



#### 29<sup>th</sup> January 2014

#### **COMPANY SNAPSHOT**

#### **Board of Directors**

Alan Senior Non-Executive Chairman

Gary Lethridge Managing Director

**Graeme Cameron** Technical Director

Brian Dawes Non-Executive Director

Karen Gadsby Non-Executive Director

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#### **Capital Structure**

**Shares on Issue:** 131,538,627 (TLM)

**Options on Issue:** 9,050,000 (Unlisted)

# December 2013 Quarterly Activities Report

# Highlights

#### Corporate

- \$15M Joint Venture Farm-in Agreement signed with Sandfire Resources
   (ASX: SFR) enabling Sandfire to farm into the Springfield, Halloween and
   Halloween West Projects (Doolgunna Projects):
  - Sandfire is committed to spend a minimum of \$5M on exploration within the first two years without earning an equity interest in the Projects.
  - Sandfire can earn up to 70% of Talisman's interest in these projects by spending a minimum of \$15M on exploration over 5½ years; and
  - Potential to unlock a new generation of copper-gold discoveries by combining Sandfire's emerging geological knowledge (gained from the discovery and development of DeGrussa) with Talisman's extensive Doolgunna datasets and geological knowledge.

## Exploration

- <u>Livingstone Project</u> first-pass RC drilling completed at Kerba Prospect
  - Prospective high-magnesium ultramafic-mafic rock types intersected with potential to host magmatic Ni-Cu-PGE sulphide mineralisation;
  - Visible sulphides observed including trace amounts of nickel sulphide (pentlandite) and widespread disseminated copper sulphide (chalcopyrite); and
  - Strong Ni-Cu enrichment encountered in weathered rocks above Ni-Cusulphide bearing host rocks in hole LVRC001 with better results including:
    - LVRC001: 6m @ 0.47% Ni from 6m; and
    - LVRC001: 4m @ 0.45% Ni from 18m
- Springfield Project Recent phases of exploration completed targeting both VHMS and structurally controlled copper-gold mineralisation:
  - Geological setting along the Jenkin Fault Zone (JFZ) identified as being prospective for structurally-controlled copper-gold mineralisation;
  - Coherent copper anomalism associated with a major north-west fault zone defined by in-fill Aircore drilling across the Lovejoy Prospect on the JFZ;



ASX Code: TLM December 2013 Quarterly Activities Report



#### Highlights Continued;

- Coherent, low-order Cu-Zn-Co anomaly defined by detailed soil sampling over the south-west portion of the JFZ target area; and
- Ultra-detailed gravity survey completed over the Homer Volcanic Corridor to assist in defining key VHMS target horizons directly along strike from the DeGrussa mine.
- <u>Halloween West JV Project</u> Detailed soil sampling and mapping completed across new targets
  - Detailed soil sampling and geological mapping programs completed over the western extension of the prospective Halloween VMS-target horizon; and
  - Soil sampling and mapping also completed across a newly identified prospective copper-bearing horizon in the east of the project area;
- Cash reserves of \$17.3M at Quarter-end.

# **Doolgunna Copper-Gold Projects**

## Farm-in Joint Venture with Sandfire Resources

During the Quarter, Talisman secured the involvement of leading Australian copper producer Sandfire Resources NL (ASX: SFR) in the next phase of exploration of its Doolgunna copper-gold projects in Western Australia through a landmark \$15 million farm-in exploration joint venture. The Letter Agreement covers Talisman's interests in the Springfield, Halloween and Halloween West Projects (see *Figure 1*) and marks the beginning of an important new period of exploration activity across the Company's Doolgunna portfolio.



Figure 1: Talisman's Doolgunna Copper-Gold Projects subject to the \$15M Farm-in Joint Venture with Sandfire





The exploration farm-in enables the two companies to work together to accelerate exploration activities targeting copper-gold discoveries at these projects.

#### **Background**

Talisman has invested more than \$20 million exploring its Doolgunna Projects over the past four years. During this time, it has assembled a comprehensive geo-scientific database which has facilitated the identification of a series of high-quality copper-gold exploration targets, especially across the Springfield Project and within the interpreted extension of the DeGrussa mine corridor (*Figure 2*).



Figure 2: Springfield Project simplified geology showing the interpreted DeGrussa Mine Corridor

The two companies believe that the application of Sandfire's extensive regional geological knowledge base and funding capacity combined with Talisman's local geological knowledge and strategic ground position has the potential to unlock a new generation of copper-gold discoveries within the Doolgunna region.

## **Key Agreement Terms**

Talisman and Sandfire Resources Limited have entered into a Letter Agreement which grants Sandfire the right to farm into Talisman's wholly-owned Springfield and Halloween Projects, as well as its joint venture rights over the Halloween West Project (Talisman's Doolgunna Copper-Gold Projects).





