

19 June 2012

## **ASX Announcement and Media Release**

ASX Market Announcements  
Australian Securities Exchange Limited  
Level 6, 20 Bridge Street  
Sydney NSW 2000

### **Vanadium Drilling Success and Remanent Ore Dump Quantified Abenab Vanadium Project, northern Namibia**

#### **Broad continuous zones of visible Vanadium mineralisation intercepted**

- **1,000m of diamond core drilling program completed**
- **New, visibly mineralised vanadium rich lithology identified**
- **Assays now awaited for potential resource definition**
- **Mineralisation remains open along strike and depth**

#### **Extensive historical surface ore dumps and tailings surveyed**

#### **Metallurgical and bulk sampling programs continuing**

#### **Successful regional exploration program**

Avonlea Minerals Limited (ASX: AVZ) (“Avonlea”) is pleased to advise of completion of the successful 1,000m diamond core drilling program, regional and localised reconnaissance exploration program at Avonlea’s Abenab vanadium prospect, northern Namibia. While the corresponding assays are awaited, visual interpretation of the core and previous drilling has confirmed broad, continuous zones of Vanadium (Pb and Zn) rich mineralisation.

#### **Managing Director David Riekie commented**

*“My recent visit to the Abenab site enabled me to view the core with my exploration team and share their obvious and growing confidence in respect to the extent of visual mineralisation in the drill core and hence the overall potential emerging for our Abenab Vanadium project.*

*Similarities with our successful maiden drilling program late last year are obvious; we can easily verify the presence of Vanadium rich mineralisation in the core through visual identification of descloisite supported with the use of a handheld XRF. The pending assays will form a part of the necessary detail for the development of an initial resource for Abenab.*

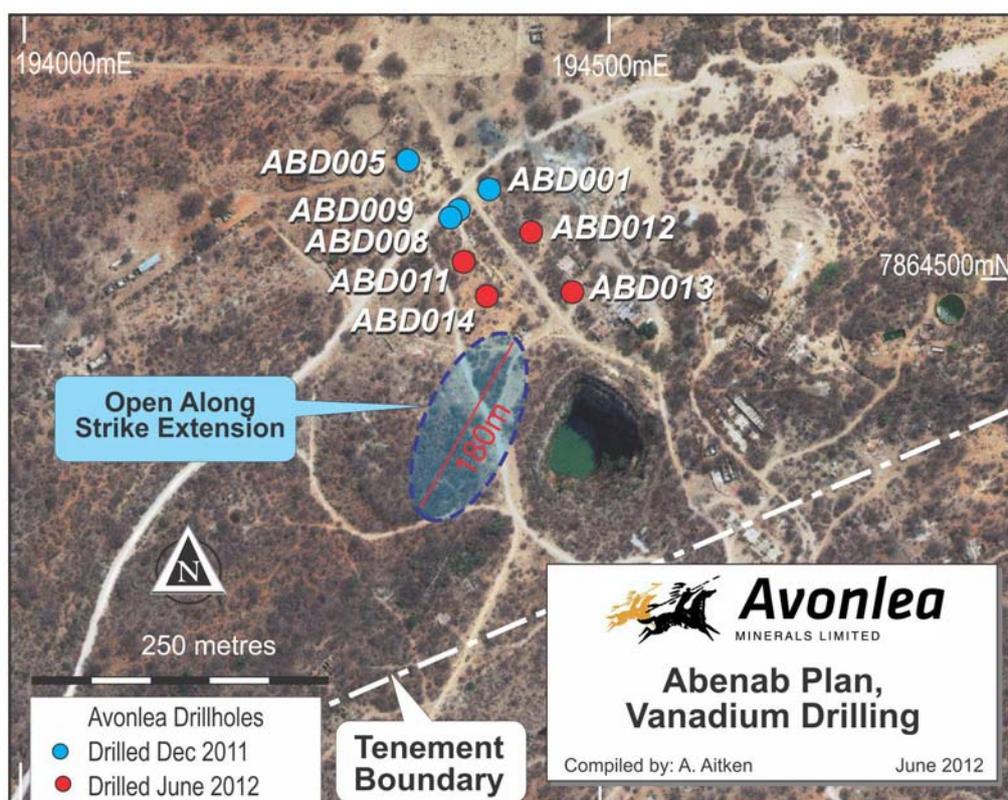
*What is most significant in the context of the current program was the discovery of a previously unidentified mineralised host lithology; in essence an expansion to this regions potential.*

