### ASX ANNOUNCEMENT



# ASSAY RESULTS VDD 193W RETURNS STRONG COPPER ASSAYS

#### **Highlights**

- Assay results from wedge drill hole VDD 193W at D Zone have been received and include:
  - o 39.6m at 0.8% Cu, including,
    - 4.5m at 2% Cu
  - 23.2m at 0.9% Cu, including,
    - 4.3m at 2.4% Cu
- The intersection is outside of the area of the current Mineral Resource estimate.
- Drill hole VDD 194 has been completed and has intersected a narrow interval of copper mineralised ironstone.
- A geometry of multiple, steeply southwest plunging shoots, up to 100m wide, has emerged that will guide ongoing drilling.
- An updated Mineral Resource Estimate will be released in November 2015, followed by an updated Scoping Study on a copper only development scenario.

**Avalon Minerals Limited** ('**Avalon**' or '**Company**') (**ASX: AVI**) is pleased to announce further results from diamond drilling at Viscaria D Zone.

Drill hole VDD 193W was a wedge hole drilled from VDD 193 and aimed at testing the up-section position of the very strong copper intersection in VDD 193 (26.7m @ 2.6% Cu from 564.6m, ASX announcement 21 September 2015). Drilling of the wedge hole was technically difficult and it deviated to the north into a position away from the target zone. Nevertheless, it intersected a well mineralised zone as outlined in Table 1 below.

VDD 193W was wedged from a point located 220.3m down hole in VDD 193, and intersected a point approximately 45m north and above the VDD 193 intersection (Figures 1, 2 and 3).

Drill hole VDD 194, located 100m south of VDD 193 and at the same level (RL), has intersected a narrow copper mineralised ironstone interval and may define the southern margin of the steep shoot intersected in VDD 193 (Figures 1, 2).

#### **ASX: AVI**

#### REGISTERED OFFICE

Avalon Minerals Ltd
ABN 68 123 184 412
9 Gardner Close
Milton Qld 4064 Australia
P + 61 7 3368 9888
F + 61 7 3368 9899
info@avalonminerals.com.au

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Avalon's Managing Director, Mr Malcolm Norris said, "Ongoing drilling is continuing to deliver significant copper intersections, and defining the geometry of the deposit, which will provide the basis for ongoing drill targeting. These assay results are outside of the area of the current Mineral Resource estimate and will be captured in our updated Mineral Resource estimate in November."

#### **VDD 193W**

From (m)	To (m)	Interval (m)	Cu %	Mineralisation area
248	248.45	0.45	1.92	Eastern
294.45	298	3.55	0.86	Eastern
318	357.55	39.55	0.81	Main Lode
including				
318	326.6	8.6	1.27	Main Lode
320	324.5	4.5	2.00	Main Lode
334.35	357.55	23.2	0.88	Main Lode
including				
347.8	357.55	9.75	1.48	Main Lode
353.3	357.55	4.25	2.40	Main Lode
376	382.8	6.8	0.95	Main Lode

The intervals presented are down hole widths, and true widths are expected to be approximately 60% of the downhole width.

A bulked interval from 318m to 382.8m of 64.8m averages 0.61% Cu.

Table 1: Summary assay results from VDD 193W

Drillhole No.	Easting (mE)	Northing (mN)	RL (m)	Dip (degrees)	Azimuth (degrees)	EOH (m) comments
VDD 193W	1,680,816	7,537,131	209	-63	313	400m; Wedge off 193 at 220.3m downhole
VDD 194	1,681,051	7,537,111	539	-65	311	632.3
VDD 195	1,680,952	7,536,983	530	-65	311	Estimated 780m

Table 2: Drillhole details.

