

ASX Announcement

2 December 2014

Exploration Pipeline Update

Multiple new large scale geochemical targets identified with up to 8.53g/t gold at the Hounde Belt Joint Venture, Burkina Faso

Hounde Belt, Golden Hill Project - Boss Joint Venture

- Soil geochemical program identifies new high priority drill ready targets.
- Results define multiple +1g/t gold & up to 8.53g/t gold in soils.
- New targets include:
 - Ma West Prospect: +6,000 metre gold soil anomaly with up to 8.53g/t gold and major artisanal workings.
 - Peksou North Prospect: +800 metre gold soil anomaly at +0.5g/t, including up to 3.07g/t gold.
- High tenor stream sediment BLEG sampling identifies new areas for follow up work.
- Rock chips taken during geological mapping include 9.62g/t, 8.27g/t, 6.34g/t gold.

Gourma Project – Boss Joint Venture

- Initial field work completed including stream sediment BLEG sampling to identify areas for follow up work. Further low cost field work will commence in the coming weeks targeting these initial areas identified.

Cote d'Ivoire Projects expanded:

- Granting of a second new 400 km² tenement in North West Côte d'Ivoire. Initial BLEG stream district exploration commenced.

Gryphon Minerals Limited (ASX: GRY) is pleased to provide an update on its West African exploration activities. The Company is continuing with a low cost, value-add exploration approach which will enhance its future growth and development pipeline while it simultaneously advances its flagship Banfora Gold Project towards mine development.

Steve Parsons, Managing Director of Gryphon Minerals said “The tenor and extent of the gold mineralisation at the Golden Hill Project, defined by our new low cost geochemical surveys and field mapping, is extremely encouraging.

The Hounde Belt is one of the most prospective areas in West Africa and our small, skilled and experienced exploration team is quickly and efficiently locating new and exciting high quality prospects. These will be better defined and prioritised for drill testing in the coming months”.



Corporate Directory

Non-Executive Chairman
Mel Ashton

Managing Director
Stephen Parsons

Non-Executive Directors
Didier Murcia
Bruce McFadzean

Company Secretaries
Carl Travaglini
Candice Driver

Advancing the 3.6 Moz Banfora Gold Project, Burkina Faso¹

- low capital costs
- low operating costs
- high grade Heap Leach
- high margins

Funding:

- A\$32 million cash²
- US\$60 million debt³

On-track in 2014:

- Mine permitting ✓
- Debt mandate ✓
- Feasibility study ✓
- Early site works
- Exploration results

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Burkina Faso Earn-In Joint Venture – Golden Hill & Gourma Projects

Gryphon Minerals and Boss Resources Limited (ASX: BOE) completed an agreement to establish a joint venture principally over the Golden Hill and Gourma gold projects located in Burkina Faso, totalling over 1,500 km² (refer to ASX announcements dated 05/03/14 and 04/07/14).

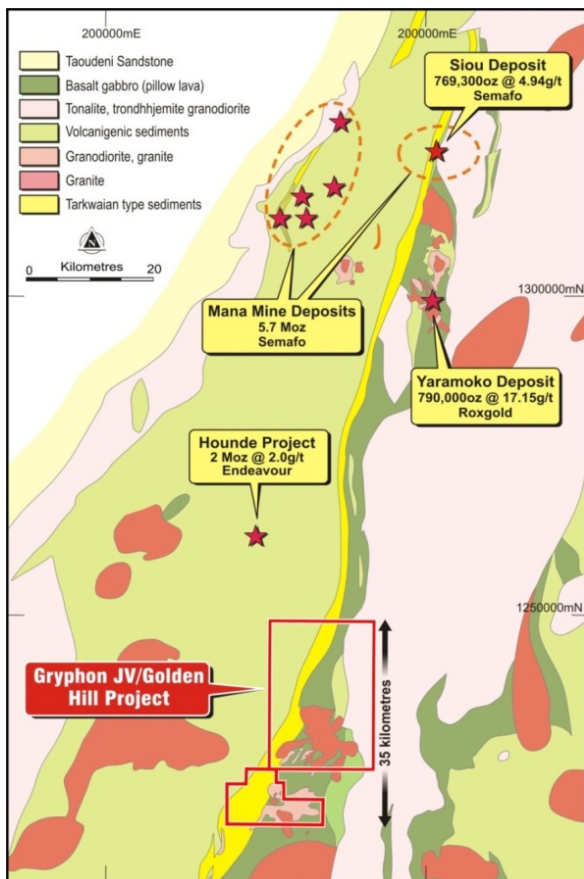
Gryphon Minerals is applying proven low-cost exploration techniques to explore the tenure. A review of past work has been completed, new high resolution satellite imagery acquired and processed in-house and relatively high density (>1 sample per ~6 km²) drainage sampling, supplemented by laterite sampling, where appropriate, has been completed across all joint venture projects.

