

JORC 2012 TABLE 1

Section 1: Sampling Techniques and Data

Criteria	Explanation																																																																														
Sampling techniques	<ul style="list-style-type: none"> The deposit was sampled mainly by a combination of surface and underground drill (DD) with a minor amount of surface reverse circulation (RC) holes. The nominal drill spacing was based around 50m spaced section lines with drill collars every 50m along the lines. Infill drilling of the southern part of the deposit was conducted with angled holes at 25m (N) by 50m (E) for an average intersection spacing of 32m. Infill drilling from underground accesses was conducted on an opportune basis, but does not represent a significant input to the resource estimate. Development sampling on one level provided grade checks using face, sludge and ROM duplicate samples. Not used at all in the resource but as a qualitative guide to variability. 																																																																														
Drilling techniques	<p>There are a total of 351 holes drilled at the Merlin project, of which 188 holes intersect the molybdenite in lenses, 5, 6 and 7. All holes have been drilled by Chinova since 2008. The drilling methods applied by Chinova that intersect the mineralisation are;</p> <ul style="list-style-type: none"> 76 DDH Diamond Drill Holes, surface 11 DDH-U Diamond Drill Holes, Underground 93 DT Diamond Tail, Surface RC pre-collar with diamond tail holes and, 8 RC Reverse Circulation, surface holes. <p>Summary of 188 Drill Holes intersecting the Merlin Mineralisation, by date and drilling method</p> <table border="1"> <thead> <tr> <th rowspan="2">Year</th> <th rowspan="2">Company</th> <th colspan="3">Total Number Holes</th> <th colspan="3">Total Drilling Length</th> </tr> <tr> <th>DDH /DT</th> <th>DDH-U</th> <th>RC</th> <th>DDH/ DT</th> <th>DDH-U</th> <th>RC**</th> </tr> </thead> <tbody> <tr> <td>2008</td> <td>Ivanhoe</td> <td>40</td> <td></td> <td>8</td> <td>10,177</td> <td></td> <td>4,473</td> </tr> <tr> <td>2009</td> <td>Ivanhoe</td> <td>67</td> <td></td> <td></td> <td>19,878</td> <td></td> <td>4,894</td> </tr> <tr> <td>2010</td> <td>Ivanhoe</td> <td>33</td> <td></td> <td></td> <td>10,306</td> <td></td> <td>2,171</td> </tr> <tr> <td>2011</td> <td>Ivanhoe</td> <td>9</td> <td>2</td> <td></td> <td>1,708</td> <td>271</td> <td></td> </tr> <tr> <td>2012</td> <td>Ivanhoe</td> <td></td> <td>9</td> <td></td> <td></td> <td>948</td> <td></td> </tr> <tr> <td>2013</td> <td>Inova</td> <td>4</td> <td></td> <td></td> <td>340</td> <td></td> <td>780</td> </tr> <tr> <td>2014*</td> <td>Chinova</td> <td>16</td> <td></td> <td></td> <td>2,664</td> <td></td> <td>2,001</td> </tr> <tr> <td></td> <td>Total</td> <td>169</td> <td>11</td> <td>8</td> <td>45,073</td> <td>1219</td> <td>14,319</td> </tr> </tbody> </table> <p>*Until 30th June 2014 **includes RC pre-collar</p> <p>Chinova in 2013 and 2014 continued with a series of additional drilling programs for metallurgical and infill resource holes. This additional drilling forms the basis of the update for the 2014 resource estimate. The additional drilling included:</p> <ul style="list-style-type: none"> 2011 - 2 underground holes into lens 5 2012 - 24 underground holes, with 9 successfully drilled through the aquifer 2013 - 4 surface holes collecting metallurgical sample, 1 shallow hole targeting a potential lens 3, closer to surface 2014 - 16 surface holes, infill drilling into lenses 5, 6 and 7. 	Year	Company	Total Number Holes			Total Drilling Length			DDH /DT	DDH-U	RC	DDH/ DT	DDH-U	RC**	2008	Ivanhoe	40		8	10,177		4,473	2009	Ivanhoe	67			19,878		4,894	2010	Ivanhoe	33			10,306		2,171	2011	Ivanhoe	9	2		1,708	271		2012	Ivanhoe		9			948		2013	Inova	4			340		780	2014*	Chinova	16			2,664		2,001		Total	169	11	8	45,073	1219	14,319
Year	Company			Total Number Holes			Total Drilling Length																																																																								
		DDH /DT	DDH-U	RC	DDH/ DT	DDH-U	RC**																																																																								
2008	Ivanhoe	40		8	10,177		4,473																																																																								
2009	Ivanhoe	67			19,878		4,894																																																																								
2010	Ivanhoe	33			10,306		2,171																																																																								
2011	Ivanhoe	9	2		1,708	271																																																																									
2012	Ivanhoe		9			948																																																																									
2013	Inova	4			340		780																																																																								
2014*	Chinova	16			2,664		2,001																																																																								
	Total	169	11	8	45,073	1219	14,319																																																																								