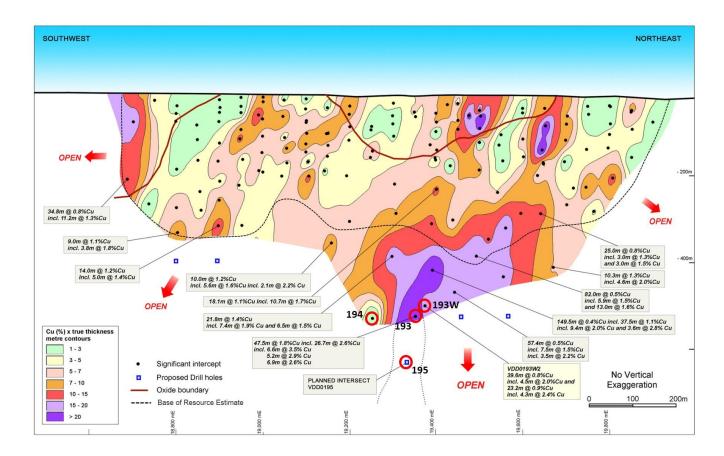
Precious metal assays have also been received for VDD 193. Gold assays were anomalous but not of a grade that is considered significant. Silver assays ranged from 0 to 9.7g/t over intervals of 0.25m to 1.0m. The average silver grade over the main copper mineralised interval was 1.3g/t over 30m, and there was a strong positive correlation between Ag and Cu.

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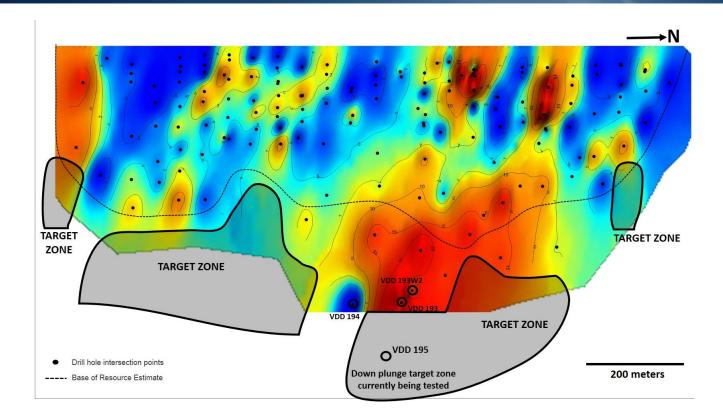
Avalon Minerals Ltd
ABN 68 123 184 412
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www.avalonminerals.com.au





**Figure 1:** D Zone long section showing Cu grade (%) x interpreted ore zone true thickness contours for D Zone ironstone hosted copper mineralisation at the Viscaria Copper Project. The interpretation illustrates southwest plunging oreshoots, with VDD 195 positioned to test the down plunge extension of one such shoot. Drill hole VDD 193W is highlighted as are other recent drill holes VDD 193 and 194. VDD 195 is currently in progress.





**Figure 2:** D Zone long section showing Cu grade (%) x interpreted ore zone true thickness imaged to highlight orientations of thicker and higher grade zones for D Zone ironstone hosted copper mineralisation. The Cu-grade(%) x interpreted ore zone true thickness values were contoured using a search ellipse that preferentially seeks to define steep southwest-dipping trends, thus generating a more robust view of the Cu-mineralised zones on long-section. Target zones for follow up drilling are shown as down plunge extensions of interpreted higher grade shoots.



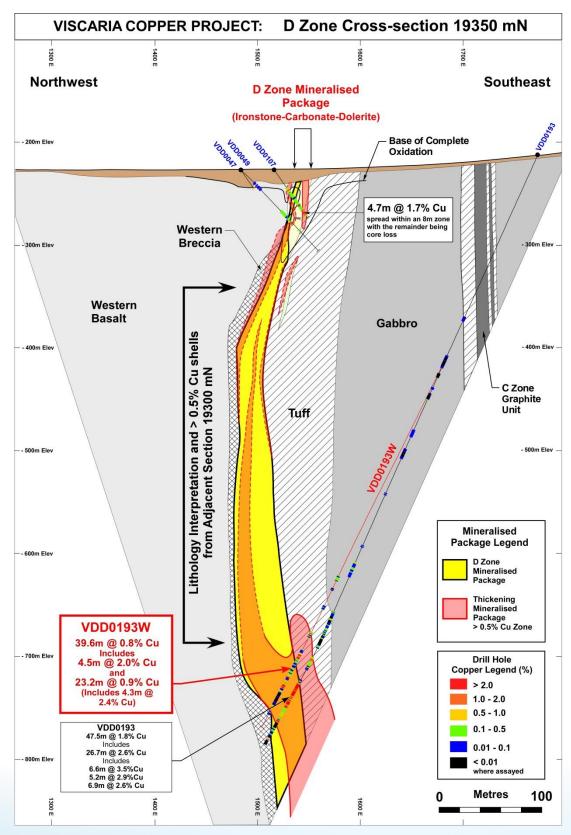


Figure 3: D Zone cross section showing VDD 193W intersection. The VDD 193W intersection is off the section and approximately 45m from VDD 193.



