



Lodestar Minerals Limited ABN 31 127 026 528

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31 January 2011

## **ASX Limited**

### **By Electronic Lodgement**

Dear Sir / Madam

The following summarises the results of activity for the quarter ended 31 December 2010:

### **QUARTERLY ACTIVITIES REPORT FOR THE PERIOD ENDED 31 DECEMBER 2010**

*Significant progress was made towards commencing wide-ranging ground exploration on the Peak Hill-Doolgunna project*

#### **HIGHLIGHTS**

- **Heritage clearance in December for drilling of five McDonald Well VTEM anomalies**
- **Moving loop EM over 13 McDonald Well VTEM anomalies confirmed the VTEM data and defined targets to be drill tested in 2011**
- **A fixed loop EM survey tested the Little Well South VTEM anomaly**
- **Regolith interpretation of the Peak Hill-Doolgunna project has been completed in preparation for extensive regional geochemical programs over the Neds Creek and Marymia project areas in 2011**
- **Acquisition of two additional tenements in the Marymia project area, for a consideration of 250,000 shares and \$25,000. The acquisition brings Lodestar's Peak Hill-Doolgunna area under tenement to 2200 square kilometres**
- **A stream float sample of brecciated sediment, collected from E52/2492 near the margin of the Proterozoic basin and the Jenkin Thrust, reported 10ppm Ag and 805ppm Pb.**
- **Cash – At December 31<sup>st</sup> 2010 Lodestar had cash reserves of \$2,829,000**

During the quarter significant progress was made in advancing drilling targets within the Neds Creek/McDonald Well prospect (Figure 1).

- Approvals for drilling at McDonald Well were obtained by mid-December and drilling is scheduled to commence in January.
- 13 additional VTEM anomalies were surveyed using moving loop EM and in all cases the anomalies were confirmed (Figure 2). (VTEM geophysical surveys are rapid airborne electromagnetic surveys used to identify electrical conductors that may represent sulphide mineralisation. Other possible non-sulphide conductors include saline groundwater in palaeo-channels or structures and graphitic (carbonaceous) sediments).
- Reconnaissance gravity survey completed over the K42 magnetic anomaly. The gravity results suggest that the response is due to a mafic/ultramafic source at depth, which is in agreement with the recent drill test of the Johnson Cairn magnetic anomaly by Sipa Resources. The implications of this finding are discussed below.
- A fixed loop EM survey completed over the Little Well South prospect identified a weak, horizontal discrete conductor at shallow depth, possibly coinciding with the base of the Earaheedy Formation.