	<p>All recent infill intersections compared favourably with the 2011 interpretations, intersecting similar mineralisation at similar locations. Consequently, the existing interpretation required only minor amendment to account for the new drilling results.</p> <ul style="list-style-type: none"> • The majority of surface drilling was HQ diamond drill core which was half core sampled. Triple tube was used in areas where ground conditions are expected to be poor. • Modern RC drilling used for pre-collar drilling used standard face sampling hammers, high pressure air and riffle splitting methods, however only 17 RC samples are used for the Mo mineral resource estimation within the three lenses. • Underground holes were drilled from the footwall, to the east into the hanging wall with NQ2 diameter size, or NQ3 when difficult conditions were encountered. Some underground holes failed to reach target due to excessive water pressure or poor ground conditions forced the abandonment of holes. Underground drilling only intersected lens 5 and none of the holes extended to lenses 6 and 7. • While development has taken place in mineralized zones, the sludge and face samples are being assessed for the preparation of a Grade Control model and were not used for preparation of the Global Mineral Resource update reported here. 												
<p><i>Drill sample recovery</i></p>	<ul style="list-style-type: none"> • Core was metre marked, derived from measurements based on driller's core blocks. Core loss and gain was noted between the block intervals. • Diamond core recovery is summarised below. <table border="1" data-bbox="673 892 1242 1033"> <thead> <tr> <th>Lens</th> <th>Rec % Total</th> <th>Rec % Underground Drilling</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>96.0</td> <td>85</td> </tr> <tr> <td>6</td> <td>96.9</td> <td>N/A</td> </tr> <tr> <td>7</td> <td>98.1</td> <td>N/A</td> </tr> </tbody> </table> • Underground core recovery is very low (85%) but has a relatively minor input to the number of samples (31) used in the mineral resource estimation. The low core recovery is due to a combination of weathering, high water flows and poor ground conditions. This meant the abandonment of many of the underground holes before target depth. Ongoing mine dewatering is expected to mitigate some of these issues and drilling planned below the zone of weathering is expected to allow improvements in recoveries. • The lens 5 and 6 average recovery of 96% and 96.9% respectively, are relatively low in important zones of mineralisation. Commentary from the independent audit is shown below in the section "Audits and Reviews". • No recovery % of percussion or RC sample recovery is available however only 17 RC samples are used for the Mo mineral resource estimation. • Examination of the data shows there appears to be no grade/sample recovery bias in the data i.e. high core loss does not correlate with high grade. 	Lens	Rec % Total	Rec % Underground Drilling	5	96.0	85	6	96.9	N/A	7	98.1	N/A
Lens	Rec % Total	Rec % Underground Drilling											
5	96.0	85											
6	96.9	N/A											
7	98.1	N/A											
<p><i>Logging</i></p>	<ul style="list-style-type: none"> • Core drilled in 2008-9 was loaded into trays and transported to a processing shed located approximately 3 km from Merlin. • Core drilled after 2009 was geotechnically logged at the rig before the core was loaded into trays. It was then loaded into trays and transported to a processing shed located approximately 3 km from Merlin. • Core drilled underground was loaded into trays and transported to a processing shed located approximately 3 km from Merlin. • Routine core logging included; recovery, orientation, magnetic susceptibility measurements, density measurements (generally every 10 m) and logging of geology, alteration, minerals, structures, and weathering. Where practical, similar measurements are made for RC chips. • All core logging was recorded at the core shed directly into notebook computers connected to an electronic database via a network of wireless routers. • Digital photography of the wet and dry core was done in a specifically 												

