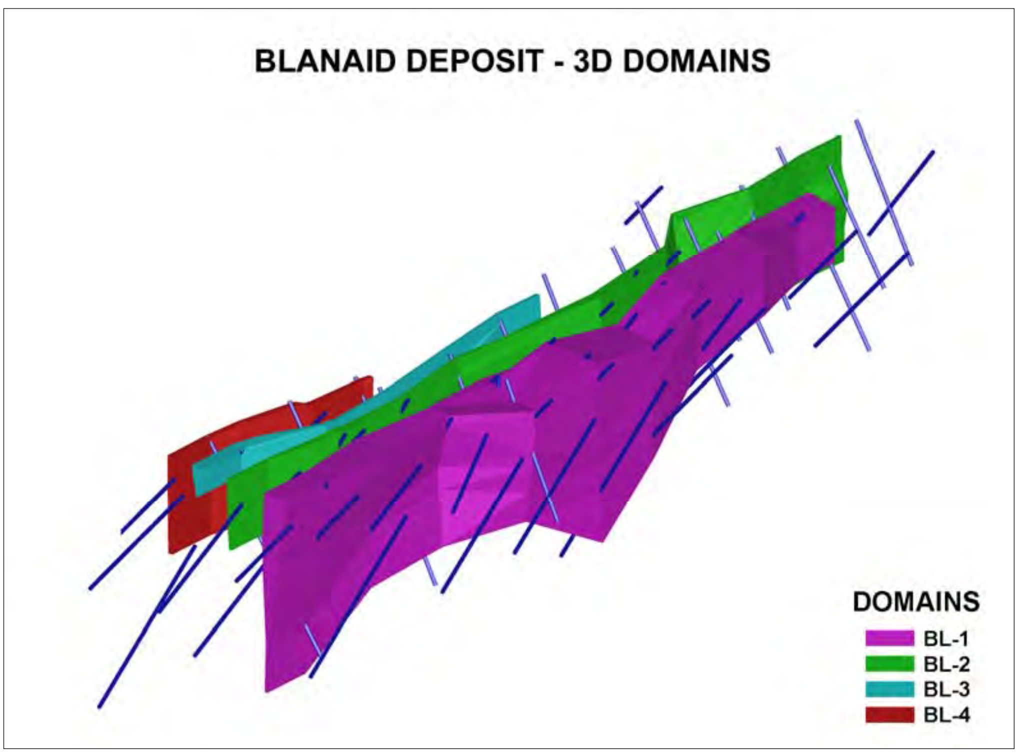
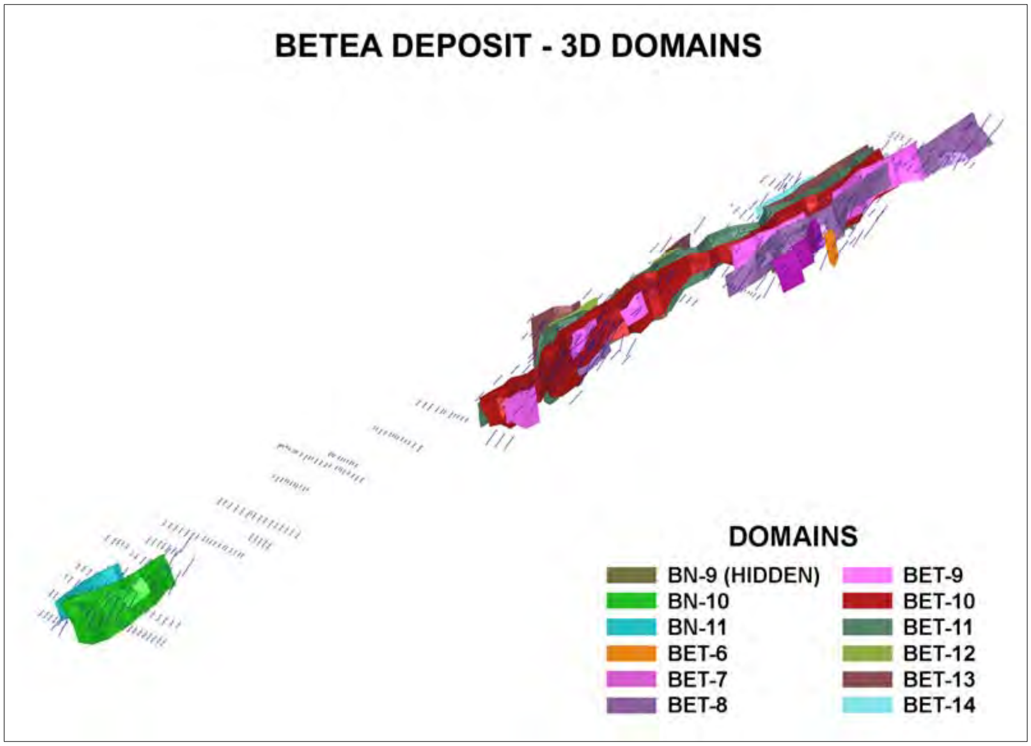


Figure 14-11 Betea – 3D Domains



14.5 Rock Code Determination

The rock codes used in the resource models were derived from the mineralized domain solid names. The list of rock codes used is as shown in Table 14-4.

Table 14-4 Rock Code Determination

DEPOSIT	ORE ZONE DOMAIN	ROCK CODE
Tabakoto NE	NE01	110
	NE02	120
	M-NE03	30
	M-NE04	40
	M-NE05	50
Tabakoto NW	NW01	10
	NW02	20
	NW03	30
	NW04	40
	NW05	50
	NW05S	55
	NW06	60
	NW07	70
	NW08	80
	NW09	90
	NW10	100
	NW12	120
	NW13	130
	NW14	140
	NW14N	145
	NW15	150
	NW16	160
	NW17	170
	NW18	180

Tabakoto South	South Main	10
	Spur1	20
	Dabo	30
	Spur3	40
Djambaye II	Main1 North	10
	Main1 North	30
	Main2	20
Segala Main	Mid Zone	10
	HW2	20
	FW2	30
Segala West - North West	Segala West 1	1
	Segala West 2	2
	Segala West 3	3
	Segala West 4	4
	Segala West 5	5
	Segala West 6	6
	Segala West 7	7
	Segala West 8	8
	Segala West 9	9
	Segala West 10	10
	Segala West 11	11
	Segala West 12	12
	Segala West 13	13
	Segala West 14	14
	Segala West 15	15
	Segala West 16	16
	Segala NW 1	21
	Segala NW 2	22
	Segala NW 4	24
	Segala NW 5	25
	Segala NW 7	27
	Segala NW 8	28
	Segala EW 1	29
	Segala NE 1	31
	Segala NE 2	32
	Segala NE 3	33
Dioulafoundou	NW	10
	NW-HW	11
	NW-FW	12
	NW-2	20
	NW-2-HW	21
	NW-2-FW	22
	SW	30
	Main-2	40
	Main-4	50

Dar Salam	DSN	5
	DSN-FW1	10
	DSN-FW2	15
	DSN-HW	20
	DSS	25
	DSS-FW1	30
	DSS-FW2	35
	DSS-HW	40
	DSN-1	45
	DSN-1-FW	50
	DSN-1-HW	55

14.6 Composites

14.6.1 Tabakoto Composites

Length weighted composites were generated for the drillhole data that fall within the constraints of the above-mentioned domains. These composites were calculated for Au over 1 metre lengths starting at the first point of intersection between the drillhole and hanging wall of the 3-D zonal constraint. The compositing process was halted upon exit from the footwall of the aforementioned constraint. Un-assayed intervals were set to ½ assay detection limit values. Any composites that were less than 0.25 metres in length were discarded so as not to introduce any short sample bias in the interpolation process. The constrained composite data were transferred to Surpac extraction string files for the grade interpolation as X, Y, Z, Au, files.

14.6.2 Kofi C Composites

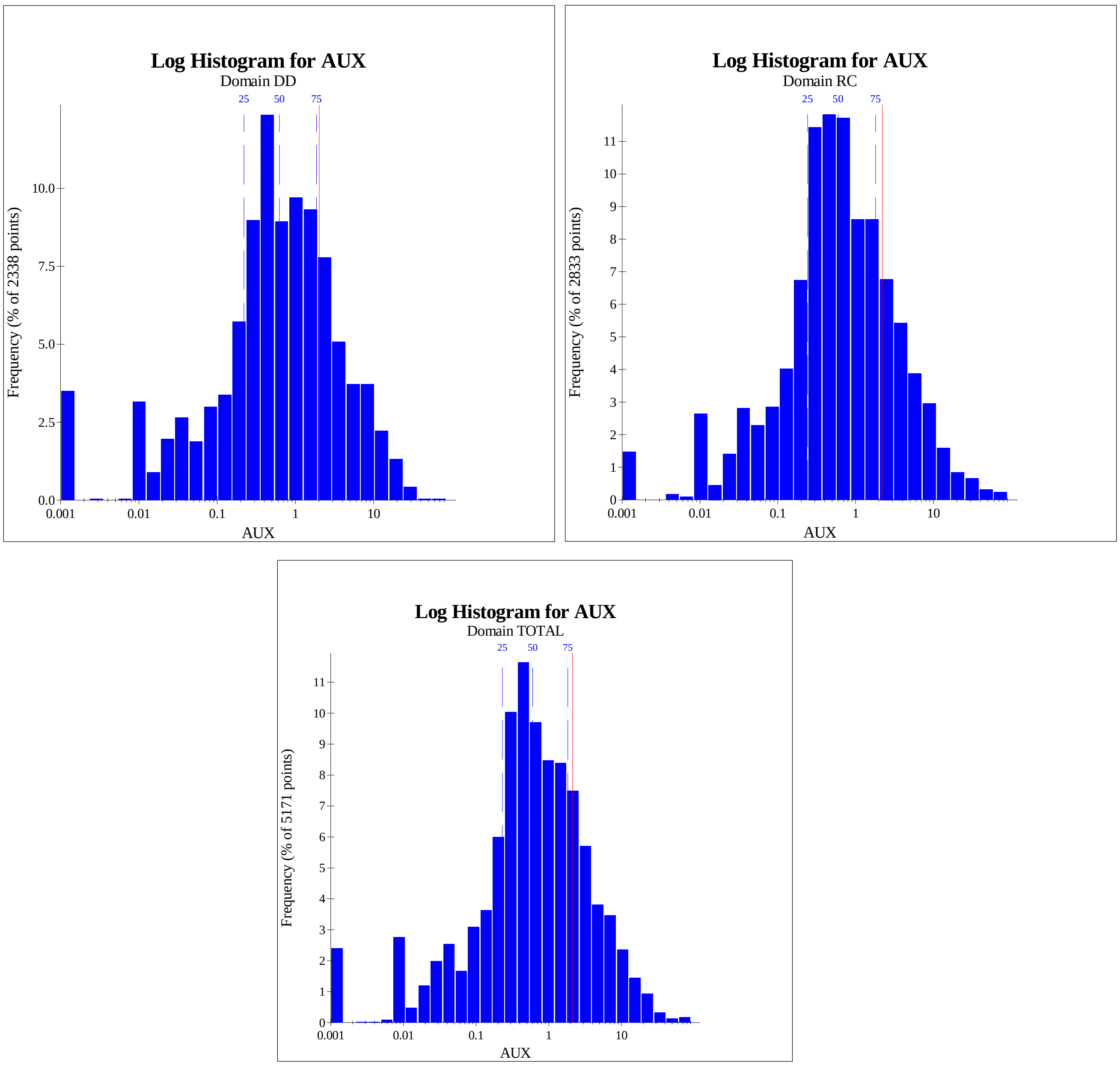
Assay sample lengths within the defined mineralization domains for the Kofi-C data range from 0.30 m to 5.00 m, with an average sample length of 1.11 m. In order to ensure equal sample support a compositing length of 1.50 m was selected for mineral resource estimation. Length-weighted composites were calculated within the defined mineralization domains, starting at the first point of intersection between the drillhole and the domain intersected, and halting upon exit from the domain wireframe. Composites were assigned a domain rock code value based on the domain wireframe that the interval midpoint fell within. A nominal grade of 0.001 g/t was used for un-sampled intervals. Residual composites less than half the compositing length were discarded. A total of 375 residual composites were discarded, ranging in length from 0.0001 m to 0.74 m and with an average grade of 1.60 g/t. Composite data were then exported to extraction files for statistical analysis and estimation (Puritch et al, 2013).

P&E generated summary statistics (Table 14-5) and histograms (Figure 14-12) for the composite samples within the defined domains (Puritch et al, 2013).

Table 14-5 Kofi C Composite Statistics

Domain Composite Summary Statistics						
Type	**Samples**	**Minimum g/t**	**Maximum g/t**	**Mean g/t**	**St Dev**	**CV**
DD	2,282	0.001	83.65	2.01	4.36	2.17
RC	2,722	0.001	90.06	2.24	5.87	2.62
Total	**5,004**	**0.001**	**90.06**	**2.14**	**5.24**	**2.45**

Figure 14-12 Kofi C Gold Composite Histograms



After Puritch et al, 2013

14.6.3 Kofi Project Composites (Outside Kofi C)

Length weighted composites were generated for the drillhole data that fell within the constraints of the above-mentioned domains. These composites were calculated for Au over 1.5 metre lengths starting at the first point of intersection between assay data hole and hanging wall of the 3-D zonal constraint. The compositing process was halted upon exit from the footwall of the aforementioned constraint. Un-assayed intervals were set to ½ assay detection limit values. Any composites that were less than 0.50 metres in length were discarded so as not to introduce any short sample bias in the interpolation process. The constrained composite data were transferred to Gemcom extraction files for the grade interpolation as X, Y, Z, Au, files (Puritch et al, 2012).

14.7 Grade Capping

14.7.1 Tabakoto Grade Capping

Grade capping was investigated on the raw assay values in the databases within the constraining domains to ensure that the possible influence of erratic high values did not bias the database. Extraction files were created for the constrained Au data. From these extraction files, log-normal histograms were generated and capping values set (Table 14-6).

Table 14-6 Au Grade Capping Values

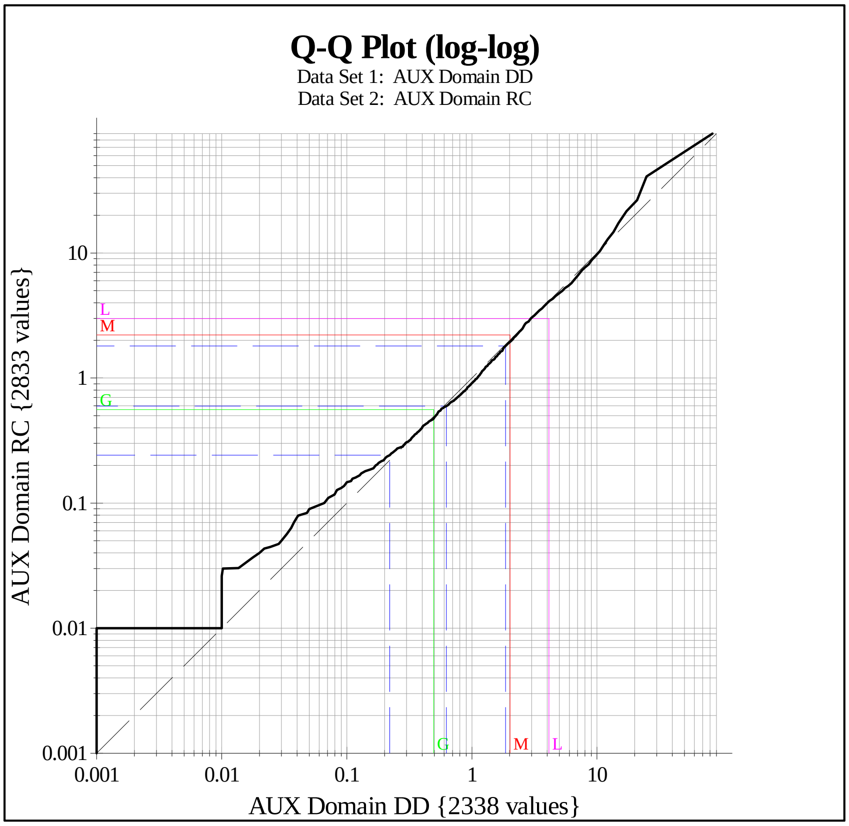
Deposit	Domain	Capping Value Au g/t	No. of Assays Capped	Cumulative % for Capping	Raw Coefficient of Variation	Capped Coefficient of Variation
Tabakoto NE	M-NE03-NE05	30	6	98.7	3.16	2.13
	NE01	60	16	97.2	3.08	1.83
	NE02	30	34	96.3	2.81	1.61
Tabakoto NW	NW01	40	25	97.4	2.84	1.95
	NW02	30	26	96.9	4.46	1.73
	NW03	25	14	94.3	4.07	1.55
	NW04	40	6	98.3	7.27	2.12
	NW05	30	10	97.3	3.75	1.53
	NW06	40	34	96.6	3.98	1.83
	NW07	40	7	98.1	5.36	1.99
	NW08	30	12	97.3	2.24	1.72
	NW09	35	3	97.3	2.30	1.72
	NW10	20	4	97.3	1.98	1.84
	NW12	40	1	99.6	3.20	2.24
	NW-13,14,15, 16,17,18	40	14	97.2	2.59	2.02
Tabakoto South/Dabo	Main	30	6	98.9	3.27	1.71
	Dabo	25	5	98.3	1.80	1.47
	Spur1	30	7	97.3	3.56	2.15
	Spur3	30	7	98.5	4.17	1.83
Djambaye II	Main-2	30	13	97.3	2.34	1.84
	Main-1	65	27	96.7	2.75	1.79

Deposit	Domain	Capping Value Au g/t	No. of Assays Capped	Cumulative % for Capping	Raw Coefficient of Variation	Capped Coefficient of Variation
Ségala Main	Main1	30	30	99.2	1.71	1.31
	HW2	30	2	99.6	1.80	1.70
	FW2	30	6	99.6	7.78	4.91
Ségala NW	NW	20	8	99.5	2.22	1.72
Dioulafoundou	NW-HW	No Cap	0	100	0.95	0.95
	NW-FW	30	3	97.7	2.39	2.05
	NW-2	No Cap	0	100	1.39	1.39
	NW-2-HW	10	2	97.5	1.59	1.16
	NW-2-FW	3.5	1	97.7	0.88	0.84
	SW	2.5	3	96.5	0.89	0.69
	Main-2	6	5	89.6	2.60	1.42
	Main-4	10	2	90.9	1.22	0.92
	DSN	7.5	12	97.4	3.04	1.66
Dar Salam	DSN-FW1	2.5	3	95.9	1.40	1.05
	DSN-FW2	No Cap	0	100	0.76	0.76
	DSN-HW	No Cap	0	100	0.82	0.82
	DSS	25	7	98.4	2.57	2.11
	DSS-FW1	9	10	96.3	2.75	1.57
	DSS-FW2	7.5	10	95.8	3.79	1.56
	DSS-HW	10	10	98.0	4.29	1.72
	DSN-1	15	3	93.8	3.07	1.89
	DSN-1-FW	No Cap	0	100	1.78	1.78
	DSN-1-HW	10	2	97.0	1.88	1.72

14.7.2 Kofi C Grade Capping

The presence of high-grade outliers for the Kofi C composite data was evaluated by a review of composite summary statistics, histograms and probability plots for reverse circulation drillholes, diamond drillholes and combined data sets. Based on a review of individual domain and global summary statistics, capping levels of 20.00 g/t Au for reverse circulation drillholes and 30.00 g/t Au for diamond drillholes were selected. A total of five DD composite values and forty-eight RC composite values were capped to these thresholds prior to estimation (Puritch et al, 2013).

Figure 14-13 Kofi C QQ Plot of Au Composite Values



After Puritch et al, 2013

14.7.3 Kofi Project Grade Capping (Outside Kofi C)

Grade capping was investigated on the raw assay values in the databases within the constraining domains to ensure that the possible influence of erratic high values did not bias the database extraction files that were created for the constrained Au data. From these extraction files, log-normal histograms were generated (Table 14-7).

Table 14-7 Kofi Project Gold Grade Capping

Deposit	Domain	Capping Value Au g/t	No. of Assays Capped	Cumulative % for Capping	Raw Coefficient of Variation	Capped Coefficient of Variation
Betea	BN-9	7.5	2	1.83	1.36	94.1
	BN-10	12.5	2	1.68	1.63	98.1
	BN-11	No Cap	0	1.64	1.64	100.0
	BET-6	No Cap	0	1.34	1.34	100.0
	BET-7	7.5	2	1.54	1.47	97.2
	BET-8	15.0	2	3.12	1.68	98.6
	BET-9	17.5	2	6.49	1.94	98.7
	BET-10	20.0	11	2.89	1.79	99.1
	BET-11	20.0	10	4.16	1.85	98.5
	BET-12	8.0	1	1.98	1.45	99.1
	BET-13	7.50	3	1.55	1.35	98.8
	BET-14	7.5	2	2.24	1.65	94.4
Kofi A	A-1	NA	0	1.25	1.25	100.0
	A-2	NA	0	1.36	1.36	100.0
	A-3	3.0	2	1.70	0.87	95.7
	A-4	10.0	1	1.21	1.04	98.6
	A-5	5.0	2	1.21	0.79	97.6
	A-6	NA	0	1.19	1.19	100.0
Kofi B	B-1	15.0	1	1.78	1.46	98.5
	B-2	6.0	4	1.24	1.09	97.0
	B-3	10.0	5	1.51	1.22	98.1
	B-4	25.0	3	1.64	1.54	99.6
	B-5	NA	0	1.07	1.07	100.0
	B-6	15.0	3	2.89	1.79	98.1
Blanaid	BL-1	20.0	6	2.61	1.69	98.1
	BL-2	15.0	1	2.27	1.46	98.7
	BL-3	5.0	1	3.62	1.44	95.5
	BL-4	NA	0	0.89	0.89	100.0
A Linear	AL-1	25.0	1	3.50	2.46	98.3
	AL-2	15.0	2	3.58	1.47	97.5
	AL-3	15.0	1	2.05	1.49	98.9
	AL-4	NA	0	0.50	0.50	100.0

14.8 Tabakoto Variography

14.8.1 Tabakoto Variography

Updated variography was completed on the domain composites of the five Tabakoto deposits updated in this report with reasonable results. The remaining Tabakoto deposits are referenced in the previous technical reports. Reasonable directional variograms were attained for the Tabakoto NE, Tabakoto NW, Tabakoto South, Ségala Main, and Djambaye II deposits. In some cases the composites of several adjacent small domains were combined prior to attempting variography. Variograms were prepared as part of the internal resource estimation report.

14.8.2 Kofi C Variography

For Kofi C, domain-coded, composited sample data were used for continuity analysis. Strike orientations for the domains were developed based on the modeled geometry of the mineralization. Dip and dip plane orientations were selected using orientations developed from variogram fans, which were assessed for geological reasonableness. Conventional and normal-scores experimental semi-variograms aligned with the best-fit orientation of the mineralization were then generated. The nugget effect was derived from the down-hole experimental semi-variogram, and semi-oriented variogram ranges were assessed and iteratively refined for each model. Continuity ranges based on the resulting semi-variogram models were then generated for each variable by domain and used to define an appropriate search and classification strategy.

Based on the analysis of the resulting semi-variograms a strike distance of 30.0 m, a dip distance of 30.0 m, and a cross-dip distance of 10.0 m was selected as appropriate for mineral resource estimation. Continuity ellipses based on these ranges were used as the basis for estimation search ranges, distance calculations and mineral resource classification criteria.

14.9 Bulk Density

14.9.1 Tabakoto Bulk Density

The bulk densities used for the creation of density block models were the same as used in Armstrong et al (2011) and are presented in Table 14-8. Fresh rock from Tabakoto and Ségala were tested for this update and the results are included.

Table 14-8 Density Values

Deposit	Saprolite	Oxide (Transition)	Fresh Rock
Tabakoto NE	N/A	N/A	2.76
Tabakoto NW	N/A	N/A	2.76
Tabakoto South/Dabo	1.75	2.00	2.76
Dar Salam	1.75	2.00	N/A
Ségala Main	1.80	N/A	2.76
Ségala NW	1.80	N/A	2.76
Djambaye II	1.80	2.20	2.68
Dioulafoundou	1.75	2.20	2.68

14.9.2 Kofi C Bulk Density

A total of 193 specific gravity measurements were collected from Kofi C drillhole core. Measurements range from 1.34 tonnes per cubic metre to 3.23 tonnes per cubic metre, with an average specific gravity value of 2.61 tonnes per cubic metre. Based on 25 measurements the average specific gravity for saprolite is 2.05 tonnes per cubic metre, and based on 160 measurements the average specific gravity for the sulphides is 2.74 tonnes per cubic metre. Values of 2.00 tonnes per cubic metre for saprolite and 2.75 tonnes per cubic metre for the sulphides have been used previously for Kofi C (Puritch et al, 2012). For volumetrics purposes a value of 2.00 tonnes per cubic metre was assigned to the saprolite and 2.75 tonnes per cubic metre was assigned to the sulphides.

14.10 Block Model

14.10.1 Tabakoto Block Model

The Tabakoto deposits resource models were divided into a block model framework containing the following parameters as shown in Table 14-9.

Table 14-9 Tabakoto Block Model Parameters

Deposit	Number of Blocks	Block Size (X,Y,Z)	Columns, Rows, Levels	Model Rotation
Tabakoto NE	12,812,500	2m x 2m x 2m	205-250-250	60° CCW
Tabakoto NW	14,000,000	2m x 2m x 2m	350-200-200	54.8° CCW
Tabakoto S/Dabo	8,521,500	2m x 2m x 2m	299-150-190	32° CCW
Djambaye II	18,720,000	2.5m x 5m x 2.5m	260-600-120	0°
Ségala Main & NW	161,315,000	2m x 2m x 2m	838-550-350	16° CCW
Dioulafoundou	2,416,128	5m x 5m x 5m	176-176-78	26° CW
Dar Salam	4,332,000	5m x 5m x 5m	150-380-76	0°

The percent block model was set up to accurately represent the volume and subsequent tonnage that was occupied by each block inside the constraining domain. As a result, the domain boundary was properly represented by the percent model ability to measure infinitely variable inclusion percentages within that domain. The Au composites were extracted from the Microsoft Access database composite table into separate files. Inverse distance cubed (ID3) grade interpolation was utilized.

The first interpolation pass was utilized for the Measured classification, the second for Indicated while the third was for the Inferred classification. The resulting Au grade blocks can be were checked on block model cross-sections as part of the internal resource estimation report. Grade blocks were interpolated using the parameters in Table 14-9.

14.10.2 Kofi C Block Model

An orthogonal block model was established across the property with the block model limits selected so as to cover the extent of the mineralized domains, and with the block size reflecting the continuity of the mineralization and the drillhole spacing (Table 14-10). The block model consists of separate models for estimated grades, rock codes, percent, density and classification attributes. A percent block model was used to accurately represent the volume within the constraining domains (Puritch et al, 2013).

Table 14-10 Kofi C Block Model Parameters

Dimension	Minimum	Maximum	Number	Size (m)
X	241,800	242,600	160	5
Y	1,456,600	1,458,000	280	5
Z	-100	250	70	5

After Puritch et al, 2013

14.10.3 Kofi Project Block Model

The Kofi deposits resource models were divided into block model frameworks containing the following parameters as shown in Table 14-11.

Table 14-11 Block Model Parameters

Deposit	Number of Blocks	Block Size (X,Y,Z) m	Columns, Rows, Levels	Model Rotation
Betea	3,843,840	2.5 x 10 x 10	312-440-28	0^o
Kofi A Kofi B Blanaid	8,436,960	5 x 5 x 10	432-930-21	0^o
Kofi C	2,252,800	5 x 5 x 5	160-220-64	0^o
A Linear	912,000	5 x 5 x 5	100-304-30	0^o

14.11 Resource Classification

14.11.1 Tabakoto Classification

All resource classifications were determined from the measured, indicated and inferred search ellipsoid parameters indicated in Table 14-12.

Table 14-12 Resource Classification/ID3 Grade Modeling Parameters

Tabakoto Deposits Au Block Model ID3 Interpolation Parmameters Surpac ZXY LRL Axes of Rotation											
Deposit/Model	Ore Zone	Domain Classification Search	Dip Dir. Bearing	Plunge	Dip	Major Search Radius	Major/Semi-Major Ratio	Major/Minor Ratio	Max # Samples/ hole	Min # Samples	Max # Samples
Tabakoto NE	all	Measured	150	-70	0	20	1	2	2	7	20
		Indicated	150	-70	0	50	1	2	2	4	20
		Inferred	150	-70	0	100	1	2	2	1	20
Tabakoto NW	NW1,2,3,4,5, 6,7,8,12	Measured	220	-80	0	20	1.66	2	2	5	20
		Indicated	220	-80	0	30	1.5	2	2	3	20
		Inferred	220	-80	0	100	1	2	2	1	20
Tabakoto South	South Zone	Measured	146	-75	0	20	1	2	2	5	20
		Indicated	146	-75	0	35	1	2	2	3	20
		Inferred	146	-75	0	100	1	2	2	2	20
	Spur1 Zone	Measured	159	-74	0	20	1	2	2	5	20
		Indicated	159	-74	0	35	1	2	2	3	20
		Inferred	159	-74	0	100	1	2	2	2	20
	Spur3 Zone	Measured	195	-85	0	20	1	2	2	5	20
		Indicated	195	-85	0	35	1	2	2	3	20
		Inferred	195	-85	0	100	1	`	2	2	20
	Dabo Zone	Measured	160	-60	0	20	1	2	2	5	20
		Indicated	160	-60	0	35	1	2	2	3	20
		Inferred	160	-60	0	100	1	2	2	2	20
Djambaye II	Main1	Measured	178	-30	72	20	1.8	5	2	5	20
		Indicated	178	-30	72	30	1.8	5	2	3	20
		Inferred	178	-30	72	150	1.8	5	2	2	20
	Main2	Measured	178	-28	67	20	1.4	5	2	5	20
		Indicated	178	-28	67	30	1.4	5	2	3	20
		Inferred	178	-28	67	150	1.4	5	2	2	20
Segala Main	Main	Measured	299	69	-89	20	1	3	2	5	20
		Indicated	299	69	-89	30	1	3	2	3	20
		Inferred	299	69	-89	150	1	3	2	2	20
	FW2	Measured	299	69	-89	20	1	3	2	5	20
		Indicated	299	69	-89	30	1	3	2	3	20
		Inferred	299	69	-89	150	1	3	2	2	20
	HW2	Measured	299	69	-89	20	1	3	2	5	20
		Indicated	299	69	-89	30	1	3	2	3	20
		Inferred	299	69	-89	150	1	3	2	2	20

14.11.2 Kofi C Classification

Anisotropic Inverse Distance Cubed ("ID3") linear weighting of capped composite values was used for block estimation. Composite data used during grade estimation were restricted to samples located within their respective domain. A two-pass series of expanding search ellipsoids was used for sample selection, grade estimation and classification:

- During the first pass, between three and twelve capped composites from two or more drillholes within a search ellipsoid measuring 30.0 m along strike, 30.0 m down dip, and 10.0 m perpendicular to the dip were required for estimation.
- During the second pass, between three and twelve capped composites from two or more drillholes within a search ellipsoid measuring 150.0 m along strike, 150.0 m down dip, and 40.0 m perpendicular to the dip were required for estimation.

Blocks estimated during the first pass were consolidated into a logical grouping in order to minimize orphan blocks, and then classified as Indicated. All other blocks were classified as Inferred (Puritch et al, 2013).

14.11.3 Kofi Project Classification (Outside Kofi C)

All resource classifications were determined from the Indicated and Inferred search ellipsoid parameters indicated in (Table 14-13; after Puritch et al, 2012).

Table 14-13 Kofi Deposits Au Block Model Interpolation Parameters

Deposit	Domain Classification Search	Dip Dir.	Strike	Dip	Dip Range (m)	Strike Range (m)	Across Dip Range (m)	Max # per Hole	Min # Sample	Max # Sample
Betea	All Indicated	90°	0°	-90°	40	30	10	2	3	20
	All Inferred	90°	0°	-90°	100	100	50	2	1	20
Kofi A	All Indicated	110°	20°	-90°	15	15	10	2	3	20
	All Inferred	110°	20°	-90°	100	100	50	2	1	20
Kofi B	All Indicated	100°	10°	-90°	15	15	10	2	3	20
	All Inferred	100°	10°	-90°	100	100	50	2	1	20
Blanaid	All Indicated	90°	0°	-90°	15	15	10	2	3	20
	All Inferred	90°	0°	-90°	100	100	50	2	1	20
A Linear	All Indicated	100°	10°	-90°	20	20	10	2	3	20
	All Inferred	100°	10°	-90°	100	100	50	2	1	20

After Puritch et al, 2012.