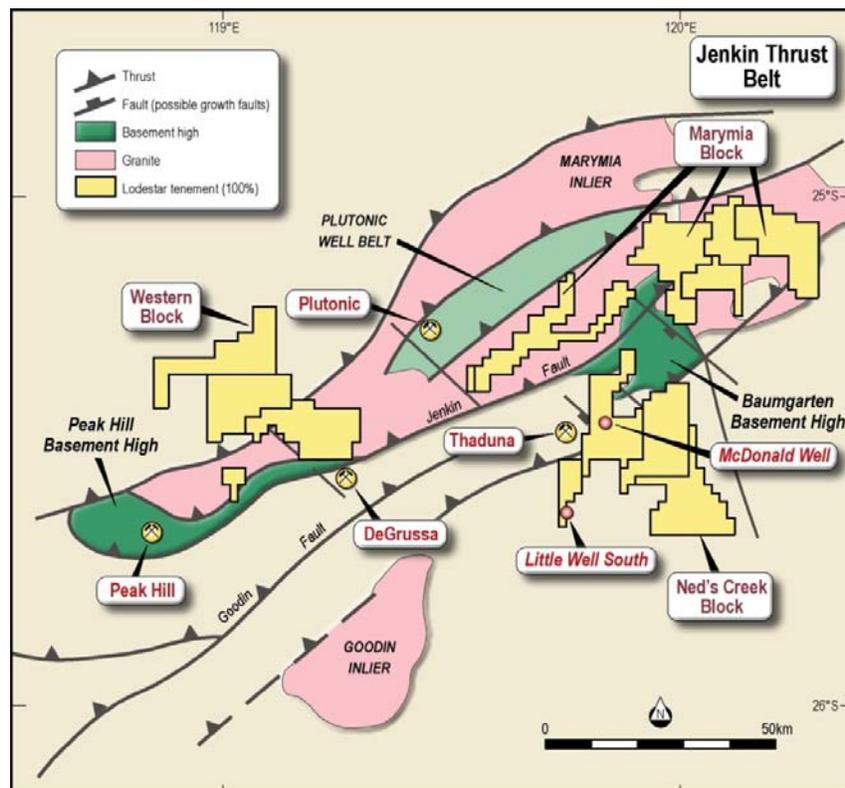


Figure 1 Lodestar's Peak Hill-Doolgunna tenements showing main tenement blocks

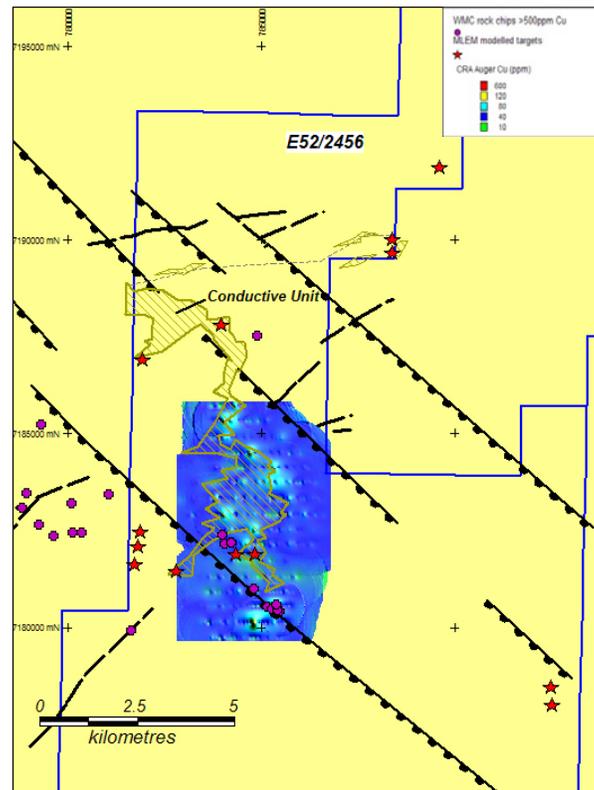


Figure 2 VTEM anomalies confirmed by surface EM, showing CRA and WMC geochemistry and major structures

Preparations for wide-ranging regional exploration commencing early 2011 continued.

- A regolith map of the project has been produced to assist the design and interpretation of regional geochemical sampling programs. The initial priority is to obtain complete multi-element coverage of the McDonald Well/Neds Creek area and extend geochemical programs into the adjacent Marymia project area, targeting basin sequences and the Proterozoic-Archaeon boundary. Preliminary sampling has already suggested the potential of the Marymia project area with a stream float sample of brecciated sediments returning a highly anomalous result of 10ppm Ag and 805ppm Pb. The geochemical sampling is expected to commence late January and will be ongoing through 2011.

Exploration concepts for the Yerrida Basin sequence within the Neds Creek/McDonald Well area continue to evolve. The development of the Yerrida Basin is interpreted to be related to flexure in early east-west trending strike-slip faulting. Local extension along the fault created a pull-apart or “sag” basin succession. The interpretation of the distribution and geometry of the lower Yerrida Basin succession is shown in Figure 3, note the east-northeast and north northwest orientation of major structures.

a) Extension and sag phase

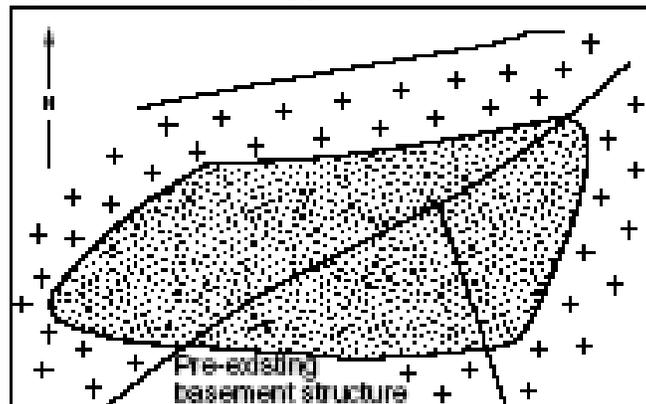


Figure 3 Interpretation of the early structure and distribution of the Yerrida Basin

Recent investigation of discrete magnetic anomalies in the Neds Creek area within and underlying the Yerrida Basin, indicate early mafic volcanism associated with magmatic centres at the Johnson Cairn and K42 sites. The magmatic centres appear to have a structural control, as they occur at the intersection of east northeast and north northwest trending magnetic lineaments. The apparent association of basaltic volcanics and early Yerrida Basin sediments at the Johnson Cairn magnetic anomaly indicates that magmatic activity and the controlling structures developed early in the history of the basin and that these same structures probably influenced basin geometry.