The key commercial terms of the Letter Agreement are as follows:

- Sandfire has the right to earn a 70% ownership interest in Talisman's interests in the Doolgunna Copper-Gold Projects by spending \$15 million on exploration across the Doolgunna Projects within 5½ years of the date of the Letter Agreement, subject to any statutory approvals that may be required.
- Sandfire has a minimum expenditure commitment of \$5 million within the first two years before it can elect to either:
  - i. withdraw from the agreement with no further commitment and no project equity interest; or
  - ii. spend an additional \$5 million (for a total of \$10 million) within a further 2-year period (total 4 years) in order to earn a 51% interest in the Doolgunna Copper-Gold Projects (First Interest).
- After Sandfire acquires the First Interest, a Joint Venture will be formed between Sandfire and Talisman, with Sandfire holding a 51% interest and Talisman a 49% interest, in Talisman's current rights and interests in Talisman's Doolgunna Copper-Gold Projects.
- At that time Sandfire then has the option to sole fund a further \$5 million (for a total of \$15 million) on exploration expenditure within a further 18 month period in order to acquire a further 19% (Second Interest) in Talisman's current rights and interests in Talisman's Doolgunna Copper-Gold Projects, thereby taking its total interest to 70%.
- If Sandfire gives a notice ceasing sole funding prior to acquiring the Second Interest it shall be deemed to have earned a 51% interest (with Talisman retaining a 49% interest) and the exploration joint venture will then be operated on a pro rata contributing basis or under standard industry dilution terms.
- Should Sandfire elect to earn the Second Interest by spending a minimum of \$15 million in total and thereby hold a 70% joint venture interest, Talisman will have the right to maintain its 30% interest by contributing to exploration expenditure on a pro rata basis or dilute under industry standard terms.
- Sandfire will manage all exploration activities during the farm-in period.
- Sandfire's right to farm into Talisman's joint venture rights over the Halloween West Project is subject to the terms of the existing joint venture arrangements (with Chrysalis Resources Limited ASX: CYS) in respect of that Project.

Subsequent to quarter end, a preliminary meeting was held between Sandfire and Talisman senior technical teams to present and transfer all associated technical data collected and collated by Talisman over the Doolgunna Projects. The next phase of activity, which is now underway, will involve a process of integration, analysis and modelling of the combined exploration data sets by Sandfire. Once complete, this will then enable planning of the next phases of exploration at the Springfield, Halloween and Halloween West Projects which will be funded and managed by Sandfire.

The agreement with Sandfire provides a unique opportunity to forge a strong partnership in the Bryah Basin building on two of the most extensive exploration initiatives ever undertaken in the region.

# Springfield (TLM 100% - subject to Sandfire Farm-in agreement)

The Springfield Project comprises a 303km<sup>2</sup> ground package located approximately 150km north-east of Meekatharra in the northern Murchison Goldfields region of Western Australia and 4km directly along strike from Sandfire Resources' DeGrussa VMS Copper-Gold Mine (see Appendix 1 and Figure 2).





ASX Code: TLM December 2013 Quarterly Activities Report

Previous exploration activities at Springfield have focused on systematically testing prospective stratigraphic horizons for DeGrussa-style Volcanic-hosted Massive Sulphide (VHMS) mineralization, primarily along the **Homer** (DeGrussa), **Monty**, and **Central** Volcanic Corridors, as well as first-pass reconnaissance-style exploration within the **Southern Volcanic sequence** (see *Figure 2*).

An in-depth, independent technical review completed early in 2013 identified that, in addition to DeGrussastyle VHMS mineralisation, the Springfield Project is highly prospective for a range of structurally-controlled copper-gold mineralisation styles. These alternate styles of mineralisation are evident at the nearby Thaduna and Green Dragon deposits, as well as other examples at the Mt Isa copper mine in Queensland and the Nifty copper mine in northern WA.

## Jenkin Fault Zone Summary

As a result of the technical review, a broad target area has been identified along the Jenkin Fault Zone (JFZ) comprising strongly deformed and silicified dolomitic sediments and carbonaceous black shale of the Yerrida Basin Windplain Formation in faulted contact with the Archaean Marymia granite (see *Figure 3*).



Figure 3: Springfield Project geology showing areas of recently completed work programs at Jenkin Fault Zone and Homer Corridor

Importantly, it is interpreted that the Yerrida shales and dolomites may be "preferred host rocks" for structurally-controlled copper mineralization (i.e. in veins and breccia). It is also interpreted that the boundary between the Yerrida sediments and the overlying oxidised wackes and siltstones of the Karalundi Formation constitutes a major oxidation boundary that may be an important control on the deposition of copper sulphides.





Consequently, two geochemical sampling programs were completed during the Quarter along the JFZ to explore an area stretching over 6km in a direct line from the **Lovejoy Prospect** and terminating at Sandfire's adjoining tenement boundary to the south-west (see *Figure 3*).

## Lovejoy Prospect In-fill Geochemical Drilling

An in-fill geochemical Aircore drilling program was conducted at the *Lovejoy Prospect* during the Quarter comprising 43 vertical holes for 2,580m on five 200m-spaced lines to test a late-time conductive MLEM anomaly associated with the structural confluence of a major NW trending gravity structure and the Jenkin Fault Zone (see *Figure 4*).



Figure 4: Lovejoy Prospect; Maximum down-hole copper results showing interpreted geology and MLEM conductance image

Drilling from south to north intersected altered and volcanic wackes and siltstones of the Karalundi formation before passing into highly-silicified dolomites and shale of the Johnson Cairn Formation, and then coarse Archaean granite to the north (see *Figure 4*).

The rocks show variable degrees of chlorite-silica alteration with abundant quartz-carbonate veins that may indicate the presence of a mineralising hydrothermal system.

The assay results clearly define a coherent east-west trending zone of copper anomalism to a maximum of 577 ppm Cu over a strike length of **600m** along the Johnson Cairn-Karalundi contact, and broadly coincident





ASX Code: TLM December 2013 Quarterly Activities Report

with the MLEM anomaly. Furthermore, it is clear from the drilling results that a major NW fault zone exerts a strong control on the Lovejoy copper anomaly. All drill-hole collar positions are provided in *Appendix 2* and better drilling results (>300ppm Cu) are listed in **Table 1** below:

As part of the Farm-in Agreement, this data has been provided to Sandfire which will assist in refining the geological interpretation and better definition of anomalous trends for possible follow-up exploration.