14.12 Resource Estimate

14.12.1 Tabakoto Resource Estimate

The resource estimate was derived from applying Au cut-off grades to the block model and reporting the resulting tonnes and grade for potentially mineable areas. The volume of any existing mine workings was removed from the resource estimates. The Au cut-off grade calculations for resource reporting of the underground and open pit potentially economic portions of the mineralization were derived from current operating costs at Tabakoto as follows:

14.12.1.1 Underground Au Cut-Off Grade Calculation US$

Au Price	US$1,500/oz.
Au Recovery	91%
Mining Cost	$34.43/tonne
Maintenance Cost	$4.31/tonne
Process Cost	$22.32/tonne milled
General & Administration	$15.55/tonne milled

Operating costs per ore tonne = ($34 + $4 + $22 + $15.5) = $76/tonne

[($76)/[($1,500/oz/31.1035 x 91% Recovery)] = 1.74 g/t. Use 1.50 g/t Au for Resources

14.12.1.2 Djambaye II Pit Optimization and Open Pit Au Cut-Off Grade Calculation US$

Au Price	US$1,600/oz
Au Recovery	92%
Reference Mining Cost	$2.05/tonne
Process Cost/G&A/Haulage	$37.00 tonne milled
Slope angle saprolite	31^{o}
Slope angle fresh rock	41^{o}

Operating costs per ore tonne = ($37 + $2.05) = $39.05/tonne

[($39.05)/[($1,600/oz./31.1035 x 92% Recovery)] = 0.83 g/t Use 0.50 g/t Au

The Djambaye II was updated in this report as of June 2013. The Dar Salam resource models and pit optimizations have not been updated and are based upon the parameters used by Armstrong et al (2011) in the previous Technical Report.

Mineral resource estimates for the Tabakoto Project are presented in Table 14-14 and are summarized in Table 14-15 and Table 14-16. The mineral resource estimates are current as of December 31, 2013, with the exception of Ségala West-NW, Dar Salam, and Dioulafoundou which were estimated in July 2011 Technical Report update models (Armstrong et al, 2011). The open pit portion of the Dioulafoundou deposit has been depleted by mining and therefore reflects an effective date of December 31, 2013.

Table 14-14 Tabakoto Deposits Open Pit and Underground Resource by Area

Mineral Resources as of Dec. 31, 2013 (0.5 g/t Open Pit Cutoff/1.5 g/t Underground Cutoff; sg fresh rock 2.76)						Change from Dec. 31, 2012			Depletion Due to Mining		
ZONE	CATEGORY	TONNES	GRADE g/t Au	OUNCES GOLD	TYPE	TONNES	GRADE g/t Au	OUNCES GOLD	TONNES	GRADE g/t Au	OUNCES GOLD
Tabakoto NE Zones	Measured	271,000	6.63	57,900	UG	102,000	-0.40	19,700	90,000	7.20	20,800
	Indicated	359,000	6.41	74,000	UG	-104,000	0.14	-19,300	18,000	4.86	2,800
	Inferred	344,000	6.49	71,700	UG	122,000	0.59	29,600	0	-	0
Total NE Zones		**974,000**	**6.50**	**203,600**		**120,000**	**0.18**	**30,000**	**108,000**	**6.80**	**23,600**
Tabakoto NW Zones	Measured	21,000	4.55	3,100	OP						
	Indicated	15,000	5.03	2,400	OP						
	Inferred	14,000	4.79	2,200	OP						
	Measured	455,000	5.25	77,000	UG	188,000	-0.42	28,300	139,000	6.23	27,800
	Indicated	534,000	5.19	89,000	UG	215,000	-1.26	22,900	3,000	5.63	500
	Inferred	529,000	5.49	93,500	UG	8,000	-0.72	-10,600	500	4.36	100
Total NW Zones		**1,568,000**	**5.30**	**267,200**		**411,000**	**-0.79**	**40,600**	**142,500**	**6.20**	**28,400**
Tabakoto South /Dabo Zones	Measured	391,000	4.89	61,500	UG	163,000	-1.05	18,000	101,000	6.62	21,500
	Indicated	334,000	4.77	51,200	UG	51,000	-1.50	-5,800	3,000	7.50	700
	Inferred	108,000	5.70	19,800	UG	-32,000	-0.16	-6,600	0	-	0
Total South Zones		**833,000**	**4.95**	**132,500**		**182,000**	**-1.12**	**5,600**	**104,000**	**6.64**	**22,200**
Djambaye II	Measured	154,000	2.63	13,000	OP	154,000	2.63	13,000	346,000	3.45	38,400
	Indicated	606,000	4.10	79,900	OP	-223,000	0.54	-15,100	143,000	4.35	20,000
	Inferred	136,000	3.02	13,200	OP	-512,000	0.35	-42,500	12,000	2.37	900
	Measured	19,000	3.40	2,100	UG	19,000	3.40	2,100			
	Indicated	317,000	3.73	38,100	UG	170,000	-1.21	14,700			
	Inferred	930,000	4.65	139,000	UG	-213,000	-0.12	-36,300			
Total Djambaye II		**2,162,000**	**4.10**	**285,300**		**-605,000**	**0.18**	**-64,100**	**501,000**	**3.45**	**59,300**
Ségala Main	Measured	1,145,000	3.63	133,700	UG	1,066,000	-1.06	121,800			
	Indicated	1,554,000	4.62	230,600	UG	-1,169,000	-1.00	-261,400			
	Inferred	2,391,000	4.39	337,300	UG	948,000	-0.17	125,700			
Segala Zones		**5,090,000**	**4.29**	**701,600**		**845,000**	**-0.96**	**-13,900**			
Segala West no change	Indicated	91,000	2.49	7,300	OP						
	Inferred	130,000	3.73	15,600	OP						
	Indicated	67,000	3.21	6,900	UG						
	Inferred	464,000	3.26	48,600	UG						
Total Segala West-NW		**752,000**	**3.24**	**78,400**							
Ségala NW no change	Indicated	284,000	2.36	21,500	OP						
	Inferred	209,000	1.99	13,400	OP						
	Indicated	115,000	3.68	13,600	UG						
	Inferred	754,000	3.51	85,000	UG						
Total Segala NW		**1,362,000**	**3.05**	**133,500**							
Dioulafoundou no change	Measured										
	Indicated										
	Inferred										
	Indicated	155,000	5.26	26,300	UG						
	Inferred	514,000	6.08	100,500	UG						
Total Dioulafoundou		**669,000**	**5.90**	**126,800**							
Dar Salam no change	Indicated	266,000	2.57	22,000	OP						
	Inferred	445,000	2.53	36,200	OP						
	Indicated	45,000	3.37	4,800	UG						
	Inferred	418,000	3.64	48,900	UG						
Total Dar Salam		**1,174,000**	**2.96**	**111,900**							

Total Resources Dec. 31, 2013					Change from Dec. 31, 2012			depletion from models due to mining		
Underground	Measured	2,281,000	4.53	332,200	1,538,000	-1.43	189,900	330,000	6.61	70,100
	Indicated	3,480,000	4.78	534,500	-837,000	-0.87	-248,900	24,000	5.18	4,000
	Inferred	6,452,000	4.55	944,300	833,000	-0.11	101,800	500	6.22	100
Open Pit	Measured	175,000	2.86	16,100	154,000	-1.73	13,000	346,000	3.45	38,400
	Indicated	1,262,000	3.28	133,100	-223,000	0.18	-15,100	143,000	4.35	20,000
	Inferred	934,000	2.68	80,600	-512,000	0.04	-42,500	12,000	2.33	900

Stockpiles	Tonnes	Grade Au g/t	Ounces
ROM	200,046	1.48	9,517
Low Grade	1,703,532	1.00	54,623
Total	1,904,000	1.05	64,100

Table 14-15 Tabakoto Deposits Open Pit and Underground Resource Estimates

Deposit Type	Classification	Tonnes	Au g/t	Au oz
Open Pit	Measured & Indicated	1,437,000	3.23	149,200
	Inferred	934,000	3.01	80,600
Underground	Measured & Indicated	5,761,000	4.68	866,700
	Inferred	6,452,000	4.55	944,300
Stockpiles	Measured	1,904,000	1.05	64,100

Table 14-16 Tabakoto Deposits Total Resource Estimate

Classification	Tonnes	Au g/t	Au oz.
Measured	4,360,000	2.94	412,400
Indicated	4,742,000	4.38	667,600
Measured & Indicated	9,102,000	3.69	1,080,000
Inferred	7,386,000	4.32	1,024,900

(1) Current mineral resource estimates based on a gold price of USD$1,500 per ounce and a 91% process plant recovery.

(2) Kevin Harris (Certified Professional Geologist) Group Resource Manager for Endeavour Mining, Qualified Person under NI 43-101 who is not independent of the Company, are responsible for the mineral resource estimates presented herein.

(3) Mineral resources which are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.

(4) The quantity and grade of reported inferred resources in this estimation are uncertain in nature and there has been insufficient exploration to define these inferred resources as an indicated or measured mineral resource and it is uncertain if further exploration will result in upgrading them to an indicated or measured mineral resource category.

(5) The mineral resources in this report were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council.

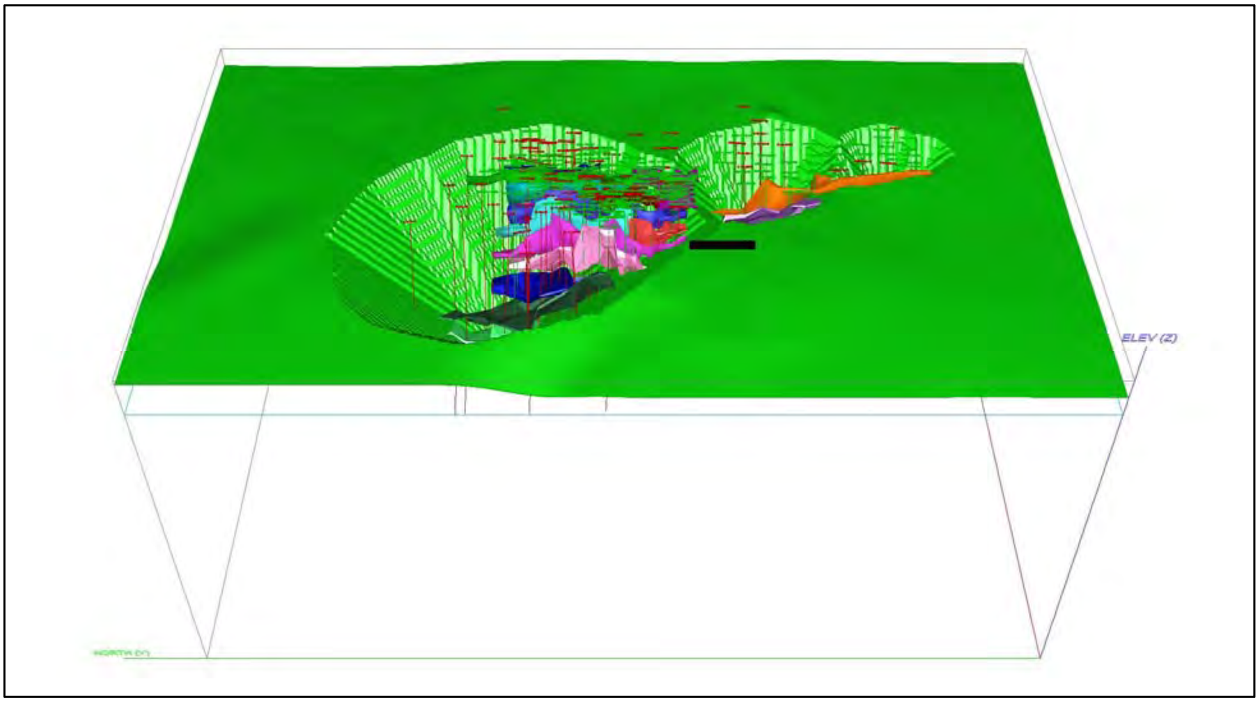
(6) "UG" indicates Underground and "OP" indicates Open Pit.

14.12.2 Kofi C Resource Estimate

The Kofi C mineral resources have been reported inside an optimized pit shell (Figure 14-14). The results from the optimized pit shell are used solely for the purpose of reporting mineral resources that have reasonable prospects for economic extraction, and the optimization is based on the following economic parameters:

- US$1,540.00/oz Au price (three year trailing average as of April 2013)
- 85% saprolite recovery
- 80% sulphide recovery
- $8.00/t saprolite processing cost
- $11.50 sulphide processing cost
- $2.50/t G&A cost
- $1.75/t saprolite mining cost
- $2.25 sulphide mining cost
- 45 degree pit slopes
- Saprolite cutoff: 0.50 g/t Au
- Sulphide cutoff: 0.50 g/t Au

Figure 14-14 Kofi C Optimized Open Pit



After Puritch et al, 2013

The updated mineral resource estimate for the Kofi-C deposit is reported in Table 14-17, and has an effective date of February 1, 2013 (Puritch et al, 2013).

Table 14-17 Kofi C In-Pit Mineral Resources[1-5]

Class	Rock Type	Tonnes	Au g/t	Au ozs
Indicated	Saprolite	491,800	2.74	43,300
	Sulphide	4,113,400	2.70	357,000
	Total	4,605,200	2.70	400,300
Inferred	Saprolite	0	0	0
	Sulphide	128,700	1.12	4,600
	Total	128,700	1.12	4,600

(1) *Mineral resources are reported inside an optimized pit shell and accumulated against a cut-off of 0.50 g/t Au for both saprolite and sulphides.*

(2) *Mineral resources which are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.*

(3) *The quantity and grade of reported Inferred resources in this estimation are uncertain in nature and there has been insufficient exploration to define these Inferred resources as an Indicated or Measured mineral resource and it is uncertain if further exploration will result in upgrading them to an Indicated or Measured mineral resource category.*

(4) *The mineral resources were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Standards on Mineral Resources and Reserves, Definitions and Guidelines prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council.*

(5) *"Independent Technical Report for the Kofi Nord Permit, Mali, West Africa for Endeavour Mining Corporation" Internal Report by Eugene Puritch, P.Eng., Richard H. Sutcliffe, P.Geo., Tracy Armstrong, P.Geo., Fred Brown, P.Geo. and Antoine Yassa, P.Geo, dated September 20, 2013.*

14.12.3 Kofi Project Resource Estimate (Outside Kofi C)

The Kofi resource estimates were derived from applying Au cut-off grades to the block model and reporting the resulting tonnes and grade for potentially mineable areas. The Au cut-off grade calculations for resource reporting of the open pit potentially economic portions of the mineralization were derived from operating costs for projects similar to Kofi as follows:

Au Cut-Off Grade Calculation US$

Au Price	$1,350/oz. (24 month approx. trailing average price Nov 30, 2011)
Au Recovery	90%
Process Cost (6,000tpd)	$15/tonne milled
General & Administration	$4/tonne mined

Operating costs per ore tonne = ($15 + $4) = $19/tonne
($19/[($1,350/oz/31.1035 x 90% Recovery)] = 0.486 g/t Use 0.50 g/t

The five Kofi open pit resource models were further investigated with Whittle pit optimizations to ensure a reasonable stripping ratio was applied and a reasonable assumption of potential economic extraction could be made (Puritch et al, 2012). The following parameters were utilized in the pit optimizations:

Au Price	$1,350/oz. (24 month approx. trailing average price Nov 30, 2011)
Oxide Au Recovery	90%
Ore Mining Cost	$1.50/tonne mined
Waste Mining Cost	$1.50/tonne mined
Process Cost	$15/tonne milled
General/Administration	$4 tonne milled
Pit Slopes	50 degrees

The updated mineral resource estimate for the Kofi deposits other than Kofi C is reported in Table 14-18, and has an effective date of February 1, 2013 (Puritch et al, 2012).

Table 14-18 Kofi Deposits Resource Estimate at 0.50 g/t Au Cut-Off[1 to 4]

	Indicated			Inferred		
Deposit	**Tonnes**	**Au g/t**	**Au oz(000's)**	**Tonnes**	**Au g/t**	**Au oz(000's)**
Betea	3,029,000	1.74	169,200	7,266,000	1.65	385,700
Kofi A	10,000	1.46	500	462,000	1.77	26,300
Kofi B	339,000	2.17	23,700	1,536,000	1.58	77,800
Blanaid	82,000	2.06	5,400	499,000	2.32	37,200
A Linear				645,000	2.22	46,000

1.) *Mineral resources which are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.*
2.) *The quantity and grade of reported inferred resources in this estimation are uncertain in nature and there has been insufficient exploration to define these inferred resources as an indicated or measured mineral resource and it is uncertain if further exploration will result in upgrading them to an indicated or measured mineral resource category.*
3.) *The mineral resources in this report were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council.*
4.) *"Technical Report and Updated Resource Estimate on the Kofi Project, Mali, West Africa for Avion Gold Corp." SEDAR Report by Eugene Puritch, P.Eng. et al, dated March 2, 2012.*

14.13 Confirmation of Estimate

As a test of the reasonableness of the resource estimates, the block models were queried at a 0.01 g/t Au cut-off grade with blocks in all classifications summed and their grades weight averaged. This average is the average grade of all blocks within the mineralized domain. The values of the interpolated grades for the block model were compared to the length weighted capped average grades and average grade of composites of all samples from within the model.

14.13.1 Tabakoto Confirmation of Estimate

As a test of the reasonableness of the resource estimates, the block models were queried at a 0.01 g/t Au cut-off grade with blocks in all classifications summed and their grades weight averaged. This average is the average grade of all blocks within the mineralized domain. The values of the interpolated grades for the block model were compared to the length weighted capped average grades and average grade of composites of all samples from within the model (Table 14-19).

Table 14-19 Comparison of Weighted Average Grade of Constrained Capped Assays and Composites with Total Block Model Average Grades

Deposit	Capped Assays Au g/t	Composites Au g/t	Block Model Au g/t
Tabakoto NE	5.01	6.32	4.91
Tabakoto NW	3.88	5.64	3.28
Tabakoto S/Dabo	2.69	3.19	3.48
Djambaye II	2.41	2.42	2.84
Ségala Main	3.22	3.67	3.62
Ségala NW	1.90	1.88	2.14
Dioulafoundou	3.35	3.26	3.02
Dar Salam	1.12	1.06	1.05

The comparison above shows the average grade of all the Au blocks in the constraining domains to be similar to the weighted average of all capped assays and composites used for grade estimation. In addition, a volumetric comparison was performed with the block model volumes of each model versus the geometric calculated volume of the domain solids (Table 14-20). An acceptable tolerance in the relative differences was found.

Table 14-20 Comparison of Block Model Volume Versus Geometric Calculated Volume

Deposit	Block Model Volume m^3	Geometric Volume m^3	Relative Difference
Tabakoto NE	664,904	668,445	0.53%
Tabakoto NW	1,130,414	1,130,777	0.03%
Tabakoto South/Dabo	624,702	664,468	5.98%
Djambaye II	1,813,774	1,815,340	0.09%
Ségala Main	2,428,455	2,441,658	0.54%
Ségala NW	1,262,746	1,263,013	0.02%
Dioulafoundou	978,562	982,605	0.41%
Dar Salam	3,659,845	3,679,612	0.54%

14.13.2 Kofi C Confirmation of Estimate

The Kofi C block model was validated visually by the inspection of successive section lines in order to confirm that the model correctly reflects the distribution of high-grade and low-grade samples. As a further check, the block model average grade was compared to the nearest neighbour block model average grade and also the capped mean grade of the composite data (Table 14-21). No significant global bias between the block model and the input data was noted (Puritch et al, 2013).

Table 14-21 Kofi C Domain Validation Statistics

Domain	Model Mean Au g/t	NN Mean Au g/t	Capped Composite Mean Au g/t
C-01	1.06	1.10	1.09
C-02	2.13	2.12	1.94
C-03	1.57	1.49	1.52
C-04	1.72	1.57	1.77
C-05	2.38	2.41	2.44
C-06	3.55	3.45	2.98
C-08	1.53	1.69	1.57
C-09	1.20	1.20	1.41
C-10	1.13	1.29	1.04
C-11	1.44	1.41	1.58
C-12	1.35	1.45	1.19
C-13	2.32	2.36	2.71
C-14	1.41	1.53	1.65
C-15	1.19	1.63	1.21
C-16	1.67	1.57	1.62
Total	**1.78**	**1.84**	**1.95**

After Puritch et al, 2013

The total estimated volume reported at zero cut-off was compared by domain with the calculated volume of the defining mineralization wireframe (Table 14-22). All reported volumes fall within acceptable tolerances.

Table 14-22 Kofi C Volume Comparison

Domain	Resource Volume (1,000 m^3)	Wireframe Volume (1,000 m^3)
C-01	25.9	26.2
C-02	151.3	152.6
C-03	109.6	110.4
C-04	47.1	47.0
C-05	70.2	70.5
C-06	385.0	385.0
C-08	167.5	167.9
C-09	50.8	50.9
C-10	165.6	165.4
C-11	250.8	250.5
C-12	243.0	241.9
C-13	271.9	271.8
C-14	737.4	737.5
C-15	294.2	292.5
C-16	344.4	344.2
Total	**3,314.7**	**3,314.5**

After Puritch et al, 2013

14.13.3 Kofi Project (Outside Kofi C) Confirmation of Estimate

As a test of the reasonableness of the Kofi Project resource estimates, the block models were queried at a 0.01 g/t Au cut-off grade with blocks in all classifications summed and their grades weight averaged (Table 14-23). This average is the average grade of all blocks within the mineralized domain. The values of the interpolated grades for the block model were compared to the length weighted capped average grades and average grade of composites of all samples from within the model (Puritch et al, 2012).

Table 14-23 Comparison of Weighted Average Grade of Constrained Capped Assays and Composites with Total Block Model Average Grades

Deposit	Capped Assays Au g/t	Composites Au g/t	Block Model Au g/t
Betea	1.36	1.37	1.38
Kofi A	1.41	1.40	1.61
Kofi B	1.72	1.65	1.49
Blanaid	1.75	1.71	1.86
A Linear	1.42	1.37	1.56

After Puritch et al, 2012

The comparison above shows the average grade of all the Au blocks in the constraining domains to be similar to the weighted average of all capped assays and composites used for grade estimation. In addition, a volumetric comparison was performed (Table 14-24) with the block model volumes of each model versus the geometric calculated volume of the domain solids (Puritch et al, 2012).

Table 14-24 Comparison of Block Model Versus Geometric Calculated Volume

Deposit	Block Model Volume m^3	Geometric Volume m^3	Relative Difference
Betea	5,959,591	5,962,737	0.05%
Kofi A	295,821	295,576	0.08%
Kofi B	934,560	931,934	0.28%
Blanaid	350,636	350,876	0.07%
A Linear	529,721	530,172	0.09%

After Puritch et al, 2012

15 Mineral Reserves Estimates

15.1 Underground

15.1.1 Mineral Reserve Estimates

The Mineral Reserve estimates described in this section are as at 31 December 2013. They are supported by a life of mine (LoM) plan on how to exploit the available Mineral Resources and to generate run of mine (RoM) ore from both underground and open pit mining. The Mineral Reserves are determined separately for the underground and open pit operations and then combined to produce an overall Mineral Reserve statement wherein they are classified according to the CIM Definition Standards for Mineral Resources and Mineral Reserves.

15.1.2 Mining and Mineral Reserves Estimation Approach

The Mineral Reserves available at the Tabakoto and Ségala deposits for extraction by means of underground mining methods, were estimated using a combination of geological block models in Surpac (i.e. geological modeling software) and three dimensional layouts of the mine designs in Mine2-4D (mine planning software).

The process involved analyzing and preparing the block models, establishing a cut-off grade, performing the necessary stope outlines and design work, and applying the correct modifying factors for the specific underground designs and layouts. More specifically, parts of the block model that satisfy the criteria for a given mining method (cut-off grade, drive width, drive height, stope strike length etc.) are identified and wireframes to represent these areas in the form of stopes or ore development drives are generated. The wireframes are then used to interrogate the geological block model and the output data from this process are tonnes, volume, grade etc. The Enhanced Production Scheduler (EPS), which is directly linked to Mine2-4D, assists to generate a LoM schedule and the associated mineral reserve summary.

15.1.3 Tabakoto and Ségala Block Models and Underground Layout

The geological block models for Tabakoto and Ségala were recently revised and updated to include the latest data and information from ongoing exploration:

- nov2013_nwzones_bm_update_rev1.mdl
- nov2013_ne-zones-bm-update-gc-resource.mdl
- tabakoto_south_dec2013_bm-update_rev1.mdl
- jan2014_Ségala_model_updated_2m_rev.mdl

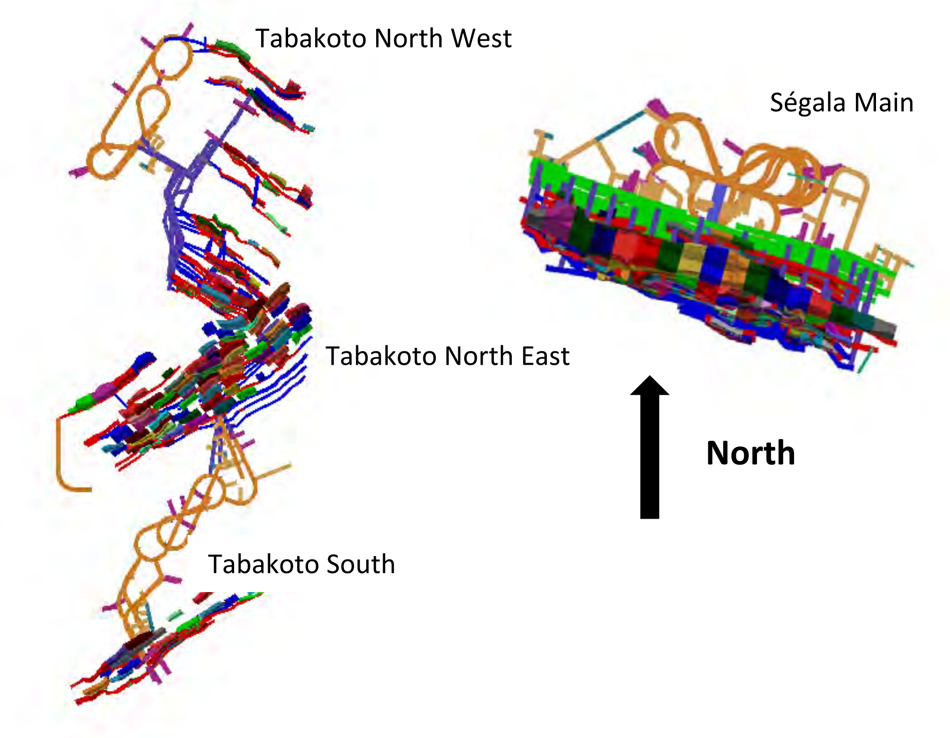
Surpac works with block models on a percentage basis, which is not compatible with Mine2-4D, which uses a sub-celled block model. This mismatch has been dealt with by using a mineral wireframe file, associated with the Surpac block model, to sub-cell the block model wherever it intersects the wireframe. This is a time consuming process but it results in the same degree of accuracy that would have been possible without any such mismatch.

The various underground mining areas and veins are:

- Tabakoto-North East (i.e. NE01 and NE02 veins)
- Tabakoto-North West (i.e. NW01,NW02,NW03,NW04,NW05,NW06,NW07 and NW08 veins)
- Tabakoto South (i.e. The South vein)
- Ségala Main (i.e. The Main Zone, Footwall Zone and Hanging Wall Zone veins)

Figure 15-1 is a 3-D view of the general underground layout and various stope outlines at both Tabakoto and Ségala.

Figure 15-1 Schematic of the 3-D Underground Design for Tabakoto and Ségala Looking North



15.1.4 Key Assumptions/Basis of Estimate

15.1.5 Cut-Off Grade

Cut-off grades provide a basis for the detailed mine planning necessary to underpin the Mineral Reserve estimate which only results once all of the modifying factors have been applied. Up to date cost information, and realistic revenue assumptions, have been used for the cut-off grade calculation. This ensures the necessary accuracy for effective mine planning. Two types of cut-off grade can be calculated:

- A Break Even Cut-off Grade (BECOG) using mining, process, maintenance and administration costs. This calculation is used when there is no excess mining or milling capacity. It is the grade at which revenue equates to all of the operating costs. For an underground operation, a break-even cut-off must cover all fixed and variable costs (including mining, processing, maintenance, general and administration (G&A), gross royalties, transport and shipping costs, smelting and refining costs, limits to payable metals and any refining penalties).
- A Marginal Cut-off Grade (MCOG) could also be estimated using mining and a portion of the processing costs only.

The BECOG has been used for the Mineral Reserve estimation. It used the 2014 Budget figures for the calculation as presented below.

- Gold Price: USD1,350/oz
- Gold Recovery 91%

- Mining Cost USD34.43/t mined
- Processing Cost USD22.32/t milled
- Maintenance Costs USD4.31/t
- G&A Costs USD15.55/t mined.
- Gross Royalty 6%

The calculation is:

BECOG = (Mining costs + Processing costs + Maintenance costs + G&A costs) /
(Metal price less gross royalty less gold not recovered)

BECOG = (USD34.43/t + USD22.32/t + USD4.31/t + USD15.55/t) /
(USD1,350/Oz/31.1035) x 94% x 91%

= 2.09 g/t Au. (2.0 g/t used)

15.1.6 Dilution

Dilution is defined as the ratio of waste to ore in the RoM feed to the plant. It comprises both planned (or internal) dilution and unplanned (or external) dilution:

- Planned dilution is derived from material that falls within a designed stope boundary (i.e. it will be drilled and blasted within the stope during mining)
- Unplanned dilution occurs as a result of blasting overbreak due to inaccurate drilling, high local powder factors or adverse geological conditions. Unplanned dilution is almost always generated and accordingly an allowance needs to be made for it as part of the reserve estimation process

The following approach was adopted as part of the Mineral Reserve estimation process:

- 3D stope outlines were designed around blocks of ore (i.e. to a minimum mining width of 2.0 m) where the grades exceeded the cut-off value
- Planned dilution was included where the ore zones were less than 2.0 m to achieve the minimum mining width
- The outlines were then expanded by 50 cm on both the hangingwall and footwall sides of the stopes to represent the unplanned dilution (i.e. overbreak)
- The quantities of the stope material and unplanned dilution were then calculated for each deposit. These equated to 0.9 g/t for Tabakoto South/Dabo, North East and North West deposits, and 0.6 g/t for the Ségala Main deposit. The stope outline is based on the grade boundary rather than geological boundary; therefore it is reasonable to expect that any unplanned dilution would at least carry a low grade
- Stopes with average diluted grades which did not make designed cut-off criteria of 2.0 g/t were excluded from the Mineral Reserve estimate.

15.1.7 Production Losses

Not all of the ore in the designed stopes is eventually recovered due to the following production losses:

- Underbreak, where ore is not blasted and remains behind.

- Blasted ore left in the stope, which could not be reached by the loader, or which is buried by falls of ground, or which although blasted does not roll down flatter lying walls, or which is eventually mixed with the backfill material and left behind.

The contribution of each of these types of losses varies but mineral reserve estimation purposes, an average mining recovery of 95% has been assumed at both Tabakoto and Ségala for all ore planned from within the stope outlines.

15.1.8 Mining Extraction

Geotechnical study work has resulted in the following design criteria for ground stability purposes:

- General
  - A maximum stope length of 30 m.
  - Waste rock can be utilized as backfill in adjacent mined out stopes.
  - A 45 m crown pillar to be left underneath the Ségala open pit.
  - A 25 m crown pillar to remain below the Tabakoto open pit.
- Tabakoto-North East Veins
  - 5 m rib pillars to be left between stopes.
  - A 5 m regional pillar in the design at the 1835 level for NE01 and NE02.
- Tabakoto- South Vein
  - 5 m rib pillars to be left between stopes.
  - A 5 m regional pillar was left at 1955 level and 1895 level.
  - Tabakoto- North West Veins
  - 5 m rib pillars were left between stopes.
  - 5 m regional pillar at 2000 level NW06 to facilitate mining of the top panel.
- Ségala Main Vein
  - Rib pillars only in the form of non-pay blocks.
  - 10 m regional pillars in the design at 1915 level, 1830 level and 1745 level.