This strategy is expected to fast track targeting across the exploration licences as it will direct drilling to those areas most likely to deliver a significant discovery and enable the company to confidently drop ground where appropriate geochemical techniques have been applied and the results are negative.

Golden Hill Project

The Golden Hill project is the most advanced of all the projects in the joint venture and it is considered particularly prospective as it is located within the highly mineralised Hounde Greenstone Belt. This belt hosts the majority of the high grade discovered gold ounces in Burkina Faso, including Semafo’s (TSX, OMF: SMF) recently discovered Siou Deposit (reserves of 769 koz @ 4.94 g/t gold) plus the high grade Yaramoko deposit owned by Roxgold (TSX.V: ROG) (790 koz @ 17.1 g/t Gold). The belt also hosts Semafo’s Mana Mine (6 Moz) and Endeavour Mining’s Vindaloo deposit (TSX: EDV; ASX: EVR); 2Moz @ 2.0 g/t (Figure 1). The Golden Hill project straddles the same structure and stratigraphy that host these high grade deposits.

Figure 1: Golden Hill Project Location





A number of useful baseline datasets have been collected over the property by Boss Resources and previous explorers, who identified and undertook the initial drill campaigns on some, but not all, of the prospects (refer to ASX announcement dated 05/03/14 for significant past intercepts).

Work by Gryphon Minerals to date includes prospect mapping, rock chip and drainage sampling (50 and 119 samples respectively) and soil sampling (3506 samples) across seven prioritised areas. The results included 28 soil samples exceeding 1g/t Au to a peak of 8.53g/t Au and a further 29 samples between 500 – 1,000 ppb Au. The results have confirmed some of the work completed by the former explorers, whilst also delineating 5 new prospects, namely, Peksou North, Ma West, Didro, Nahirindro and Nabele NE.

BLEG stream sediment sampling has also been completed across the project, collecting samples at an average density of approximately 1 sample per 5 km². This returned some highly anomalous results exceeding 100 ppb Au, compared to a background value of around 2 ppb Au. The tenor of the anomalism is very high adding confidence to the hypothesis that this is significantly mineralised terrain. This high precision multi-element geochemical data compliments the existing datasets and has fulfilled its objectives of allowing the company to confirm where to focus its efforts and where little or no work is warranted.