Further bulk samples have also been taken from the surface ore and tailings dumps for further assay of vanadium. These dumps when combined with both the below surface and regional potential will also build on the projects developing potential.

It is becoming apparent from our ongoing activities, that the focus of much of the historical mining was likely to have been undertaken on the high grade “clay rich” vanadium mineralisation that only now exist as remnants within the Abenab pit.

Much of the breccia hosted vanadium mineralisation, which is Avonlea’s focus with its current and proposed drilling program, remains and is also prevalent, in the significant dumps at surface. The regional exploration while preliminary has identified extensional zones east and west of the pit and will be further assessed with the benefit of trenching and rock chip sampling programs. ”

### Overview of Current Drilling program



**Figure 1: Plan of the Abenab area with AVZ drill holes. Area to be targeted in next phase of drilling highlighted.**

Four diamond drill holes were completed in the current drilling program for a total of 989m. This is in addition to the four diamond holes completed in late 2011, that intersected the near surface mineralisation in the Onyoka Zone and historical mine extensions at depth as shown in Figure 1. The program was targeting both the upper extensions of the Onyoka zone intersected in ABD008 with a mineralised zone of 32m @1.8% V<sub>2</sub>O<sub>5</sub> 1.67% Zn, 3.93% Pb from 145m down hole and an extension to the lower mineralised zone.

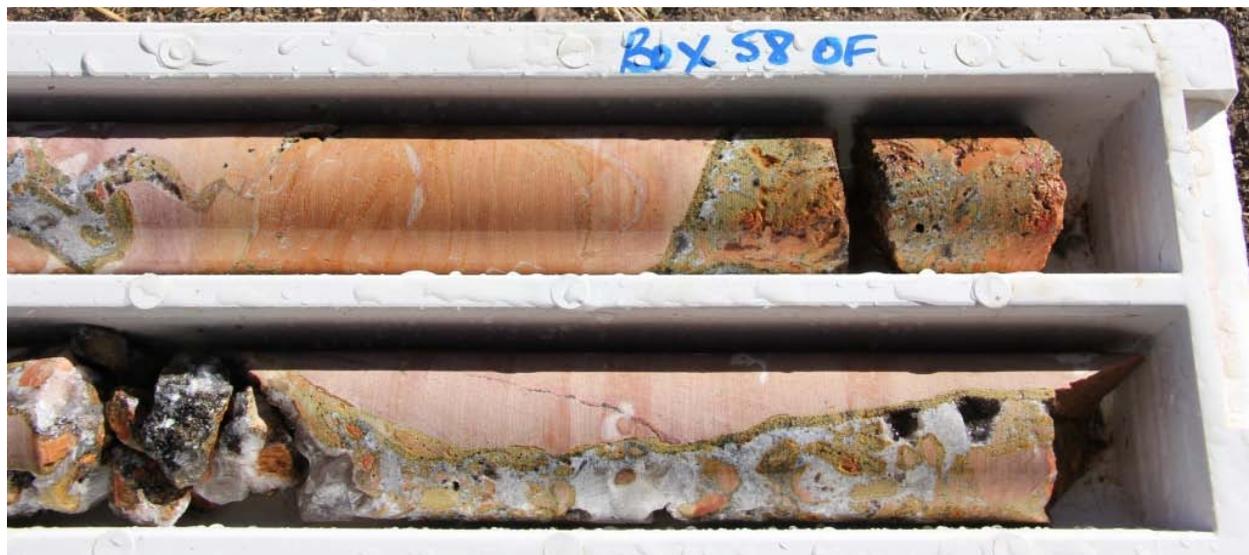
With 8 drill holes completed for a total of 2597m, it is anticipated that once the assays are reported in the next 4 to 6 weeks, **Avonlea will now work towards a maiden inferred resource to show the potential emerging at the vanadium project at Abenab.**