An allowance was applied to each sub-level to cater for the above requirements. On the levels where sill pillars are located, the mining extraction is 75% (i.e.15 m of the 20 m sub-level vertical interval).

While it is anticipated that 70% of the Ségala crown pillar can be recovered towards the final stages of underground mining, the Tabakoto crown pillar is not considered mineable, and therefore not included as part of the mineral reserve estimate. The rib pillars are also considered as non-recoverable at Tabakoto and Ségala.

100% recovery of all ore from access development at both Tabakoto and Ségala.

15.1.9 Mineral Reserves Statement

A summary of Mineral Reserves for the underground mining operations (i.e. at Tabakoto and Ségala) is presented in Table 15-1. The Mineral Reserves are estimated to comprise 3.56 Mt at 4.09 g/t.

Table 15-1 Underground Mineral Reserves as at 31 December 2013 (i.e. USD1350/oz)

Deposit	Classification	Quantity (Kt)	Grade (g/t)	Content (koz)
Tabakoto NE	Proven	238.5	4.63	35.5
	Probable	306.3	4.77	46.9
	Proven & Probable	544.8	4.71	82.4
Tabakoto NW	Proven	201.8	4.13	26.7
	Probable	224.2	4.78	34.5
	Proven and Probable	426.0	4.47	61.2
Tabakoto South	Proven	229.2	3.88	28.6
	Probable	41.5	8.97	12.7
	Proven and Probable	270.7	4.66	41.3
Ségala Main	Proven	1180.2	3.09	117.2
	Probable	1140.8	4.55	166.9
	Proven & Probable	2321.0	3.81	284.1
Tabakoto Total	**Proven**	**1849.7**	**3.50**	**208.0**
	Probable	**1712.8**	**4.74**	**261.0**
	Proven and Probable	**3562.5**	**4.09**	**469.0**

(1) The mineral reserves have been classified in accordance with requirements of NI 43-101 and the CIM standards.
(2) Reserve estimates are based on a gold price of USD1350 per ounce and a 91% process plant recovery.
(3) Vaughn Duke, PrEng. Is a Qualified Person as defined under NI 43-101 and is responsible for the mineral reserve estimates for the underground mining portion of the overall production plan. He has reviewed and approved the scientific and technical information in this document relating to those estimates.
(4) The mineral reserves in this Technical Report were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council.
(5) See Section 22.2 of this report for a discussion of certain risks and uncertainties that may affect the above estimates.

15.2 Open Pit Reserve Estimation

15.2.1 Mining and Mineral Reserves Estimation Approach

This section of the report includes discussion on the open pit optimization, practical pit design, scheduling process, options investigated and the reasons behind selections made. The Open Pit Mineral Reserves and the results of the mine design process are presented.

The mining components of the study are based on the geological block model generated by Kevin Harris, CPG full time employee of Endeavour Mining Corporation, Eugene Puritch, P.Eng and Antoine Yassa, P.Geo, full time employees of P&E Consulting.

The existing Tabakoto Processing Plant has an approximate throughput of 1.5 million tonnes per annum (Mtpa). Large portion of the material to be processed through the plant is hard fresh rock from the open pits and underground mines. Conventional open pit excavators and haul trucks are currently in use at Djambaye II open pit. The mining fleet comprises of owner (Endeavour) and contractor (SFTP) machines. The current reserves estimate supports another six years of Life of Mine (LoM).

Mineral Reserves have been modified from Mineral Resources by taking into account geological, mining, processing, economic parameters and permitting requirements and therefore are classified in accordance with the CIM Definition Standards for Mineral Resources and Mineral Reserves.

The design methodology involved two processes: (1) Whittle-4X was used to identify the optimal pit shell in terms of value and tonnage; and (2) using agreed mining parameters, a number of practical pits has been designed to determine general mining requirements such as dumping capacity, equipment requirements, operating costs and a minable tonnage profile that can be considered as a mineral reserves.

15.2.2 Key Assumptions/Basis of Estimate

Mineral Reserves for Kofi C, Djambaye II and Dar Salam open pits are supported by a LoM plan, which was developed using the following key parameters explained in details below.

15.2.2.1 Geotechnical Considerations

Kofi C

The overall slope angles (OSA) were analyzed by AMC consultants in report dated February 2014 and final recommendations were issued by Reginald Hammah (Ph.D., P.Eng., MGhIE), Regional Manager West Africa, Golder Associates Ghana Ltd.

The bench design configuration (Bench Face Angle = 70°, Bench Height = 10 m and Bench Width = 9.6 m) provided for the saprolites. This leads to an inter-ramp angle of 37.1°. This bench recommendation can be used for initial mining in areas where the saprolite/saprock depths do not exceed 40m. In the deeper areas, a 20 – 25 m ramp or geotechnical berm should be introduced after the fourth bench (40 m below slope crest).

The Golder recommended bench geometry in fresh rock is: Bench Face Angle = 80°, Bench Height = 20 m and Bench Width = 10.5 m, giving an inter-ramp angle of 55°. This indicates that fresh rock mining will be done using double benching. Since the fresh rock pit section has an 80 m depth, the assumption seems to be that the pit will be about 110 m deep.

In double benching, catch benches are left only at every second bench. For the recommended geometry this will lead to an inter-ramp angle of about 50°.

As a result, Golder recommended an inter-ramp angle of 50° in the fresh rock. For mine design purposes therefore the following bench geometry should be used: Bench Face Angle = 80°, Bench Height = 20 m, and Bench Width = 13 m. In pit sections where the mining depth in fresh rock is deeper than 80 m, a geotechnical berm or ramp should be introduced after every 80 m.

Djambaye II

The overall slope angles (OSA) were defined by AMC consultants as summarized in June 2012 report titled “Djambaye II Slope Design Final”

The slope recommendations for the Djambaye II pit were based on the following operational assumptions:

- Vertical bench separation is assumed to be 10 m.
- The bench face angle(s) will be cut as steeply as possible to maximize water run-off and reduce the potential for erosion. In addition, wide berms would be used to retain any possible failure debris from the bench faces (or batters). The Djambaye II pit is located in an area of heavy seasonal rainfall and, consequently high water run-off and the potential for erosion is an important consideration for slope stability in the Highly Weathered Zone.

- For the slope stability analysis, a factor of safety of 1.3 was considered for dry conditions and 1.1 for partially saturated conditions.
- Models with decreasing slope angles were developed in order to achieve a design slope with FoS above 1.1 in its saturated state and 35 to 37 degrees face angle give a marginally stable condition.
- AMC recommends a bench face angle (BFA) of 35 to 37 degrees within competent weathered saprolitic material, along with the installation of drain holes and surface water control measures to mitigate the risk from high rainfall events on slope stability.

All relevant geotechnical reports are referenced in Section 27.

During the design process, different bench face angles and berm widths for different domains within one bench were achieved by adding slope parameter values to description fields of boundary strings.

After completion of design works the pit plans were reviewed by AMC geotechnical professional and were approved for execution.

15.2.2.2 Economic Input

Introduction

Whittle requires mining dilution, mining recovery, revenue, mining and processing costs for the open pit optimization analysis to be specified. These parameters are used to determine the economic final pit.

During 2013, all optimization input parameters were re-calculated internally by Tabakoto Mine senior technical personnel and Michael Alyoshin. These figures are based on the site experience as well as on 2014 budget and are reconciled quarterly to verify their validity.

A long term, flat gold price of US$1,350/oz was assumed as the base case price for the open pit optimization and subsequent financial analysis. Additionally, certain portion of total gold revenue was assumed for royalties, refining, sales and transport costs (3% for Kofi C, 6% for Djambaye II and Dar Salam).

Mining Costs

Mining costs calculations including fuel were based on current day works contractor rates and owner (EDV) mining fleet. The cumulative mining cost of a single block in the resource model is based on three components: material type, blasting requirement and vertical component of the distance to the pit entrance. The average haul distances, considering the ROM pad and waste dump locations, were calculated separately for each destination, and taken into account in optimization. During the mining of oxide and transition material the drill and blast fragmentation is assumed to be required for rock with specific gravity greater than 1.8t/m^3. Fresh material is assumed to require blasting independently of the average SG. The mining costs for each block were calculated in Surpac and loaded into the Whittle model as a mining cost adjustment factor (mcaf attribute).

Table 15-2 presents an example of depth and material type dependent mining cost calculations for Kofi C deposit.

Table 15-2 Mining Cost Components for Kofi C

Surface (250mRL)	Bench	Oxide/bcm		Trans/bcm		Fresh/bcm	
		Earthmoving	D&B	Earthmoving	D&B	Earthmoving	D&B
220	1	4.252	0.000				
215	2	4.322	0.000				
210	3	4.392	0.000				
205	4	4.462	0.000				
200	5			4.532	0.790		
195	6			4.603	1.185		
190	7			4.673	1.580		
185	8			4.743	1.580		
180	9			4.818	1.582		
175	10			4.908	1.588		
170	11			5.027	1.604		
165	12			6.704	2.108		
160	13			6.844	2.123		
155	14			6.990	2.139		
150	15			7.162	2.162		
145	16			7.277	2.168		
140	17					7.380	2.17
135	18					7.484	2.17
130	19					7.582	2.17

Mining Dilution and Mining Recovery

Mining dilution and mining ore recovery were specified for the open pit optimization analysis. These factors were determined based on historical ore reconciliation data and by utilizing current modeling techniques. The mining dilution factor for Kofi C deposit was set to 18%, and the mining recovery- 98%. The mining dilution/mining recovery at Djambaye II and Dar Salam pits were set to 30% and 90% respectively.

Processing Costs and Cut-off Grade Estimation

In addition to the mining related costs (grade control, haulage, re-handle, dewatering), the processing costs, and metallurgical recoveries for different material types developed by the plant management. General and administrative costs were estimated by site personnel on the basis of recent actual costs.

The processing and ore-related mining and haulage costs breakdown for the current Mineral Reserves are presented in Table 15-3 below.

Table 15-3 Processing Costs, Ore Recovery and CoG, Djambaye II Deposit

PARAMETER		Tabakoto			
Description	Units	Djambaye II			
		Oxide	Up-Trans	Lo-Trans	Fresh
Mining & Processing					
Rehabilitation	$/t-m	0.00	0.00	0.00	0.00
Grade Control	$/t-ore	0.30	0.30	0.30	0.30
Ore Haulage	$/t-ore	2.60	2.60	2.60	2.60
Rehandle Cost	$/t-ore	0.78	0.78	0.78	0.78
Dewatering/crusher/supervision	$/t-ore	0.98	0.98	0.98	0.98
Processing Cost (incl. maint.)	$/t-ore	23.00	23.00	27.89	27.89
Site G&A Cost	$/t-ore	15.39	15.39	15.39	15.39
Total 'Process' Cost	**$/t-ore**	**43.05**	**43.05**	**47.94**	**47.94**
Revenue Factors					
Process Recovery	%	91%	91%	91%	91%
Gold Price	**$/oz**	**1,350**	**1,350**	**1,350**	**1,350**
Royalty	%	**6.0%**	**6.0%**	**6.0%**	**6.0%**
Refining / Other Cost	%				
Effective Revenue Price	$/oz	1,269	1,269	1,269	1,269
Effective Revenue Price	$/g	40.80	40.80	40.80	40.80
Plant cut-off Grade	**g/t**	**1.16**	**1.16**	**1.29**	**1.29**

Taking into account 30% mining dilution, in-situ CoGs for Mineral Reserve estimation are:

In situ Cut-off Grade for MR Estimation	**1.5**	**1.5**	**1.7**	**1.7**

Table 15-4 Processing Costs, Ore Recovery and CoG, Kofi C Deposit

PARAMETER		Tabakoto			
Description	Units	Kofi C			
		Oxide	Up-Trans	Lo-Trans	Fresh
Mining & Processing					
Rehabilitation	$/t-m	0.00	0.00	0.00	0.00
Grade Control	$/t-ore	0.00	0.00	0.00	0.00
Ore Haulage	$/t-ore	13.30	13.30	13.30	13.30
Rehandle Cost	$/t-ore	0.78	0.78	0.78	0.78
Dewatering/crusher/supervision	$/t-ore	0.98	0.98	0.98	0.98
Processing Cost (incl. maint.)	$/t-ore	23.00	23.00	27.89	27.89
Site G&A Cost	$/t-ore	15.39	15.39	15.39	15.39
Total 'Process' Cost	**$/t-ore**	**53.45**	**53.45**	**58.34**	**58.34**
Revenue Factors					
Process Recovery	%	93%	93%	93%	93%
Gold Price	**$/oz**	**1,350**	**1,350**	**1,350**	**1,350**
Royalty	%	**3.0%**	**3.0%**	**3.0%**	**3.0%**
Refining / Other Cost	%				
Effective Revenue Price	$/oz	1,310	1,310	1,310	1,310
Effective Revenue Price	$/g	42.10	42.10	42.10	42.10
Plant cut-off Grade	**g/t**	**1.37**	**1.37**	**1.49**	**1.49**

Taking into account 18% mining dilution, in-situ CoGs for Mineral Reserve estimation are:

In situ Cut-off Grade for MR Estimation	**1.6**	**1.6**	**1.75**	**1.75**

15.2.3 Pit Optimization and Design

The open pit optimization analysis was carried out for a wide range of gold prices, from a low of US$ 810/oz to a maximum of US$1863/oz in increments of 0.02 of base case (revenue factor 1, steps of US$27/oz). Such variance allows the determination of the starter pit shell for further NPV adjustment (when necessary and applicable).

The open pit optimization financial analysis was performed based on assuming the total mill capacity to be 803 Ktpa for Oxide/Transitional/Fresh blend assuming that the rest of the mill feed will come from the underground mines. The optimization also assumed the mining capacity to be around 5 Mtpa to match the available open pit mining fleet. A discount rate of 10% was used.

The resource models were exported from Surpac to Whittle/Gemcom Four-X where the open pit optimization calculations were performed. Only Measured and Indicated mineral resources were taken into consideration. The *Inferred* mineralized material has not been used as a revenue source in the optimization.

The Whittle/Gemcom Four-X Analyzer software provides guidance to the potential economic final pit geometries. Whittle 4X compares the estimated value of individual mining blocks at the pit boundary versus the cost for waste stripping. It establishes the pit walls where the ore revenue and waste stripping cost balance for maximum net revenue. The sequence of the pit shell increments is sorted from the economically best (the inner smallest shell viable for the lowest commodity price) to the economically worst (the outer largest pit shell is available for the highest commodity price).

Whittle Four-X provides indicative cash flows for three mining sequences called “best case”, “worst case” and “specified case” scenarios, using time discounting of cash flows. In the best case, the optimum pit shells are mined bench by bench in increments from inner to the outer shell, resulting in a higher discounted cash flow (DCF) due to lower stripping ratios and/or higher grades in the early years of mine life. The worst case scenario is based on mining the whole pit outline bench by bench as a single pit, hence resulting in a lower DCF as a result of usually high stripping requirements in the early years of the operation. In the “specified case” scenario the user is able to set up the mining sequence, practical from a minimal mining width point of view, which often delivers outcomes similar or just slightly below of “best case” scenario. Ordinarily, after the selection of the ultimate pit, several practical mining stages are designed and sequenced when developing a final production schedule. The average discounted cash flows are calculated for each pit shell (mean of the worst and best cases) in order to emulate a practical mining sequence. The selected optimum pit shell is then engineered to generate practical pit designs that incorporate the design slope angles, access ramps and haul roads for operating open pits. The ore and waste tonnages in the practical pits are then estimated and scheduled to determine the ore production and resulting waste stripping requirements.

15.2.3.1 Open Pit Optimization Analysis and Practical Design, Kofi C deposit

The following addresses the optimization process and results for the Kofi C deposit, which currently represents approximately 80% of the total Tabakoto Open Pit Mineral Reserves.

The optimal pit shell selection for this deposit was based on the highest undiscounted cash flow.

Resource Block Model

The block model that estimated by IK (Indicator Kriging) and prepared by Eugene Puritch, P.Eng. and Antoine Yassa, P.Geo., full time employees of P&E Consulting, was used as the basic resource model for the pit optimization study. This resource model was exported from Surpac to Whittle where optimization analysis was performed. The resulting pit shells were imported back to Surpac, where the majority of the mine design was completed. Only mineralized material in the Measured and Indicated categories was taken into account. Table 15-5 shows the Mineral Resource that has been used for the optimization process of the Kofi C deposit.

Table 15-5 Kofi C Deposit Summary of Mineral Resources Imported to Whittle

TABLE 1.1
SUMMARY OF THE KOFI-C IN-PIT MINERAL RESOURCES(1-4)

Class	Rock Type	Tonnes	Au g/t	Au ozs
Indicated	Saprolite	491,800	2.74	43,300
	Sulphide	4,113,400	2.70	357,000
	Total	4,605,200	2.70	400,300
Inferred	Saprolite	0	0	0
	Sulphide	128,700	1.12	4,600
	Total	128,700	1.12	4,600

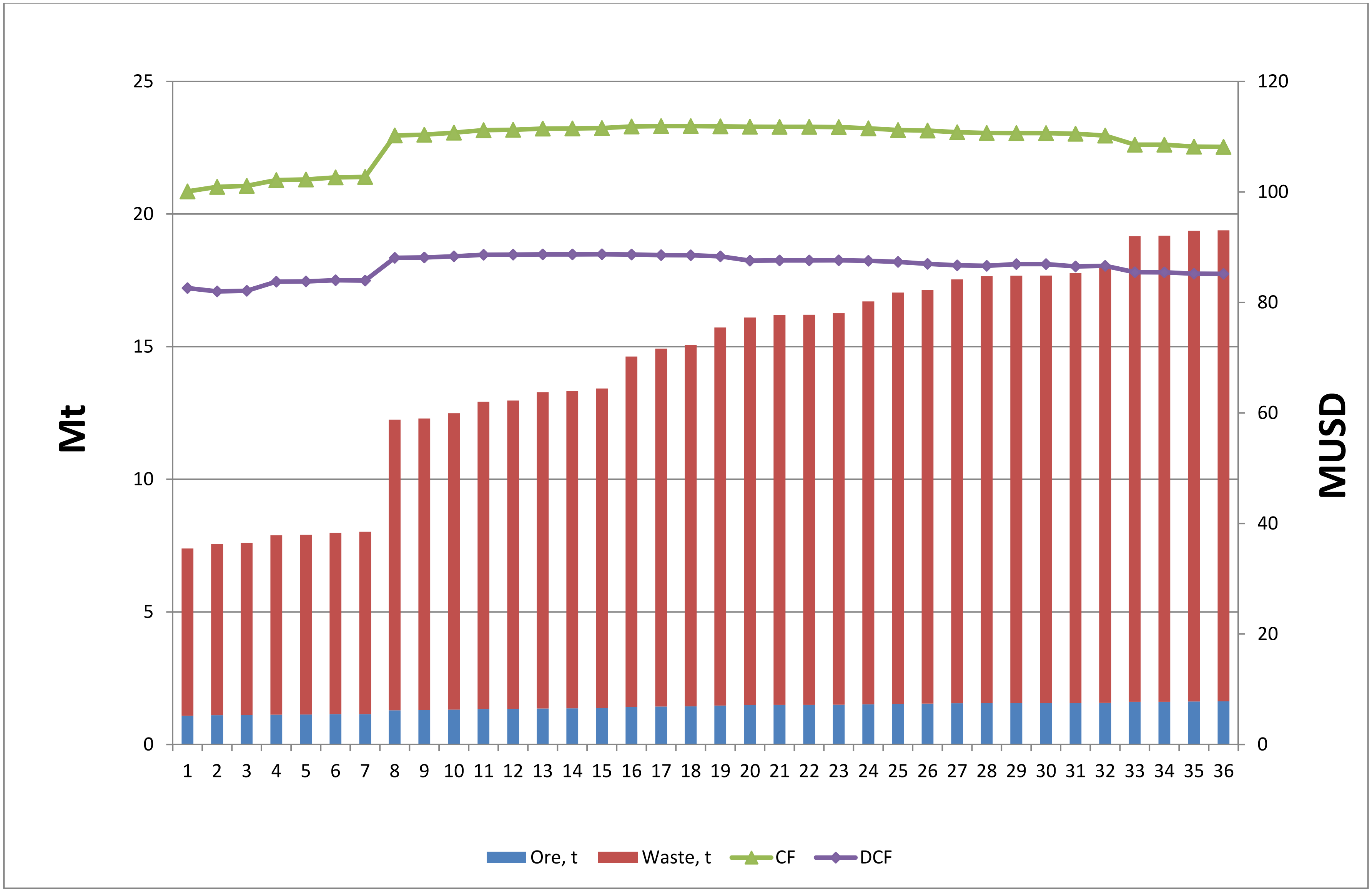
Optimization and Pit Selection

The results of the Kofi C open pit optimization are shown in Table 15-6, Figure 15-2 and Figure 15-3.

Table 15-6 Whittle Optimization Results, Kofi C Deposit

Whittle Pit Number	Rev. factor	RoM		Au, in-situ	Waste	Total	S/R	CF	Au output	DCF
		kt	Au g/t	kOz	kt	kt		M$	kOz	M$
1	0.6	1,088	4.45	156	6,304	7,391	5.8	100	145	83
2	0.62	1,104	4.44	158	6,449	7,553	5.8	101	147	82
3	0.64	1,107	4.44	158	6,492	7,600	5.9	101	147	82
4	0.66	1,128	4.44	161	6,759	7,887	6.0	102	150	84
5	0.68	1,130	4.43	161	6,774	7,904	6.0	102	150	84
6	0.7	1,144	4.41	162	6,838	7,982	6.0	103	151	84
7	0.72	1,146	4.41	162	6,874	8,020	6.0	103	151	84
8	0.76	1,289	4.52	188	10,961	12,250	8.5	110	174	88
9	0.8	1,296	4.51	188	10,994	12,291	8.5	110	175	88
10	0.82	1,317	4.49	190	11,172	12,490	8.5	111	177	88
11	0.86	1,338	4.48	193	11,584	12,922	8.7	111	179	89
12	0.88	1,342	4.47	193	11,629	12,971	8.7	111	179	89
13	0.9	1,360	4.46	195	11,922	13,283	8.8	111	181	89
14	0.92	1,362	4.46	195	11,958	13,321	8.8	111	182	89
15	0.94	1,370	4.45	196	12,052	13,422	8.8	112	182	89
16	0.96	1,415	4.43	201	13,215	14,630	9.3	112	187	89
17	0.98	1,435	4.41	203	13,492	14,927	9.4	112	189	89
18	**1**	**1,439**	**4.41**	**204**	**13,620**	**15,059**	**9.5**	**112**	**190**	**89**
19	1.02	1,469	4.39	207	14,253	15,722	9.7	112	193	88
20	1.04	1,495	4.36	210	14,605	16,100	9.8	112	195	88
21	1.06	1,499	4.36	210	14,698	16,197	9.8	112	195	88
22	1.08	1,500	4.36	210	14,703	16,202	9.8	112	195	88
23	1.1	1,501	4.36	210	14,760	16,261	9.8	112	196	88
24	1.12	1,517	4.35	212	15,190	16,707	10.0	111	197	88
25	1.16	1,536	4.33	214	15,504	17,041	10.1	111	199	87
26	1.18	1,543	4.32	214	15,591	17,134	10.1	111	199	87
27	1.2	1,553	4.32	216	15,982	17,534	10.3	111	200	87
28	1.22	1,557	4.32	216	16,104	17,661	10.3	111	201	87
29	1.24	1,559	4.31	216	16,116	17,675	10.3	111	201	87
30	1.26	1,559	4.31	216	16,119	17,677	10.3	111	201	87
31	1.28	1,561	4.31	216	16,215	17,776	10.4	111	201	87
32	1.3	1,574	4.30	217	16,394	17,968	10.4	110	202	87
33	1.32	1,616	4.26	221	17,552	19,168	10.9	109	206	85
34	1.34	1,616	4.26	221	17,563	19,179	10.9	109	206	85
35	1.36	1,626	4.25	222	17,739	19,365	10.9	108	207	85
36	1.38	1,627	4.25	222	17,758	19,384	10.9	108	207	85

Figure 15-2 Whittle Pit-by-Pit Optimization Results, Kofi C Deposit



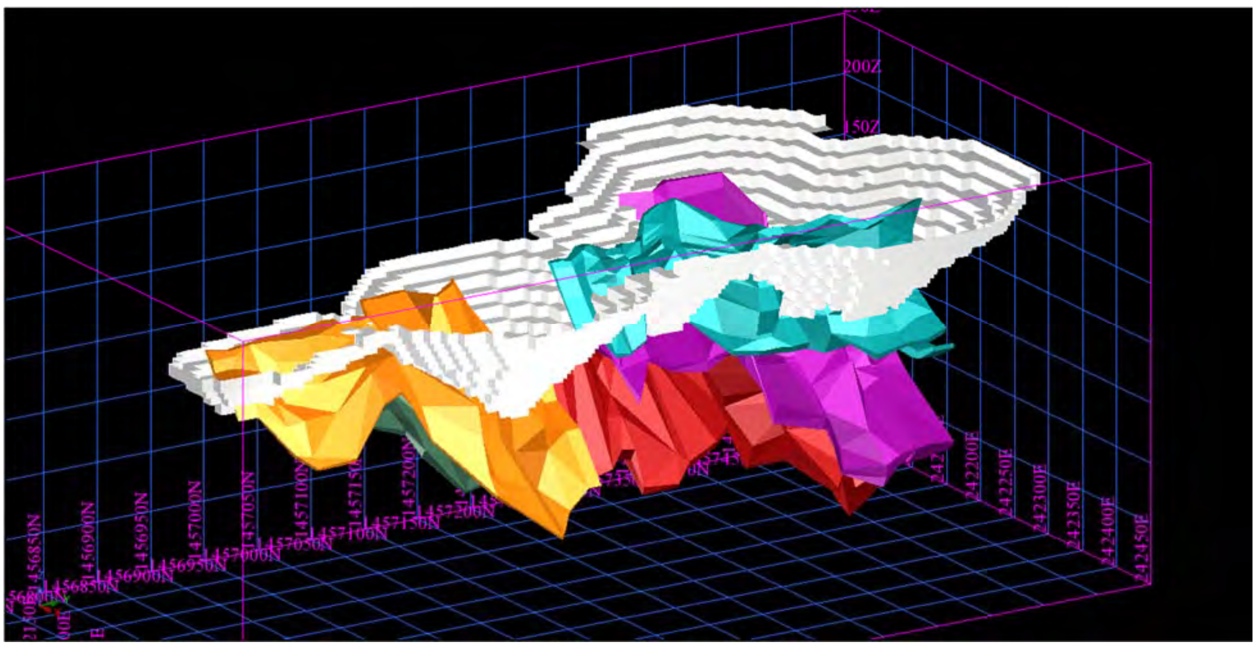
The results of NPV calculation presented in this graph represent the “specified case” scenario based on a schedule with one pushback.

Taking into account the flat shape of the Undiscounted/Discounted Cash Flow graph and its low sensitivity to pit size in the range between Pit 8 and Pit 36, Pit shell #18, which is the base case option was selected to be used as a template for the practical pit design, as shown in Figure 15-3. The maximum undiscounted cash flow was used as the indicator for the optimum pit also because discounted cash flow (NPV) essentially penalizes higher grade blocks which are scheduled to be mined towards the end of the mine life. Generally optimum shells selected by discounted cash flow are smaller than those selected by undiscounted cash flow.

The amount of ore inside the optimum shell is approximately 1.44 M at a grade of 4.4 g/t. The total material moved is 15 Mt giving a stripping ratio of 9.5.

After the optimal pit shell was identified, a set of scheduling optimizations was conducted aiming defining the mining sequence that delivers the highest NPV. The practical mine design, mining schedule and year-by-year cash flow analysis were based on the mining sequence with Pit 2 as a starter pit and Pit 18 as a final pit (scenario with one pushback).

Figure 15-3 Pit Shell #18 Selected for Pit Design and Ore Zones of Kofi C Deposit



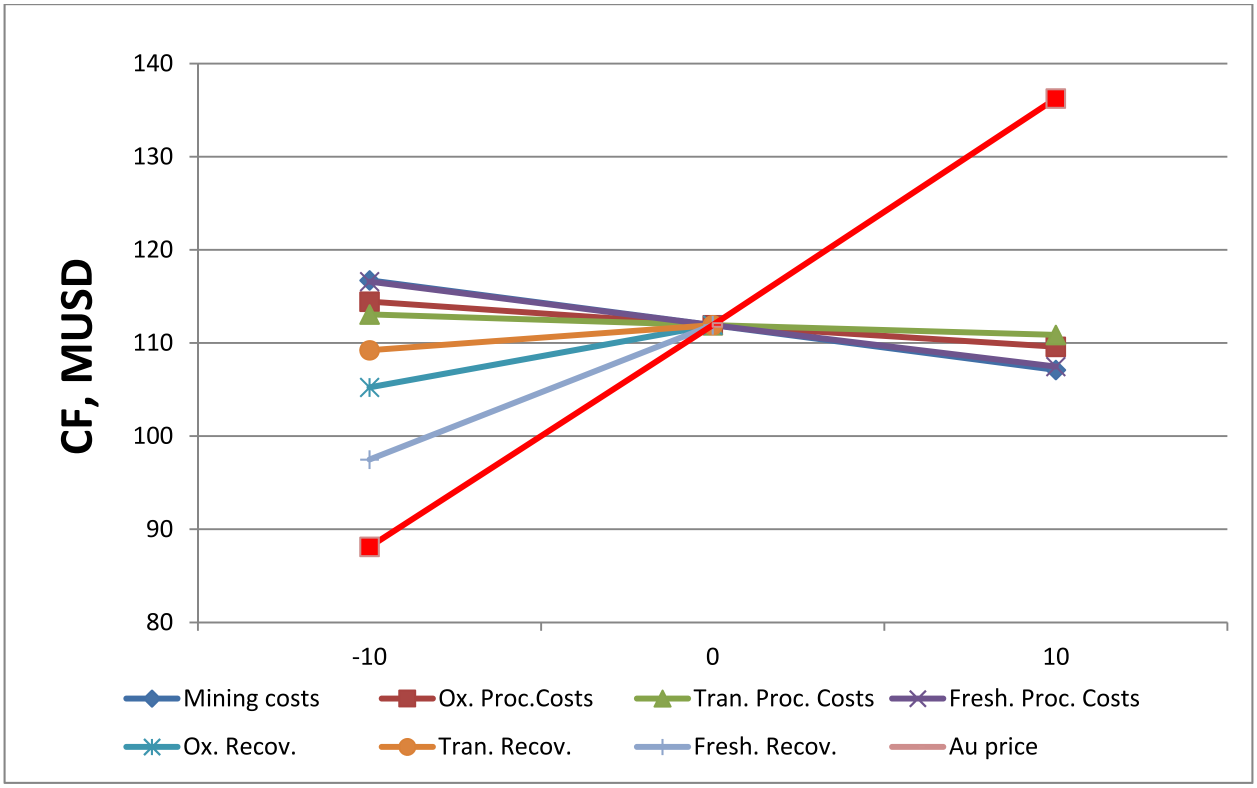
Sensitivity Analyses

A sensitivity analysis has been prepared by varying the unit mining cost, process costs, recovery and the gold price by ±10%. These sensitivities were carried out using the Whittle Four X undiscounted cash flow. Table 15-7 and Figure 15-4 below show the results of this analysis.

Table 15-7 Whittle Sensitivity Analyses Results, Kofi C Deposit

Variance	Mining costs	Ox. Ore Proc. Costs	Tran. Ore. Proc. Costs	Fresh Ore Proc. Costs	Ox. Ore Recovery	Tran. Ore Recovery	Fresh Ore Recovery	Au price
-10	116.7	114.4	113.1	116.6	105.2	109.2	97.5	88.1
0	111.9	111.9	111.9	111.9	111.9	111.9	111.9	111.9
+10	107.1	109.6	110.9	107.5	-	-	-	136.2

Figure 15-4 Sensitivity Analysis Graph, Pit Shell #18



Project economics are most sensitive to the gold price and process recovery, and less sensitive to mining and processing costs.