Figure 2: Golden Hill Project: New significant prospects

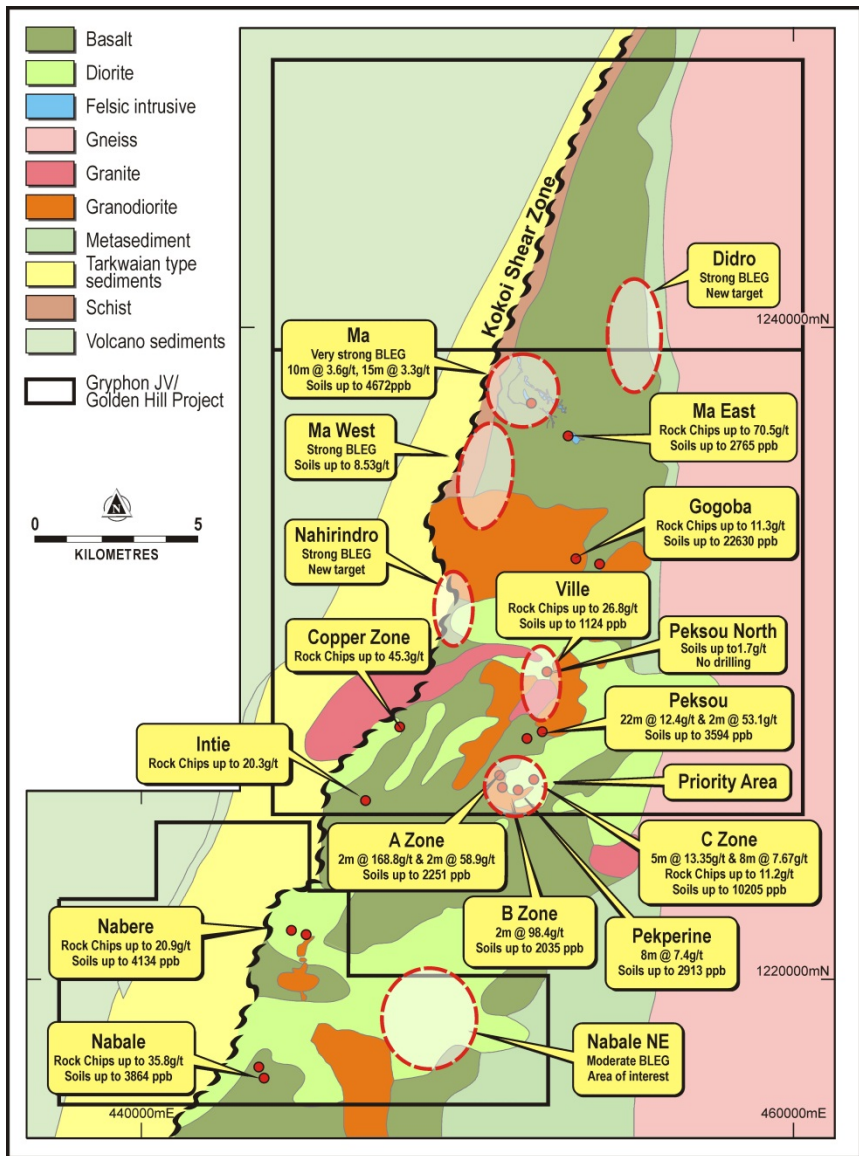




Figure 3: Ma West: New major gold in soil anomaly and artisanal workings.

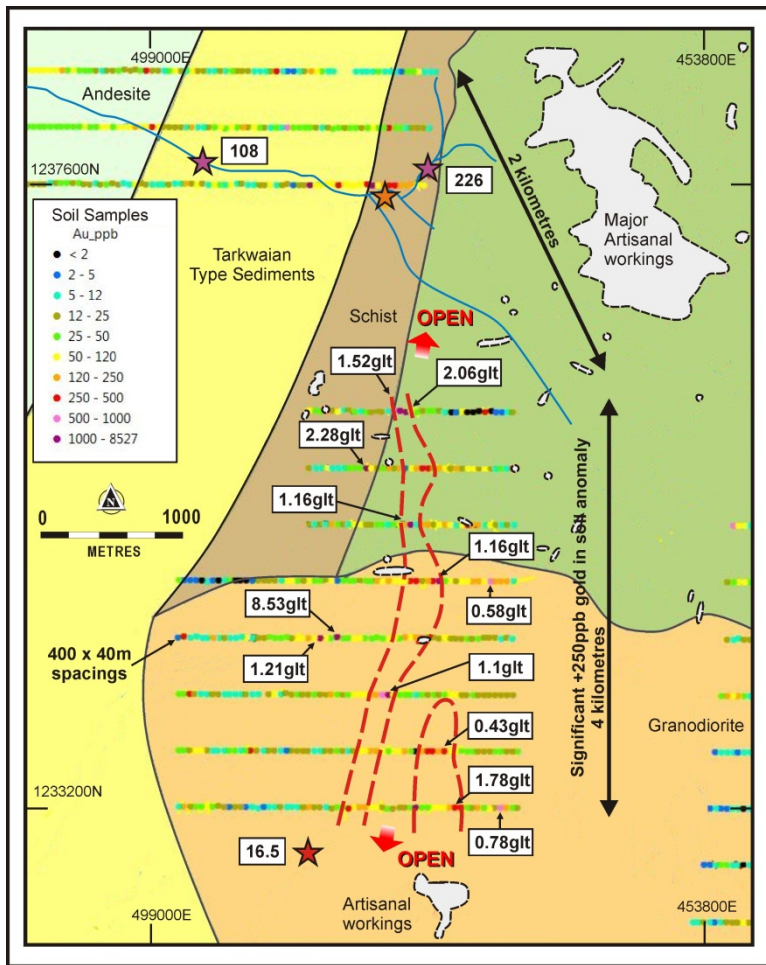
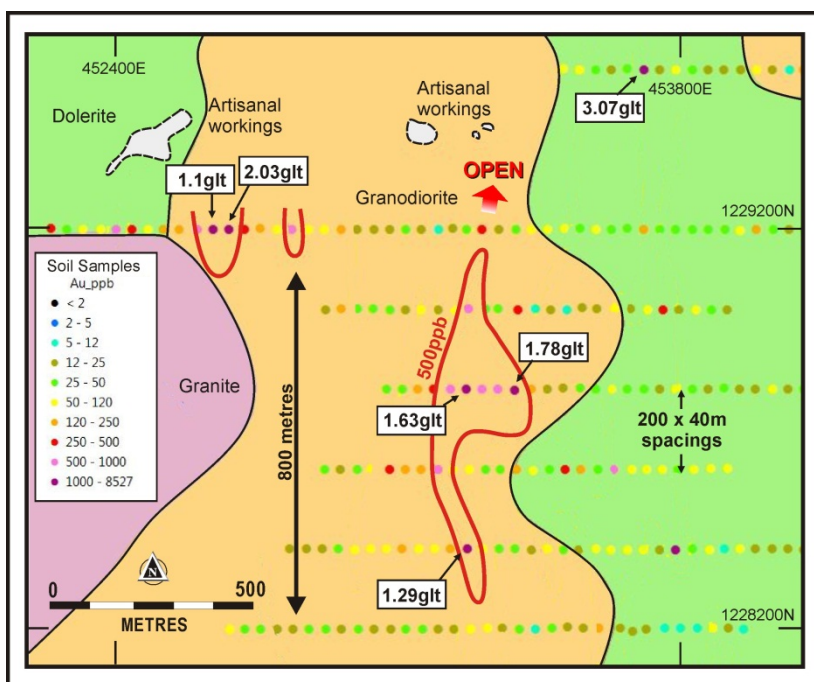