Hole	Drill Type	East	North	RL	From	То	Down hole Width* (m)	Copper (ppm)#	Intercept
SPRB900	RAB	741492	7176854	546	36	39	3m	577	3m @ 577ppm Cu
SPRB906	AC	741794	7176843	525	60	62	3m	448	3m @ 448ppm Cu
SPRB927	AC	742206	7176404.	514	69	78	9m	309	9m @ 309ppm Cu
SPRB937	AC	742200	7176954	558	21	27	6m	327	6m @ 327ppm Cu
SPRB941	AC	742400	7176379	524	63	66	3m	322	3m @ 322ppm Cu

Table 1 – Lovejoy Prospect; Significant results (>300ppm Cu) from aircore drilling program, November 2013.

\* All samples collected over 3m composite intervals.

# All samples analyzed for 33 elements at ALS laboratories using 4-acid digest ICP-AES method (ME-ICP61)

# Jenkin Fault Zone Soil Sampling

During the Quarter, Talisman completed a detailed 100m x 25m soil sampling program over the south-western portion of the JFZ target area (See *Figure 5*). The aim of this program was to define potential new target areas for follow-up geophysical and drilling programs.



Figure 5: Detailed soil sampling over JFZ target with copper assays (points) over gridded zinc geochemical image and interpreted geology.



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Final assays have highlighted a coherent, but low-order, Cu-Zn-Co anomaly with a maximum Cu value of 30.5ppm (approximately double the background threshold). The anomalous zone is of the dimensions 300m x 300m and straddles the granite-sediment contact (see *Figure 5*). Field checking indicates the peak of the anomaly is largely over outcropping granite and most likely related to a series of cross-cutting NE-SW trending faults.

# DeGrussa Corridor – Detailed Gravity Survey

The quality of the nearby DeGrussa Volcanic-hosted Massive Sulphide (VHMS) system supports Talisman's view that there is potential to discover additional DeGrussa-style copper-gold deposits in this region and more importantly, within the Company's Springfield Project. Springfield is located just 4km to the east of the DeGrussa Copper Mine.

Following a detailed review of the Springfield drilling data, it is evident that there is widespread copper-iron sulphide deposition along the **Homer** (DeGrussa) volcanic corridor at multiple stratigraphic levels within the Narracoota volcanic succession.

The copper mineralization is mainly hosted by geological structures within chlorite-altered volcaniclastic sediments adjacent to basaltic flows and mafic sills that appear to have preferentially intruded along several sedimentary target horizons. Consequently, there is a need to clearly identify the key structural controls as well as the mafic units and adjacent sediments within the volcanic sequence.

During the reporting period, Talisman completed a comprehensive, ultra-detailed gravity survey along 50m and 100m spaced lines over the entire **Homer Corridor** (see *Figure 3*). This gravity survey was designed to identify and elucidate important structural controls, as well as to define the distribution and attitude of discrete dense geological units including mafic volcanic horizons, as well as less-dense target volcanic sediment horizons.

Processing and interpretation of this detailed gravity data together with re-logging of drill holes will result in a significantly refined geological framework for the Homer/DeGrussa volcanic corridor and potentially delineate further structural and stratigraphic targets within the Springfield Project for possible future drill testing.

# Halloween West JV (TLM 60% - subject to Sandfire Farm-in agreement)

The Halloween West JV Project is underlain by the prospective Narracoota Volcanic Formation which hosts the DeGrussa copper-gold deposit, located some 20km along strike to the east of Halloween West (see Appendix 1). Talisman has previously completed several programs of diamond and RC drilling at its adjoining 100%-owned Halloween Project to test key VMS copper-gold targets along the Halloween VMS target horizon. This work returned encouraging high-grade gold and copper intercepts (see TLM ASX Release – 7th November 2012).

Previous first-pass RC drilling and soil sampling by Talisman at the Halloween West Joint Venture Project in late 2012 identified Cu-Au-Zn-Mn-Bi anomalism associated with a magnetic package of strongly sheared volcanic sediments, cherts and intercalated ultramafic volcanic rocks which are thought to be prospective for VMS and/or structurally controlled copper-gold mineralization.





## Halloween West JV Soil Sampling

The latest phase of exploration at the Halloween West JV completed during the Quarter comprised approximately 800 soil samples taken along 100m and 200m-spaced soil sampling traverses (see *Figure 6*).

This exploration program was designed to test for the surface expression of copper-gold mineralization across two target areas including the western extension of the Halloween VMS target horizon and a malachitebearing (secondary copper) sedimentary horizon in the east of the tenement.

In addition, the Company completed a program of geological mapping over the target horizons to identify and better define possible geological controls on potential mineralization. Samples have been sent to ACME laboratories in Vancouver for low level multi-element ICP-MS analysis. Final assays are awaited.



Figure 6: Soil sampling grid over western extension of the Halloween VMS-target horizon and to test a malachite-bearing sedimentary unit to the north-east of the main trend.

# Murchison Exploration Projects

# Livingstone Project (TLM 80%)

The Livingstone Project is located approximately 130km to the north-west of Meekatharra (see Appendix 1) and covers an area of 208 km<sup>2</sup>. The Project straddles the western extension of the prospective Bryah Basin at the northern margin of the Yilgarn Craton. A major shear zone traverses the entire Project with widespread gold intercepts returned by historic percussion drilling programs over a strike length of more than 31km.