Practical Pit Design

The practical pit design was prepared using the optimized pit shell as template. Surpac software was used to prepare the practical pit, and to incorporate the haul roads and ramps together with the appropriate inter-ramp slope angles.

The open pit design criteria were:

- Bench height, berm width and bench face angle were designed according to geotechnical recommendations of Golder Associates depending on lithology
- Haul road width of 15 m including safety berms providing sufficient room for two-way traffic for the 40 t capacity haul trucks fleet that are currently used on site. This width was considered based on manufacturer recommendations. The recommendations indicate a minimum of 4.0 m truck widths

for two-way traffic and 3.0 to 4.0 m passing width with 3.0 m width for the safety windrow. The resulting road width is 15.0 m with wider flat switchbacks. Minor ramps at the lower elevations of the pits have been reduced in width where traffic density will be lower

- A haul road gradient of 9% has been used throughout.

The plan and three dimensional views of the proposed pit design are shown in Figure 15-5 to Figure 15-8.

Comparison of Kofi C Whittle Pit Shell with Practical Pit Design

Due to limited time initially allocated to design and optimization, the number of iterations, usually required for generating of the optimal design was not achieved. The proposed design delivers robust CF/DCF and complains with geotechnical recommendations and equipment requirements; however, additional improvement can be achieved. Table 15-8 and Figure 15-5 present comparison between Whittle shell and mine design used for declaring of Mineral Reserves.

Table 15-8 Comparison of Kofi C Whittle Pit Shell with Practical Pit Design

Pit Shell	Total volume		Ore reserves		In-situ Au, kOz	
	000 t	Diff., %	000 t	Diff., %	Au, kOz	Diff., %
Whittle	15,059	20	1,439	8	204	4
Design	18,060		1,553		213	

Figure 15-5 Whittle Pit Shell #18 and Kofi C Pit Design

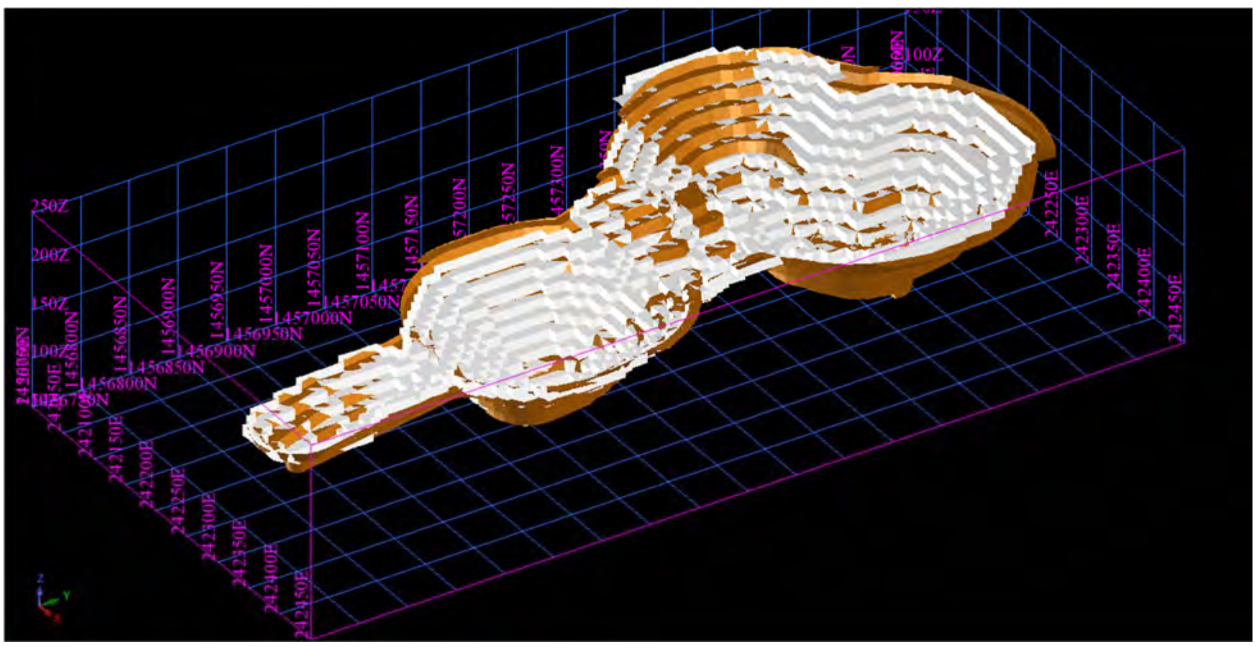


Figure 15-6 Kofi C Final Pit, Plan View

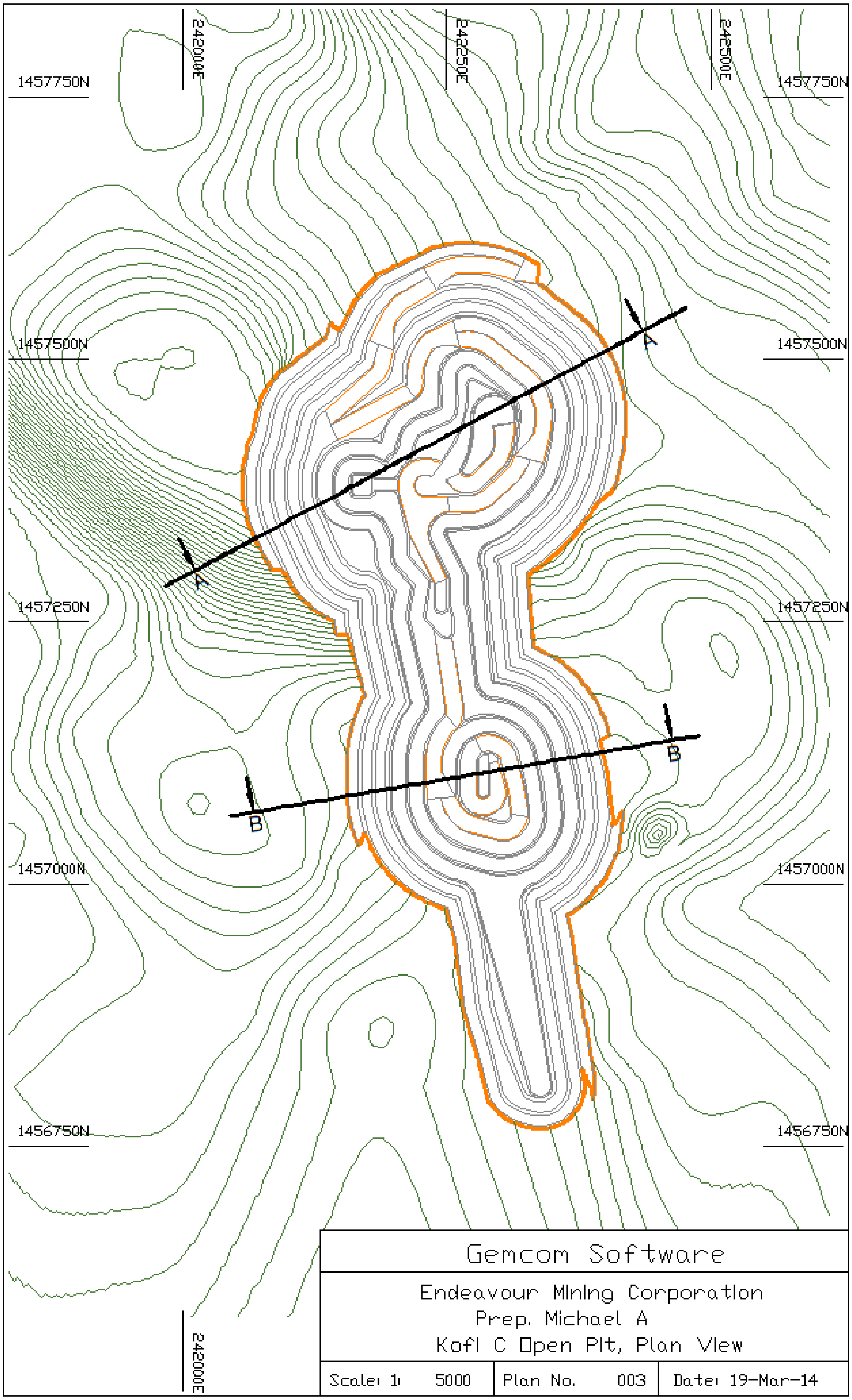


Figure 15-7 Section A-A. Topography, Pit Design, and P&E Ore Zones

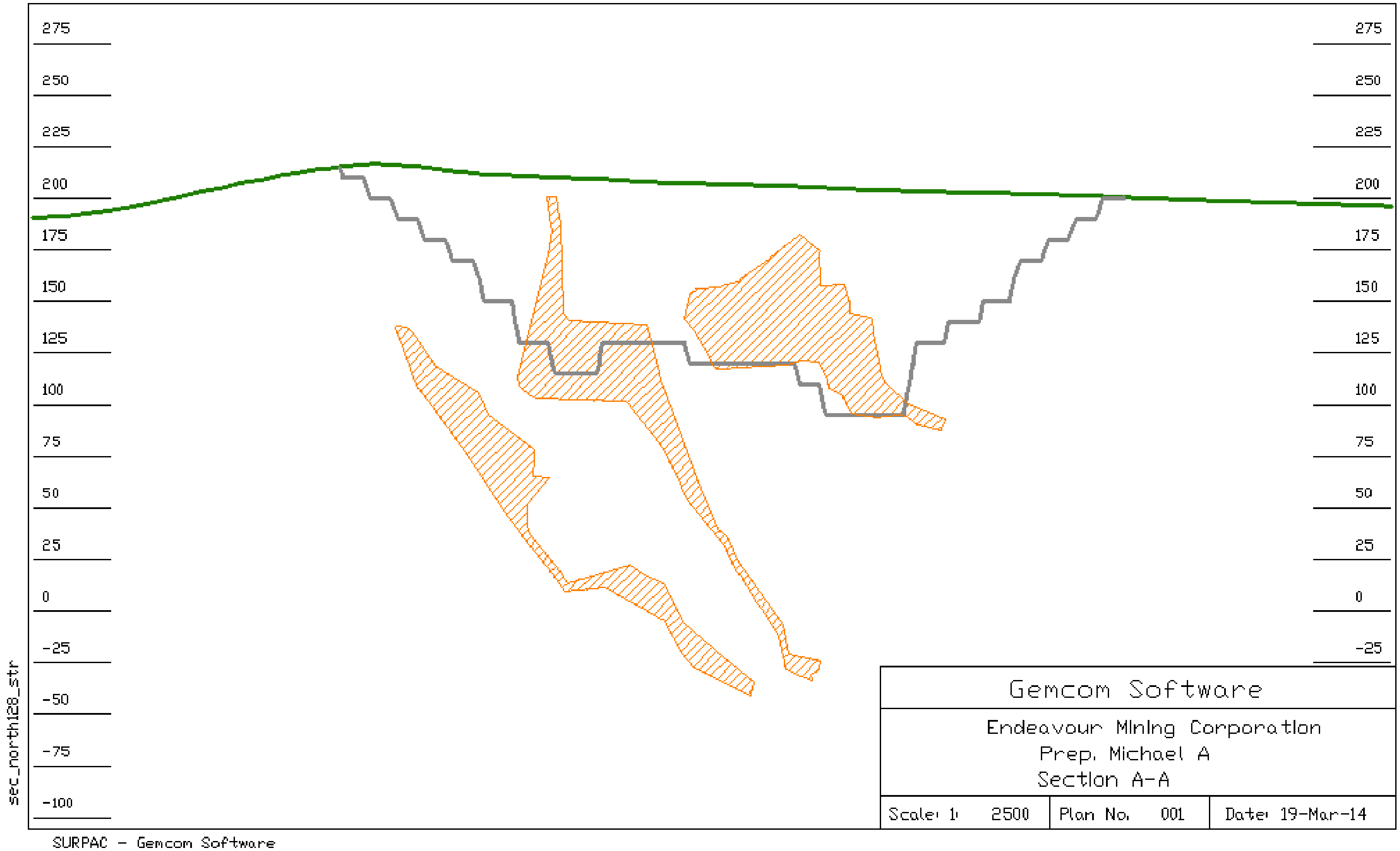
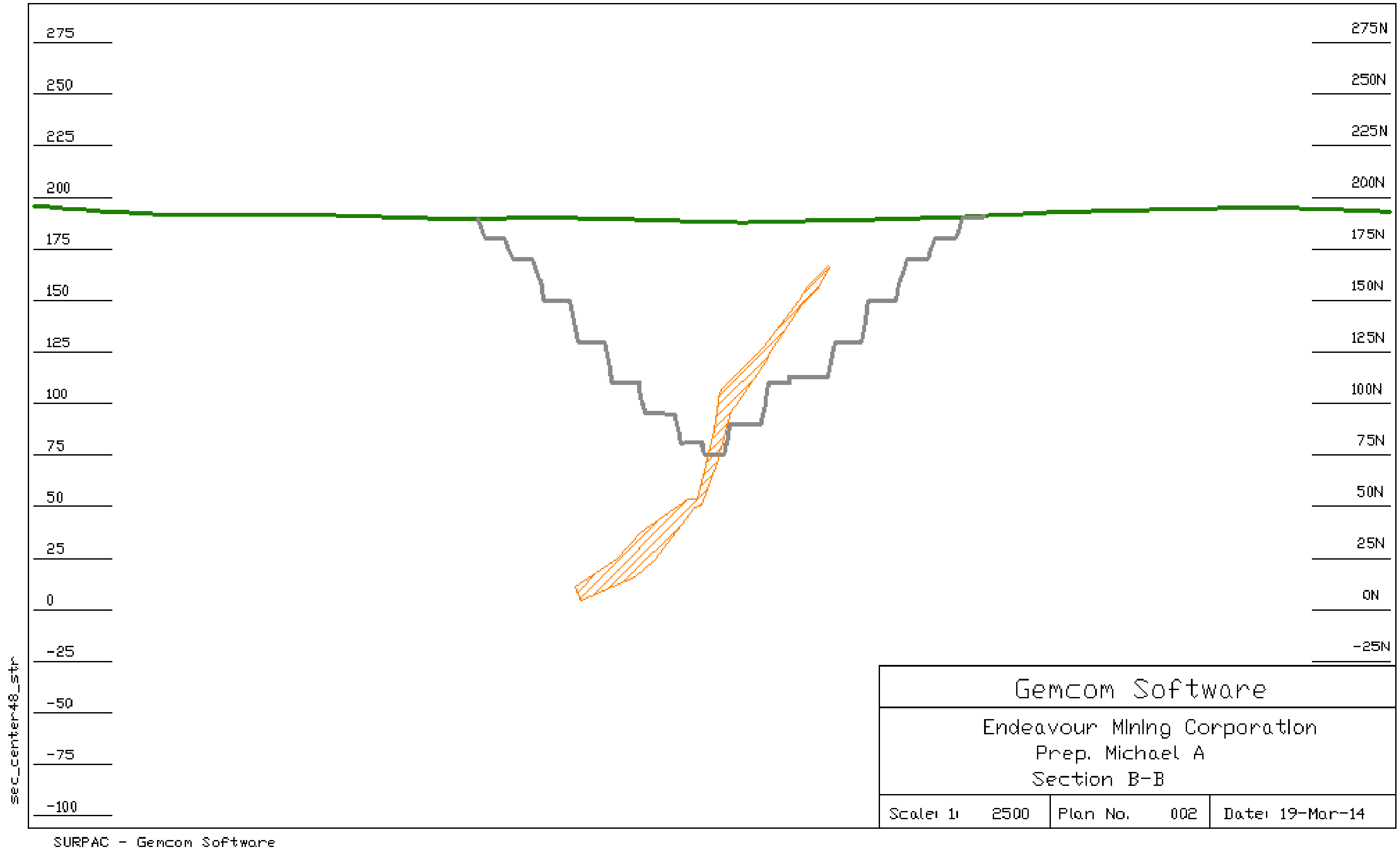


Figure 15-8 Section B-B. Topography, Pit Design, and P&E Ore Zones



Pit Staging

Staged development of the pit is driven by the desire to minimize waste pre-stripping and the requirement for consistent total material movement. Staged mining has generally a positive impact on the project net present value (NPV) by reducing the duration of the pre-production phase and reducing the strip ratio in the early years of production.

The Whittle analysis was used to provide an indication of the potential pit staging. Two pits were designed for Kofi C as follows:

- Kofi C Starter Pit– exploiting the Northern sections of main ore body using Whittle pit #1 as a template.
- Kofi C Final Pit- exploiting the rest of the ore body using Whittle pit #18 as a template.

15.2.3.2 Open Pit Optimization Analysis and Practical Design, Djambaye II deposit

The same optimization, mine design and reserve calculation approach was used for Djambaye II deposit, which comprise approximately 20% of total Open Pit Reserves of Tabakoto Gold Mine. In total 3 pits were designed and incorporated in the Life of Mine plan. Cut-off grades, derived from recovery for every material type, processing costs (including haulage to the process plant) and ore related in-pit activities were calculated within optimization analysis and used in Mineral Reserve estimation.

15.2.3.3 Open Pit Optimization Analysis and Practical Design, Dar Salam deposit

The same optimization, mine design and reserve calculation approach was used for Dar Salam deposit, which comprise approximately 3% of total Open Pit Reserves of Tabakoto Gold Mine. A single pit was designed and incorporated in the Life of Mine plan. Cut-off grades, derived from recovery for every material type, processing costs (including haulage to the process plant) and ore related in-pit activities were calculated within optimization analysis and used in Mineral Reserve estimation.

15.2.4 Mineral Reserves Statement

Mineral Reserves are quoted within specific pit designs based on Measured and Indicated Mineral Resources only and take into consideration all appropriate modifying factors including metallurgical parameters, infrastructure requirements and permitting requirements.

This reserve estimate has been determined and reported in accordance with Canadian National Instrument 43-101, 'Standards of Disclosure for Mineral Projects' of June 2011 (the Instrument) and the Definition Standards adopted by CIM Council in November 2010. The summary of Open Pit Mineral Reserves of Tabakoto Gold Mine are in Table 15-9.

The main potential risk factors which may affect current Mineral Reserves are listed below:

- Delays in bringing Kofi C into production due to delays because of a permitting backlog for obtaining the access road construction permit or the mining permit
- Geotechnical risks- failure or massive sliding caused by overestimation of rock strength, wrong structural model or inappropriate mining techniques
- Absence of expected in-situ ore tonnages due to inaccuracy of geological model
- Sudden increase of dilution and mining losses due to change in ore body geometry and/or inappropriate mining techniques.

Table 15-9 Tabakoto Open Pits Mineral Reserves[1-6], 31st December 2013

Deposit	Material	CoG, g/t	Proved			Probable			Proved and Probable		
			Ore, 000t	Au, g/t	kOz	Ore, 000t	Au, g/t	kOz	Ore, 000t	Au, g/t	kOz
Kofi C	Oxides	1.6	-	-	-	484	3.8	58.3	**484**	**3.8**	**58.3**
	Transition	1.6	-	-	-	220	3.3	23.7	**220**	**3.3**	**23.7**
	Fresh	1.75	-	-	-	849	4.8	130.5	**849**	**4.8**	**130.5**
Total Kofi C, in situ			**-**	**-**	**-**	**1,553**	**4.3**	**212.5**	**1,553**	**4.3**	**212.5**
Open Pit Mineral Reserve Estimate for the Kofi C Gold Deposit, Mali, West Africa, prepared by Michael Alyoshin AusIMM CP (Mining), Qualified Person Not Independent of Endeavour Mining Corporation											
Djambaye II	ALL	1.6	97	2.5	7.9	374	4.0	48.0	**472**	**3.7**	**55.9**
Dar Salam	ALL	1.5	-	-	-	77	3.0	7.3	**77**	**3.0**	**7.3**
Total OP, in situ			97	2.5	7.9	452	3.8	55.3	**549**	**3.6**	**63.3**
All stockpiles, average grade above 1 g/t			1,259	1.2	49.0	-	-	-	**1,259**	**1.2**	**49.0**
Grand total, Tabakoto OP			**1,357**	**1.3**	**56.9**	**452**	**3.8**	**55.3**	**1,808**	**1.9**	**112.3**
Open Pit Mineral Reserve Estimate for the Djambaye II and Dar Salam, Mali, West Africa, prepared by Honest Mrema and reviewed by Michael Alyoshin AusIMM CP (Mining), Qualified Person Not Independent of Endeavour Mining Corporation											

1. *Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.*
2. *18% to 30% dilution and 98% to 90% mining recovery applied on in-situ tonnages.*
3. *Tonnage of waste to be mined is 31.7 Mt. This waste amount includes 44kt of Inferred Mineral Resources at an average grade of 4.3 g/t. The strip ratio over life of mine is 15.*
4. *The Lerchs-Grossmann pit shells on which the open pit designs are based, were defined using an overall pit slope of 36 to 49 degrees (depending on geotechnical settings of each deposit, details provided in Chapter 15 of this Technical Report), a commodity price of US$1,350/oz Au and process recovery based on mineralization type and royalties ranging within 3-6% depending on the deposit.*
5. *Tonnages are rounded to the nearest 1,000 tonnes; gold grades are rounded to one decimal place; ounces are rounded to the nearest 100 ounces. Rounding may result in apparent summation differences between tonnes, grade and contained metal.*
6. *Tonnes and grade measurements are in metric units; contained gold is in troy ounces*

Table 15-10 provides the Mineral Reserves of the stockpile inventory of the Tabakoto Property.

Table 15-10 Mineral Reserves Stockpile Inventory for the Tabakoto Property

ZONE	CATEGORY	TONNES	GRADE g/t Au	OUNCES
ROMPAD	Proven	200,000	1.49	9,600
Segala Main Low Grade	Proven	754,300	1.07	25,900
Tabakoto Pit Low Grade (Nevsun)	Proven	221,100	1.48	10,500
Tabakoto UG Low Grade	Proven	84,000	1.13	3,000
Total Stockpiles	**Subtotal**	**1,259,400**	**1.21**	**49,000**

The mine plan with the combined contributions from the Tabakoto deposits and Kofi C deposit is current as of December 31, 2013 and provided in Table 15- 11. In this plan the Djambaye II open pit is scheduled to cease production in December 2014. Endeavour intends for Kofi C to replace Djambaye II production in 2015.

Established Proven and Probable Mineral Reserves from the Tabakoto underground mine are scheduled until mid-2016. The current Mineral Resources at the Tabakoto mine considerably exceed the current mineral reserves. Extensions to reserves are likely to be realized through the ongoing underground drilling programs planned for 2014 and 2015 and beyond. Additionally other satellite deposits, principally Dioulafoundou, have significant underground resources than will be evaluated for conversion into reserves in due course.

Table 15-11 Mine Production Schedule for Tabakoto Property Deposits and Kofi C Deposit

Orebody	Units	2014	2015	2016	2017	2018	2019	Total
Tabakoto Underground Ore	t	527,432	498,456	242,744				1,268,632
Grade	g/t Au	4.43	4.42	5.30				4.59
Segala Underground Ore	t	409,966	497,005	466,422	409,351	365,732	262,255	2,410,731
Grade	g/t Au	2.89	3.65	4.56	3.80	3.67	3.62	3.72
Djambaye II Open Pit Ore	t	223,752				247,839		471,591
Grade	g/t Au	3.92				3.48		3.69
Djambaye II Open Pit Waste	t	5,073,172				9,344,397		14,417,569
Kofi Open Pit Ore	t		258,100	407,200	416,500	471,000		1,552,800
Grade	g/t Au		3.17	3.83	4.45	5.05		4.26
Kofi Open Pit Waste	t		4,742,000	4,593,000	4,354,400	2,823,600		16,513,000
Dar Salam Open Pit Ore	t	77,000						77,000
Grade	g/t Au	3.00						3.00
Dar Salam Open Pit Waste	t	1,232,500						1,232,500
Total Ore	**t**	1,238,150	1,253,560	1,116,366	825,851	1,084,571	262,255	5,780,753
Mined Ore Grade	**g/t Au**	3.74	3.86	4.45	4.13	4.23	3.62	4.04
Total Open Pit Material	**t**	6,606,424	5,000,100	5,000,200	4,770,900	12,886,836		34,264,460
Open Pit Strip Ratio		4.34	2.99	3.48	4.78	10.88		4.93
Stockpile Reclaim	t	145,000	190,000	310,000	550,000	64,400		1,259,400
Grade	g/t Au	1.41	1.20	1.19	1.18	1.21		1.21
Processing	**t**	1,383,150	1,443,560	1,426,366	1,375,851	1,148,971	262,255	7,040,153
Mill Feed Grade	**g/t Au**	3.50	3.51	3.75	2.95	4.06	3.62	3.54

Differences in totals are due to minor rounding errors.

16 Mining Methods

16.1 Underground Mining

The Tabakoto and Ségala underground mines constitute the majority of the ore production at Tabakoto and open pit mining is now essentially used to augment the underground as mill feed.

- The Ségala Deposit consists of the Ségala Main and the Ségala North West zones. Open pit mining has taken place at both of these deposits previously. Production is currently planned from underground mining of the Ségala Main zone only. This zone consists of several parallel mineralized structures which run along the length of the ore body and contains the bulk of the currently defined mineralization. The spacing and the thickness of these structures vary. Individual veins, which can be less than a metre thick, are grouped into ore zones which can collectively be up to 25 m thick.
- The Tabakoto Deposit is accessed from the bottom of an open pit where mining was previously conducted. Underground mine access uses a northern portal to exploit the northwest-trending (“NW”) zones and a southern portal for both the northeast-trending (“NE”) zones and the South zones.

There are five veins being exploited by means of underground mining methods. These are:

- The Ségala Main Zone, where transverse long hole stoping is preferred and either cemented rock fill or unconsolidated rock fill is utilized to enhance local and overall ground stability;
- The Ségala Footwall Zone, where longitudinal long hole stoping is the design together with cemented rock fill or unconsolidated rock fill;
- The Tabakoto North West veins where there are more than five closely spaced veins. Selective longitudinal long hole stoping is used to extract ore from the top down without using fill;
- The Tabakoto North East veins where two main veins are separated by about 10m and long hole stoping is also used to extract ore from the top down without fill; and
- The Tabakoto South vein, which is relatively long and narrow with better grades. Long hole stoping moves from the bottom upwards as opposed to a top down approach. Waste fill is also used in this instance.

The focus at Ségala over the coming year is to continue the access and development while also defining the orebody for siting of the sub levels and for more detailed tactical planning to minimize dilution.

This is currently being achieved with a combination of diamond drilling to better define the ore contacts and development cross cutting the ore body from the footwall to the hanging wall. Ségala is expected to start generating ROM ore during 2014.

At Tabakoto, where smaller stopes are planned than at Ségala, the focus is on optimising the drilling and blasting efficiencies while simultaneously implementing the owner operating mining.

The blasting contract will go out for tender in an effort to reduce costs and improve the consistency of quality blasts. Blasting consistency did improve during 2013 but further improvements are expected as the mine converts from an operation that uses contract miners to one that employs its own personnel and equipment. Suitable training programs are to be implemented for Malian workers.

16.1.1 Design Criteria

The 3D underground mine design, subsequent sequencing, and scheduling, is based on the following mine design criteria:

Table 16-1 Underground Mine Design Criteria

Design Component	Criteria	Comment
Maximum Stope height at Tabakoto	15m	From back to floor
Maximum Stope height at Ségala	25m	From back to floor
Minimum Stope width	2m	
Stope Strike length for Tabakoto	+/-30m	depending on ore geometry and existence of non-pay stopes
Stope strike length for Ségala	+/-25m	
Ore development drifts at Tabakoto	3.5mW x 4.0mH 5.0mW x 5.0mH	for narrow parts of the orebody for wider parts of the orebody
Ore development drifts at Ségala	5.0mW x 5.0mH	
Specific gravities for Tabakoto	2.68	
Specific gravities for Ségala	2.76	Increased from 2.75
Ramp and access development	5.5mW x 5.5mH	@ 12% decline with min. radius of 20m
Rib Pillars	5m	Between stopes at Tabakoto
Regional Pillars	5m 10m	As required for the design at Tabakoto As required for the design at Ségala
Crown Pillars	25m 45m	As required for the design at Tabakoto As required for the design at Ségala

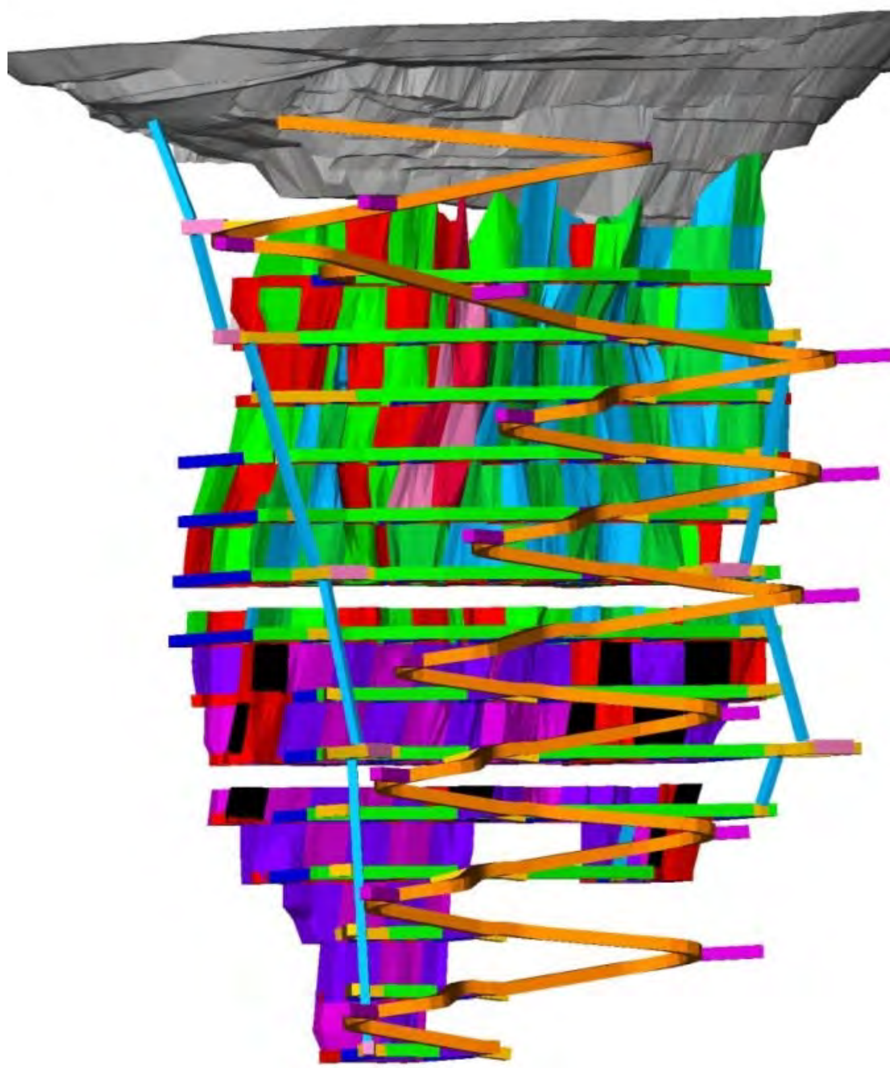
Ségala will require a CRF plant which is used for cemented waste fill at the primary stopes and waste fill for the secondary stopes. Development waste will be used for the backfilling of the secondary stopes. The larger ore body at Ségala (when compared to Tabakoto) and the open stope method requires the CRF.

Due to the size of the ore body at Tabakoto, only primary stopes are to be mined with small pillars left in the stopes for support. Waste fill will be used at Tabakoto South vein but without cement

16.1.2 Ségala

The Ségala Mine is still in the pre-production phase. The current decline access development is from a portal located 25 m above the Ségala open pit floor in the eastern corner of the Ségala open pit. An isometric drawing of the mine workings and stopes is presented Figure 16-1.

Figure 16-1 Ségala Mine Isometric Looking West



A workshop, wash bay, parking area and fuel bay are all available on surface, with minimal facilities in the pit. Water is pumped from a sump in the opposite far western part of the open pit and power is stepped down to 1,000 V for use underground.

A 400 kW axial surface exhaust fan has been mounted over a return ventilation shaft in the eastern corner of the open pit. It draws air from the return airway which runs within the crown pillar below the open pit and along the axis of the ore zone. Return air raises will hole into this ventilation drift from the production levels below.