Figure 4. Peksou North: New strong gold in soil anomaly.





Gourma Gold Project

The Gourma Project is located within the Fada N'Gourma Greenstone Belt, 250km east of Ouagadougou and only 80 km south, south west of Niger's largest gold deposit, the 50,000 ounce per annum Samira Hill gold mine (1.9 million ounce project). The Project consists of four contiguous permits (Diabatou, Tyara, Foutouri and Boutouanou) that cover a total area of 850 km². It is accessible from the south off the Fada N'Gourma-Kantchari highway via a well maintained gravel road and from the west via a gravel road from the town of Gayeri.

The Gourma Project covers a highly under-explored sequence of Birimian greenstones that host abundant artisanal workings within strike of extensive regional shear zones.

There are several significant gold targets that are currently being geologically reviewed by the company. The Tambiga Hill prospect contains over 1,000 artisanal pits and shafts up to 60 metres deep that cover an area 500 x 250 metres. This area has never been drilled. At the Diabatou prospect active hard rock and eluvial workings cover an area of 1,600 x 400 metres while at the nearby Gariaga Prospect artisanal workings cover an area of 1,300 x 800 metres.

Work by Gryphon Minerals to date includes detailed BLEG stream sampling and selective lateritic lag sampling in areas deemed appropriate. Multi-element drainage and laterite sample assays are presently being reviewed and interpreted. High resolution (50 cm) satellite imagery has been shot and processed in-house and used to map artisanal gold workings and to identify areas of outcrop. Field mapping and site visits to the workings has been planned, with further mapping and sampling to begin now that the wet season has concluded and field conditions allow access.

Côte d'Ivoire Exploration

The company has two new 400 km² tenements covering prospective terrain in North West Côte d'Ivoire. The Odiene Permit straddles the Sassandra Fault close to the margin of the Birimian and Man Shields with a mix of granite and greenstone lithologies which extend north into Southern Mali. A reconnaissance exploration programme consisting of detailed BLEG stream sampling (approximately 1 sample per 4 km²) and reconnaissance geological mapping is in progress with results expected in the first quarter of 2015.

The company has entered into an option to joint venture three permits in Côte d'Ivoire with a local company. Two permits have been granted and these are presently being BLEG stream sampled ahead of any decision to enter into the joint venture.

Detailed information on all aspects of Gryphons' projects can be found on the Company's website www.gryphonminerals.com.au.