# Kerba Ni-Cu-PGE Prospect

Previous regional soil sampling undertaken by Talisman over the **Kerba Prospect** returned coherent nickelcopper-PGE anomalism over three 400m spaced lines. A detailed in-fill soil sampling program was completed across this broad zone earlier this year on a 100m x 50m grid with the aim of potentially defining a coherent nickel-copper-PGE geochemical target.



Figure 7: Kerba Prospect magnetic image showing completed RC drill-holes to test FLEM plates and 3D magnetic model

The in-fill soil program defined a coherent east-west trending zone of anomalous nickel-in-soil of >1,000ppm Ni (see ASX Release – 31 July 2013) over a strike length of at least 1.8km. This anomaly was interpreted to transgress the Livingstone tenement boundary to the east and, consequently, Talisman moved to secure tenure over the eastern extension of the Kerba magnetic anomaly.

A detailed FLEM (Fixed-Loop Electromagnetic) survey was also completed over the Kerba Prospect with the aim of testing highly conductive anomalies possibly associated with accumulations of massive nickel-copper-PGE sulphides within the Kerba ultramafic intrusive body. Following detailed analysis and 3D modelling of the FLEM data, three priority EM targets were identified which were in part coincident with a coherent Ni-Cu-Pt-insoil anomaly and lie above the ovoid Kerba mafic-ultramafic intrusion (see *Figure 7*).

An initial 4-hole RC drilling program for 983m has been completed during the Quarter to test for the presence of nickel sulphide mineralisation as well as to establish a platform for deeper down-hole electromagnetic (DHEM) surveying. All drill-hole collar details are provided in **Appendix 3**.





Drill holes LVRC001, LVRC002 and LVRC003 were drilled to intersect three FLEM plates (see *Figure 7*) with associated Ni-Cu-PGE soil geochemistry, while LVRC004 was drilled down-dip of LVRC002, to provide a platform for DHEM at depth beyond the resolution of the FLEM survey data (see *Figure 8*).



Figure 8: Kerba Prospect X-Section on 564,300E with drill hole LVRC001 and LVRC004 drilled to test FLEM plate and 3D magnetic model.

All RC drill holes drilled through high-MgO lithologies including pyroxenite, chlorite-carbonate schists and gabbro before passing into a highly serpentinized, cumulate-textured peridotite body which is interpreted to represent the strongly magnetic Kerba intrusion observed in the regional datasets.

Importantly, petrographic examination of the drill chips has noted **widespread sulphide development** within the mafic-ultramafic lithologies. Minor blebs of chalcopyrite and pyrite are preferentially developed in the pyroxenite unit and trace, fine-grained **nickel sulphide (pentlandite) was observed** at the pyroxenite-peridotite contact (see *Figure 8*), which could represent a prospective basal position for sulphide accumulation.

Down-hole electromagnetic (DHEM) surveys were completed, although no significant conductors were detected. A number of minor in-hole anomalies were returned but none of these are considered to be directly associated with a significant massive nickel sulphide target. The original FLEM anomalies are interpreted to be a result of weathering effects, possibly deeper and clay enriched over the western part of the intrusion. Alternatively, there appears to be a significant amount of magnetite and pyrite in the system which in terms of the volume/extent may be the cause of the weak-moderate FLEM anomalies.





ASX Code: TLM December 2013 Quarterly Activities Report

Better nickel (>0.3% Ni) and copper (>300 ppm Cu) results are listed in **Table 2** below. It is important to note the strong Ni-Cu enrichment in LVRC001 within the saprolite horizon above the nickel-sulphide bearing ultramafic contact, with an intersection of up to **6m @ 0.47% Ni from 6m** depth.

Hole ID	Drill Type	East	North	RL	From (m)	To (m)	Down hole Width (m)*	# Intercept
LVRC001	RC	564299	7176375	494	6	12	6	6m @ 0.47% Ni from 6m
					18	22	4	4m @ 0.45% Ni from 18m
					6	16	10	10m @ 0.03% Cu from 6m
LVRC002	RC	564001	7176296	493	26	28	2	2m @ 0.30% Ni from 26m
					0	22	22	22m @ 0.04% Cu from surface
					28	32	4	4m @ 0.04% Cu from 28m
					46	50	4	4m @ 0.03% Cu from 46m
					60	62	2	2m @ 0.03% Cu from 60m
					68	70	2	2m @ 0.03% Cu from 68m
LVRC003	RC	564504	7176272	498	4	6	2	2m @ 0.38% Ni from 4m
					140	142	2	2m @ 0.06% Cu from 140m
LVRC004	RC	564319	7176522	487	82	84	2	2m @ 0.04%Cu from 82m
					146	148	2	2m @ 0.05% Cu from 146m
					190	192	2	2m @ 0.07% Cu from 190m
					200	202	2	2m @ 0.05% Cu from 200m

Table 2 – Kerba Prospect; Significant nickel (>0.3% Ni) and copper (>300 ppm Cu) intersections in RC drilling, October 2013.

\* All RC samples collected over 2m composite intervals.

# All samples analyzed for 33 elements at ALS laboratories using 4-acid digest ICP-AES method (ME-ICP61)

While these elevated results in the near-surface environment are the result of weathering processes, they may provide a useful vector to primary nickel-copper sulphides at depth elsewhere in the Kerba intrusion.