Cross cuts are used to access the ore zone from a footwall drift along the full length of the ore zone. They will link with ore drives at the centre of the ore body to minimise waste development and primary stopes access development. Stoping will start from the centre of the ore zone and progress east and west along strike, away from the centre and opening from hangingwall to footwall.

Production will start from the bottom of a production block and move upwards. Primary and secondary stopes have been designed. The primary stopes will be filled with cemented rock fill and the secondary stopes will be blasted after the appropriate curing time has elapsed. The cement will bind the primary waste fill and minimise dilution of the secondary stopes.

Drill rods are fitted with suitable drill bits for down hole drilling to improve accuracy and to facilitate charging. Either twin or single boom drilling rigs will be used as appropriate within the ore zone. Twin boom drilling rigs will be used in waste and access development. Late commissioning of these rigs has delayed the development forecast.

Load Haul Dumps (LHD) are used for loading ore and waste into trucks for onward hauling to surface. The waste will either be dumped into the open stopes, or trucked to the waste dump. The ore will be hauled to surface stockpiles and then transported to the run-of-mine pad at the Tabakoto process plant with road tipper trucks. Separate re-handling bays are planned for ore and waste.

The development support consists of split sets and mesh. In the main ramps and accesses the split sets are installed from scissor lifts and a bolting crew using hand held equipment to ensure that the proper bolting patterns are achieved.

Fully grouted cable anchors are included at the mucking level and at intersections. Split sets with diamond mesh, is used as support in the ventilation raises. The support will be installed.

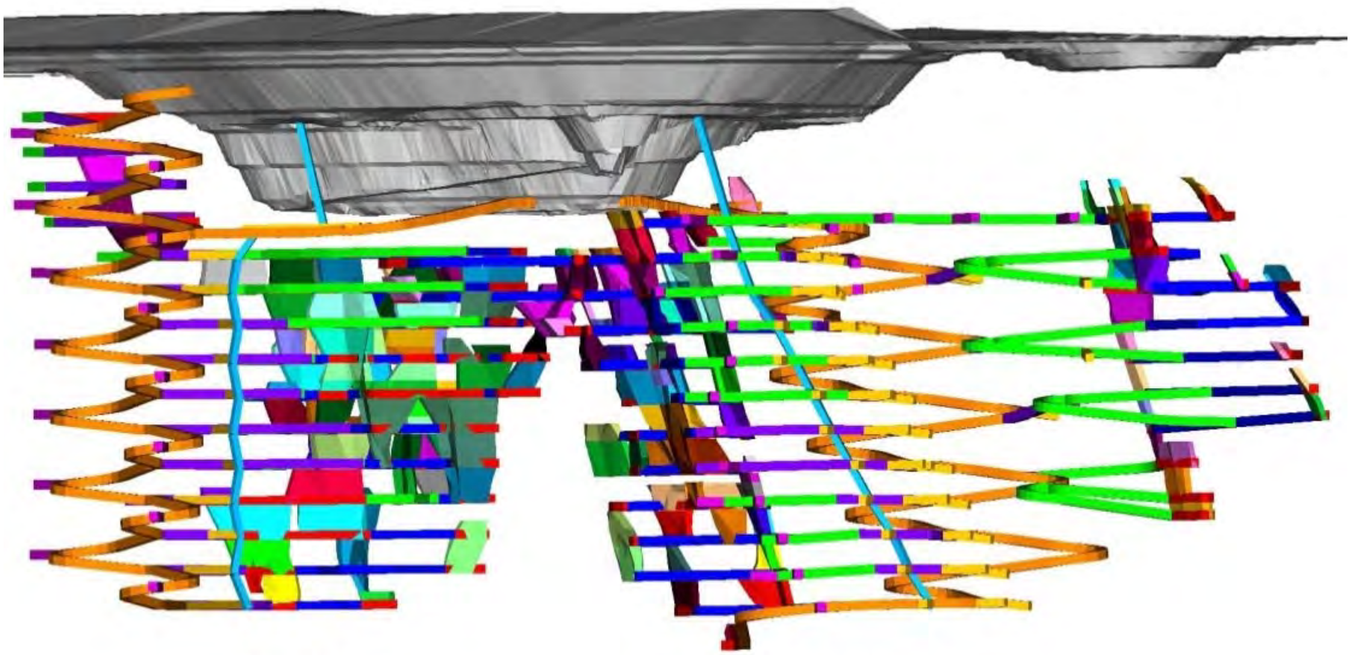
16.1.3 Tabakoto

Tabakoto is at full production producing just over 40 ktpm from underground. The various sub-vertical veins are accessed using decline ramps from a North and a South portal both located at the bottom of the Tabakoto open pit.

These portals share facilities in the open pit bottom area. 400 kW axial exhaust fans are used to draw air through and out of the mine via north and south return air raises. Each fan moves about 150 m^3/s of air under current conditions which is to cover the existing diesel fleet and planned production requirements.

The North Ramp accesses the North West veins and the South Ramp accesses the North East and South veins (Figure 16-2).

Figure 16-2 Tabakoto Mine Looking North East



Rib pillars separate the various production blocks which each comprise three ore drives. The two ramps provide access for ventilation, men, materials and machinery.

Mining starts from the bottom of a production block and progresses upwards. Uphole drilling is being practiced in the stopes.

Re-handling bays have been catered for in the planning and LHDs are used to load blasted ore and waste from these re-handling bays into trucks for hauling to surface.

Development support is similar to that described for Ségala, but with fewer intersections where cable anchors are needed. Where required waste fill is drawn from waste development headings or surface waste dumps and trucked down the south decline and placed with the use of LHDs.

Water is collected in sumps on each sub-level. Every second level has both a clean and a dirty water sump. Alternate levels have only dirty water sumps with drain holes into the sump below. Water is stage pumped from the clean water sumps to the pit bottom sump from where it is pumped to surface.

16.1.4 Mining Equipment

In April 2014 Endeavour will take over responsibility for the underground mining production and Byrnecut Mali SARL, the current contract miner, will move off site. Endeavour has purchased a new fleet of equipment for the purpose.

16.1.5 Grade Control

Underground material between 1.0 g/t and 2.0 g/t it is considered subgrade and stockpiled for processing at some later date. The ore exceeding 2.0 g/t is placed on separate stockpiles that feed the mill. There will be four stockpiles once Ségala is in production. The geologists use diamond drills to aid in the control of the direction of the ore drives and to dispatch ROM ore to the low-grade or waste stockpiles. Development ore that exceeds 1.0 g/t is earmarked for processing.

16.1.6 Operating Costs

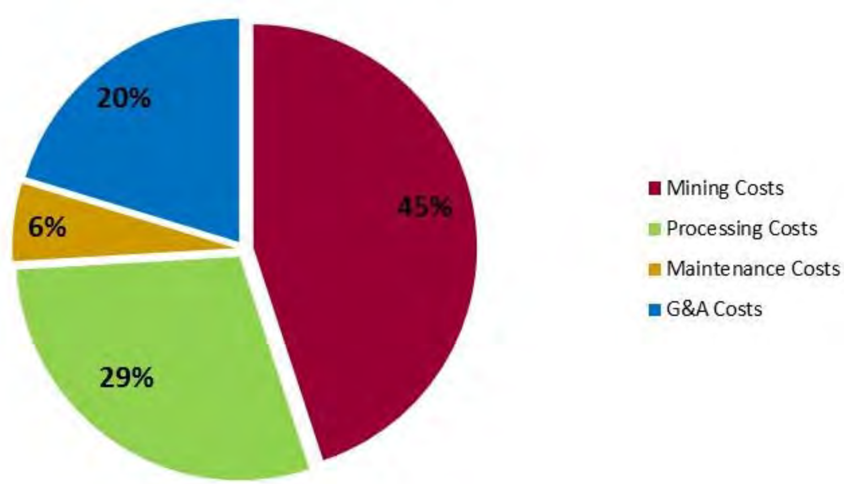
A BECOG of 2.0 g/t was used as part of the Mineral Resource to Mineral Reserve conversion process. It was based on the input parameters in Table 16-2. The percentage split of the underground unit costs are displayed in

Figure 16-3 below.

Table 16-2 BECOG Aassumptions.

Basis of BECAG calculation	
Assumptions	**Value**
Mining Costs	USD34.43/t mined
Processing Costs	USD23.34/t milled
Maintenance Costs	USD4.95/t milled
G&A Costs	USD14.86/t milled
Recovery	91%
Au Metal Price	USD1,350/oz

Figure 16-3 Underground Unit Costs at Tabakoto.



Tabakoto's annual business plan presents the budget in Table 16-3 for the underground operations at Ségala and Tabakoto.

Table 16-3 2014 Tabakoto and Ségala Underground Mining Cost Summary

Area	Budget (USD)
UG Ségala – Operating	9,210,023
UG Ségala – Development – pre production	20,856,130
UG Ségala – Development – post production	6,130,945
Total Ségala	**36,197,097**
UG Tabakoto - Operating	22,421,514
UG Tabakoto - Development	13,005,848
Total Tabakoto	**35,427,362**
Total underground costs	**71,624,459**

Operating expenses will only begin to be recorded at Ségala once the production phase has been reached and this is forecast to occur during 2014. It begins when the mine has reached and maintained steady state operating levels.

16.1.7 Combined Production Schedule

A summary of the combined production as scheduled from underground mining at Tabakoto and Ségala is presented in Table 16-4. It includes the actual production achieved during 2013.

Table 16-4 2014 Tabakoto and Ségala Underground Production Summary

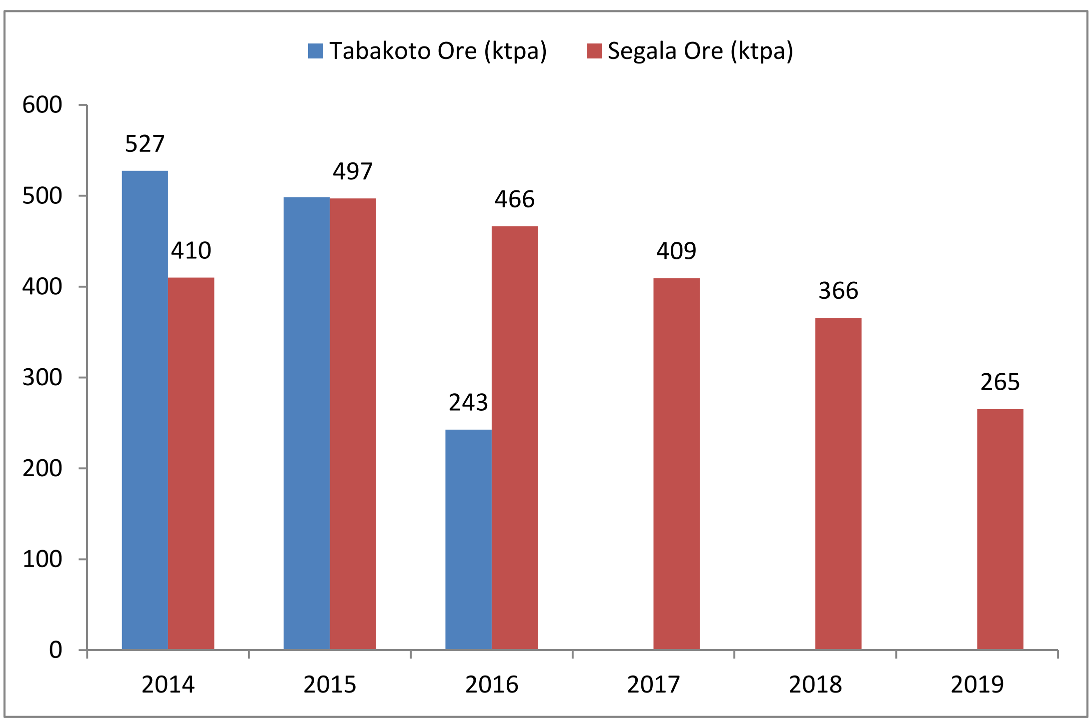
	2013	2014	2015	2016	2017	2018	2019
Waste (ktpa)	506	469	569	402	199	4	0
Ore (ktpa)	495	937	995	709	409	366	265
Grade (g/t)	4.70	3.76	4.03	4.82	3.80	3.67	3.62
Content (Kg)	2.33	3.52	4.01	3.41	1.56	1.34	0.96
Content (Koz)	74.76	113.23	129.08	109.79	50.07	43.10	30.87

This forecast amounts to 3.6 Mt of ROM ore at an average head grade of 4.02 g/t (i.e.14.8 kg). A total of 1.6 Mt of waste is removed in the process. The split between the two areas is shown in Figure 16-4, Figure 16-5 and Figure 16-6.

Figure 16-4 Underground Waste Production from Tabakoto and Ségala

The waste development at Tabakoto has only been scheduled after July 2014 once the Scissor Decks are delivered and commissioned. The production expectations from Ségala will depend on achieving the forecast development targets. This is in turn dependent on the newly purchased equipment arriving on time.

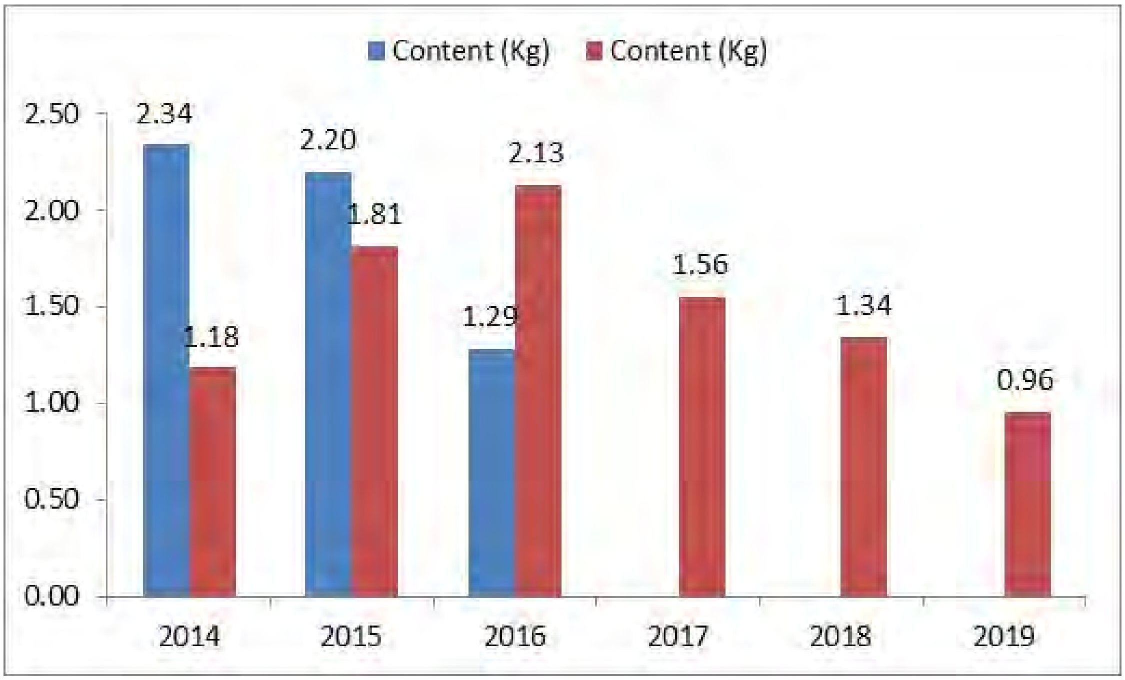
Figure 16-5 Underground ROM Forecast from Tabakoto and Ségala



Production from Ségala is only scheduled from May 2014. It increases during June and July, where after production levels off.

Ore development has also not been scheduled at Tabakoto during April 2014 when delivery of a new drill rig is expected. This again reflects the reliance of the LoM plan on the timely receipt of new equipment, especially during 2014. Improved efficiencies have also been factored into the plan with the arrival of a hose pusher that will be used to improve on the time taken in charging up the blast holes in the stopes.

Figure 16-6 Underground RoM Content Forecast from Tabakoto and Ségala



A reinterpretation of the geological block model has impacted negatively on Ségala's gold forecast when compared to the 2013 LOM plan. However, this can be offset during the next planning phase once sufficient study work has been completed on retrieving some of the gold locked up in pillars (+/-40 koz) towards the end of the LOM.

The high production expected in 2016 from Ségala has resulted from a change to the mining layout which delayed mining of the higher grade Footwall in the latest schedule. This was necessary to not compromise the pillar between Main and Footwall veins because the updated width of the Main vein is greater than originally expected (i.e. from between 8 m and 10 m to between 10 m to 35 m).

16.2 Open Pit Mining

The Kofi C, Djambaye II and Dar Salam pits use conventional open pit mining methods with drilling and blasting of competent material followed by load and haul. A combination of Endeavour and SFTP contactor fleet is used for current mining operations in Djambaye II. Production drilling is performed by Rocksure while blasting is performed by BME. Blasting on the ore zone is mainly on 5m benches while for bulk waste stripping is 10 m benches. The blasting on the ore is more controlled to minimize dilution. Excavation of the blasted material is mainly on 2.5 m high flitches.

16.2.1 Mining Equipment

The current major mining fleet list is summarized in Table 16-5.

Table 16-5 Current Major Open Pit Mining Fleet

Equipment	Brand	Type	Current Fleet	Remarks
Drills	Tamrock	Pantera 1500i	2	Rocksure
Haul Trucks	Volvo	A40D	8	Owner (EDV) fleet
		A40E/F	10	Contractor (SFTP) fleet
Loading Units	CAT	390	1	Owner (EDV) fleet
	CAT	385	1	Owner (EDV) fleet
	CAT	385	1	Owner (EDV) fleet
	Volvo	700BL	1	Contractor (SFTP) fleet
	Liebherr	974	1	Contractor (SFTP) fleet
	Liebherr	984	1	Contractor (SFTP) fleet
Auxiliary Fleet	CAT	D9 Dozer	1	Owner (EDV) fleet
	CAT	D8 Dozer	2	Owner (EDV) fleet
	CAT	D9 Dozer	1	Contractor (SFTP) fleet
	CAT	14H Grader	2	Owner (EDV) fleet
Water Trucks	Volvo	A40D	2	Owner (EDV) fleet
Fuel Truck	Volvo	A40D	1	Owner (EDV) fleet
ROM Loaders	CAT	980H	1	Owner (EDV) fleet
	CAT	966G	1	Owner (EDV) fleet
	Volvo	220F	1	Owner (EDV) fleet
	CAT	992	1	Contractor (SFTP) fleet
Road Haulers	HOWO		6	Contractor (SFTP) fleet
	ACTROS		5	Contractor (SFTP) fleet
	KERAX		4	Contractor (SFTP) fleet

16.2.2 Mining Schedule

16.2.2.1 Mining Schedule, Kofi C

The Kofi C open pit would be a conventional open-pit mining operation involving the mining of Saprolite, Transition and Fresh rock. The pit will developed and operated as a contract mining operation. Daily mill feed would be 1,000 tpd to be trucked to the Tabakoto processing plant located 38 km to the southeast. The production rate was determined by considering the size of the available resource and the required mining fleet. As this would be a supplemental feed to the Tabakoto plant there is some flexibility in the production rate that can be considered. The mine would be a satellite open pit with some of its own limited support facilities. An office trailer and a small shop facility will be located near the pit exit. A 20,000 litre fuel tank and dispensing station will also be located in this vicinity. A small generating plant will provide power for lighting, tools, pumps and related facilities and equipment. Mining at Kofi C will commence by the beginning of 2015 (subject of obtaining all necessary approvals and access road readiness).

The primary objective of the production schedule has been to maximize ore production to supplement the underground mill feed and generate enough cash flow to optimize the mine operations.

This objective has been achieved within the following constraints:

- Ensuring continuous ore supply to the processing plant for the current 1.5 Mtpa throughput rate
- Expedite waste stripping during dry season to guarantee sufficient ore supply during wet season
- NPV/IRR maximizing within given time and mining fleet/process plant capacity constraints.

Following defining the optimal staging sequence, Kofi C design generated in Surpac was loaded to GEOVIA Whittle where majority of scheduling works was done. The Gemcom MineSched® scheduling tool also has been used for long term mine planning and financial modeling. The full version of the schedule comprises ore and waste tonnages monthly for the rest of the Life of Mine. The details of approximate LOM schedule presented in Table 16-6, Table 16-7, Figure 16-7 and Figure 16-8 below.

Table 16-6 Kofi C Open Pit LOM Mining Schedule

Period		Mined, t	MCaf, $/t	Mining cost, $	Waste, t	Ore, t	Au, g/t	S/R	Au in-situ, Oz	Au rec, Oz
2015	Q 1	1,250,000	3.11	(3,880,684)	1,225,521	24,479	2.76	50	2,171	2,019
	Q 2	1,250,000	3.15	(3,940,701)	1,189,506	60,494	3.01	20	5,854	5,444
	Q 3	1,250,000	3.10	(3,874,389)	1,172,809	77,191	3.19	15	7,922	7,367
	Q 4	1,250,000	2.92	(3,651,509)	1,154,078	95,922	3.36	12	10,371	9,645
2016	Q 5	1,250,000	2.89	(3,617,935)	1,154,545	95,455	3.44	12	10,560	9,821
	Q 6	1,250,000	3.27	(4,080,773)	1,147,370	102,630	3.41	11	11,252	10,464
	Q 7	1,250,000	3.32	(4,148,620)	1,148,278	101,722	3.28	11	10,711	9,961
	Q 8	1,250,000	3.24	(4,046,735)	1,145,516	104,484	4.14	11	13,914	12,940
2017	Q 9	1,250,000	3.12	(3,894,340)	1,144,307	105,693	4.58	11	15,557	14,468
	Q 10	1,250,000	3.06	(3,820,970)	1,143,711	106,289	4.84	11	16,533	15,375
	Q 11	1,250,000	3.34	(4,180,620)	1,137,742	111,808	4.55	11	16,356	15,211
	Q 12	1,250,000	3.37	(4,215,061)	1,147,253	102,747	4.25	11	14,039	13,057
2018	Q 13	1,249,869	3.45	(4,313,769)	1,149,793	100,075	5.07	11	16,306	15,165
	Q 14	786,483	3.54	(2,786,570)	686,483	100,000	4.91	7	15,792	14,687
	Q 15	362,913	3.62	(1,313,933)	262,913	100,000	4.80	3	15,423	14,343
	Q 16	437,011	3.68	(1,606,530)	337,011	100,000	4.84	3	15,551	14,463
2019	Q 17	224,074	3.78	(847,222)	160,445	63,629	6.93	3	14,169	13,177
Total		**18,060,350**	**(3.22)**	**(58,220,361)**	**16,507,281**	**1,552,618**	**4.26**	**10**	**212,481**	**197,608**

Figure 16-7 Kofi C Open Pit LOM Mining Schedule

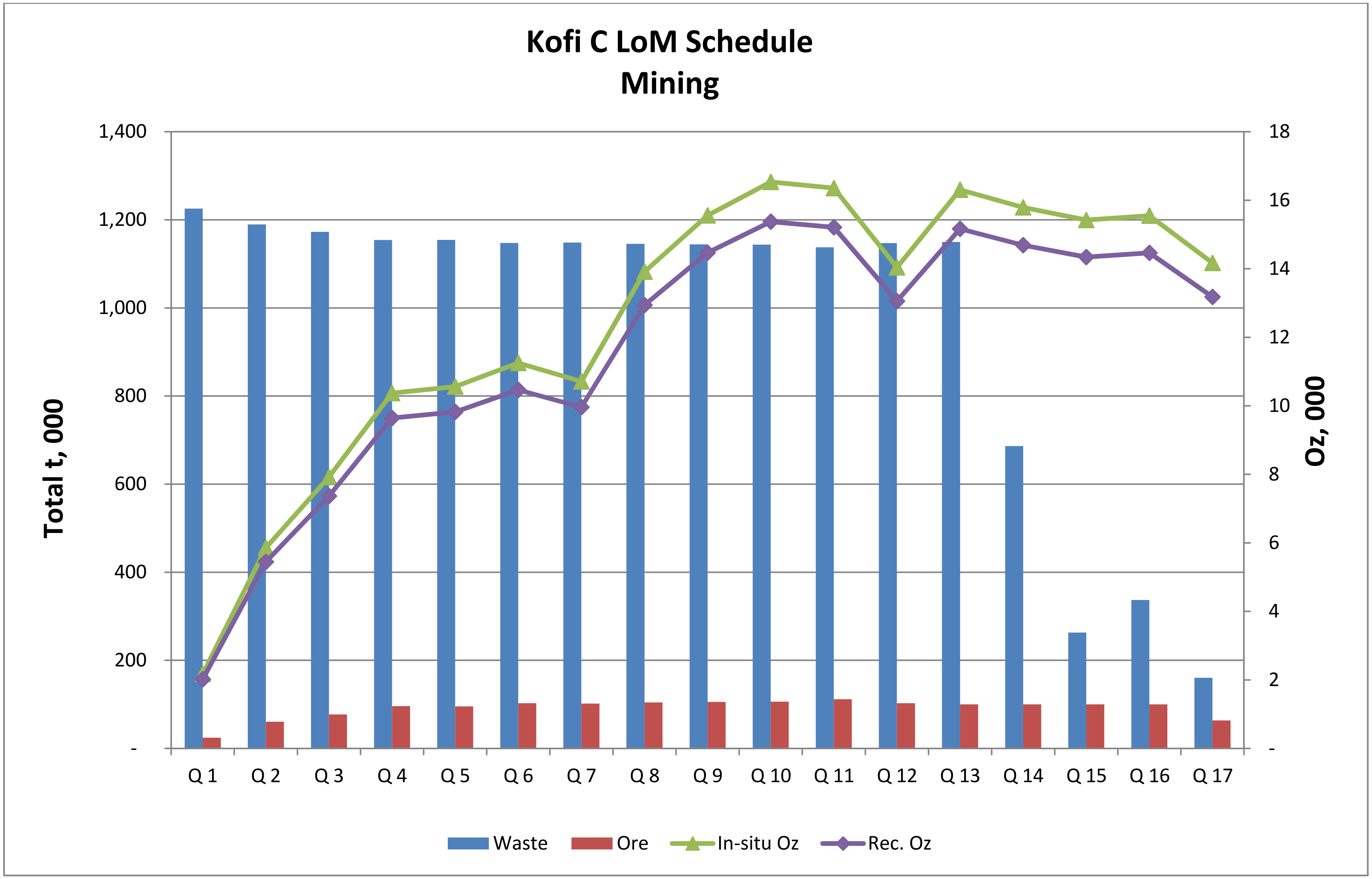
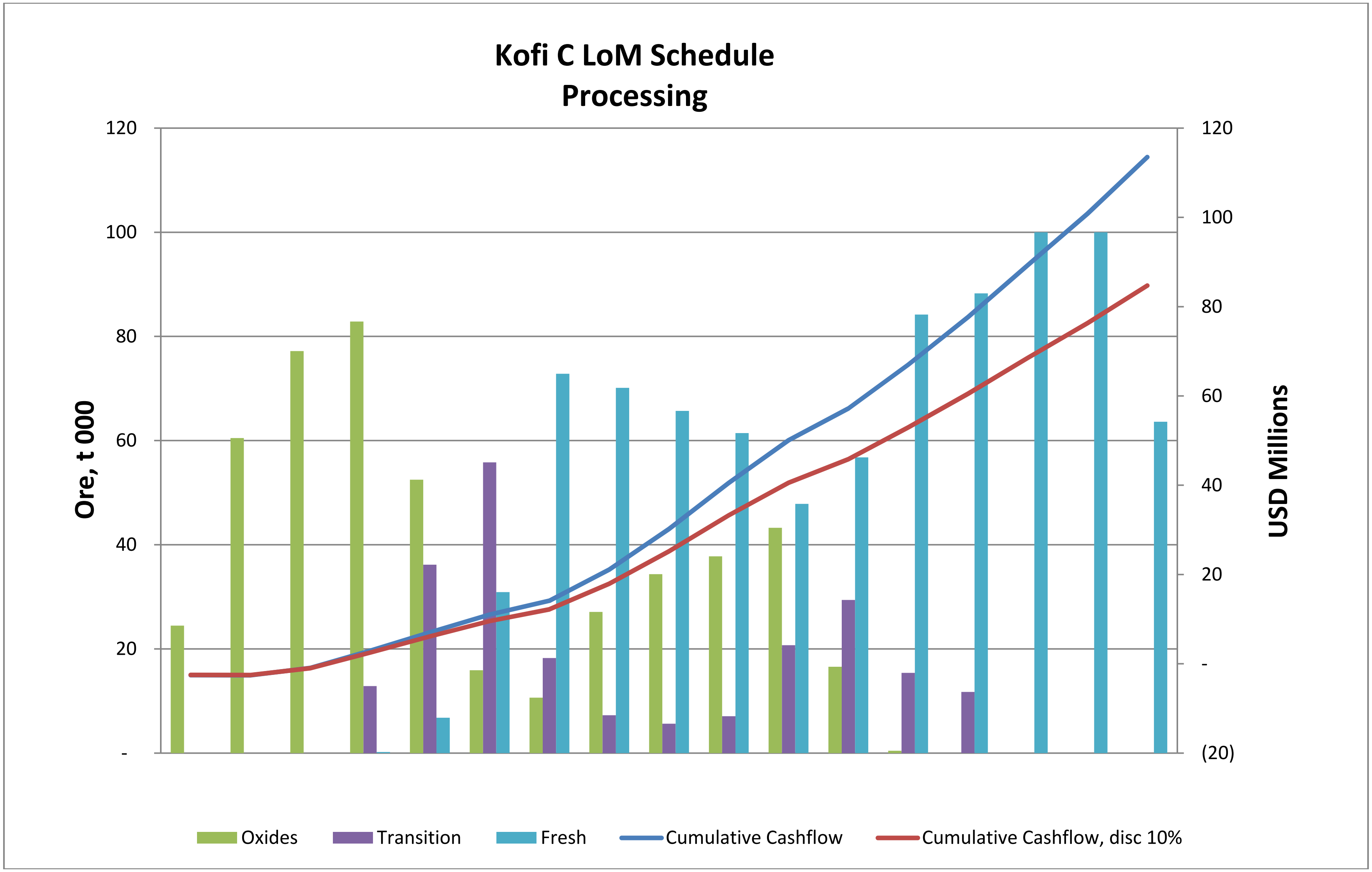


Table 16-7 Kofi C Open Pit LOM Mining Schedule, Processing

Period		Ore by period t	Au grade, by period g/t	Process cost, $	Oxide ore, t	Au grade, g/t	Trans. ore, t	Au grade, g/t	Fresh ore, t	Au grade, g/t	Cumulative Cashflow, $	Cumulative DCF, $ (disc 10%)
2015	Q 1	24,479	2.76	(1,308,379)	24,479	2.76	-	-	-	-	(2,543,940)	(2,481,892)
	Q 2	60,494	3.01	(3,233,422)	60,494	3.01	-	-	-	-	(2,586,539)	(2,522,438)
	Q 3	77,191	3.19	(4,125,885)	77,191	3.19	-	-	-	-	(936,196)	(989,931)
	Q 4	95,922	3.36	(5,128,081)	82,853	3.34	12,859	3.53	210	3.82	2,917,815	2,501,613
2016	Q 5	95,455	3.44	(5,135,241)	52,495	3.50	36,179	3.19	6,781	4.35	7,030,475	6,136,605
	Q 6	102,630	3.41	(5,636,703)	15,899	4.12	55,823	3.42	30,907	3.03	11,022,108	9,578,578
	Q 7	101,722	3.28	(5,793,191)	10,639	3.72	18,245	3.06	72,837	3.26	14,128,650	12,192,004
	Q 8	104,484	4.14	(5,927,574)	27,095	4.17	7,265	4.09	70,123	4.14	21,104,029	17,917,023
2017	Q 9	105,693	4.58	(5,970,628)	34,354	4.60	5,629	4.23	65,710	4.60	30,189,517	25,192,031
	Q 10	106,289	4.84	(5,981,637)	37,767	5.45	7,077	2.75	61,445	4.71	40,528,039	33,268,468
	Q 11	111,808	4.55	(5,929,098)	43,259	4.97	20,712	2.93	47,841	4.88	50,079,424	40,548,006
	Q 12	102,747	4.25	(5,769,473)	16,571	3.60	29,398	2.87	56,778	5.16	57,200,092	45,842,621
2018	Q 13	100,075	5.07	(5,760,805)	452	3.14	15,415	4.18	84,208	5.24	66,990,838	52,945,028
	Q 14	100,000	4.91	(5,776,558)	-	-	11,747	4.03	88,253	5.03	77,666,619	60,500,569
	Q 15	100,000	4.80	(5,834,000)	-	-	-	-	100,000	4.80	89,306,047	68,537,193
	Q 16	100,000	4.84	(5,833,999)	-	-	-	-	100,000	4.84	100,809,675	76,286,323
2019	Q 17	63,629	6.93	(3,712,108)	-	-	-	-	63,629	6.93	113,511,724	84,709,355
Total		**1,552,618**	**4.26**	**(86,856,782)**	**483,548**	**3.75**	**220,349**	**3.35**	**848,722**	**4.78**	**113,511,724**	**84,709,355**

Figure 16-8 Kofi C Open Pit LOM Mining Schedule, Processing



16.2.2.2 Mining Schedule, Djambaye II deposit

The same scheduling approach was used for Djambaye II deposit, which comprise approximately 20% of total Open Pit Reserves of Tabakoto Gold Mine. In total 3 pits were designed and incorporated in Life of Mine plan. The deposit will be mined during 2014 and 2018.