Yours faithfully

Steve Parsons
Managing Director



The information in this report that relates to the Exploration Results at the Golden Hill Project, Burkina Faso, is based on and fairly represents information which has been compiled by Mr Sam Brooks who is a member of the Australian Institute of Geoscientists. Mr Brooks has sufficient experience relevant to the styles of mineralisation and type of deposit under consideration and to the activity that is being undertaken to qualify as a Competent Person, as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Brooks is a full time employee of Gryphon Minerals and has consented to the inclusion of the matters in this report based on his information in the form and context in which it appears. Mr Brooks holds a minor interest in the securities of Gryphon Minerals Ltd.

Footnotes

- 1 For more information on the 3.6Moz Resource estimate, refer to ASX announcement dated 4 February 2014. Gryphon Minerals is not aware of any new information or data that materially effects the information included in the said announcement.
- 2 Refer to September 2014 quarterly activities report released to the ASX on 23 October 2014.
- 3 Availability of the Project Loan Facilities is subject to due diligence, credit approval, entering into documentation and satisfaction of conditions precedent.

Figure 5: Gryphon Minerals West Africa Projects





Appendix 1: Tables for JORC 2012

Section 1: Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling. Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information. 	<ul style="list-style-type: none"> The announcement contains reference to soil sampling (3,506 samples), Soil samples were routinely collected from a depth of 5 - 30 cm with laterite sampling conducted where appropriate. Rock chip grab samples (50 samples) were collected as grab samples of visibly mineralized rocks and BLEG drainage samples (119 samples) were sampled from creeks and drainages in the project area consisting of silt and clay. Field duplicates were routinely collected for both the BLEG and soil samples at a rate of 1/20 samples. Rock chip grabs are designed to test for the presence of mineralization and are not representative. Not applicable to BLEG and soil sampling.
Drilling techniques	<ul style="list-style-type: none"> Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc). 	<ul style="list-style-type: none"> Not applicable to BLEG and soil sampling.
Drill sample recovery	<ul style="list-style-type: none"> Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material. 	<ul style="list-style-type: none"> Not applicable to BLEG and soil sampling. Not applicable to BLEG and soil sampling.
Logging	<ul style="list-style-type: none"> Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. The total length and percentage of the relevant intersections logged. 	<ul style="list-style-type: none"> Descriptions of sample locations and sampled medium systematically and routinely recorded.
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique. Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling. 	<ul style="list-style-type: none"> BLEG stream sediment samples consist of silt and clay material which is extracted from the other stream sediment material by decanting the fine grained material in suspension and then settling it out of suspension using a flocculant. Soil samples are sieved to a - 2 mm mesh.



Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> Whether sample sizes are appropriate to the grain size of the material being sampled. 	
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established. 	<ul style="list-style-type: none"> BLEG samples were submitted to Bureau Veratis in Perth for 500g cyanide leach and 40g Aqua Regia digest with ICP-MS / ICP- OES determinations for a broad range of commodity and trace elements. Gold detection to 0.1ppb Au as well as a suite of trace, pathfinder and commodity elements. Soil samples were submitted to BIGGS laboratory in Ougadougou for 500g CN leach to 1ppb Au detection limit. Rock chips were submitted to BIGGS laboratory in Ougadougou for Fire Assay 50 g. QAQC was inserted for all sampling at a rate of 6% including standards, blanks and field duplicates.
Verification of sampling and assaying	<ul style="list-style-type: none"> The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes. Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. Discuss any adjustment to assay data. 	<ul style="list-style-type: none"> Not applicable to BLEG and soil sampling.
Location of data points	<ul style="list-style-type: none"> Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. Specification of the grid system used Quality and adequacy of topographic control. 	<ul style="list-style-type: none"> All surveys were conducted using handheld GPS. Grid used is Universal Transverse Mercator (UTM) WGS84, Zone 30 N.
Data spacing and distribution	<ul style="list-style-type: none"> Data spacing for reporting of Exploration Results. Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. Whether sample compositing has been applied. 	<ul style="list-style-type: none"> Drainage samples were collected at a target density of 1 sample per 5 km sq. Care was taken with selecting sample sites ensuring no cross contamination between adjacent catchments. Soil samples were collected on an initial 40x40m sample grid, which was closed down on selected prospects, infilling to 200x40m sample spacings. Not applicable to BLEG and soil sampling. Not applicable to BLEG and soil sampling.
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material. 	<ul style="list-style-type: none"> Not applicable to BLEG and soil sampling.
Sample security	<ul style="list-style-type: none"> The measures taken to ensure sample security. 	<ul style="list-style-type: none"> Samples are removed from the field immediately upon collection and stored in a secure compound for sub sampling and preparation for lab dispatch. Samples are collected directly from site by the laboratory. Sample submission forms are sent in paper form with the samples as well as electronically to the laboratory. Reconciliation of samples occurs prior to commencement of sample preparation of dispatches.
Audits or reviews	<ul style="list-style-type: none"> The results of any audits or reviews of sampling techniques and data. 	<ul style="list-style-type: none"> Results have not been audited.