# Muddawerrie Gold Project (TLM 80%)

The Muddawerrie Project is located approximately 100km north-west of Meekatharra in the Murchison Region of Western Australia (see Appendix 1). The Project covers an area of approximately 52km<sup>2</sup> and comprises a prospective Archaean greenstone belt with significant potential to host high-grade, banded iron formation (BIF) and mafic-hosted shear zone gold deposits, similar to those at Mt Magnet and Meekatharra.

There were no field activities conducted at Muddawerrie during the quarter.

# Milgun Project (TLM 100%)

The 766km<sup>2</sup> Milgun Project is located approximately 20km north west of the Shelby Project and covers a potential northern outlier of the Bryah Basin (see Appendix 1). The Milgun Project is interpreted to be located within a tectonically uplifted block of Bryah basement rocks. It is interpreted that basement uplift is an effective mechanism for focused fluid flow and possible copper-gold and gold mineralisation.

No field activities were conducted at Milgun during the Quarter.





# Shelby Project (TLM 100%)

The 1,816 km<sup>2</sup> Shelby Project is located along the northern margin of the Bryah Basin approximately 30km north of the Horseshoe Lights Copper-Gold Mine (see Appendix 1). On the basis of its geological setting, Talisman has identified the Shelby Project as having the potential to host large Iron Oxide-Copper-Gold (IOCG) deposits (e.g. Olympic Dam, Prominent Hill) and/or a Voisey's Bay-style mafic-ultramafic intrusive hosted nickel-copper-PGE sulphide deposit.

A review of the Northern Marymia margin along the north-eastern portion of the Shelby Project commenced during the Quarter. Areas of structural complexity are evident along this portion of the Marymia margin which elevates the potential for this broad area to host structurally-controlled copper mineralisation.

An ongoing review is focusing on potential structural targets along the interpreted Marymia Margin for possible follow up exploration activities.

# CORPORATE

The Annual General Meeting of Talisman Mining was held on 25 November 2013, with all resolutions passed on a show of hands.

At the end of the December Quarter, Talisman held cash of **\$17.3 million.** 

A key strategic outcome of the Farm-in Joint Venture agreement with Sandfire Resources is the commitment by Sandfire Resources to expend a minimum of \$5M over the next two years on Talisman's Doolgunna Projects. This commitment ensures that active and considered exploration, funded by a knowledgeable and well-funded third party, takes place on these projects in the medium term. In addition to this minimum exploration spend, Sandfire Resources must also expend a further \$5M before it earns any equity interest in the Doolgunna Projects; potentially resulting in a total exploration spend of at least \$10M over the next four years.

With a substantial exploration spend on the Doolgunna Projects now secured, thereby providing those projects with the opportunity for exploration success and potential longer term shareholder value creation, Talisman plans to also endeavour to leverage its strong cash position at a counter cyclical time in order to generate additional shareholder value should quality exploration assets be identified, secured and successfully explored.



ASX Code: TLM December 2013 Quarterly Activities Report



#### **Competent Persons' Statement**

Information in this ASX release that relates to Exploration Results and Mineral Resources is based on information compiled by Mr Graeme Cameron, who is a member of the Australasian Institute of Mining and Metallurgy. Mr Graeme Cameron is a full time employee of Talisman Mining Ltd and has sufficient experience which is relevant to the style of mineralisation and types of deposit under consideration and to the activities undertaken to qualify as a Competent Person as defined in the 2012 Edition of the "Australian Code for Reporting of Mineral Resources and Ore Reserves". Mr Graeme Cameron consents to the inclusion in this report of the matters based on information in the form and context in which it appear.