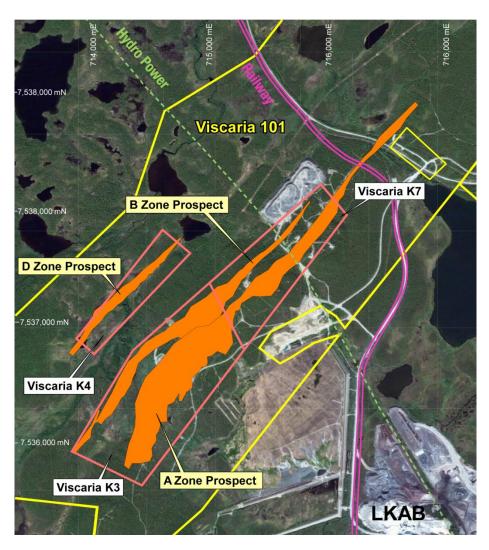


Figure 4: Location of D Zone at the Viscaria Copper Project



#### **Competent Persons Statement**

The information in this report that relates to exploration results is based upon information reviewed by Mr Malcolm Norris who is a Fellow of the Australasian Institute of Mining and Metallurgy. Mr Norris is a full-time employee of Avalon Minerals Ltd and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking 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 Norris consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

#### For further information please visit www.avalonminerals.com.au or contact:

Mr Malcolm Norris Managing Director Avalon Minerals Limited Tel: 07 3368 9888

Tel: 07 3368 9888

Email: malcolm.norris@avalonminerals.com.au

## APPENDIX 1 The following Table and Sections are provided to ensure compliance with the JORC Code (2012 Edition)

**TABLE 1 – Section 1: Sampling Techniques and Data** 

Criteria	JORC Code explanation	Commentary
Sampling techniques	• Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as downhole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.	The results announced here are from diamond drill core samples. The sampling program is in progress and will be carried out using half core, generally at one meter intervals except where adjusted to geological boundaries. Some spot handheld XRF analyses are reported in the text of the announcement.
	• Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	• Core recovery was good and core has been aligned prior to splitting.
	• 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 (e.g. '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 (e.g. submarine nodules) may warrant disclosure of detailed information.	• Diamond drilling was used to obtain ~1m samples (see first point above) from which 3-5 kg will be sent to the laboratory to be pulverised to produce a 250g sample. Then a 50g portion of this sample will be used for multi-element analysis.
Drilling techniques	• Drill type (eg 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).	The diamond core was HQ (63.5mm) and NQ (47.6 mm) in size (diameter).
Drill sample recovery	• Method of recording and assessing core and chip sample recoveries and results assessed.	• Diamond core recovery data for this drilling was measured for each drill run and captured in a digital logging software package. The data has been reviewed and core recovery was approximately 100% throughout.
	• Measures taken to maximise sample recovery and ensure representative nature of the samples.	• Ground conditions at D Zone are good based on previous drilling, no extra measures were taken to maximise sample recovery.
	• 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.	No relationship between sample recovery and grade has been established.

Criteria	JORC Code explanation	Commentary
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.	• Drill samples are being logged for lithology, weathering, structure (diamond core), mineralogy, mineralisation, colour and other features. Logging and sampling is carried out according to Avalon's internal protocols and QAQC procedures which comply with industry standards.
	• Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	• Drill samples are logged for lithology, weathering, structure (diamond core), mineralogy, mineralisation, colour and other features. Core is photographed both wet and dry.
	• The total length and percentage of the relevant intersections logged.	All drill holes are logged in full from start to finish of the hole.
Sub-sampling	• If core, whether cut or sawn and whether quarter, half or all core taken.	• Half core is used to provide the samples that are sent for assay. Half core is left in the core trays.
techniques and sample	• If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	Core samples to be collected.
preparation	• For all sample types, the nature, quality and appropriateness of the sample preparation technique.	<ul> <li>Avalon samples are sent to the ALS Sample Preparation Facility in Pitea, Sweden for sample preparation. The standard ALS sample preparation for drilling samples is: drying the sample, crushing to size fraction 75% &gt;2mm and split the sample to 250g portion by riffle or Boyd rotary splitter. The 250g sample is then pulverised to 85% passing 75 microns and then split into two 50g pulp samples. Then one of the pulp samples is sent to the Vancouver ALS laboratory for base metal analysis.</li> <li>The sample preparation is carried out according to industry standard practices.</li> </ul>
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	<ul> <li>Avalon uses an industry standard QAQC programme involving Certified Reference Materials "standards" (with Cu grades ranging from near cut-off, average resource grades and very high grades) and blank samples, which are introduced in the assay batches.</li> <li>Standards, blanks and duplicates are submitted at a rate of 1 in 20 samples or one standard, blank and duplicate per hole if the hole has less than 20 samples.</li> <li>The check assay results are reported along with the sample assay values in the preliminary and final analysis reports.</li> </ul>
	• 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> <li>For diamond core, the routine sample procedure is to always take the half/quarter core to the right of the orientation line (looking down hole) or the cut line (in cases where the orientation line was not reliable).</li> <li>Once assay results are received the results from duplicate samples are compared with the corresponding routine sample to ascertain whether the sampling is representative.</li> </ul>
	• Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes are considered to be appropriate and correctly represent the style and type of mineralisation.