Section 2: Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area. 	<ul style="list-style-type: none"> The Boss JV comprises 2 separate regions and a total of 7 permis. Gourma- 2012-074/MCE/SG/DGMGC Boutouanou Arrete -2012-076/MCE/SG/DGMGC Diabatou Arrete -2013-0112/MME/SG/DGMG Tyara Arrete -2013-090/MME/SG/DGMG Foutouri Arrete Golden Hill 2013-031 /MME/SG/DGMG Baniri Arrete -2013-030 /MME/SG/DGMG Intiedougou Arrete -2013-018 /MME/SG/DGMG Mougue Arrete Boss Resources is 100% holder of the permis. The Mougue Arrete (most southern of the Golden Hill Project) is wholly within the "Reserve partielle de Nabere" Exploration activities are allowed to take place within the partial forest reserve, but special environmental permitting would likely be required as part of any Mining License Application The Gryphon 100% owned Côte d'Ivoire Tenements are: -Odiene Decree No 2014-376 -FNW - Decree number TBA (passed COMINE). The Option to JV with Dune SARL covers the following permits: -Samatiguila Decree No 2013-823/1300904 -Agnibilikrou Decree No 2013-822/1300903 -A third permit, Zuenola is still under application. The authorities in Côte d'Ivoire have been made aware of the JV Agreement and Ministerial endorsement of this is still pending.
Exploration done by other parties	<ul style="list-style-type: none"> Acknowledgment and appraisal of exploration by other parties. 	<ul style="list-style-type: none"> Exploration completed by previous explorers Boss Resources and Orezone Ltd has included soil sampling, geophysical data collection and significant drilling.
Geology	<ul style="list-style-type: none"> Deposit type, geological setting and style of mineralisation. 	<ul style="list-style-type: none"> The Boss Resource Joint Venture concerns three projects all hosted in granite/greenstone belts of the Proterozoic Birimian Shield in Burkina Faso. Exploration is targeting orogenic gold mineralizing systems.
Drill hole Information	<ul style="list-style-type: none"> A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul style="list-style-type: none"> easting and northing of the drill hole collar elevation or RL (Reduced Level - elevation above sea level in metres) of the drill hole collar dip and azimuth of the hole down hole length and interception depth hole length. If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case. 	<ul style="list-style-type: none"> Not applicable to BLEG and soil sampling
Data aggregation methods	<ul style="list-style-type: none"> In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated. Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail. The assumptions used for any reporting of metal equivalent values should be clearly stated. 	<ul style="list-style-type: none"> Not applicable to BLEG and soil sampling



Criteria	JORC Code explanation	Commentary
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> • <i>These relationships are particularly important in the reporting of Exploration Results.</i> • <i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i> • <i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</i> 	<ul style="list-style-type: none"> • Not applicable to BLEG and soil sampling.
Diagrams	<ul style="list-style-type: none"> • <i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i> 	<ul style="list-style-type: none"> • Maps, cross sections and model views accompany previous releases. No new exploration results accompany this announcement.
Balanced reporting	<ul style="list-style-type: none"> • <i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i> 	<ul style="list-style-type: none"> • Rock chips are used to detect for presence or absence of mineralization. Null samples are not considered relevant to reporting and only the three highest new results have been reported here. • Soil samples are used to detect a greater likelihood that the bedrock is mineralized; the strength of the signal is not solely a function of the bedrock chemistry. Within the two featured prospects all Gryphon Soil samples have been shown. • The most significant drill results for Golden Hill have only been reported and conclusions on potential tonnage or grade of the deposits should not be drawn from currently reported drill results. • Further information to allow assessment of potential target size will be provided when Gryphon Minerals progresses work and data validation. Current reporting is not balanced in nature and should not be construed to be so.
Other substantive exploration data	<ul style="list-style-type: none"> • <i>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i> 	<ul style="list-style-type: none"> • Nil
Further work	<ul style="list-style-type: none"> • <i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i> • <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i> 	<ul style="list-style-type: none"> • Further exploration work will include follow up mapping and further geochemical testing in preparation for drill targeting.