16.2.2.3 Mining Schedule, Dar Salam deposit

The same scheduling approach was used for Dar Salam deposit, which comprise approximately 3% of total Open Pit Reserves of Tabakoto Gold Mine. Single pit was designed and incorporated in Life of Mine plan. The deposit will be mined during 2014.

16.2.3 Waste Dump Design

The waste rock dumps, associated with mining operations, constructed to meet the requirements of the Malian Mining Regulations. The condemnation drilling, covering areas allocated for waste dumps conducted prior to commencement of mining operation.

The typical waste dumps have been designed using the following parameters:

- Face slope angle – 22 degrees
- Overall slope – approximately 22 degrees
- Maximum waste dump height – 40 m

Designed waste dump capacity is usually based on swell factors of 30% for all waste material.

Some waste rock will be used for other infrastructure construction such as roads, drainage control and parking areas around the pit.

Total remaining volume of the designed waste dumps is enough to accommodate the amount of waste generated during mining of the Djambaye II and Dar Salam pits.

The waste dump will be progressed by tipping from a higher level against a windrow and progressively pushing the waste out with a dozer. Waste dumps will be progressively rehabilitated with topsoil, where possible. All rehabilitation work will be carried out progressively. The top surfaces will be graded to allow run-off to the designated drainage tranches.

16.2.4 Blasting and Explosives

Production blasting is performed by BME Mali.

The explosives magazine on site consists of the ammonium nitrate mixing shed for the manufacturing of bulk explosives, ten 10 footer containers for storing detonators, high explosives and other explosive accessories. The supply of detonators, boosters, bulk explosives, initiating systems and other explosives material into the magazines for storage and further use on the mine is the responsibility of BME.

The fencing on the perimeter of the magazine area, the grouting (lightening arresters), loose earth bund in addition to other internal and external safety features were designed and constructed in compliance with the requirements of the Mining and Explosives regulations.

16.2.5 Hydrogeology and Pit Dewatering

Tabakoto pits are located in a moderate rainfall region of Mali where an average rainfall figure of 1,120 mm is recorded annually producing significant amounts of surface run off into the pits. During the year there are only 4 - 5 months of wet season, with the remaining 7 - 8 months characterized by dry weather.

The water table around Tabakoto pits is about 50 m below the surface and it contributes to high water levels in the pit.

Most of the dust suppression water is sourced for the pit dewatering diesel pumps that feed the stand pipes close to the pit.

The main groundwater flow in the area is through fractures, weathered zones and shear zones as a result of the relatively low matrix porosity of greywacke and argillite. All run off, ground water and other sources of water ingressing into the pits are directed into a sump and pumped out. The water from these sumps is tested by the environment department and certified free from any contaminants before pumping into the environment.

Dewatering is strategically designed with Sykes diesel pumps advanced as the pit is developed. The water is tested periodically before it is discharged into environment.

Dewatering activities in the pits are done mainly by the Endeavour team with the mining contractor supporting during heavy rainfall when the Endeavour dewatering pumps cannot keep up.

Dewatering equipment consists of:

- Two (2) Sykes HH220i diesel pumps
- One (1) Sykes CP150i diesel pumps
- Two (2) 4” petrol pumps with a flexible hose used for small scale pumping operations
- 6” diameter HDPE pipes and accessories

Other strategies such as ditching along the edge of the pits and constructing earth bunds to divert water and surface run offs from the pits are implemented.

At the end of the mine life all entrances to the mined out pits will be blocked by construction of earth windrows or fencing to inform and warn of the open excavation. The mined out pits will be subjected to the approved closure plan described in the overall mine closure plan

16.2.6 Grade Control

The grade control aims to delineate ore and waste using RC holes piercing multiple benches. Drilling is performed by Reverse Circulation using a Schramm drill on regular pattern of 10m x 5m and 12m x 5m depending on ore continuity in the target area. Depth of grade control drilling ranges from 12 m to 30 m depending on pit design and mine schedule. The holes are 140 mm in diameter and inclined between 50 to 55 degrees depending on dip of the ore body to be intercepted.

The grade control drill plan, with designated Hole IDs, is generated by the mine geologist who is conversant with the geology and mineralization style of the resource target. The target sample weight per 1m drill interval is 4 kg to 5 kg.

Safety and environmental policies are strictly adhered to at all times at the drill site, including pre-shift inspections, equipment and tool checks, and housekeeping. Adequate logistics are also provided at the drill site to avoid shortages and wastages are cautiously minimized.

Set out and pick-up of collars is done by the surveyors. Drilling is strictly done by planned hole ID’s as designed by the mine geologist during drilling. The hammer is the only tool used for the RC drilling.

Sample material must pass through a cyclone arrangement. A triple stage splitter is used to get approximately one-eighth (1/8) of the total sample drilled to be sent for assay. The remainder of the sample is left in the pit for geological logging and the chips box is used for each hole drilled by putting the rock chips as witness.

Standard samples comprising certified reference materials are inserted into the sampling sequence at a frequency of 1 in 25 routine samples to check and monitor analytical accuracy of the laboratory.

Field duplicate samples are also inserted into the sampling sequence at a frequency of 1 in 21 routine samples.

Monitoring of analytical precision is carried out through analysis of internal laboratory repeats and duplicate samples.

Blank samples from the rock chips of the dolerite are inserted into samples stream, alternating with the standards and the duplicate, to monitor potential contamination between samples at the sample preparation stage.

The standards, duplicates and blanks are inserted into the sample stream on-site and are numbered sequentially within the sample sequence.

QC plots are generated to monitor compliance and advised when acceptable standards are not met.

The number of holes, metres drilled, drill time, and other relevant field data is captured, entered, and validated daily.

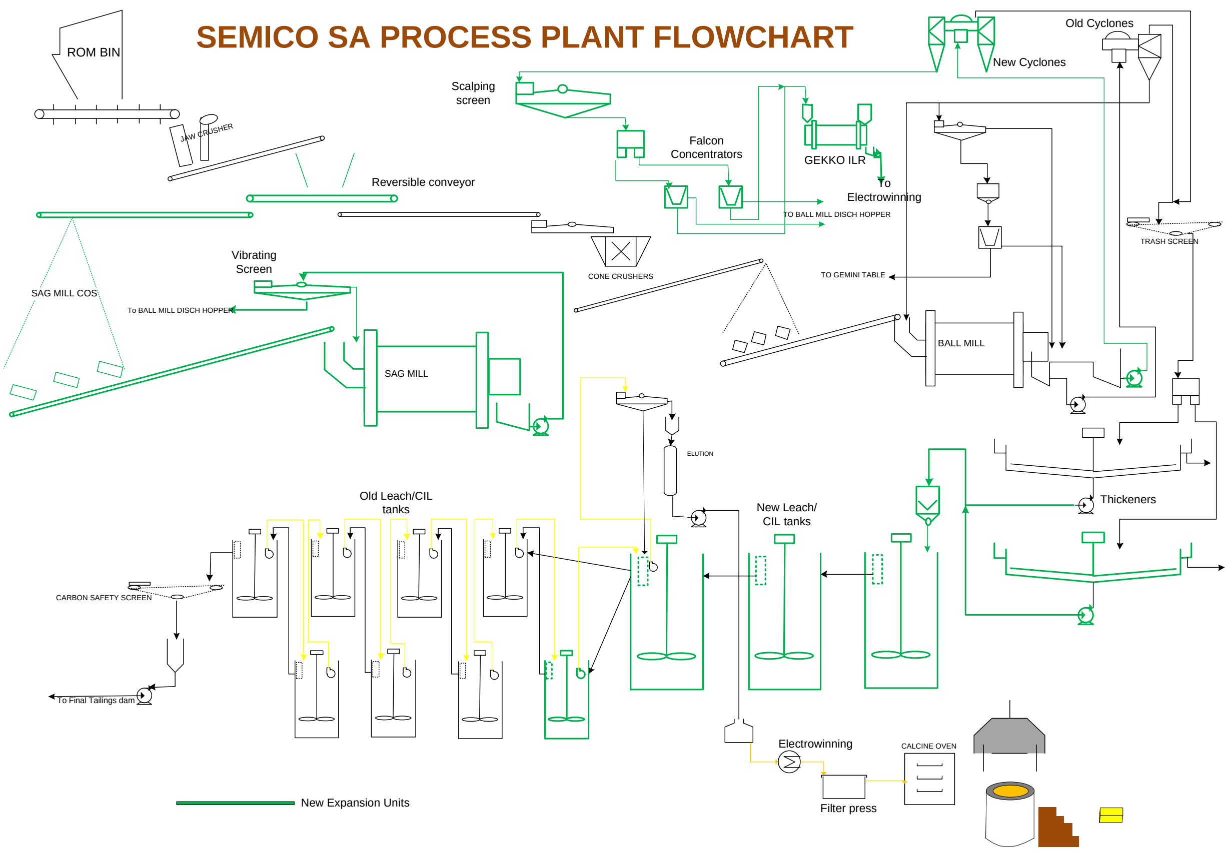
The information, obtained by grade control drilling, represents an input to geological model, used by mine geologists for the final dig line mark-up and by mine engineers for the planning.

17 Recovery Methods

17.1 Process Plant

In August 2010 Avion awarded an Engineering, Procurement, Construction Management ("EPCM") contract to GENIVAR Limited Partnership of Montreal, to increase the process plant throughput from 2,000 tonnes per day to 4,000 tonnes per day. This project was to be completed in 2012. This however was delayed due to political instability and the military coup in Mali. Final commissioning only commenced during March 2013 and the mill reached capacity in May 2013.

Figure 17-1 Current Plant Layout (Green coloured units after expansion)



Plant expansion involved the installation of a new 5,000 kW SAG mill in closed circuit with the existing ball mill. A unique feature of this expansion is the ability to return to the pre-expansion circuit during periods of SAG mill maintenance ensuring production at a reduced rate. Expansion plans included improvements in capacity for CIL, refining, elution, thickening, gravity circuit, tailings impoundment, fresh water delivery and pumping capacities throughout the plant. The gravity circuit was modified to include an Intense Leach Reactor ("ILR") and dedicated electro-winning cells to process the increased volume of gravity recoverable gold. ILR is a high intensity cyanidation process which runs in a batch mode.

Mechanical availability of 70% for the crushing plant and 90% for the wet plant, supported by crushed ore storage and standby equipment is a critical area for this project. Additional automated plant control was introduced to minimise the need for continuous operator interface while allowing manual override and control when required.

17.1.1 Primary Ore Crushing and Stockpile

A front end loader is used to feed ROM to the crushing circuit from the ROM PAD, via a grizzly of aperture 800 mm x 800 mm with a ROM Bin live capacity of 150 t The primary crushing circuit consists of a 1250 x 950 mm single toggle SANDVIK jaw crusher and is fed by a 1.8 m W x 6 m L primary apron feeder. The design closed side setting is 120 mm but currently operating at 110 mm. The primary crusher operates at a maximum throughput of 400 tonnes per hour.

The crushed product is dumped onto a new stockpile ahead of the SAG mill. The stockpile is fitted with three underneath apron feeders and conveyor systems, including a weightometer. The feeders are linked with feeder loop controls and instrumentation which ensure regulated feed rates to the SAG mill.

17.1.2 Grinding and Classification

The Tabakoto grinding circuit was upgraded to include a 6.1m x 8.46m SAG Polyseus mill in series with the existing ball mill. It operates on a 5 MW motor while the 4.75m X 7.92m Ball Mill is driven by a 2.4 MW motor. The SAG mill has a design capacity of 4,200 t/day but with the possibility of feeding above name plate upon optimisation. The SAG mill is in close circuit with a scalping screen to handle 50-150% circulating load. The grinding circuit was also upgraded to include a cluster of ten 15" Krebs hydro cyclones in close circuit with the ball mill. A target P80 of 75micron is fed to the leach circuit.

Current configuration and optimisation allows 28% of the cyclone underflow to be fed to the Gemini shaking table via the scalping screen and one Falcon concentrator and 44% to the Gekko ILR via scalping screen and the other two Falcons concentrators. The balance of the under flow reports directly to the Ball mill for regrinding.

17.1.3 Gravity Concentration

The plant has an active gravity concentration circuit consisting of three (3) SB 2500 model Falcon concentrators, a Gemini shaking table and a Gekko ILR (2000BA). 72% of the cyclone underflow is subjected to gravity treatment. The performance of the gravity unit is highly sensitive to feed grade and contributes about 48% to the mine's gold production. A dedicated electro-winning cell was installed to handle the ILR concentrate.

17.1.4 Trash Screen

The current trash screen had enough capacity to accommodate a 5,000 tpd flow rate. Modifications were made to this screen to feed two thickeners.

17.1.5 Thickeners

Tabakoto operates on a pre-leach thickening system with thickener feed of 22% solids. An additional 86 t/hour thickener was constructed with the plant expansion which operates in parallel with the old 86tph thickener feeding the leach circuit with 50% solids at $118m^3/h$ each.

17.1.6 Carbon -In -Leach (CIL/CIP)

Three additional 2155 m^3 leach tanks were installed with the plant extension. These run in series with one 785 m^3 tank and seven of the old 785 m^3 tanks to bring the current configuration to 11 tanks. This expansion of the leaching tanks and CIL system was necessary to maintain a 48 hour retention time. Each adsorption tank is fitted with a 4 m^2 Kemix MPS400P inter-stage screen and carbon transfer pump. There is a Multotec online automatic sampler that samples the head feed. Plant air is injected into the tanks through the agitators to aid the leach kinetics.

17.1.7 Carbon Elution and Regeneration

The old elution system was not capable of handling the increased production. Required carbon movement is about 3.5 tpd. In order to accommodate this movement, the current two tonne carbon stripping circuit was left as a standalone unit and a new three tonne standalone elution column was installed.

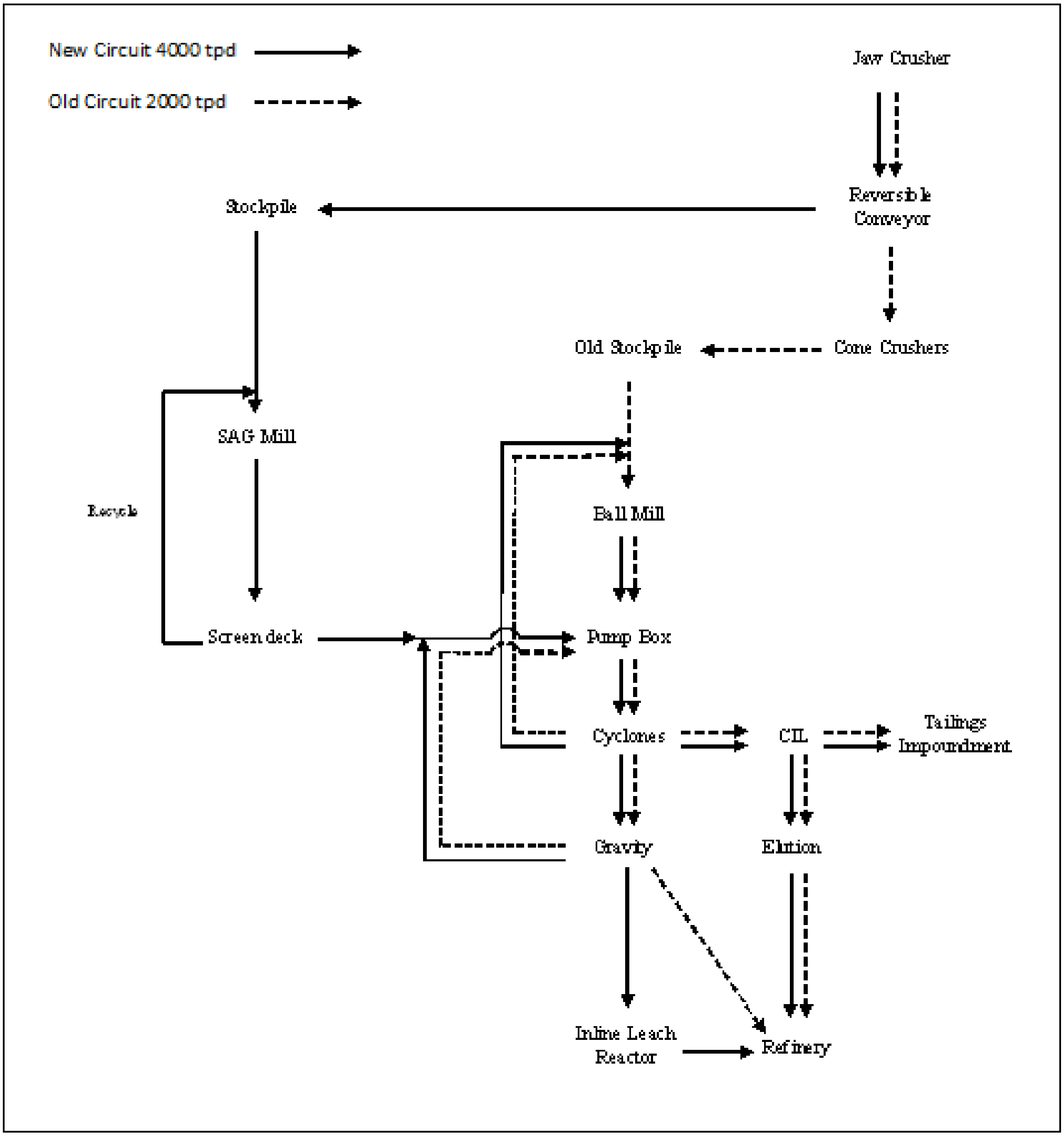
The two columns will use the current boiler system as a common system. Desorption is done at 130°C using 3% caustic solution. The elution circuit has two Ansac thermic oil boilers operating independently but support each other to generate an oil temperature of 300°C. Primary and secondary heat exchangers regulate the required temperatures for the elution process. The circuit currently is capable of treating two batches per day with elution efficiencies currently averaging at 96%. Elution contributes about 52% of the total gold production.

An Ansac diesel powered regeneration kiln is also installed to re-activate carbon treated in the elution circuit at 11 hrs per batch, 200 kg/h and at a temperature of 700° – 800°C.

17.1.8 Gold recovery

Gold room upgrade saw an inclusion of two electrowinning cells to handle ILR pregnant solution, a new diesel powered furnace and filter machine for the ILR concentrate. The old gold room already had two electrowinning cells, a Gemini concentrate table handling the old gravity circuit product, diesel furnace and an electric powered calcine oven. Conventional calcining and smelting procedures are practiced using fluxes like borax, nitre, silica, soda ash and others required. New ventilation and cooling systems have been modified to provide healthier working conditions.

Figure 17-2 Ore Processing Plant Flowsheet – Pre and Post Expansion



17.1.9 Cyanide Recovery

Tabakoto mine currently do not do cyanide recovery. However, UV light destroys about 90% of cyanide that goes to the tailings facility.

17.2 Consumables

17.2.1 SAG Mill Grinding Media

Major consumable for Tabakoto plant is grinding media, cyanide and lime. The plant currently uses a combination of 100 mm and 120 mm steel balls for the SAG mill operation, a blend of 60 mm and 40 mm for the ball mill. Grinding media consumption is about 2 kg/t. An additional expenditure of $220 000 per month is required for steel balls.

17.2.2 Lime

Lime consumption is about 2.0 kg/t ven though the ore currently being treated is not highly acidic. Modifications are currently underway with regards to lime addition and consequent automation as part of the plant optimisation plan.

17.2.3 Sodium Cyanide

Sodium cyanide consumption is currently 0.60 kg/t. Cyanide dosing automation is on schedule and will be competed with the new ring main pump installation which will be tied in with the TAC 1000 online cyanide analyser.

17.2.4 Activated Carbon

Carbon consumption is 50 g/t. the plant uses 6 x 12 grain size carbon from Indocarb. The carbon has exhibited a good wear rate and adsorption rates in the Tabakoto treatment plant operations.

17.3 Supporting Infrastructure

17.3.1 Water Supply

The Faleme River is the main source of raw water supply to the plant. The plant recycles a fairly good amount of decant water as process water. Rarely, the plant uses water from underground operations.

17.3.2 Power Supply and Distribution

The power supply was increased by 6,000 kW to accommodate the mill expansion. This equates to a total expanded power requirement of 10,000 kW for the plant. A new power house was built to supply all mine site power needs. A series of diesel powered generators, rated at 22,000 kW are synchronized to supply required power to all locations on the mine property.

17.3.3 Other Plant Services

Two new compressors were added to the system in order to accommodate the increase in demand for air for the new leach tanks. The current compressed air was converted into a desiccant system and utilized for instrument air.

17.4 Tailings Storage Facility

The current tailings dam facility rate of rise per annum has reached maximum levels. This is mainly due to the additional tonnage treated after the plant expansion. A new tailings dam is currently in construction and deposition can commence around June 2014. Deposition will continue on the new dam until it has reached the same height as the current dam. The valley created between the two dams will then become available for future slimes deposition.

An additional water pond has also been constructed but has not yet been commissioned.

18 Project Infrastructure

18.1 Introduction

Project infrastructure includes power, water, tailings facility, mine services facilities and site offices. An aerial view of the Tabakoto mine site is presented in Figure 18-1.

Figure 18-1 Aerial View of the Tabakoto Mine Site

18.1.1 Power Supply

Power Plant

Due to the lack availability of an external source for electrical supply, Tabakoto mine owns and operates a Power Station equipped with 19 diesel driven Cummins alternators (seven KTA50G8, six KTA38G5 and six QSK60G4) with a total nominal capacity of 22.378 MW.

The alternators generate electricity at 400 volts, 50 Hertz which is stepped up via transformers to 11 000 volts for reticulation to the Processing Plant, Tabakoto underground mine, Ségala underground mine, Faleme River Pump Station, Tailings Storage and Water Pond Facility, Residential Village, Administration Office complex, Heavy Vehicle Maintenance Workshops, Aggregate Crushers and Concrete Batch Plant.

After the 11 000 volt reticulation electricity is further processed via step-down transformers to either 415 or 525 volts at various local sub-stations before final distribution, with the exception of the SAG and Ball Mills main drive motors which operate at 11 000 volts.

Figure 18-2 Tabakoto Power Plant

18.1.2 Water Supply

Water Supply and Tailings Management

Water supply to the Tabakoto mine site is divided into:

- Raw Water for the Processing Plant, which is pumped from a Pump Station on the Faleme River (approximately 18km away) via two pipe-lines to the Raw Water Dams.
- Process Water is recycled from Tailings Storage Facility decantation and from the pre-Leach Thickeners ‘clear water’.
- Domestic water is sourced form bore-holes to the Residential Village, Administration Offices, Process Plant, Underground Mine Offices.
- Process Plant Fire Water is supplied from the in-plant Raw Water pond.
- Power Station Fire Water is supplied from a local bore-hole located at within the Power Station Complex.

Residue from the Process Plant is pumped to the Tailings Storage Facility. Endeavour has contracted Fraser Alexander to manage the Tailings Storage Facility operation. The Tailings Pond walls are built up by creating paddocks (decant cells). The paddocks are filled with tailings material which is allowed to dewater and settle. Fresh Tailings material is then diverted to the next paddock and the paddock is then allowed to dry. The dried tailings are used to build the next decant cell.

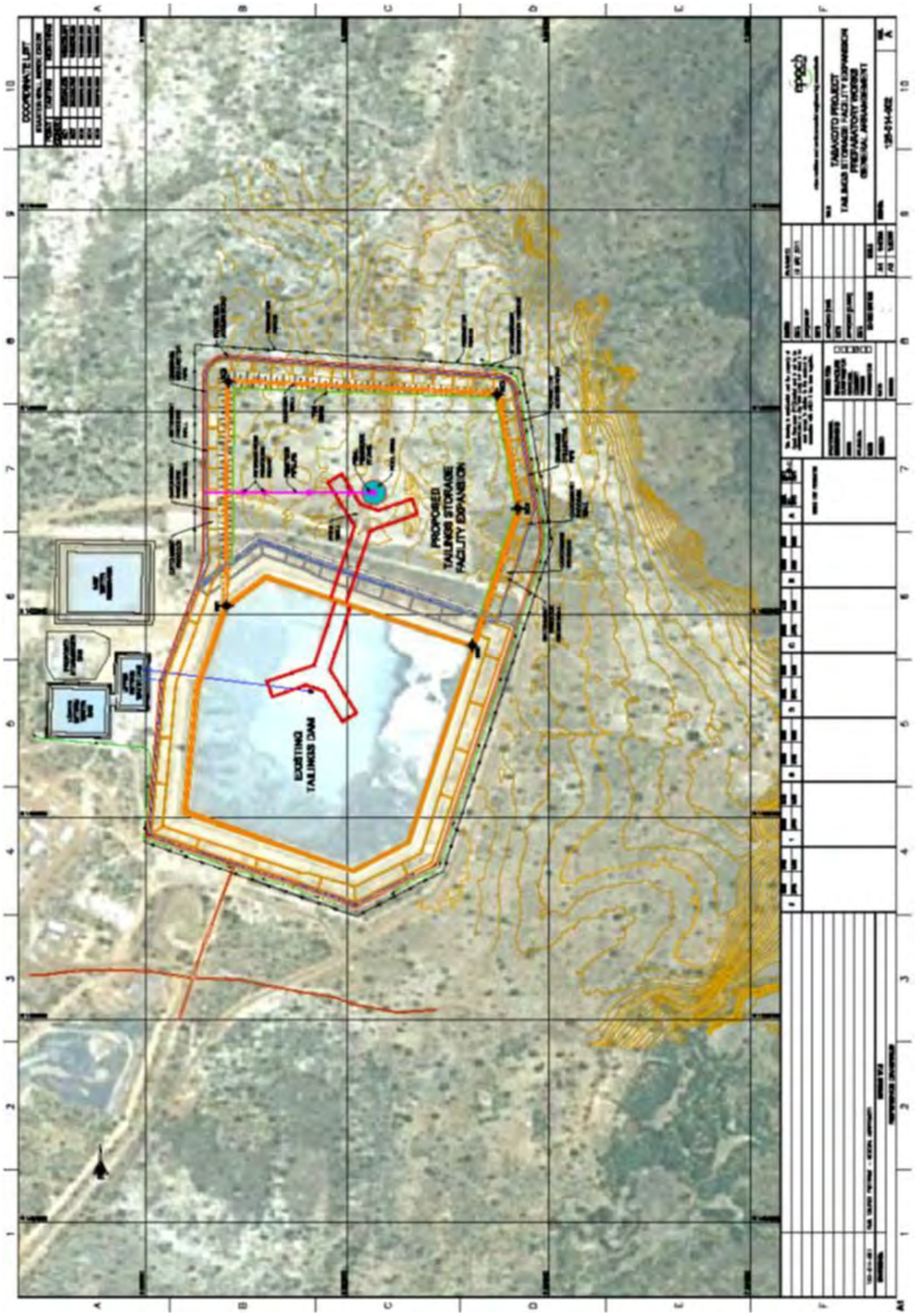
Water is decanted from a penstock (decant tower). Rings can be added or removed to control the decanted water quality. The decanted water is fed into a decant water holding pond. The decanted water is pumped back to the milling circuit as Process Water. During the rainy season excess decanted water not used in the process is pumped to the new (lined) raw water holding pond for use in the process. A facility is available for water treatment using peroxide and copper sulphate to convert the sodium cyanide into its elemental forms of hydrogen, nitrogen and water.

The mill recycles 100% of the process water and the evaporation loss is approximately 50%.

Fresh water supply is made up of water pumped from the Faleme River located 18 km from the mine site. Rain events during the wet season add to the water catchment in the Tailings Storage Facility. This allows the river pump system to be shut down periodically in order to use all available natural occurring water. Underground mine development also uses a dewatering system that provides additional fresh water which is augment the Raw Water ponds.

The construction of an expansion to the Tailings Storage Facility is currently in progress. This expansion is designed to be capable of handling the increased flows resulting from the Process Plant expansion. Both components of this enlarged facility will employ the same operating procedures as are currently used. The new dam design provides for an operation similar to the current facility with a penstock drainage system and lined pond as the base system. Lifts will be added using the current paddock set up. Tailings from the mill will be split to feed each of the containment areas, at a rate of 2,000 tpd, respectively.

Figure 18-3 Layout of the New and the Existing Tailings Storage Facilities



18.1.3 Haul Roads

Ore from the Tabakoto underground mine is transported by haul-truck from the underground mine directly to the Process Plant ROM (Run Of Mine) storage, in close proximity.

Ore from the Ségala Underground mine deposits is transported by haul-trucks over a distance of 5.5 km to the Tabakoto Process Plant.

Ore from the Djambaye II open pit mine is transported by haul-trucks over a distance of 8 km to the Tabakoto Process Plant.

18.1.4 Waste Dumps

Waste material dumps have been constructed near the Ségala Main, Ségala NW and Tabakoto.

South and Dioulafoundou and Djambaye II open pits in accordance with Canadian Mining Standards.

The existing main Tabakoto waste dump that was created by Nevsun is used to hold waste rock from underground mining.

18.1.5 Explosives Plant and Magazine

Endeavour has contracted BME to supply and manage explosives at the Mine. A plant to make bulk emulsion explosives for blast holes is situated near the mill. The plant provides explosives for both open pit and underground operations. A magazine to house blasting accessories and a stock of stick powder is located elsewhere on the Tabakoto property.

18.1.6 Workshops and Warehouse

Several workshops are situated near the Process Plant area, for fixed plant maintenance, light vehicle maintenance, and mining equipment maintenance.

A large warehouse and equipment storage yard are located near the Processing Plant.

18.1.7 Accommodation

A camp on the Tabakoto property is capable of housing approximately 310 people, and contains a Mess Hall, Recreation Centre, Gymnasium, and Laundry facility. Additional accommodation is currently being constructed for a further 60 residents. This is in response to the requirements of the owner mining.

An aerial photograph of the camp is presented in Figure 18-4.

Figure 18-4 Camp Accommodation

18.1.8 Offices

An Administration Office block, Clinic and Emergency Response Centre are situated just outside the mill area. Two blocks of offices for underground mining personnel, two change houses, and a safety/training facility have been constructed near the Tabakoto pit entrance.

Construction of additional change-houses to cater for the Ségala underground mine is in progress.

18.1.9 Fuel Storage

Two 1.5 million and a 2 million litre tanks hold diesel fuel for the operation, and are located near the process plant, as shown in Figure 18-5. Fuel supply is contracted to Vivo Energy.

The total holding capacity of 5.0 million litres of diesel is capable of sustaining operations, at the expanded rate of 4,000 tonnes per day, for approximately 60 days.

Figure 18-5 Diesel Fuel Storage

18.1.10 Security

The area that contains the Process Plant, Tabakoto pit, waste rock dump, tailings dam, office block, explosives plant and magazine, fuel depot, power plant and the camp, is surrounded by a security fence that is patrolled by guards. The Ségala Main and NW pits are fenced, as is the haul road from Ségala to the Tabakoto process plant. The Dioulafoundou and Djambaye II deposits and haul road are also fenced.

Additional security guards patrol and/or are stationed at strategic areas around the operation.