Criteria	JORC Code explanation	Commentary		
Quality of assay data and laboratory tests	• The nature, quality and appropriateness of the assaying an laboratory procedures used and whether the technique is considere partial or total.			
	<ul> <li>For geophysical tools, spectrometers, handheld XRF instruments etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factor applied and their derivation, etc.</li> </ul>	g s		
	<ul> <li>Nature of quality control procedures adopted (e.g. standards, blanks duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have bee established.</li> </ul>	<ul> <li>The values of the standards range from low to high grade and are considered appropriate to monitor performance of values near cut-off and near the mean grade of the deposit.</li> <li>The check sampling results are monitored and performance issues are</li> </ul>		
Verification of	• The verification of significant intersections by either independent of alternative company personnel.	<ul> <li>Photographs of sampled intervals are taken and the Competent Person for exploration results for this announcement has viewed photographs of the core.</li> </ul>		
sampling and	• The use of twinned holes.	Twin holes have not been drilled in this area.		
assaying	<ul> <li>Documentation of primary data, data entry procedures, dat verification, data storage (physical and electronic) protocols.</li> </ul>	Avalon sampling data were imported and validated using an Access database package.		
	<ul> <li>Discuss any adjustment to assay data.</li> </ul>	Assay data were not adjusted.		
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar an down-hole surveys), trenches, mine workings and other location used in Mineral Resource estimation.</li> </ul>			
	Specification of the grid system used.	RT90 Map projection parameters:		
		Parameter Value		
		Reference Ellipsoid Bessel 1841		
		Semi Major Axis 6377397.155 m		
		Inverse Flattening (1/f) 299.1528128		
		Type of Projection Gauss-Krüger (Transverse Mercator)		

Criteria	JORC Code explanation	Commentary		
		Central Meridian:	E15°48'29.8" (2.5 gon West of the Stockholm Observatory)	
		Latitude of Origin	0°	
		Scale on Central Meridian	1	
		False Northing	0 m	
		False Easting	1500000 m	
		•	west) 2.5 grid north is situated 4.01° to the east of True North.	
	<ul> <li>Quality and adequacy of topographic control.</li> <li>Data spacing for reporting of Exploration Results.</li> </ul>	scanning) that vecadastral and la metre square an surfaces and 60 topographic surfestimation. The many Differential	c surface was taken from LIDAR data (airborne laser was purchased from Lantmäteriet (the Swedish mapping, and registration authority). Data point resolution is 0.5 per d is specified as accurate to 20cm in elevation on distinct from in planimetry. The level of accuracy of the LIDAR face was considered adequate for the purposes of resource LIDAR topographic surface has also been verified by the al GPS collar survey co-ordinates.	
Data spacing and distribution	Data spacing for reporting of Exploration Results.	<ul> <li>approximately 45m from VDD 193. Data spacing is considered sufficient establish interpreted continuity between drill holes.</li> <li>Diamond drill sampling was generally taken over 1 meter intervals excess when adjusted to geological boundaries.</li> </ul>		
	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.	• Sufficient continuity in both geology and mineralisation has been enter the support the classification of the Company's existing Mineral		
	Whether sample compositing has been applied.	No sample composition	ositing was done.	
Orientation of data in relation	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.		• Drilling orientations were appropriate for the predominantly high angle of the mineralised intersections providing representative samples.	
to geological structure	• 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.	The company does not believe that any sample bias had been introduce could have a material effect on the resource model, particularly given correlation of mineralisation between holes.		