The drill program has extended the down dip extensions to the historical Abenab mine with V-Pb-Zn mineralisation intersected in several of the drill holes. The visual inspection of the core and identification of visible vanadium rich mineralisation is shown in Figures 2, 3, and 4 together with the corresponding amplified images.

**While visual mineralisation has previously been identified within the main quartz-dolomite breccia lithology, visual mineralisation has now also been identified in the footwall sandstone/limestone breccia. This is a new discovery as it is the first time this feature has been recorded at Abenab to the knowledge of the Avonlea geological team.**

The drilling to date has not confirmed or closed off the near surface mineralisation. In hole ABD014 minor disseminated and fracture fill descloisite was intersected in the targeted Onyoka zone at approximately 96m to 126m. Further there is visual descloisite mineralisation from approximately 207m to 270m indicating the extensions to the mine/lower level mineralisation.

This mineralisation is composed of the previously intersected mineralisation hosted with the grey dolomite breccia and also descloisite mineralisation hosted within the footwall sandstone/limestone, See Figure 2.



**Figure 2: Descloisite mineralisation (green selvage to clasts in breccia) hosted within the footwall sandstone/limestone in ABD014 at 244m.**

At 203.4m in drill hole ABD014 drilling intersected a zone of folded limestone with a crenulation cleavage parallel to the fold axis, see Figure 3. Within the fold axis of these parasitic folds there is sulphide mineralisation that appears to be highly oxidised sphalerite or pyrite, indicated by anomalous Zn from handheld XRF readings. **This possible sphalerite (that is in close proximity to the descloisite mineralisation) could be an indication of the source of the Zn-Pb mineralisation.** The possibility of discovering a sulphide source at depth had eluded explorers since the 1950's. Drilling to date at depths of up to 450m, had not intersected sulphide mineralisation such as the kind intersected by Avonlea.



**Figure 3: Parasitic folding within limestone footwall of descloisite mineralisation with sulphide mineralisation in ABD014 at 203m.**

In ABD013 a descloisite-quartz vein was intersected at 164.2-164.5m, this mineralisation is very similar to the intersection within drill hole ABD001 at 181.24m of 0.24m @ 14.7% V<sub>2</sub>O<sub>5</sub>, 11.20% Zn and 33.6% Pb. See Figure 4.



**Figure 4: Descloisite-quartz vein intersected in ABD013 at 164.2-164.5m.**

**The drilling programs to date have identified a total strike length of mineralisation of about 75m but notably, mineralisation is still open to the NE and SW along strike, also up and down dip of the lower zone beneath the historical mine. With no drilling to the south west of ABD014 for approximately 180m there is a large zone of potential still to be tested. This is likely to be the focus of a comprehensive drilling program as a consequence of the ongoing successful extensional drilling.**