#### Appendix 1 – Talisman Mining Ltd Project locations





ASX Code: TLM December 2013 Quarterly Activities Report

#### Appendix 2 – Lovejoy Prospect; Aircore Drillhole Collar Locations, October 2013.

Hole ID	Hole Type	Grid ID	East	North	RL	Depth (m)	Dip	Lease
SPRB900	RAB	MGA94_50	741492	7176854	584	51	-90	E52/2313
SPRB901	RAB	MGA94_50	741493	7177016	582	45	-90	E52/2313
SPRB902	RAB	MGA94_50	741803	7176364	587	81	-90	E52/2313
SPRB903	RAB	MGA94_50	741796	7176437	588	59	-90	E52/2313
SPRB904	RAB	MGA94_50	741784	7176654	584	51	-90	E52/2313
SPRB905	RAB	MGA94_50	741798	7176759	580	65	-90	E52/2313
SPRB906	AC	MGA94_50	741794	7176843	586	62	-90	E52/2313
SPRB907	AC	MGA94_50	741798	7176910	586	42	-90	E52/2313
SPRB908	AC	MGA94_50	741797	7177002	585	42	-90	E52/2313
SPRB909	AC	MGA94_50	741800	7177080	587	46	-90	E52/2313
SPRB910	AC	MGA94_50	741798	7177159	582	55	-90	E52/2313
SPRB911	AC	MGA94_50	741789	7177244	576	64	-90	E52/2313
SPRB912	AC	MGA94_50	741798	7177319	580	58	-90	E52/2313
SPRB913	AC	MGA94_50	742018	7176439	586	71	-90	E52/2313
SPRB914	AC	MGA94_50	741993	7176518	569	70	-90	E52/2313
SPRB915	AC	MGA94_50	742003	7176599	586	89	-90	E52/2313
SPRB916	AC	MGA94_50	741992	7176689	584	74	-90	E52/2313
SPRB917	AC	MGA94_50	742000	7176765	585	59	-90	E52/2313
SPRB918	AC	MGA94_50	742003	7176839	584	36	-90	E52/2313
SPRB919	AC	MGA94_50	742004	7176923	584	60	-90	E52/2313
SPRB920	AC	MGA94_50	741999	7176993	584	50	-90	E52/2313
SPRB921	AC	MGA94_50	742000	7177076	582	46	-90	E52/2313
SPRB922	AC	MGA94_50	741998	7177160	577	43	-90	E52/2313
SPRB923	AC	MGA94_50	741996	7177242	583	48	-90	E52/2313
SPRB924	AC	MGA94_50	742202	7176198	590	86	-90	E52/2313
SPRB925	AC	MGA94_50	742211	7176271	591	77	-90	E52/2313
SPRB926	AC	MGA94_50	742203	7176352	589	56	-90	E52/2313
SPRB927	AC	MGA94_50	742206	7176404	585	87	-90	E52/2313
SPRB928	AC	MGA94_50	742206	7176512	594	107	-90	E52/2313
SPRB929	AC	MGA94_50	742196	7176590	585	80	-90	E52/2313
SPRB930	AC	MGA94_50	742195	7176685	589	89	-90	E52/2313
SPRB931	AC	MGA94_50	742202	7176757	587	86	-90	E52/2313
SPRB932	AC	MGA94_50	742196	7176829	583	71	-90	E52/2313
SPRB933	AC	MGA94_50	742197	7176915	580	77	-90	E52/2313
SPRB934	AC	MGA94_50	742206	7177080	587	64	-90	E52/2313
SPRB935	AC	MGA94_50	742198	7177166	581	42	-90	E52/2313
SPRB936	AC	MGA94_50	742205	7176997	579	56	-90	E52/2313
SPRB937	AC	MGA94_50	742200	7176954	581	49	-90	E52/2313
SPRB938	AC	MGA94_50	742409	7175894	585	80	-90	E52/2313



ASX Code: TLM December 2013 Quarterly Activities Report



#### Appendix 2 ... contd

Hole ID	Hole Type	Grid ID	East	North	RL	Depth (m)	Dip	Lease
SPRB940	AC	MGA94_50	742404	7176218	581	80	-90	E52/2313
SPRB941	AC	MGA94_50	742400	7176379	589	95	-90	E52/2313
SPRB942	AC	MGA94_50	741800	7176805	579	47	-90	E52/2313
SPRB943	AC	MGA94_50	742010	7176798	585	47	-90	E52/2313

#### Appendix 3 – Kerba Prospect; RC Drillhole Collar Locations, November 2013.

Hole ID	Hole Type	Grid ID	East	North	RL	Depth (m)	Dip	Azimuth	Lease
LVRC001	RC	MGA94_50	564299	7176375	494	203	-60	180	E52/2593
LVRC002	RC	MGA94_50	564001	7176296	493	222	-60	180	E52/2593
LVRC003	RC	MGA94_50	564504	7176272	498	204	-60	180	E52/2593
LVRC004	RC	MGA94_50	564319	7176522	487	354	-60	180	E52/2593

# Appendix 4 – Talisman Mining Tenement Schedule as at 31<sup>st</sup> December 2013

Project	Tenement	Blocks (Area)	Talisman Equity (%)	JV Partner
HALLOWEEN WEST	HWW - E52/2275	6	60	Chrysalis Resources Ltd
HALLOWEEN	HLW - P52/1241	(200.0 HA)	100	
LIVINGSTONE	LVS - E52/2565	15	80	Zebina Minerals Pty Ltd
	LVS - E52/2566	31	80	Zebina Minerals Pty Ltd
	LVS - E52/2593	24	80	Zebina Minerals Pty Ltd
	LVS - P52/1423	(195 HA)	100	
	LVS - E52/2931	2	100	
MILGUN	MLG - E52/2281	41	100	
	MLG - E52/2690	67	100	
	MLG - E52/2708	21	100	
MUDDAWERRIE	MDW - E51/1447	17	80	Zebina Minerals Pty Ltd
SHELBY	SHL - E52/2499	42	100	
	SHL - E52/2500	36	100	
	SHL - E52/2519	25	100	
	SHL - E52/2628	29	100	
	SHL - E52/2629	9	100	
	SHL - E52/2634	19	100	
	SHL - E52/2660	21	100	
	SHL - E52/2661	69	100	
	SHL - E52/2662	50	100	
SPRINGFIELD	SPR - E52/2282	70	100	
	SPR - E52/2313	14	100	
	SPR - E52/2466	14	100	





# Appendix 5 - JORC TABLE 1

# Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code Explanation	Commentary
Sampling techniques	• 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	The Kerba targets were sampled using Reverse Circulation (RC) drilling. A total of 4 RC holes were drilled for 983m on three lines spaced 200m apart. Each hole was drilled at an inclination of - 60 degrees towards the south.
	handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.	The Aircore (AC) drilling at Lovejoy comprised 43 vertical holes for 2580 m on five 200m-spaced lines.
		600 soil samples were taken on a 100m x 25m grid pattern at the Jenkin Fault Zone.
		A handheld <i>Innov-X Delta</i> XRF device is used to analyze rock geochemistry for each 1m drill interval or soil sample site to provide an estimation of base metals and other geochemical pathfinders.
	• Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	RC drill samples were collected using a cone splitter for each metre drilled. A 2m composite sample was taken via a second sampling chute and collected into pre-numbered calico bags. 2m composite samples were sent for laboratory assaying while one metre samples were collected and stored on site for future reference.
		AC drill samples are collected on a metre by metre basis via a Cyclone collection device. Individual bulk metre samples are composited over a 3m interval using representative spear sampling techniques.
		All drillhole collars are initially located using a handheld GPS device and subsequently picked up by Surveyors upon their completion.
	<ul> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has</li> </ul>	A visual estimation of the percentage of mineralization is gathered as part of the standard Talisman geological logging system.
	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	RC drilling at Kerba was used to obtain 1 m samples and 2m composites – of which approximately 3kg was crushed, dried and pulverised to produce a 25g charge for 4-acid digest with an ICP-AES and low-level ICP_MS (gold) finish
	mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	Aircore drilling at Lovejoy was used to obtain 1 m samples and 3m composites – of which approximately 3kg was crushed, dried and pulverised to produce a 25g charge for 4-acid digest with an ICP-AES (33 elements) and low- level ICP_MS (gold) finish.