Criteria	JORC Code explanation	Commentary
Sample security	The measures taken to ensure sample security.	<ul> <li>Avalon sampling procedures indicate individual samples were given due attention.</li> <li>ALS is an internationally accredited laboratory that has all its internal procedures heavily scrutinised in order to maintain their accreditation.</li> </ul>
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	<ul> <li>Avalon's sampling techniques and data have been audited multiple times by independent mining consultants during the process of reporting a JORC Compliant Mineral Resource on the various mineral deposits that make up the Viscaria Copper Project (A Zone, B Zone, and D Zone). These audits have always resulted in the conclusion that Avalon's sampling techniques and data are industry standard and suitable for the purposes of reporting a JORC Compliant Mineral Resource.</li> <li>All historical data has been validated and migrated into an access database. Checking was carried out at the data entry stage for interval error and any significant data issues were resolved. Procedures exist to standardise data entry and senior geological staff from Avalon regularly vetted sampling procedures.</li> </ul>

#### <u>TABLE 1 – Section 2: Exploration Results</u>

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.	Zone Mineral Resource is also covered by Exploitation Concession Viscaria	
	• 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.	• Exploration Permit Viscaria nr 101 is valid until the 16/10/2015. Exploitation Concession Viscaria K nr 4 is valid until the 16/01/2037.	
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The historic drilling at the D Zone Prospect was completed by Viscaria AB (owned by Outokumpu OY) during the period 1985 till 1997.	

Criteria	JORC Code explanation	Commentary
Geology	Deposit type, geological setting and style of mineralisation.	The D Zone deposit is interpreted to be either a volcanic hosted massive sulphide-type (VHMS) ore system or an iron oxide copper gold-type(IOCG) ore system. This deposit has subsequently been strongly attenuated by shearing associated with a lower amphibolite facies metamorphic event. Subsequent to the lower amphibolite facies metamorphism and associated deformation, these rocks have been overprinted by locally constrained shear zones displaying retrograde, greenschist metamorphic mineralogy (chlorite, epidote, actinolite, and talc).
Drill hole Information	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:     a. easting and northing of the drill hole collar     b. elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar     c. dip and azimuth of the hole     d. down hole length and interception depth     e. hole length.	Details of the drill holes discussed in this announcement are in the body of the text (Table 2).
	• 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.	Information included in announcement.
Data aggregation methods	• 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.	The Weighted Averaging method is used to calculate drill hole intersections for copper grade based on the assay results received, and the down hole width of the assayed interval.
	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 results in the announcement show both aggregated intercepts and specific higher grade intercepts within the broader interval. The aggregated intervals are identified on the basis of the presence of chalcopyrite within altered rock.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	Metal Equivalents have not been applied.
Relationship between mineralisation	• If the geometry of the mineralisation with respect to the drill-hole angle is known, its nature should be reported.	• The orientations of VDD 193W2 and VDD 194 are at a moderate and acceptable angle to the mineralization at the D Zone Prospect. The mineralised interval, from other nearby drilling, is sub-vertical to dipping steeply east, indicating that the estimated true width of the mineralized intersection is approximately 50% of the down hole thickness of the mineralization.

Criteria	JORC Code explanation	Commentary
widths and intercept lengths	• If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').	See above – estimated true widths are approximately 50% of intersected widths based on cross section construction and interpretation of numerous drill holes.
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.	See Figures 1 and 2 for long sections showing the distribution of drill holes.
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.	See text in the announcement. The geological log and distribution of copper bearing minerals are reported. Figure 3 above shows the context of hole VDD 193W2 and VDD 194 relative to surrounding drill holes.
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.	• Figure 3 above shows the context of hole VDD 193W2 and VDD 194 relative to surrounding drill holes. Spot XRF results are also provided. Comprehensive logging is underway and assay results are expected to be reported in mid-September.
Further work	<ul> <li>The nature and scale of planned further work (e.g. 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>	<ul> <li>Exploration for further extensions of the D Zone Mineral Resource is currently in progress.</li> <li>See Figure 3 which shows areas for further drilling at D Zone.</li> </ul>