## Remaining ore pads, tailings dumps and regional exploration potential

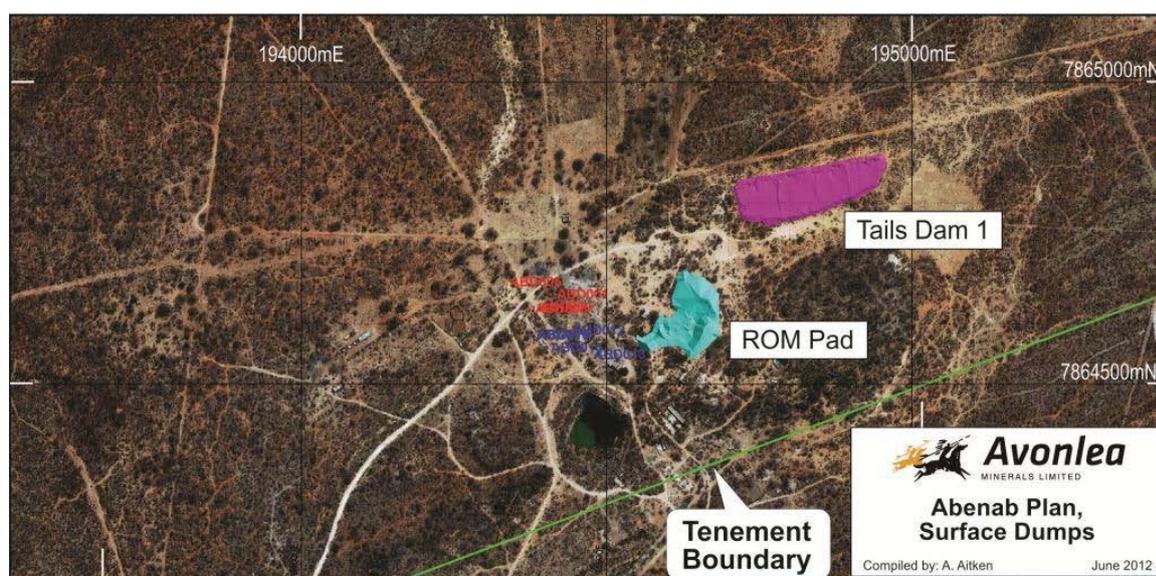
The regional exploration undertaken contemporaneously with drilling on EPL 4416 has culminated in an improved regional understanding of the Abenab area.

An area of approximately 3km long and 0.5km wide along strike of the Abenab pit encompasses numerous historical workings. **Mapping has identified new target horizons that exhibited signature brecciated rocks (that have been identified in the Abenab pit) and are located both west and east of the historical open pit.**

This provides the possibility of extensional mineralisation from the Abenab pit. New trenches will now be created in the recently identified brecciated rock target horizons to identify and confirm any extensional mineralisation.

An independent survey by DGPS of the ROM ore dumps has confirmed that they contain approximately 130,000 tonnes of mineralised ore and (as yet unquantified) extensive tailing dumps. Both these areas are the subject of further metallurgical and mineral recovery testing. The exploration team has obtained a number of auger and bulk samples from these tailings and dumps for the purpose of ongoing review and assessment. See Figures 5 and 6.

Recent metallurgical testing has confirmed, that simple coarse grinding (-1mm) and gravity separation of the vanadium rich mineralisation, is an effective liberation process. This separation method essentially replicates the historical process flow sheet recovery methods. This source material that has been subject to this testing was obtained from the waste dumps and serves to confirm the ease of treatment and recovery of valuable mineralisation. Metallurgical test work is now progressing the development of a flow sheet to include spiral circuits, as advances in technology from the 1930's allows the industry to create heavy mineral concentrate easily akin to that used in the mineral sands industry.



**Figure 5: Abenab Surface plan showing surveyed surface dumps.**



**Figure 6: Geologists assessing V-Pb-Zn mineralisation on the ROM pad**

Yours Faithfully



**David Riekie**

**MANAGING DIRECTOR**

### **About Avonlea**

Avonlea Minerals Limited (ASX: AVZ) is an Australian publicly listed exploration company based in Perth, Western Australia. It operates with a board experienced in African exploration and corporate matters.

AVZ through its local subsidiaries in Namibia has accumulated an exciting portfolio of Exclusive Prospecting Licences (EPL's). The company has applied for EPL's covering 9,500sq km (1,625kms remain pending) and are considered prospective for Specialty Minerals (Vanadium & Tin), Rare Earth Elements and Precious and Base Metals.