19 Market Studies and Contracts

SEMICO has no hedging contracts in place and is fully exposed to the spot gold price. Doré bars poured at the mine site are collected by a security company at the gold room located within the process plant, and transported to South Africa, for delivery to an internationally-known refinery firm. The doré is then melted and refined to pure gold and silver. Typically the doré bars contain 84% - 88% gold and 10% - 14% silver. The refinery in South Africa charges SEMICO $0.35/oz of the total gross weight of the doré to refine it, and gives a return rate of 99.95% of the analytical fine gold content and 98.0% of the analytical fine silver content. There are penalties for deleterious elements, but SEMICO has never exceeded the amounts for penalties to apply. SEMICO has established a third party lab to check and referee the refining results, and has the right to appoint an umpire if it believes the refinery results are out of tolerance.

SEMICO currently sells its gold and silver to the South African refinery. All of SEMICO's gold and silver production is available to be sold at spot prices since the Company doesn't have metal hedges in place. SEMICO aims to sell its gold at prices in excess of the London PM fix price and uses this as a bench mark. SEMICO typically achieves realized prices for its gold above the average spot market prices. SEMICO generally sells each shipment of gold before the next shipment is made.

20 Environmental Studies, Permitting and Social or Community Impact

20.1 Environmental Studies Introduction

The area surrounding the Project is sparsely populated with habitation centered in several small villages throughout the Project area. Subsistence farming and cattle grazing are the main industry, although artisanal mining is evident at number locations. Artisanal miners ("orpailleurs") are both local villagers and outsiders who tend to move throughout West Africa in search of rich surficial and near surface gold deposits.

The Company has established a community relations program and has maintained good relations with local inhabitants, including fair treatment of artisanal miners if their relocation to another mining area is required, and compensation for crops in new mining areas.

The soil is generally not very fertile. Surface water is in abundance during the wet season, and ground water is the main source for human consumption. The vegetation has been greatly exploited for building and fuel for cooking. The populations of large wild animals have greatly reduced due to hunting and loss of habitat.

The regional climate in the mine area is of the Sudanese-Guinean type. It is hot and dry from February to April; rainy, humid and mild from May to November; cool and dry from November to February.

During the operating life of the mine, environmental monitoring will be ongoing to evaluate the effects of both the mining and processing operations. Monitoring the success of the reclamation programme and other environmental mitigation measures is also an important objective during operational monitoring.

20.2 Environmental Management (EMS) Summary

The objectives and the targets of the Environmental Management System are outlined below:

General Objectives:

- Promote awareness and responsibility for the environmental among employees and the community; making use of education and training
- Minimize all environmental impacts resulting from the mine's activities

Specific Objectives:

- Minimize negative impacts on water availability and quality
- Avoid reducing natural resources around mining area beyond carrying capability
- Ensure proper solid waste disposal, especially hazardous waste
- Limit the amount of dust generated and other air pollutants
- Optimize energy use and
- Effectively communicate with stakeholders

To attend these objectives the following have been also set in place:

- An environmental laboratory has been established for general ongoing and emergency analysis
- External water analyses are routinely conducted
- The Environmental software (EQWin Data Management) is used to interpret the results

The mine adheres to all Malian laws pertaining to Environmental Management however in the absence of an applicable Malian standard, the standards prescribed by the World Bank Guidelines, and WHO Standards are adhered to. Additionally the Semico environmental management implementation is ISO 14001 compliant (*Digby Wells & Associates EMS report, February 2004*). Additionally the SEMICO

Management is committed to adhering to the EMS via policy and work commitment and is managed by a committee including top management.

20.3 Environmental Monitoring

20.3.1 Environmental Monitoring

Systems and procedures are in place to ensure that environmental incidents or non-conformance incidents are reported and recorded, that the corrective action is taken in the event of an environmental incident, and to maintain records of historical environmental incidents.

Table 20-1 Cumulative Environmental Incident Statistics

	2013			2012			2011		
Month	Cat 1 (Severe)	Cat 2 (Major)	Cat 3 (Minor)	Cat 1 (Severe)	Cat 2 (Major)	Cat 3 (Minor)	Cat 1 (Severe)	Cat 2 (Major)	Cat 3 (Minor)
January	0	0	1	0	0	2	0	1	0
February	0	0	1	0	0	1	0	0	0
March	0	0	1	0	0	1	0	0	0
April	0	0	0	0	0	0	0	0	0
May	0	0	3	0	0	3	0	0	0
June	0	0	0	0	0	2	0	0	2
July	0	0	2	0	0	0	0	0	1
August	0	0	0	0	0	0	0	0	1
September	0	0	1	0	0	1	0	0	2
October	0	1	2	0	0	5	0	0	1
November	0	0	0	0	0	1	0	0	1
December	0	0	0	0	0	1	0	0	1
TOTAL	**0**	**1**	**11**	**0**	**0**	**17**	**0**	**1**	**9**

20.3.2 Water Monitoring

The current monitoring plan includes:

- Development of groundwater baseline data for the mine area and local communities in accordance with EIA commitments and operating procedures
- Evaluation and proper interpretation of the routine monitoring data against the baseline data during and after the mining activities period
- Ensuring that all ground water must comply with the WHO standards and surface water to the World Bank Standards
- Ensuring that any discharge water to the environment should comply with the relevant World Bank or World Health Organization standards
- Minimize the risk of discharging contaminated water in the short-and long-term. This is of particular importance as the local communities and livestock may utilize the wastewater at downstream
- Integration of all and other emerging issues of environmental and social concerns in a manner so as to ensure early detection of variations/departures from baseline conditions or compliance requirements

The monitoring programme will ensure that trends can be established at impact areas for early recognition should problems occur and the type, source and path of the contamination can be readily identified. From this the appropriate intervention can be planned and implemented within the statutory and regulatory guidelines.

Water monitoring points include:

- piezometers around the Tailing Dam
- Piezometers around the waste dumps
- Potable boreholes and water taps
- Hand pumps and production wells from surrounding villages
- Stream water
- Discharge water from treatment process.

Water samples are analysis at the SEMICO Environmental Laboratory (using the Environmental Management Software EQWIN Desktop Edition Software, 4 x Single-User License Gemteck- versions 6.7), at the National Water Laboratory in Bamako, and at SGS Laboratory in Ghana for parameters that cannot be analyses in Mali. The water monitoring procedure requires that representatives from the Government environmental and water department conduct periodic check samples. Water quality analyses conducted between 2010 and 2013 are tabulated below:

Table 20-2 Water Quality Analyses conducted through the SEMICO Management Programme

Year	2013	2012	2011	2010
Number of Parameters analysed	8.446	7.647	3.000	2.800
TOTAL	**21.893**			

Figure 20-1 Water Sampling Collaborative Programme with the National Laboratory

20.3.3 Dust Fallout Monitoring

A total of 24 dust fall out buckets are installed throughout the property. Monitoring is on a monthly basis and analyses are compared against standards set by the South African Department of Environmental Affairs for Dust Deposition (there are no Malian or WHO standards available).

Dust suppression is practiced on all access and mine roads on the property. All internal roads and the main roads in the Tabakoto villages are watering times per day.

Figure 20-2 Technician Inspecting Dust Fall Out Monitor

20.3.4 Topsoil Monitoring and Rehabilitation

The Top Soil Monitoring programme ensures that:

- Topsoil is preserved for later use in rehabilitation
- The local Forestry Official is notified when species of flora are affected by operations
- A nursery is maintained to grow various species for rehabilitation as per EIA recommendations
- Local grass species are collected for re-seeding of rehabilitated areas and
- Rehabilitation is completed as per the recommendations

Additionally steps are taken to minimise and mitigate the impact of land transformation due to mining. These principles are developed into the Mine Rehabilitation Plan which is managed by a committee of senior officers of the company. Rehabilitation activities conducted in the past 4 years are tabulated below in Table 20-3.

Figure 20-3 Nursery and Grass Seed Storage for Mine Rehabilitation

Table 20-3 Rehabilitation Activities Conducted by SEMICO from 2010 to 2013

Rehabilitation Activities	Year				Total Rehabilitation
	2010	2011	2012	2013	
Nursery total Trees	3092	3521	5042	5563	
Number of Trees species	57	56	61	64	
Numbers of trees planting for rehabilitation	907	1391	1437	2599	6334
Numbers of grass bags used (50kg/bag)	875	1786	2781	1283	6725
Trees donation to employees	248	191	471	762	1672
Trees donation to local communities	160	14	450	219	843
Trees donation to local administration	360	200	220	0	780
Numbers of trees after end year activities	1417	1725	2464	1983	

20.3.5 Climatic Monitoring

Climatic monitoring is ongoing from the installed weather station and reports and statistics are presented.

Table 20-4 Annual Rainfall Statistics

Mois	1998-2001	2006	2007	2008	2009	2010	2011	2012	2013	Moyenne
Jan	0	-	-	-	-	-	-	-		-
Fev	0	-	-	-	-	-	-	-		-
Mars	0	-	-	-	-	-	-	-		-
Avril	73	5	-	-	-	20	-	-	17	14
Mai	171	111	36	107	16	70	8	37	23	72
Juin	452	264	161	262	185	186	155	169	136	246
Juillet	838	517	365	458	391	406	371	428	289	508
Aout	1 276	777	734	870	878	765	790	758	926	972
Sept	1 623	1 009	1 037	1 095	1 237	1 075	901	1 059	1 153	1 273
Oct	1 891	1 053	1 054	1 172	1 374	1 127	909	1 134	1 264	1 372
Nov								1 162		
Dec										

20.3.6 Waste Management and Recycling

Safe disposal of waste remains a priority and is administered via SEMICO waste management plan and procedures. Recycling is done where possible (drums, crates, scrap steel, pallets etc.) and are otherwise distributed for use by the community.

Waste is collected daily, and is managed through a land fill site. Biomedical waste is incinerated in an incinerator in the TSF area and covered.

20.3.7 Wild Animal Monitoring

Patrols of the mine perimeter are ongoing, especially in the TSF area to prevent animal fatalities. Bird Cannons are employed in the TSF area to chase birds from the tailings effluent.

Additionally teams are trained to remove bee’s nests and snakes from the mine and these are released into the environment.

Figure 20-4 Teams Trained in the Removal of Bees and Snakes

20.3.8 Fire Control

Fire control is done in collaboration with Kenieba Forestry Department and the SEMICO Safety department. Every year fire breaks get cleared around all strategic installations and controlled burning is undertaken where necessary.

Figure 20-5 Fire Control

20.3.9 Pest Control

A mosquito spraying campaign is in place and is managed in conjunction with the Mine Clinic. Camp and offices are sprayed as well as surrounding areas. It is intended to expand the spraying campaign into the neighbouring villages.

Additionally mosquito nets are supplied at subsidised prices to employees and their families as well as education to the communities on vector control and mitigation measures.

20.3.10 Blasting/Noise/Vibration

Noise and vibration as a result of blasting is monitored at points inside and outside of the mine perimeter. Caution is taken to minimise all blast concussion and dust, and hearing protection is mandatory on any noise level above 85 dBA.

A blast related vibration baseline has been established through monitoring and continues to be monitored using updated equipment.

20.3.11 Conclusion

To date, no groundwater and surface water pollution from the mining operation has been detected in the ground water. The water quality complies with the WHO and WB guidelines.

The mine has a closed system to avoid discharge of treatment water into the environment. A cyanide detoxification facility is in place for emergency during the wet season.

20.4 Key Social and Environmental Milestones and Achievements

20.4.1 Year 2013

Djambaye II

- Grave yards and football field fencing
- Domestic waste deposit site fencing
- Bins distribution to each household to improve waste management on site
- Post relocation study report
- Develop a community grievance management procedure

Kofi

- Open pit environmental permit granted (archeological study, fauna/flora/, hydrocensus, public consultation etc...)
- Mining permit granted
- Community development plan report submitted to the administration

Djambaye II waste dump expansion

- Preliminary meeting conducted and site visit with Malian administration (DNACPN, DRGM, hydraulic) on 27 to 30 August 2013. Project has been postponed by mining due to cost issue.

Photovoltaic project

- Preliminary contact were made with Malian administration (Centre d’énergie solaire du mali)
- Collected baseline information. Project has been postponed

20.4.2 Year 2012

Mill and tailing dam expansion project

- Mill and TSF extension environmental permit is granted.
- Authorisation to deviate the national road Kayes-Kenieba RN 2 is granted (to extend TSF)

Kofi Project

- Environmental and social impact assessment preliminary plan is completed.
- Set new environmental monitoring points,

Malaria awareness

- 2000 mosquito nets were distributed to the employees.

Djambaye II pit ESIA and hamlets relocation

- Open pit environmental permit granted
- Mining permit granted

- Relocation process completed in regards to Malian and Word Bank standard.

Djambaye II hauling road and national road (RN 24) crossing

- Environmental permit granted
- Hauling road environmental permit granted
- Hauling road construction permit granted
- National Road (RN24) crossing authorisation obtained in 2011

Mills and TSF extension project

- Baseline Environmental study of the mill and TSF extension project
- Research of the national road RN 2 deviation

Camp sewage plant

- Preliminary study of the camp sewage plant

Airstrip construction

- Airstrip construction granted (on the base of several studies during 2010) from l'ANAC (National Agency of Civil Aviation)

Table 20-5 List of Key Activities With State and Other Inspections by External Groups

YEAR	DATE	KEY ACTIONS
2013	Feb 20	Environment manager attended a meeting organized by the Ministry of mines to discuss local traditional mining issue (Orpailleur) on February 20, 2013.
	March 11-13	On the request of management, Tabakoto villages' potable water inventory has been conducted from March 11 to 13, 2013.
	March 14	Iinspection on March 14, 2013 at Kofi permit to discuss with village leader regarding the irregular new houses construction on the permit.
	March 24-25,	Malian environmental minister delegation site visit. The outcome of the visit was very good.
	22-29 April	Two Malian officials visit: Administration deputy delegation (22-23 April 2013) and the Kaye's region governor with delegation on 29 April 2013. The outcome of the visit was very good.
	May 01-02	Hydro census study started on 23 April 2013 and water samples were sent to LNE and SGS-Ghana on 01-02 May 2013
	June 13	A team of SGS-Ghana laboratory was on site on 13 June to present their new future laboratory at Bamako
	August 07	Investigation on the Faleme water pipe broken issue on August 07-2013. Report has been developed and compensation process completed.
	August 27-30	DNACPN, DRGM, and hydraulic department from Kayes conducted site visit from 27 to 30 August 2013. The outcomes of the visit were that Malian administration has not objection of the feasibility of the project but they asked Semico to supply the full water management plan of the area, the execution plan and timeline, investigation of the presence of farms, road, private land etc. for their comments before to obtain the authorization
	October 22	Feasibility report presentation in Bamako on 22 October 2013
	Nov 03-07	Public consultation conducted on November 03-07, 2013 in the four villages (Kofi, Woro, Betea, Dabara
	Nov 12	An information letter has been send on November 12, 2013 to Kenieba prefecture related to the Djambaye II crossing lights failure and our proposed communication plan.

YEAR	DATE	KEY ACTIONS
	Nov 30	Farms and cropland/verger evaluation for compensation has been completed.
	Dec-18	A protocol accord has been sign off with the Kenieba Urbanism department to conduct the communities school design and the supervision of the construction. Waiting the plan and the quotation.
2012	Jan 06	The DNGM representative and an independent consultant was on site January 6, 2012. The objective of the mission was to more understand the mine environmental and social plan.
	Fe 02	The Kenieba mayor has been invited to attend the Djambaye II report validation preventative on February 2, 2012. Regular communication with villagers and administration on regarding Djambaye II.
	Feb 08	The Kenieba mayor and representatives of villages (Sansanto, Djambaye 1-2) were invited to attend to the Djambaye II pit first blast on the 8 February 2012 in order to increase our communication plan with surrounding villagers.
	Feb 21	Due to the urgency the Kenieba prefecture given to the mine on 21 February 2012 a special authorization letter to start the relocation activities.
	March 18 -23	The geometer experts in charge to conduct the new hamlets relocation urbanism plan were on site from March 18 to March 23, 2012 to set the urbanization plan.
	March 31	In the purpose to assist the Djambaye 1 and 2 relocated peoples, cereals were donated to them on 31 March 2012. The donation was calculated according to the number people living in each family.
	April 19	Kenieba 02 productions boreholes were developed on April 19, 2012.
	May 15	All keys Djambaye environmental study documents have been submitted to the DNGM on May 15, 2012
	June 14	Site visit was conducted on 14 June 2012 with Kenieba roads department in order to follow drainage work activities.
	Jun 26	A meeting was held on 26 June 2012 at Bambou and Alahina. This is in purpose to inform them of complete closure of tailing dam expansion area and the opening of the new deviated roads according to the EISIA report requirements. However the same information was given to Tabakoto mayor.
	Jul 31-04 Aug	Training on the new bacteriological equipment from 31 July 2012 to 04 August 2012
		The final reports (ESIA on Djambaye II Pit and the access road, the socio-economic report and the action plan of

YEAR	DATE	KEY ACTIONS
		Djambaye relocation) have been submitted to the Malian administration and Semico on 29 February 2012.
	Sept 10	The official ceremony and sacrifice was done on September 10, 2012. Were present the Bamako mining, environmental department representatives and Kayes and local administrative representatives.
	Sept 24-30	National laboratory conduct site and community potable water bacteriological analysis from 24 to-30 September, 2012.
2011	Feb 03	Airstrip ESIA report validation.
	Feb 11	A meeting was help between the National Road departments to discuss the way to cross the international road to Djambaye II. Site inspection on the road crossing point has been conducted on the 10 Feb-2011.
	Jan 22	Participate to the validation of l'ITIE (Initiative pour la Transparence dans les Industries Extractives au Mali) Kayes.
	Jan 26-28	Participate on Anglo Gold- Sadiola and Yatela annual environmental and social workshop.
	March 11	The design of the new sewage plant has been submitted to the Malian administration at Bamako ANGESEM (Agence Nationale de Gestion des Stations d'Epuration) for analysis.
	Apr-17-18	Participation of the workshop organised by the DNMG for the local elected officials and local government on the mining code held from 17 to 18/04/11 at Kenieba.
	Aug 03-05	The regional director of mine conducted a site visit from 03 to 05 August 2011. The purpose of the visit was to visit the traditional miners (placers) to identify the environmental impacts from them.
	Aug 21	In the purpose to validate the TSF and Plan extension Term of References (TDRs), the DNACPN form Bamako, the Regional environmental department and the local administrative conducted a site inspection from august 21 to 23
	Oct 20-22	Malian administration conducted a site inspection on October 20-22, 2011 to validate the TDRs (Terms of References) for Djambaye the environmental and social impact study. Waiting the feedback;
	Nov 29-Dec 03	The national water laboratory was on site (Laboratoire National des Eaux) was on site from 29 November to 3 December 2011to conduct water analysis. The analysis program was focused onto Tabakoto and surrounding villages and the mine potable water quality analysis. This is to ensure that the water quality in the mining area have to be confirm to the requirement standards.

YEAR	DATE	KEY ACTIONS
	Nov 29- Dec 03	Training on laboratory equipment were given to the environmental department employees was conducted from 29 November to 03 December 2011 by the consulting B.E.G.C.E- SARL (Bureau d'Etude, de Gestion et de Contrôle Environnemental).
	Dec 10	The ESIA report of air strip project has been presented to the administration (DNACPN) on Dec 10-03-2011. The report has been validated. Waiting the environmental permit;
	Dec 13	Djambaye II pit traditional sacrifice was conducted on December 13, 2011 in the presence of most of the surrounding villager's representatives, the local and Kaye's authorities and the Tamico.s.a representatives.

Table 20-6 List and Description of the Reports Submitted to the State

N0	REPORT	SUBMIT DEPARTEMNT
2013	Djambaye Post relocation study report 2014	DNGM, DNACPN, Kenieba Mayor, Kenieba Prefecture
	Kofi C Environmental and social assessment report-2013	DNGM ; DNACPN, Sitakily Mayor ; Kenieba Prefecture
	Kofi Nord archeological study report-2013	DNGM, DNACPN, Sitakily Mayor, Kenieba Prefect,
	Kofi Nord fauna and flora study report-2013	DNGM, DNACPN, Sitakily Mayor, Kenieba Prefect,
	Kofi Nord Hydrocensus report-2013	DNGM, DNACPN, Sitakily Mayor, Kenieba Prefect,
	Kofi project Community Development plan-2013	DNGM, DNACPN, Sitakily Mayor, Kenieba Prefect,
	Tabakoto village potable water issues investigation report-2013	DNGM, DNACPN, Sitakily Mayor, Kenieba Prefect,
	Geophysical study of community potable borehole-2013	DNGM, DNACPN, Sitakily Mayor, Kenieba Prefect,
2012	Djambaye Environmental and social assessment report -2012	DNGM, DNACPN, Kenieba Mayor, Kenieba Prefecture
	Djambaye Socio-economic survey-2012	DNGM, DNACPN, Kenieba Mayor, Kenieba Prefecture
	Djambaye Relocation Action Plan (PAR) -2012	DNGM, DNACPN, Kenieba Mayor, Kenieba Prefecture

N0	REPORT	SUBMIT DEPARTEMNT
	Djambaye Fauna and Fora Study report--2012	DNGM, DNACPN, Kenieba Mayor, Kenieba Prefecture
	Djambaye Archeological study report--2012	DNGM, DNACPN, Kenieba Mayor, Kenieba Prefecture
	Relocation site land Survey report--2012	DNGM, DNACPN, Kenieba Mayor, Kenieba Prefecture
	Hydrogeological and geophysical study for boreholes drilling-2012	DNGM, DNACPN, Kenieba Mayor, Kenieba Prefecture
	Relocation houses plans-2012	DNGM, DNACPN, Kenieba Mayor, Kenieba Prefecture
	National road crossing section plan and report-2012	DNGM, DNACPN, Kenieba Mayor, Kenieba Prefecture
	Environmental Permit and others authorization from DNACPN de Djambaye-2012	DNGM, DNACPN, Kenieba Mayor, Kenieba Prefecture
	Villages construction authorization-2012	DNGM, DNACPN, Kenieba Mayor, Kenieba Prefecture
	Relocation plan-2012	DNGM, DNACPN, Kenieba Mayor, Kenieba Prefecture
	House owners attribution table and new communities infrastructures list report-2012	DNGM, DNACPN, Kenieba Mayor, Kenieba Prefecture
	TSF and plant expansion ESIA report-2011	DNGM, DNACPN, Kenieba Mayor, Kenieba Prefecture
	TSF and plant expansion- Flora and Fauna report -2011	DNGM, DNACPN, Sitakily Mayor, Kenieba prefecture
	TSF and plant expansion- 2011	DNGM, DNACPN, Sitakily Mayor, Kenieba prefecture
	TSF and plant expansion site compensation report 2011	DNGM, DNACPN, Sitakily Mayor, Kenieba prefecture

N0	REPORT	SUBMIT DEPARTEMNT
	Annual environmental monitoring report (Include all the environmental activities during the year). 202; 2011; 2010	DNGM (Direction Nationale de la Géologie et des Mines) ; DNACPN (Direction Nationale du Controle des Pollutions et des Nuisances)
	Annual water analysis result report	LNE, DNACPN, DNGM
	Yearly wet season water management plan	Env Committee- Kayes; LNE
	Yearly rehabilitation activities 2012; 2011 and 2010	DREF-Kayes ; DREF-Kenieba; DNGM
	Annual Land Compensation reports 2012, 2011 and 2010	DRA-Kenieba; Prefecture , Mayor; DNACPN
	All information letters relating on new mining activities	Prefecture, Mayor, DRGM, DNGM,
2011	Airstrip construction ESIA- 2011 Environmental and social impact study (ESIA)-2011	DNGM, DNACPN, Sitakily Mayor, Kenieba Prefect,
	TSF and plant expansion ESIA report-2011	DNGM, DNACPN, Sitakily Mayor, Kenieba Prefect,
	TSF and plant expansion- Flora and Fauna report -2011	DNGM, DNACPN, Sitakily Mayor, Kenieba Prefect,
	TSF and plant expansion- 2011	DNGM, DNACPN, Sitakily Mayor, Kenieba Prefect,
	TSF and plant expansion site compensation report 2011	DNGM, DNACPN, Sitakily Mayor, Kenieba Prefect,
	Plan and TSF Dam extension Environmental and social impact study (ESIA)	DNGM, DNACPN, Sitakily Mayor, Kenieba Prefect,
	Camp Sewage plant environmental study 2011	DNGM, DNACPN, Sitakily Mayor, Kenieba Prefect,

20.5 Provisions for Rehabilitation

20.5.1 Summary

In order to ensure that adequate funds will be available to complete mine closure in a responsible and environmentally acceptable manner, a mine closure cost estimate has been prepared, and rehabilitation cost are budgeted. The estimate serves as a basis for calculating the necessary provisions to be allocated to the closure fund during the operational phase of the mine, to ensure adequate funds are available for closure activities after mining operations cease.

For the purposes of calculating the total costs the operations were divided into ten areas. Full details on the scope of works and key assumptions for each area are given in the relevant sections on the closure budget.

The closure costs were initially estimated in 2006 as part of the feasibility study for Tamico and have been revised in 2009, 2010, 2011, and again in January 2012 by Malian consulting office BIDDEA, as part of the budgeting process. These estimates are tabulated in Table 20-7 below.

Table 20-7 Estimate of Mine Closure Costs

Section	Description	Cout Total (US$)
	EVALUATION DES COUTS DE FERMETURE ET DE REHABILITATION DES MINES DE SEMICO	
A	Carrières	57 482
B	Haldes à Stériles	636 802
C	Galeries Souterraines	159 205
D	Usine de Traitement	3 567 368
E	Centrale electrique	280 900
F	L'usine et le Dépôt d'explosif (BME)	60 332
G	Garage	88 568
H	Bassin à Résidu	397 900
I	Révégétalisation-Réboisement-Reparation des zones érodées	404 894
J	Surveillance Environmental (05 ans) Tabakoto +Segala+Djoulafoundou +Djambaye	317 520
K	Surveillance et Control (externe & Interne)	271 038
L	Etude Technique (Engineering) et Environnementale	710 000
M	Les Frais généraux du siège de fermeture (electricité, clinique ,camp+ Securité)	2 388 180
N	Management du Projet	248 000
O	Cout de dévelopement Social	522 509
Sub Total		**10 110 697**
P	Les Imprévus	1 011 070
	TOTAL	**11 121 767**

20.6 Community Development and Communication

SEMICO has a social team who is manage the social relationship between the mine and the local population. A strategic communication plan has been formulated and a community grievances management procedure established. Contributions to the community are managed by this team in conjunction with senior Mine Management. Contributions to community development and the specific development programmes completed are itemised in the following tables.

Table 20-8 Contribution of 2013 (FCFA)

CONTRIBUTION OF SEMICO.SA TO LOCAL COMMUNITIES						
N°	Area of Intervention	Dates	Objects	Beneficiaries	Cost	
					In nature	Amount
1	POTABLE WATER	2013	Drilling borehole (01)	Tabakoto (C.Sitakily)		
		2013	Drilling borehole (01)	Kéniéba		50,132,355
		2013	Drilling borehole (01)	Yatia (C.Sitakily)		
		2013	Drilling borehole (01)	Mouralia (C.Sitakily)		
		2013	Drilling borehole (01)	Sansanto (C.Kenieba)		
		2013	Drilling borehole (01)	Kérèko (C.Kenieba)		
		2013	Drilling borehole (01)	Tabakoto (C.Sitakily)		9,918,749
		Total 1				**60,051,104**
2	AGRICULTURAL	2013	Agricultural Project PAUPK	Cercle de Kéniéba		25,000,000
		Total 2				**25,000,000**
3	EDUCATION	2013	Construction of 03 equipped classrooms + director office and toilets	Dioulafoudouni (C.Kenieba)		35,000,000
		2013	Construction of 03 classroom + director office and toilets	Beatea (C.Sitakily)		35,000,000
		Total 3				**70,000,000**
4	OTHERS	2013	Donation Sugar during Ramadan	Administration Malienne		3,250,000
		2013	Donation - Malian Independence day	Prefecture de Kenieba		500,000
		2013	Donation- Sacrifice - Alahina village	Alahina		150,000
		2013	Construction Hangars-Prefect office	Prefecture de Kenieba		300,000
		2013	Donation- Prefecte- Kayes governor visit	Prefecture de Kenieba		300,000
		2013	Don-Prefecture- Ministry of mine visit	Prefecture de Kenieba		1,000,000
		Total 4				**5,500,000**
		General Total				**160,551,104**

Table 20-9 Contribution of 2012 (FCFA)

CONTRIBUTION OF SEMICO.SA TO LOCAL COMMUNITIES						
N°	Area of Intervention	Dates	Objects	Beneficiaries	Cost	
					In nature	**Amount**
1	POTABLE WATER	2012	Drilling borehole (01)	Seconamata		7,000,000
		2012	Drilling borehole (01)	Alahina		7,000,000
		2012	Drilling borehole (01)	Dioulafoundou		7,000,000
		2012	Drilling borehole (01)	Secodakoto		7,000,000
		Total				**28,000,000**
2	AGRICULTURAL	2012	Agricultural project- PAUPK	Cercle de Kéniéba		60,000,000
		2012	Borehole drilling (02) and water pumping system for two agricultural garden	Bambou/Kofing		27,000,000
		Total				**87,000,000**
3	CULTURAL and SOCIAL					
		Total				**0**
4	TRANSPORT	2012	Bridge construction (01) on Tabakoto-Kéniéba road	Alahina		30,000,000
		Total				**30,000,000**
5	OTHER	2012				
		Total				**0**
			General Total			**145,000,000**

Table 20-10 Contribution of 2011 (FCFA)

CONTRIBUTION OF SEMICO.SA TO LOCAL COMMUNITIES						
N°	Area of Intervention	Dates	Objects	Beneficiaries	Cost	
					In nature	**Amount**
1	EDUCATION	2011	Construction of four (04) equipped classrooms	Mouralia		48,000,000
		2011	Construction of three (03) equipped classrooms	Koutila		45,000,000
		2011	Renovation of three(03) class rooms	Kéniéba		10,000,000
		Total				**48,000,000**
2	AGRICULTURAL	2011	Agricultural project- PAUPK	Cercle de Kéniéba		60,000,000
		Total				**60,000,000**
3	CULTUREL & SOCIAL	2011	Participation of Tripartite week	Cercle de Kéniéba		3,000,000
		Total				**3,000,000**
4	TRANSPORT	2011	Construction of two (02)bridge on Tabakoto-Kenieba road	Dioulafoundou		100,000,000
		Total				**100,000,000**
5	OTHERS	2011				
		Total				**0**
			General Total			**211,000,000**

Table 20-11 Total contribution from 2011-2013

YEAR	AMOUNT (FCFA)
2013	160 551 104
2012	145 000 000
2011	211 000 000
TOTAL	**516 551 104**

21 Capital and Operating Costs

With the mill expansion completed during 2013, the Tabakoto process plant is now capable of processing 190 tph, which results in approximately 1.5 million tonnes annual throughput when at capacity. A total of 7,582,189 tonnes of ore, grading 3.19 g/t Au is scheduled to be milled from the beginning of 2014 to 2019 (life of mine) from the open pit, underground and stockpile reclamation operations at Semico's Tabakoto, Ségala and Kofi properties. A summary of this mine production schedule is presented in Table 15-11.

21.1 Capital Cost Estimate

Capital cost estimates are based on SEMICO's operational historical data and experience and orders that are in place, particularly with regards to the underground mining equipment required for owner mining. Kofi costs include the costs of pre-stripping and the construction of a haul road in 2014. Semico's capital cost items include mine development required to access mineral reserves, sustaining capital (excluding exploration), and underground mining equipment required for owner mining. Owner mining equipment and other mining capital include mobile equipment, a camp expansion, estimated demobilization fees and a CRF plant at Ségala. Mine closure and equipment salvage values have not been included. A summary of SEMICO's total capital costs is presented in Table 21.2.

Table 21-1 Capital Cost Estimates (US$000's) for the Combined Tabakoto Operations

Capital Costs (US $000's)							
Capital Items	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**Total**
Sustaining Capital Including Exploration	18,502	8,625	8,625	8,625	8,625	8,500	61,502
Kofi Equipment, Mobilization and Access	6,975	-	-	-	-	-	6,975
Kofi Pre-Stripping	2,500	-	-	-	-	-	2,500
Underground Capital							
Mining Equipment and Other Owner Mining Capital	35,817	3,000	3,800	3,800	1,900	900	49,217
Tabakoto Infrastructure and Development	5,377	5,674	843	-	-	-	11,895
Segala Infrastructure and Development	12,024	10,589	10,606	5,917	-	-	39,135
Subtotal Underground Capital	53,218	19,263	15,249	9,717	1,900	900	100,247
Total Capital	78,695	27,888	23,874	18,342	10,525	9,400	171,224

21.2 Operating Cost Estimate

A summary of operating cost statistics is presented in Table 21-3. All mining US$/t costs are based on tonnes mined, all other US$/t costs are based on tonnes milled. Cash costs per ounce of gold are also itemized in Table 21-3. The costs for 2014 are based on the budget for the year, which includes almost four years of Semico operating history. Underground mining costs after 2014 are based on projected owner mining rates.