Criteria	JORC Code Explanation	Commentary
Sampling techniques contd	continued	Soil samples are sieved to produce a –minus 2mm fraction sample. All samples are crushed, dried and pulverized to produce a representative sample for Aqua Regia digestion and ICP-MS finish (36 elements).
Drilling techniques	• Drill type (e.g. core, reverse circulation, open- hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. 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.).	Reverse Circulation (RC) drilling at the Kerba Prospect using a 5.5 inch face-sampling hammer drill bit. Aircore (AC) drilling at Lovejoy Prospect using NQ aircore drill string and bit.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	For RC and AC drilling the volume of sample material collected is routinely inspected and recorded on a metre by metre basis, and indicates approximate sample recovery. Actual sample weights are routinely recorded at the laboratory and stored in the Talisman database. Overall drilling recoveries at both the Kerba and Lovejoy Prospects are good and there are no sample recovery problems.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	RC samples are collected using a cone splitter for each metre drilled. A 2m composite sample is also taken via a second sampling chute and collected into pre-numbered calico bags. AC samples for each metre drilled are collected directly from the drill cyclone. Spear sampling techniques are employed across each 1m pile to
	• 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.	produce a representative 3m composite sample. The relationship between the potential loss of fine material and grade during wet drilling is unknown. All wet samples, where the fine fraction of the sample has potentially been reduced, have been logged and recorded in the Talisman database accordingly.
Logging	• 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.	All RC and AC drill holes have been logged as down-hole intervals recording all appropriate oxidation, weathering, lithological, textural and structural data to help assess potential mineralization.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	Logging of RC and AC drill chips routinely recorded depth intervals, lithology, grainsize, texture, structure, alteration, veining, weathering/oxidation and mineralization. Every one metre interval was collected, sieved and retained in plastic chip trays for future reference.
	• The total length and percentage of the relevant intersections logged.	All drill holes are logged in full to the end of the hole. Geological logging routinely records down-hole intervals according to variations in geology.





Criteria	JORC Code Explanation	Commentary
Sub- sampling	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> </ul>	No core was sampled.
techniques and sample preparation	<ul> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> </ul>	At the Kerba Prospect, all RC samples were cone split into 2m composites. The majority of samples were dry.
		At the Lovejoy Prospect' AC samples are collected for each metre drilled directly from the drill cyclone. Spear sampling techniques are employed equally across each 1m pile to produce a representative 3m composite sample.
	• For all sample types, the nature, quality and appropriateness of the sample preparation technique.	The sample preparation of RC, AC drill chip and soil samples follows industry best-practice for sample preparation involving splitting, sieving, drying, and pulverizing of the total sample.
	• Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Field QC procedures for all drill and soil sampling programmes involve the use of Certified Reference Material (CRM) as assay standards. The insertion ratio of standards was 1:20.
		All QC/QA controls and measures are routinely reviewed and reported on at the completion of the programme.
		External laboratory QC/QA checks are routinely monitored and stored in the Talisman database.
	• Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field	No field duplicates have been taken.
	duplicate/second-half sampling.	Samples are selected to weigh less than 3kg to ensure total preparation at the pulverization stage.
		One metre drill spoil samples are collected in calico bags and/or stored on the ground for no longer than 6 months for future reference and resampling where necessary, and to ensure sample repeatability over 1m intervals.
	• Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample size is considered adequate for the rocks encountered, mineralization style and purpose of this program





Criteria	JORC Code Explanation	Commentary
Quality of assay data and laboratory tests	• The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	All drill samples were submitted to ALS Laboratories in Perth for multi-element analysis using a 25g charge with a 4-acid digest and ICP- AES finish (ME-ICP61). Gold assaying comprised an Aqua Regia digest and ICP-MS finish with low- level detection (ST43). All soil samples were sent to ACME Laboratories, Vancouver for low level multi-element analysis by aqua- regia digestion with an ICP-MS finish (1DX).
	• 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.	A handheld <i>Olympus Innov-X Delta</i> XRF machine was used on all 1m drill sample piles and soil samples. Reading times are generally 60 seconds in "soil sampling" mode. The XRF unit was calibrated daily against Certified Reference Material.
	• 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.	All drill and soil assays were required to conform to the Talisman procedural QA/QC guidelines as well as routine laboratory QA/QC guidelines. This has been achieved using laboratory standards and duplicates as well as company standards. QA/QC reports have been generated and all data is stored in the Talisman Database.
Verification of sampling	• The verification of significant intersections by either independent or alternative company personnel.	The Talisman Exploration Manager has verified significant intersections in drill hole data.
and assaying	The use of twinned holes.	No twinned holes drilled.
	• Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Field and laboratory data have been collected electronically and stored in the Talisman <i>Datashed</i> database The data is visually examined using <i>Micromine</i> mining software.
	<ul> <li>Discuss any adjustment to assay data.</li> </ul>	None undertaken
	<ul> <li>Specification of the grid system used.</li> </ul>	The coordinate system used was the Geocentric Datum of Australia (GDA) 1994. Coordinates are in the Map Grid of Australia zone 50 (MGA).
	• Quality and adequacy of topographic control.	A handheld GPS has been used to determine local altitude. The final relative level (RL) is determined using a DGPS at a later date.