AVZ announced on in December 2011 details of a JORC compliant Fe inferred Resource estimate of 693 million tonnes at 24% from its Ondjou Prospect. In addition the company has released details of the potential Exploration Target size of its prospect of between 2 to 3.4Bt (20 – 30%+ Fe) from this and its other Fe prospects.\*

\*This exploration target mineralisation tonnage and grade is conceptual in nature as there has been insufficient exploration completed to define a Mineral Resource in accordance with the JORC Code (2004), and it is uncertain if further exploration will result in the determination of a Mineral Resource.

The information in this report that related to Exploration Results, Exploration Targets, Mineral Resources or Ore Reserves is based upon information compiled by Mr Alex Aitken a member of the Australian Institute of Geoscientists. Mr Alex Aitken is a full time employee of the company. Mr Aitken has sufficient experience which is relevant to the style and mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent persons as defined in the 2004 'Australasian Code for the Reporting of Exploration Results,

## Background and Abenab Vanadium Project

### EPL 4416

Exclusive Prospecting Licence 4416 (EPL 4416) sits within the Otavi Mountainland region, which includes mineralisation types such as the Vanadium-rich Abenab mine, the Copper-rich Tsumeb and Tschudi mines, and the lead-zinc-vanadium ores of the Berg Aukas mine. The Abenab prospect in EPL 4416 is approximately 40kms from the regional mining and processing township of Tsumeb in northern Namibia; well serviced with respect to power, water, roads, rail and labour.

### Abenab Project

The Abenab mine operated between 1921 and 1938 producing vanadium ore concentrate of consistent average grades of 18.0% V<sub>2</sub>O<sub>5</sub>, 13.4% Zn and 42.4% Pb and characterised by its simple recovery and concentration attributes.

Production was from open pit and underground operations that reached a depth of 215m from 11 levels.

Historical drilling was reported to ASX release on 23 January 2012;

Hole ID	From (m)	To (m)	Interval (m)	V2O5 (%)	Zn (%)	Pb (%)	Pb + Zn (%)
ABD001	181.68	181.92	0.24	14.70	11.20	33.60	44.80
	221.86	226.00	4.14	3.78	2.80	8.76	11.56
incl	224.10	226.00	1.90	7.80	5.70	18.50	24.20
ABD008	145.84	178.10	32.26	1.81	1.67	3.93	5.61
incl	160.92	171.72	10.80	3.97	3.44	8.43	11.87

Hole ID	Easting	Northing	dip	azi_utm	EOH Depth
ABD001	194395	7864639	-80	145	264.0
ABD005	194327	7864665	-80	145	440.3
ABD008	194363	7864615	-80	145	437.5
ABD009	194369	7864620	-85	130	466.3
ABD011	194374	7864582	-85	145	203.69
ABD012	194434	7864589	-85	145	278.7
ABD013	194468	7864549	-85	145	186.6
ABD014	194398	7864560	-80	145	272.55

GS84 Zone 34 coordinates

### Processing and concentrate grades

Concentrates achieved by Avonlea were obtained from the bulk samples acquired from ROM pad and waste dumps, were superior to the results achieved from historical production. The following results were achieved using simple modern gravity techniques:

- 21% Vanadium
- 53% Lead.
- 15% Zinc

This concentrate has the attribute of exhibiting a uniquely high tenor (or superior vanadium concentrate levels of 20%) a characteristic which together with the lack of impurities (from simple, gravity separation) enables it to be more easily refined into high purity vanadium. Other deposits are typically magnetite hosted and exhibit a tenor of only 2 to 3% Vanadium.

High purity vanadium is primarily used for the specialist Redox batteries and commands a 200 to 400% premium to the current V<sub>2</sub>O<sub>5</sub> price of circa US\$7 per lb. (or approximately US\$14,000 per tonne)