The proposed origin and depositional environment of the early Yerrida Basin shares many of the genetic features associated with sediment-hosted copper deposits:

- An early stage continental rift environment - magmatic activity associated with basin development is a source of heat to generate and drive basin-derived fluid circulation higher in the crust. The mafic sequences themselves are also a potential source of metals.
- The lower Yerrida Basin succession contains units of evaporates (hyper-saline environment typical of inter-tidal zones in hot arid climates) and continental red beds (haematite – rich sandstone) within the Judarina Formation on the margins of the basin, where the lower units are exposed. Evaporites and red beds together are a source of brines and metals that can migrate through permeable sandstone aquifers during basin development.
- A fine grained, reducing, S-rich host rock (e.g. shale - Johnson Cairn Formation) in the hangingwall to the red bed sequence to capture metals as they are transported in solution across a chemical gradient. The “Conductive Unit” defined in the VTEM survey appears to mark the interface between the Judarina Formation and the Johnson Cairn Formation and represents a chemical change in sedimentation.

Conceptual exploration targets in the Neds Creek area are illustrated in Figure 4 and summarised below:

- The footwall of the Johnson Cairn Formation, particularly where it was originally high in sulphide content – (“Conductive Unit”, McDonald Well?) and in contact with/adjacent to haematitic sandstones/structures.
- Re-activated early structures that cut the Johnson Cairn Formation as they are potential conduits for fluids moving from lower to higher crustal levels. East northeast and north northwest structures appear to be early and have been re-activated during the Capricorn Orogeny when the Marymia Inlier was thrust over the Yerrida Basin. Post-depositional deformation may have also remobilised mineralisation into structural positions – (Thaduna deposits?).
- Basin margins or pinch-out positions against basement “highs” representing zones of concentrated fluid flow and juxtaposition of sedimentary units.

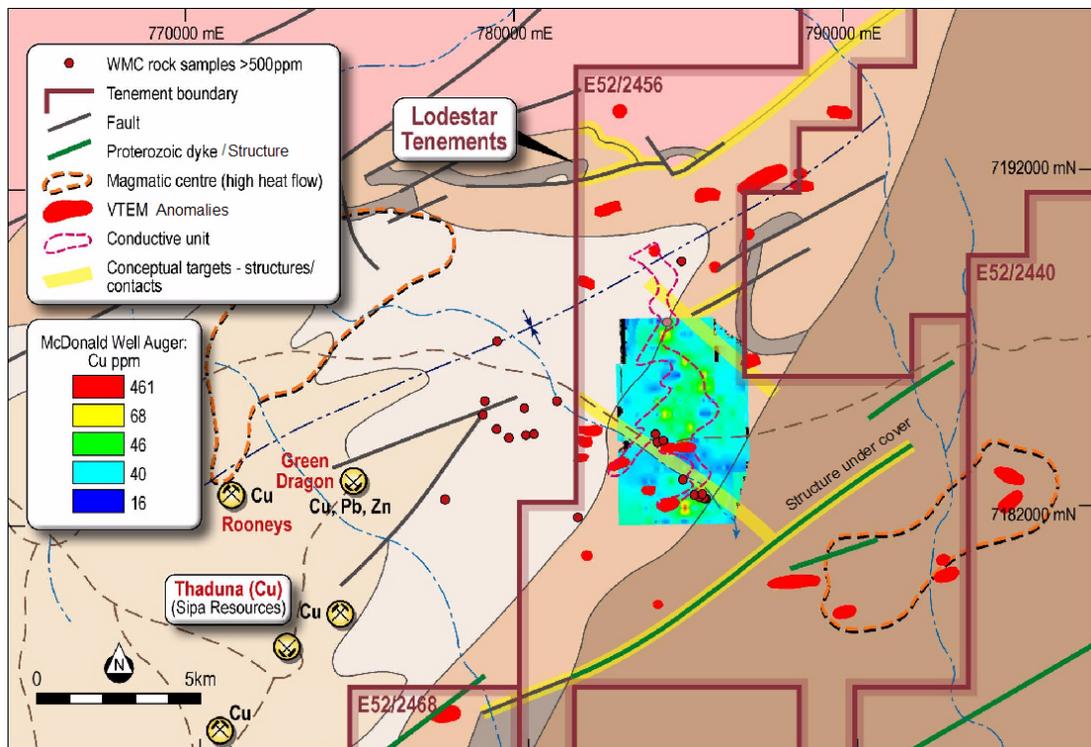


Figure 4 Conceptual targeting - Neds Creek

## Planned Activities for Next Quarter

- Phase 1 drilling is scheduled to commence at McDonald Well.
- Phase 2 VTEM/MLEM targets have been identified at the McDonald Well prospect. Statutory and heritage permits will be submitted and targets will be prioritised based on phase 1 drill results and the results of planned geochemical surveys.
- Multi-element geochemical surveys will commence over the Neds Creek and Marymia projects.
- VTEM survey over Marymia project tenements