Criteria	JORC Code Explanation	Commentary
Data spacing and distribution	• Data spacing for reporting of Exploration Results.	RC drilling at the Kerba Prospect was conducted on a hole by hole basis in areas of strong geochemical anomalism and coincident geophysical targets.
		AC drill spacing at Lovejoy Prospect was on a 200m by 80m grid pattern.
		Soil sampling along the Jenkin Fault Zone was on a nominal 100m by 25m grid pattern.
	• 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.	Not applicable. First phase exploration drilling and soil sampling.
	• Whether sample compositing has been applied.	RC samples are collected using a cone splitter for each metre drilled. A 2m composite sample is taken via a second sampling chute and collected into pre-numbered calico bags.
		AC samples for each metre drilled are collected directly from the drill cyclone. Spear sampling techniques are employed across each 1m pile to produce a representative 3m composite sample.
Orientation of data in relation to geological	• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	The orientation of drilling was designed to intersect either geophysical targets or geological contacts at a perpendicular angle in order to reflect the true width of stratigraphy.
structure	<ul> <li>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.</li> </ul>	No known orientation-based sampling bias has been identified.
Sample security	• The measures taken to ensure sample security.	Samples prior to submission are stored in field under the supervision of the Project Geologist. Samples are transported by an accredited courier service to ALS Perth and ACME, Vancouver.
Audits or reviews	<ul> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	None undertaken.





# Section 2 Reporting of Exploration Results (Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code Explanation	Commentary
Mineral tenement and land tenure status	• 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.	AC drilling and soil sampling at Lovejoy was on the tenement E52/2313. This lease is part of Talisman's 100% owned Springfield Project, 150km north-east of Meekatharra, WA. This tenement falls within the Department of Conservation-managed Doolgunna pastoral lease. RC drilling at Kerba was on E52/2593. The tenement is part of the Livingstone Project which is a joint venture between Talisman Mining Ltd (80%) and Zebina Minerals Pty Ltd (20%).
	• The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.	<ul> <li>E52/2313 at Springfield expires on the 24<sup>th</sup> November 2014. The tenement is in good standing and there are no existing impediments to exploration.</li> <li>E52/2593 at Livingstone expires on the 17<sup>th</sup> April 2016. The tenement is in good standing and there are no existing impediments to exploration.</li> </ul>
Exploration done by other parties	• Acknowledgment and appraisal of exploration by other parties.	<ul> <li>Exploration work at Springfield completed prior to Talisman's tenure included geochemical soil and rock chip sampling combined with geological mapping. Some targeted RC drilling was completed over gold and diamond targets.</li> <li>Historic exploration work at Kerba (Livingstone) included geological mapping, ground based Induced Polarization (IP) surveys, soil sampling and shallow percussion (RAB) drilling.</li> </ul>
Geology	• Deposit type, geological setting and style of mineralisation.	Talisman's Springfield and Livingstone Projects lie within the Proterozoic-aged Bryah rift basin enclosed between the Archaean Marymia Inlier to the north and the Proterozoic Yerrida basin to the south. The rocks comprise dolerites, basalt, and volcanic-derived sediments of the Narracoota Formation overlying shales, dolomite, siltstone and sandstones of the Karalundi and Windplain Formations. The principal exploration targets in the Springfield area are Volcanic Hosted Massive Sulphide (VHMS) and structurally-controlled base metal (copper) deposits with associated gold mineralization. The principal exploration targets in the Livingstone area are orogenic gold deposits and intrusive-related magmatic nickel-copper-PGE sulphide deposits.





Criteria	JORC Code Explanation	Commentary
Drill hole Information	<ul> <li>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:</li> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> <li>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.</li> </ul>	Refer to Appendix 2 – Lovejoy AC Drillhole Collar Locations. Refer to Appendix 3 – Kerba RC Drillhole Collar Locations
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts</li> </ul>	A lower cut off value of 3000ppm (0.3%) was used to report significant <u>nickel</u> results at the Kerba Prospect. A lower cut off value of 300ppm was used to report significant <u>copper</u> values at both the Kerba and Lovejoy Prospects.
	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.	No metal equivalent values reported.
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>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').</li> </ul>	RC drill holes at Kerba were angled at an inclination of -60 degrees to intersect modeled geophysical targets and/or steeply dipping geological units at a high angle. Consequently, any significant downhole intercepts are inferred to be approximately equal to true width. Vertical AC drilling at Lovejoy is designed to test for horizontal geochemical dispersion in the regolith profile and does not reflect primary geological controls.





Criteria	JORC Code Explanation	Commentary
Diagrams	• 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.	Refer to Figures and Tables in the body of text.
Balanced reporting	• 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.	Refer to Figures and Tables in the body of text.
Other substantive exploration data	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.	Down-hole electro-magnetic (DHEM) surveys were completed on four RC drill holes at the Kerba Prospect (LVRC001-004). No significant anomalies were detected in any of the holes.
Further work	<ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	See body of text.