Underground mining costs include labour, administration, power, drilling, blasting, loading, hauling, costs related to some support equipment, ventilation, costs associated with running the CRF plant and the cost of definition drilling. These costs include stope mining and operating development costs. The costs in 2014 include both contract rates with Byrnecut Mining Pty Ltd ("Byrnecut") and Semico's owner expenses. The costs after 2014 are solely projections of Semico's owner expenses. It is the intention that as expatriate miners train Malians over time, the expat miners and personnel will be replaced with Malians. However, this is not reflected in the operating costs presented in Table 21-3 and there is the potential to substantially reduce the labour costs in the future.

Open pit mining costs include drilling, blasting, loading, hauling and auxiliary equipment costs to mine. Geological control, surveying, dewatering, labour and some administrative costs are also included.

Processing costs include labour at the mill, reagents, grinding media, supplies and metallurgical testwork. The cost of power at the mill is also included.

Maintenance costs include maintenance for the process plant and the associated labour.

Commercial, G&A and other costs include maintenance of the camp and light vehicles, health and safety, clinic, security, environment, procurement human resources, information technology, administration, camp and costs associated with the Bamako office.

Stockpile reclamation costs include loading and hauling stockpiled ore to the crusher.

Site operating costs are estimated be $775/ounce of gold over the life of the mineral reserves. Since there is a reasonable chance for Semico to add additional mineral reserves that are higher grade than the stockpiles, it is expected that the average cost per ounce over time will be below the currently presented average cost per ounce.

Table 21-2 Life of Mine Operating Cost Statistics

Item	2014	2015	2016	2017	2018	2019	Total
Cost per Tonne Mined							
Underground Mining	$40.48	$34.43	$34.43	$34.43	$34.43	$34.43	$35.94
Djambaye Open Pit Mining including load and haul	$3.76				$3.76		$3.76
Kofi C Open Pit Mining including load and haul	$3.33	$3.82	$4.10	$4.16	$4.69		
Cost per Tonne Milled							
Processing	$23.34	$23.34	$23.34	$23.34	$23.34	$23.34	$23.34
Maintenance	$4.95	$4.95	$4.95	$4.95	$4.95	$4.95	$4.95
Commercial, G&A and other	$14.86	$14.86	$14.86	$14.86	$14.86	$14.86	$14.86
Stockpile reclaim	$3.50	$3.50	$3.50	$3.50	$3.50	$3.50	$3.50
Operating Cash Cost per Ounce	**$884**	**$814**	**$716**	**$845**	**$638**	**$735**	**$775**

22 Economic Analysis

As noted in Item 22 of NI 43-101 FormF1, "Producing issuers may exclude the information required under item 22 for technical reports on properties currently in production unless the technical report includes a material expansion of current production", and Endeavour has not provided a cash flow for this report on this basis.

23 Adjacent Properties

The Birimian sequence Kéniéba- Kédougou Inlier in eastern Sénégal and western Mali is particularly well endowed with significant gold deposits, see Figure 23-1. Several of these mines are exploiting deposits that occur on the Senegalo-Malian Shear Zone or on a secondary or tertiary structure to this shear zone.

23.1 Yatela Mine

Gold mineralization at the Yatela Mine is hosted in brecciated sandstone, conglomerate and dolomite in a folded karst-like structure which lies along a regional northeast trending structure. This mine is not on adjacent property to the Tabakoto Mine Property and is located 140 km to the north.

23.2 Sadiola Hill Mine

The gold mineralization at Sadiola Hill is associated with the near north-south trending Sadiola Fracture Zone, a diorite filled fault zone that separates a greywacke and meta-pelite sequence to the west from an impure marble to the east (Porter). The diorite is discontinuously developed within the fault.

Protracted lateritic weathering produced a deep kaolin rich clay zone, which decarbonated the marble at and near the surface. Gold was enriched in the kaolinitic oxide zone, particularly in the decarbonated marble. This saprolite zone contains the bulk of the deposit as a flat lying body which is mostly free digging. The saprolite continues down into a soft sulphidic zone below, and then to sulphide mineralization.

In the primary zone, the gold, (with a fineness of 850 to 970), is associated with sulphides which are dominated by arsenopyrite, pyrite and pyrrhotite. The primary mineralization is accompanied by calc-silicate, potassic and carbonate alteration and by silicification.

This mine is not on adjacent property to the Tabakoto Mine Property and is located 120 km to the north.

23.3 Loulo Mine

The gold mineralization at the Loulo Mine is located in the Daléma suite tourmaline-bearing sandstone. This sandstone is of complex composition, composed of a detrital rounded quartz fraction and angular volcanogenic fraction mixture, cemented by a quartz-carbonate, pyrite, but mainly cryptocrystalline tourmaline matrix. The tourmaline seems to have formed at the expense of the initial phyllitic phase, with, at the same time, silicification and dolomitization of the carbonate phase. In conjunction with tourmalinization, a quartz-carbonate-sulphide stockwork formed exclusively in the tourmaline sandstone layers.

Mineralization appears to be concentrated in the noses of southwest plunging drag folds associated with NE (045°-048°Azi) oriented sinistral faults and west-northwest (297°Azi) trending structural orientations (Hassen et al, 1997). Gold mineralization is also found in the breccias within the 048° fault structures. On a larger scale, the deposit is located in close proximity to the intersection of the main SM fault and the east-west striking Kossanto-Sitakili fault zone (Aussant et al, 2002).

The gold occurs as fine inclusions in the pyrite in this stockwork. The pyrite disappears in the oxide zones to give iron hydroxides and gold is remobilized as larger particles; the grade remains the same.

The Loulo Mine has been classified as an exhalative-type stratiform stockwork.

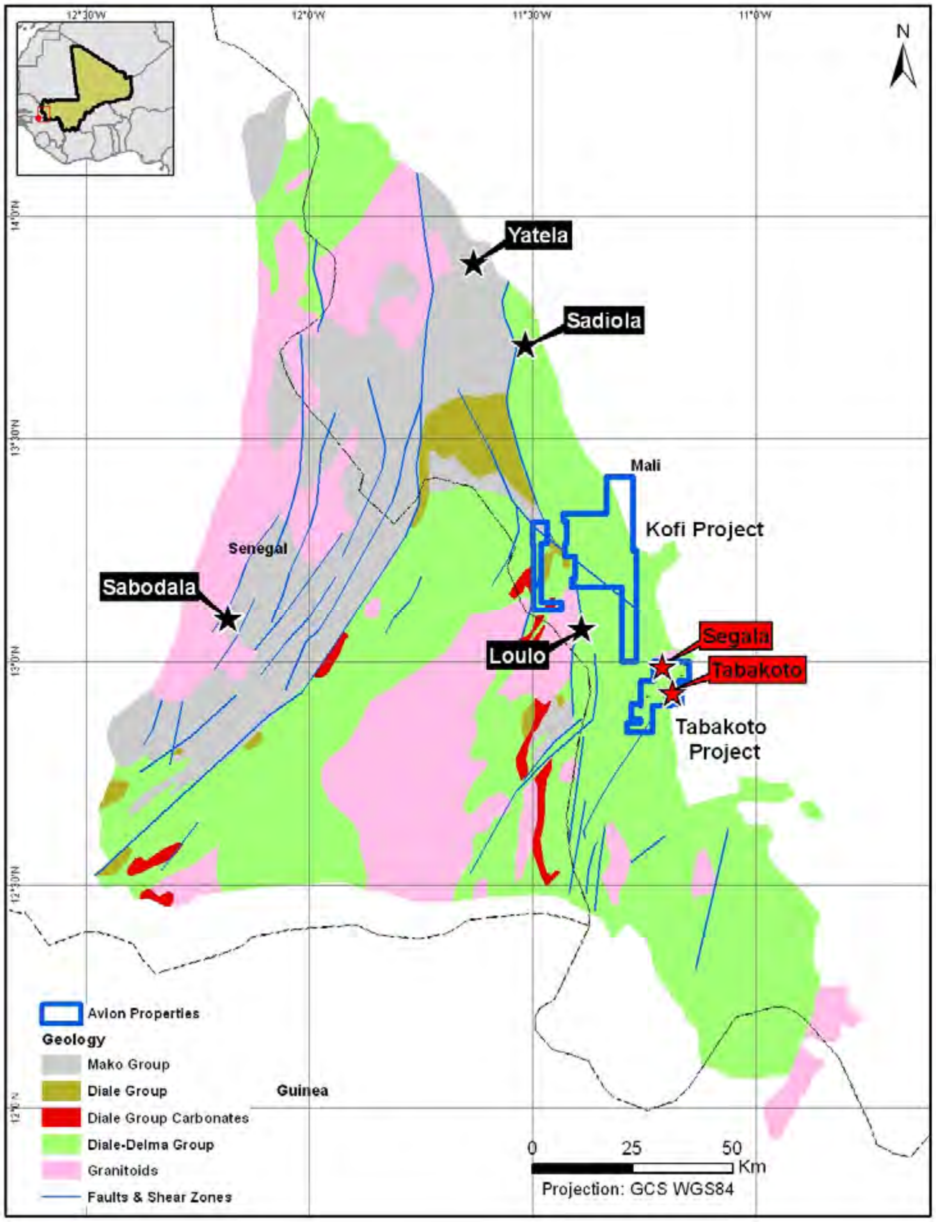
The Loulo mine property is adjacent to the Tabakoto Mine Property and the deposits are within 20 to 40 km west and northwest of the Tabakoto Mine.

23.4 Papillon Resources – Fekola Gold Project

Papillon Resources announced resources totalling 40.1 million tonnes at 2.4 g/t for 3.14 million ounces of gold (Indicated and Inferred) for their Fekola Gold Project approximately 30 km south of the Tabakoto

Mine Property. Preliminary studies indicate that steady state mining of 231,000 ounces per annum can be sustained for 11 years on the existing resources with the potential to increase the production profile through continued exploration.

Figure 23-1 Location of Adjacent Producing Mines in Mali and Sénégal



24 Other Relevant Data and Information

All relevant information has been included in other sections of this report and therefore this section is not applicable.

25 Interpretations and Conclusions

25.1 Mineral Resources

The current mineral resources reported in Section 14 of this report remain open at depth, and many zones remain open along strike. A significant portion of these resources can be converted to reserves with appropriate exploration and/or infill drilling.

Drilling to date suggests the presence of depth potential on all the Tabakoto veins. Ségala remains open at depth where both resource conversion (Inferred to Indicated) and additional exploration is warranted. Ségala NW remains open on strike. The Dioulafoundou mineralisation remains open at depth and both open pittable and underground potential remains at this deposit. Djambaye II remains open on strike and also has considerable underground potential beneath the economic limits of the current open pit mine. Dar Salam comprises a number of zones, only one of which has sufficient data at present for reserves to be calculated.

On the property there are a number of advanced exploration projects (with no resources yet calculated for them). These include Ségala Far NW, Moralia, Fougala and Fancam as well as a number of others. Indeed as the structural interpretation of the region improves, coupled with the ongoing testing of these trends through auger and RC drilling, the real potential of the property is beginning to be realised.

The soil geochemical data is an effective way to search for gold mineralization. Gold and arsenic anomalies are the best indicators of gold mineralization on the property. These anomalies can be more clearly understood through structural interpretation. Magnetic and IP surveys have not provided any direct indication of gold mineralization, however, the data collected from these surveys are useful for defining stratigraphic units and providing insight to where major structures may be located.

It is reasonable to conclude that significant resource increases will be realised at Tabakoto and Ségala underground mines as depth extensions are explored. It is also reasonable to conclude that additional open pittable reserves will be realised at Ségala NW, Ségala Far NW and at Dioulafoundou. Both Dioulafoundou and Djambaye II will realise underground reserves with time. Additional new resources and reserves are likely to be obtained from the region, particularly from targets such as Moralia, Fougala and Fancam. More exploration is required to better define the newer targets in line with current structural interpretations.

25.2 Mineral Reserves

Semico considers the mine dilution and extraction quantities are reasonable based on the types of mining methods proposed to be used.

The current mineral resources at the Tabakoto mine considerably exceed the current ore reserves. Consequently, it is likely that the mine life will exceed the mine life presented in the production schedule. No attempt has been made to capture the value of these additional mineral resources in the production schedule presented in this report.

26 Recommendations

Recommendations for the Tabakoto Mine Property covers the range of subjects from exploration through to production. Therefore recommendations have been grouped in the following sections into those that impact mineral resources, mineral reserves and operations. A work program for 2014 is provided in Section 26.4.

26.1 Mineral Resources

Recommendations related to exploration and mineral resource development include:

- Tabakoto and Ségala deposits should be drilled at depth to convert the existing resource from Inferred to Indicated and to extend these deposits at depth. This will improve Life of Mine (LOM) planning.
- Drilling should be carried out proximal to the Dioulafoundou deposit to convert additional inferred OP and UG mineral resources into indicated resources.
- Induced potential (IP) and ground magnetometer surveys should be completed along favourable gold prospects to enhance drill target development.
- The auriferous structures of the Moralia prospect area should be systematically drill tested to fully evaluate the resource. The current Semico model for gold mineralization has documented that structures associated with the Eburean orogeny are all mineralized to some extent and can be directly applied the Moralia prospect area.
- Additional exploration and drilling is recommended along strike of the Tabakoto deposit auriferous structures (such as NE-1, NW-6 etc.). The most favourable targets are where these structures can be documented to intersect other Eburean Orogeny structures, including other anticlinal structures parallel to the auriferous Tabakoto anticline.
- Continued evaluation is required of the untested Au-in-soil targets with a goal to identify areas of high probability for new discovery. Where necessary, auger soil sampling should be completed in areas of pervious wide-spaced sampling and to enhance the location of auriferous structures.
- A drilling program should be developed on the Fougala prospect where a large area of auriferous soil has been identified.
- Additional drilling should be completed on the Frontiere structural trend west of the Djambaye II mine.
- Additional drilling should be carried out to the south on the Djambaye II mine trend to define additional on strike mineral resources.
- Gradient IP and ground magnetic surveys should be completed to close all gaps in the regional data.
- Aggressive exploration on other advanced targets where gold mineralization has been discovered and the Semico Gold model can be applied.

The bulk of the above recommendations should be carried out as soon as practicable and are estimated to cost in the order of US$ 8 million per year to complete over the next 5 years. It is expected that this aggressive program will potentially discover or convert (inferred to indicated) significant resources to reserves. This aggressive approach would consist of at least 30,000 and 40,000 metres of core drilling and RC drilling, per year, as well as prospecting, auger, shallow RC, geophysical and trenching programs as required.

26.2 Mineral Reserves

Recommendations for the delineation and development to mineral reserves are as follows:

- Preliminary open pit and underground modeling of the Dioulafoundou deposit should be carried out to determine threshold grade and tonnes necessary for the development of an extension to the current open pit and/or underground deposit. If the current Indicated and Inferred mineral resources have the potential to be economic either as an extension to the open pit and/or an underground mine, from the above modeling, then in-fill drilling should be carried out to raise the confidence levels and extent of the underground mineral resource.
- The Tabakoto and Ségala underground zones within several hundred metres of mine development should be drilled from underground to provide further delineation, and to guide mining.
- Inferred mineral resources should be drilled both from surface where practical, and from underground, to potentially convert to Measured and Indicated mineral resources, then be engineered into the life of mine plan as mineral reserves. The amount of Inferred mineral resources is substantial, and there is potential to significantly extend the mine life.

26.3 Mining

Recommendations related to mine operations are as follows:

- The underground development plan needs to be further optimized, in an attempt to reduce any unnecessary development.
- A review and optimisation of the cut-off grade is required to maximise the cash flow in the development phase of Ségala and for the steady state production of both Tabakoto and Ségala.
- A trade off study to determine the optimum size of underground access versus the increased cost of haulage equipment whilst considering the development rate is required to possibly reduce cost and increase development rates.
- Individual unit costs should be developed for all underground mine development heading sizes used for operating cost estimating purposes.
- Reconciliations between mine and mill production should continue to be reviewed and optimised.

26.4 2014 Work Program

The 2014 combined Tabakoto and Kofi exploration program is $10.7M and is focused on delineation of existing resources and the identification of new resources close to existing deposits that can readily be converted to reserves. The following programs are planned:

- Tabakoto underground core drilling to convert Inferred mineral resources to Indicated mineral resources and also to test extensions of known mineralized zones and to explore for additional mineralized zones.
- Ségala underground core drilling to test the lateral and depth extensions of the Inferred resources and to delineate the Measured and Indicated resources for conversion to mineral reserves.
- Reconnaissance RC (RRC) drilling of surface targets on the Tabakoto property.
- Continue evaluation work on conversion of resources at Dioulafoundou and Djambaye II to underground minable mineral reserves.

- Continue evaluation work and additional exploration on the other Kofi deposits for possible conversion to mineral reserves and incorporation in the Tabakoto production plan.
- Auger drilling of the northern strike extension from the Kofi C deposit.

The exploration program by metres of drilling and by costs is summarized in Table 26-1.

Table 26-1 2014 Work Program for Tabakoto Operations

Item/Activity	**metres**	**US$ million Cost**
Semico Underground Core Drilling	47,300	5.6
Semico Surface Drilling	20,600	1.3
Kofi Drilling	8,200	0.9
Analyses		0.8
Consumables, Support, Land access and permitting		1.0
Labour		1.1
Total	**76,100**	**10.7**

This exploration program is part of an ongoing annual exploration budget for the mine. Each subsequent phase of work is dependent on the results obtained in the previous exploration programs.

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28 Certificates

CERTIFICATE OF QUALIFIED PERSON - Gérard De Hert

I, **GÉRARD DE HERT,** residing at 27 A Osu Street, Greater Accra, Accra, Ghana, do hereby certify that:

1. I am employed on contract, with Endeavour Mining Corporation, as Vice-President, Exploration since the beginning of 2012
2. This certificate applies to the technical report titled "Technical Report and Mineral Resource and Reserve Update for the Tabakoto Gold Mine, Mali, West Africa", (the "Technical Report") with an effective date of December 31, 2013.
3. I graduated with a Masters degree in Geology from the Université Catholique de Louvain, in 1993.
4. I am a Member in good standing of the European Federation of Geologists (EuroGeol) - Membership No 1046.
5. I have worked as a geologist since graduation and have over 15 years of experience in the exploration, evaluation and development of precious and base metal projects in Africa. A summary of my professional career is as follows:

Endeavour Mining, Vice President Exploration, West Africa	July 2012 -Present
VALE-ARM JV, General Manager/Chief Geologist, DRC	March 2007 – June 2012
IAMGOLD, Regional Exploration Geologist, West Africa	Jan. 2006 – Feb. 2007
AngloGold Ashanti, Chief Mine Geologist/ Sr. Project Geologist, Mali	March 2002 – Jan. 2006
Randgold, Project Geologist, Mali	1997-2000

6. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
7. I am responsible for Sections 1-11, 12.1.4, 12.2, 19, 20, 23-27 of the Technical Report.
8. I have made numerous trips to the property starting in 2012 through to 2014 with the longest being just over 2 weeks. The date of my most recent visit is October, 2013
9. At the effective date of the Technical Report, to the best of my knowledge, information and belief, the portions of the Technical Report for which I am responsible, contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
10. I have had extensive involvement with the property that is the subject of the Technical Report.
11. I am not independent of the issuer applying the test in Section 1.5 of NI 43-101.
12. I have read NI 43-101, NI 43-101CP and Form 43-101F1, and this Technical Report has been prepared in compliance with that instrument and form.
13. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Effective date: December 31, 2013
Signing date: March 31, 2014

Gérard De Hert, (EuroGeol No 1046)

CERTIFICATE OF QUALIFIED PERSON - Kevin D. Harris

I, **KEVIN D. HARRIS,** residing at YB15, Augusto Neto Road, Airport Residential, Accra, Ghana, do hereby certify that:

1. I am a Geologist employed by Endeavour Mining Corporation in Accra, Ghana since 2013.
2. This certificate applies to the technical report titled "Technical Report and Mineral Resource and Reserve Update for the Tabakoto Gold Mine, Mali, West Africa", (the "Technical Report") with an effective date of December 31, 2013.
3. 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 have a Masters Degree of Science in Geology in 1991 from the same university.
4. I have worked as a Geologist, Mining Engineer, Mining Manager and Resource Manager, since graduation and have over 24 years of experience in the mining industry. My relevant experience includes work at Goldcorp, Forbes and Manhattan, Crocodile Gold, Avion Gold, Amax Gold and Endeavour Mining and includes extensive exploration, resource, reserve and operational experience in gold and in roles of Exploration Geologist, Mine Geologist, Resource Geologist, Mining Engineer and Operational Management, and currently Group Resource Manager for Endeavour Mining with an area of responsibility for mines in multiple countries.
5. 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.
6. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
7. I am responsible for Sections 1, 12, 14, 25-27 of this report.
8. I was based on site in from 2010 to 2013.
9. I am not independent of the Issuer applying the test in Section 1.5 of NI 43-101.
10. I have had extensive involvement with the project that is the subject of this Technical Report.
11. I have read NI 43-101, NI 43-101CP and Form 43-101F1 and this Technical Report has been prepared in compliance therewith.
12. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
13. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Effective Date: December 31, 2013
Signature Date: March 31, 2014

Kevin D. Harris

Kevin D. Harris (CPG-11639)

CERTIFICATE OF QUALIFIED PERSON - Michael Alyoshin

I, **MICHAEL ALYOSHIN,** residing at YB15, Augusto Neto Road, Airport Residential, Accra, Ghana, do hereby certify that:

1. I am a Mining Engineer employed by Endeavour Mining Corporation in Accra, Ghana since 2012.
2. This certificate applies to the technical report titled "Technical Report and Mineral Resource and Reserve Update for the Tabakoto Gold Mine, Mali, West Africa", (the "Technical Report") with an effective date of December 31, 2013.
3. I graduated with a Masters of Engineering degree (Hon) in Mining from the Ukrainian Academy of Engineering , Kharkov, Ukraine in 1999.
4. I have worked as a Surveyor, Mining Engineer, Senior Mining Engineer, Chief Mining Engineer and Mining Manager before and after graduation and have over 17 years' experience in the mining industry. My relevant experience includes work at Meymad Engineering, Kazivizivi Mining, Lev Leviev Group of Companies, ArcelorMittal and Endeavour Mining and includes extensive operational, studies, optimizations, budgeting, Life-of-Mine design, scheduling and Mineral Reserve estimation experience in gold in roles of surveyor, mining engineer, senior mining engineer, and currently Chief Mining Engineer, Strategic Projects, for Endeavour Mining with an area of responsibility for mines in multiple countries.
5. I am a Chartered Professional (Mining) and member of the Australasian Institute of Mining & Metallurgy (AusIMM) - Membership No. 311576. I am also a Chartered Engineer with the Israeli Union of Engineers and Architects - Membership No. 00114865.
6. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
7. I am responsible for Sections 1, 15, 16, 18, 21, 22, 25-27 of this report related to open pit operations.
8. I visited the site twice - from 2nd to 6th October, 2013 and from 10th to 18th February, 2014.
9. I am not independent of the Issuer applying the test in Section 1.5 of NI 43-101.
10. I have had extensive involvement with the project that is the subject of this Technical Report.
11. I have read NI 43-101, NI 43-101CP and Form 43-101F1 and this Technical Report has been prepared in compliance therewith.
12. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
13. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Effective Date: December 31, 2013
Signature Date: March 31, 2014

Michael Alyoshin

Michael Alyoshin (CP 311576)

CERTIFICATE OF QUALIFIED PERSON - Vaughn Duke

I, **VAUGHN DUKE**, residing in Gauteng, South Africa do hereby certify that:

1. I am a Mining Engineer and a Director of Sound Mining Solution (Pty) Ltd with an address of 2A Fifth Avenue, Rivonia, Gauteng, South Africa, 2196.
2. This certificate applies to the technical report titled "Technical Report and Mineral Resource and Reserve Update for the Tabakoto Gold Mine, Mali, West Africa", (the "Technical Report") with an effective date of December 31, 2013.
3. I graduated with a degree in B.Sc Mining Engineering (Hons) from the University of the Witwatersrand in 1986. In addition, I obtained a Master of Business Administration in 2003 from the University of Pretoria (GIBS).
4. I have worked as a mining engineer for a total of 25 years since my graduation from university. My experience has covered various operational, technical and managerial functions on either exploration, projects or producing gold mines.
5. I am a fellow of the Southern African Institute of Mining and Metallurgy of South Africa, a member of the Mine Managers Association of South Africa and a registered Professional Engineer (PrEng) with the Engineering Council of South Africa (ECSA Reg. 40164/07).
6. I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43- 101) and past relevant work experience, I fulfil the requirements to be a "qualified person" for the purposes of NI 43-101.
7. I visited the Tabakoto Mine property during the week of 13 January 2014 to 17 January 2014.
8. I am responsible for Sections 15 and 16 of the Technical Report.
9. I am independent of the issuer applying all of the tests in section 1.4 of National Instrument 43-101.
10. I have not had prior involvement with the property that is the subject of the Technical Report.
11. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
12. I have read NI 43-101, NI 43-101CP and Form 43-101F1 and this Technical Report has been prepared in compliance therewith.
13. I consent to the filing of the Technical Report with a stock exchange or other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Effective Date: December 31, 2013
Signature Date: March 31, 2014.

____
Vaughn Duke (ECSA Reg. 40164/07).

CERTIFICATE OF QUALIFIED PERSON - Adriaan A. Roux

I, **ADRIAAN A. ROUX**, residing at YB15, Augusto Neto Road, Airport Residential, Accra, Ghana, do hereby certify that:

1. I am a Metallurgical Engineer employed by Endeavour Mining Corporation in Accra, Ghana since 2010.
2. This certificate applies to the technical report titled " Technical Report and Mineral Resource and Reserve Update for the Tabakoto Gold Mine, Mali, West Africa", dated effective December 31, 2013.
3. I graduated with a Higher National Diploma in Metallurgical Engineering from the University of Johannesburg, South Africa, in 1980.
4. I have worked as a Metallurgical Engineer, General Manager and currently, the Chief Operating Officer since graduation and have over 38 years' experience in the mining industry. My relevant experience includes work at Anglo American, De Beers Consolidated, AngloAshanti, Adamus Resources and Endeavour Mining Corporation and includes extensive project and operational experience in gold, uranium, sulphuric acid and diamonds processing and in roles of Metallurgist, Operational Management, Technical Head, General Management, Consulting Metallurgist, Director and currently, Chief Operating Officer with area of control spread over multiple countries.
5. I am a certified member of the Mine Metallurgical Managers Association of South Africa (MMMA). I am also a Registered Professional Natural Scientist (Pr.Sci.Nat.) with the South African Council for Natural Scientific Professions (SACNASP) – Membership No. 400156/04.
6. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
7. I am responsible for Sections 1, 13, 17, 18, 25-27 of this report.
8. I visited site numerous times during 2013.
9. I am not independent of the Issuer applying the test in Section 1.5 of NI 43-101.
10. I have had extensive involvement with the project that is the subject of this Technical Report.
11. I have read NI 43-101, NI 43-101CP and Form 43-101F1 and this Technical Report has been prepared in compliance therewith.
12. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
13. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Effective Date: December 31, 2013
Signature Date: March 31, 2014

Adriaan A. Roux (No 400156/04)

CERTIFICATE OF QUALIFIED PERSON - Antoine R. Yassa, P. GEO.

I, Antoine R. Yassa, P. Geo., residing at 3602 Rang des Cavaliers Rouyn-Noranda, Qc. J0Z 1Y2, do hereby certify that:

1. I am an independent geological consultant contracted by P&E Mining Consultants Inc.
2. This certificate applies to the technical report titled "Technical Report and Mineral Resource and Reserve Update for the Tabakoto Gold Mine, Mali, West Africa", (the "Technical Report") with an effective date of December 31, 2013.
3. I am a graduate of Ottawa University at Ottawa, Ontario with a B.Sc (HONS) in Geological Sciences (1977). I have worked as a geologist for over 33 years since obtaining my B.Sc. degree. I am a geological consultant currently licensed by the Order of Geologists of Québec (License No 224) and a practicing member of the APGO (Registration Number 1890).

I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101. My relevant experience for the purpose of the Technical Report is:

- Minex Geologist (Val d'Or), 3D Modeling (Timmins), Placer Dome 1993-1995
- Database Manager, Senior Geologist, West Africa, PDX 1996-1998
- Senior Geologist, Database Manager, McWatters Mine 1998-2000
- Database Manager, Gemcom modeling and Resources Evaluation
- (Kiena Mine) QAQC Manager (Sigma Open pit), McWatters Mines.................... 2001-2003
- Database Manager and Resources Evaluation at Julietta Mine,
- Far-East Russia, Bema Gold Corporation.................... 2003-2006
- Consulting Geologist .... since 2006

4. I visited the Tabakoto Property from 25th to 27th October, 2011.
5. I am responsible for authoring Section 12.1.4 of the Technical Report.
6. I am independent of the Issuer applying the test in Section 1.5 of NI 43-101.
7. Prior to the site visit in October 2011, I have not had prior involvement with the Property that is the subject of this Technical Report.
8. I have read NI 43-101 and Form 43-101F1 and this Technical Report has been prepared in compliance therewith.
9. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Effective Date: December 31, 2013
Signed Date: March 31, 2014

Antoine R. Yassa, P.Geo.

CERTIFICATE OF AUTHOR – Eugene J. Puritch, P.Eng.

I, Eugene J. Puritch, P. Eng., residing at 44 Turtlecreek Blvd., Brampton, Ontario, L6W 3X7, do hereby certify that:

1. I am President of P & E Mining Consultants Inc. and am contracted independently by Avion Gold Corporation.
2. This certificate applies to the technical report titled "Technical Report and Mineral Resource and Reserve Update for the Tabakoto Gold Mine, Mali, West Africa", (the "Technical Report") with an effective date of December 31, 2013.
3. I am a graduate of The Haileybury School of Mines, with a Technologist Diploma in Mining, as well as obtaining an additional year of undergraduate education in Mine Engineering at Queen's University. In addition I have also met the Professional Engineers of Ontario Academic Requirement Committee's Examination requirement for Bachelor's Degree in Engineering Equivalency. I am a mining consultant currently licenced by the Professional Engineers of Ontario (Licence No. 100014010) and registered with the Ontario Association of Certified Engineering Technicians and Technologists as a Senior Engineering Technologist. I am also a member of the National and Toronto CIM. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101. I have practiced my profession continuously since 1978. My summarized career experience is as follows:

- Mining Technologist - H.B.M.&S. and Inco Ltd. 1978-1980
- Open Pit Mine Engineer – Cassiar Asbestos/Brinco Ltd 1981-1983
- Pit Engineer/Drill & Blast Supervisor – Detour Lake Mine 1984-1986
- Self-Employed Mining Consultant – Timmins Area 1987-1988
- Mine Designer/Resource Estimator – Dynatec/CMD/Bharti 1989-1995
- Self-Employed Mining Consultant/Resource-Reserve Estimator 1995-2004
- President – P & E Mining Consultants Inc. 2004-Present

4. I am responsible for Sections 13.2, 14.2.2, 14.2.4, 14.4.7, 14.4.8, 14.6.2, 14.6.3, 14.7.2, 14.7.3, 14.8.2, 14.9.2, 14.10.2, 14.10.3, 14.11.2, 14.11.3, 14.12.2, 14.12.3, 14.13.2 and 14.13.3 of the Technical Report.
5. I have not visited the Tabakoto Property.
6. I have had prior involvement with the Property that is the subject of this Technical Report in that I have co-authored several previous reports.
7. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.
8. I am independent of the issuer applying the test in Section 1.5 of NI 43-101.
9. I have read NI 43-101 and Form 43-101F1 and the Technical Report has been prepared in compliance therewith.

Effective Date: December 31, 2013
Signing Date: March 31, 2014

Eugene Puritch, P.Eng.