Yours faithfully

**LODESTAR MINERALS LIMITED**



**BILL CLAYTON**

Managing Director

*The information in this report that relates to Exploration Results is based on information compiled by Bill Clayton, Managing Director, who is a Member of the Australasian Institute of Geoscientists and has sufficient experience of relevance to the styles of mineralisation and the types of deposits under consideration, and to the activities undertaken, to qualify as a Competent Person as defined in the 2004 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Clayton consents to the inclusion in this report of the matters based on the information in the form and context in which it appears.*

### **About Lodestar Minerals:**

*Lodestar Minerals Limited is a Perth-based explorer with projects in the Kimberley, Peak Hill and Kalgoorlie regions. Lodestar acquired the Peak Hill – Doolgunna project in March 2010. The Peak Hill – Doolgunna project forms the core of Lodestar’s project portfolio and represents a strategic landholding of 2200 square kilometres covering 120 kilometres of the Jenkin Thrust Belt, a regional fault system that is adjacent to the recently discovered DeGrussa Cu-Au deposit. Lodestar is embarking on an aggressive exploration program to assess the excellent potential of the emerging and under - explored north Murchison base metal province.*

# Appendix 5B

## Mining exploration entity quarterly report

Introduced 1/7/96. Origin: Appendix 8. Amended 1/7/97, 1/7/98, 30/9/01, 01/06/10, 17/12/10

Name of entity

LODESTAR MINERALS LIMITED

ABN

32 127 026 528

Quarter ended ("current quarter")

31 December 2010

### Consolidated statement of cash flows

	Current quarter \$A'000	Year to date (6 months) \$A'000
<b>Cash flows related to operating activities</b>		
1.1 Receipts from product sales and related debtors	-	-
1.2 Payments for		
(a) exploration and evaluation	(215)	(294)
(b) development	-	-
(c) production	-	-
(d) administration	(159)	(303)
1.3 Dividends received	-	-
1.4 Interest and other items of a similar nature received	22	33
1.5 Interest and other costs of finance paid	-	-
1.6 Income taxes paid	-	-
1.7 Other (provide details if material)	-	-
<b>Net Operating Cash Flows</b>	<b>(352)</b>	<b>(562)</b>
<b>Cash flows related to investing activities</b>		
1.8 Payment for purchases of:		
(a) prospects	-	-
(b) equity investments	-	-
(c) other fixed assets	-	-
1.9 Proceeds from sale of:		
(a) prospects	-	-
(b) equity investments	-	-
(c) other fixed assets	-	-
1.10 Loans to other entities	-	-
1.11 Loans repaid by other entities	-	-
1.12 Other (provide details if material)	-	-
<b>Net investing cash flows</b>	<b>-</b>	<b>-</b>
1.13 Total operating and investing cash flows (carried forward)	<b>(352)</b>	<b>(562)</b>

+ See chapter 19 for defined terms.

**Appendix 5B**  
**Mining exploration entity quarterly report**

1.13	Total operating and investing cash flows (brought forward)	(352)	(562)
<b>Cash flows related to financing activities</b>			
1.14	Proceeds from issues of shares, options, etc.	1,329	2,208
1.15	Proceeds from sale of forfeited shares	-	-
1.16	Proceeds from borrowings	-	-
1.17	Repayment of borrowings	-	-
1.18	Dividends paid	-	-
1.19	Other – capital raising costs	(114)	(119)
	<b>Net financing cash flows</b>	<b>1,215</b>	<b>2,089</b>
	<b>Net increase (decrease) in cash held</b>	<b>863</b>	<b>1,527</b>
1.20	Cash at beginning of quarter/year to date	1,967	1,303
1.21	Exchange rate adjustments to item 1.20	-	-
1.22	Cash at end of quarter	2,830	2,830

**Payments to directors of the entity and associates of the directors**  
**Payments to related entities of the entity and associates of the related entities**

		Current quarter \$A'000
1.23	Aggregate amount of payments to the parties included in item 1.2	109
1.24	Aggregate amount of loans to the parties included in item 1.10	-

1.25 Explanation necessary for an understanding of the transactions

1.23 - Includes salaries paid to directors, as well as superannuation paid on behalf of directors. Also includes corporate and accounting services paid to a company associated with one of the directors.

**Non-cash financing and investing activities**

2.1 Details of financing and investing transactions which have had a material effect on consolidated assets and liabilities but did not involve cash flows

N/A

2.2 Details of outlays made by other entities to establish or increase their share in projects in which the reporting entity has an interest

N/A

### Financing facilities available

*Add notes as necessary for an understanding of the position.*

	Amount available \$A'000	Amount used \$A'000
3.1 Loan facilities	-	-
3.2 Credit standby arrangements	-	-

### Estimated cash outflows for next quarter

	\$A'000
4.1 Exploration and evaluation	256
4.2 Development	-
4.3 Production	-
4.4 Administration	155
<b>Total</b>	<b>411</b>

### Reconciliation of cash

Reconciliation of cash at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts is as follows.	Current quarter \$A'000	Previous quarter \$A'000
5.1 Cash on hand and at bank	2,830	1,967
5.2 Deposits at call	-	-
5.3 Bank overdraft	-	-
5.4 Other (provide details)	-	-
<b>Total: cash at end of quarter (item 1.22)</b>	<b>2,830</b>	<b>1,967</b>

### Changes in interests in mining tenements

	Tenement reference	Nature of interest (note (2))	Interest at beginning of quarter	Interest at end of quarter
6.1	Interests in mining tenements relinquished, reduced or lapsed			
6.2	Interests in mining tenements acquired or increased	E52/2544 E52/2558 Acquisition	0%	100%

+ See chapter 19 for defined terms.

**Appendix 5B**  
**Mining exploration entity quarterly report**

**Issued and quoted securities at end of current quarter**

*Description includes rate of interest and any redemption or conversion rights together with prices and dates.*

	Total number	Number quoted	Issue price per security (see note 3) (cents)	Amount paid up per security (see note 3) (cents)
7.1 Preference *securities <i>(description)</i>	Nil	N/A	N/A	N/A
7.2 Changes during quarter (a) Increases through issues (b) Decreases through returns of capital, buy-backs, redemptions	N/A	N/A	N/A	N/A
7.3 *Ordinary securities **	88,989,477	88,989,477	N/A	N/A
7.4 Changes during quarter (a) Increases through issues (b) Decreases through returns of capital, buy-backs	13,989,474 250,000	13,989,474 250,000	9.5 cents 13 cents	9.5 cents 13 cents
7.5 *Convertible debt securities <i>(description)</i>	Nil	N/A	N/A	N/A
7.6 Changes during quarter (a) Increases through issues (b) Decreases through securities matured, converted	N/A	N/A	N/A	N/A
7.7 Options <i>(description and conversion factor)</i>	N/A	N/A	<i>Exercise price</i> N/A	<i>Expiry date</i> N/A
7.8 Issued during quarter	N/A	N/A	N/A	N/A
7.9 Exercised during quarter	0	0	N/A	N/A
7.10 Expired during quarter	Nil	N/A	N/A	N/A
7.11 Debentures <i>(totals only)</i>	Nil	N/A		
7.12 Unsecured notes <i>(totals only)</i>	Nil	N/A		

+ See chapter 19 for defined terms.

## Compliance statement

- 1 This statement has been prepared under accounting policies which comply with accounting standards as defined in the Corporations Act or other standards acceptable to ASX (see note 5).
- 2 This statement does give a true and fair view of the matters disclosed.

Sign here:   
Director

Date: 31 January 2011

Print name: David McArthur

## Notes

- 1 The quarterly report provides a basis for informing the market how the entity's activities have been financed for the past quarter and the effect on its cash position. An entity wanting to disclose additional information is encouraged to do so, in a note or notes attached to this report.
- 2 The "Nature of interest" (items 6.1 and 6.2) includes options in respect of interests in mining tenements acquired, exercised or lapsed during the reporting period. If the entity is involved in a joint venture agreement and there are conditions precedent which will change its percentage interest in a mining tenement, it should disclose the change of percentage interest and conditions precedent in the list required for items 6.1 and 6.2.
- 3 **Issued and quoted securities** The issue price and amount paid up is not required in items 7.1 and 7.3 for fully paid securities.
- 4 The definitions in, and provisions of, *AASB 6: Exploration for and Evaluation of Mineral Resources* and *AASB 107: Statement of Cash Flows* apply to this report.
- 5 **Accounting Standards** ASX will accept, for example, the use of International Financial Reporting Standards for foreign entities. If the standards used do not address a topic, the Australian standard on that topic (if any) must be complied with.

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