	<p>designed photographic jig. Photographs are stored on a computer server for reference.</p>																								
<p><i>Sub-sampling techniques and sample preparation</i></p>	<ul style="list-style-type: none"> • RC chips are riffle split at the drill rig however only 17 RC samples are used for the Mo mineral resource estimation. • Diamond core samples were obtained from a combination of HQ and HQ3 (i.e. 61.1 and 63.5 mm diameter) drill core. • A 2 metre sampling standard was used in 2008-9, and then shortened to match geological contacts with particular reference to the high grade Merlin mineralisation. • By June 2014, approximately 45% of the sample lengths were 1m in length or shorter, however the data set is still dominated by 2m sample lengths. • Core was cut longitudinally with a diamond blade saw. 2008-9 core was cut with a diamond brick saw. After 2009 core was cut with an Almonte “Auto” saw. • Core was marked with a cut line to ensure proportional sampling of one side of the core. • Samples were bagged in numbered sample bags and routinely trucked in “bulka bags” of 70 samples to an off-site commercial laboratory in Mt Isa (240km). • All sample preparation was at an offsite commercial laboratory at Mount Isa. <ul style="list-style-type: none"> ○ The first stage coarse-crushing used a 9 mm jaw setting, for approximately 70% passing 6 mm ○ Split by 1 cm riffle splitter for a ½ split to obtain 3 to 4 kg ○ Fine Boyd crushing to 90% passing 2 mm ○ Split to obtain a 1 kg sample ○ Pulverizing with LM2 (or LM5 in some cases) to a nominal 75 µm. • QAQC procedures are discussed below in “Verification of sampling and assaying”. 																								
<p><i>Quality of assay data and laboratory tests</i></p>	<ul style="list-style-type: none"> • A single independent assay service provider has been used during the project with a sample preparation facility in Mt Isa discussed above. • Depending on the assay suite required, assays were undertaken in one of three laboratories located in Mt Isa, Townsville and Brisbane. • Four main assay suites were used: <ul style="list-style-type: none"> ○ Mo, Re requiring digest with hydrofluoric acid ○ Base metals and geochemical trace elements requiring a standard two acid digest. ○ Au by fire assay ○ Carbon and Graphite determinations by a Lecostyle condensate recovery. • The Merlin Mineral Resource 2014 publicly states the Mo and Re grades.. The analytical methods used for these elements are detailed below, other elements are discussed in the Feasibility Report. • The table below shows most Mo and Re determinations were completed by 4 acid (including hydrofluoric acid) digest with ICP instrumentation used for the final determination. <table border="1" data-bbox="516 1579 1338 1801"> <thead> <tr> <th colspan="2">Mo</th> <th colspan="2">Re</th> </tr> <tr> <th>Method</th> <th>% Assays</th> <th>Method</th> <th>% Assays</th> </tr> </thead> <tbody> <tr> <td>4 Acid Digest/ICP</td> <td>87.4%</td> <td>4 Acid Digest/ICP</td> <td>90%</td> </tr> <tr> <td>2 Acid Digest/ICP</td> <td>12.1%</td> <td>4 Acid Digest/ICPMS</td> <td>5%</td> </tr> <tr> <td>XRF</td> <td>0.4%</td> <td>2 Acid Digest/ICPMS</td> <td>5%</td> </tr> <tr> <td>Other</td> <td>0.1%</td> <td></td> <td></td> </tr> </tbody> </table> <ul style="list-style-type: none"> • A 70 sample batch process was maintained to ensure that sample despatch 	Mo		Re		Method	% Assays	Method	% Assays	4 Acid Digest/ICP	87.4%	4 Acid Digest/ICP	90%	2 Acid Digest/ICP	12.1%	4 Acid Digest/ICPMS	5%	XRF	0.4%	2 Acid Digest/ICPMS	5%	Other	0.1%		
Mo		Re																							
Method	% Assays	Method	% Assays																						
4 Acid Digest/ICP	87.4%	4 Acid Digest/ICP	90%																						
2 Acid Digest/ICP	12.1%	4 Acid Digest/ICPMS	5%																						
XRF	0.4%	2 Acid Digest/ICPMS	5%																						
Other	0.1%																								

matched assay receipt reports. This also enabled regular inclusion of QAQC with each despatch and validation before acceptance of the assay results into the electronic database.

- For most of the project a 70 sample despatch comprised:
 - 59 routine samples
 - 4 standard reference materials (SRM) (randomly inserted at site).
 - 2 field blanks (randomly inserted at site).
 - 2 pulp duplicates (from the 59 routine samples).
 - 2 coarsely-crushed duplicates (from the 59 routine samples)
 - 1 core duplicate (i.e. both sides of the core are sampled)
- Assay results were electronically communicated from the laboratory and after checking by a Chinova QAQC administrator, they were loaded into the electronic database.
- Standard Reference Material (SRM)
 - Matrix matched Standard Reference Material (SRM) has been made for the Merlin deposit for Re and Mo at various grades
 - Tolerance limits for reference material were set at two and three standard deviations from the round robin mean value. A SRM was recorded as a failure when the batch result was beyond three standard deviations from mean, or any two consecutively assayed SRM's were beyond two standard deviation limit on the same side of the mean. All 35 samples in the batch are re-assayed by the assay laboratory once a failure is noted
- Blanks are inserted into despatches at regular intervals; analysis identified no issues with smearing
- 2,168 duplicate analysis on core, crushed samples, and pulps have been completed and identified no issues with sampling representatively.

Number of Duplicate Samples

Element/ Method/ Units	Mo
Core Duplicate	424
Crusher Split	856
Pulp Duplicate	888
Total Duplicates	2,168

- Laboratory duplicate assays were undertaken by the commercial laboratory and reported with the assay results. These were duplicate assays of the sample pulps, used for internal quality control at the laboratory.

Number of Duplicate Samples by Commercial Laboratory

Element/ Method/ Units	Mo
Laboratory Repeat	1,786

- Umpire checks to a third party laboratory were completed on a regular basis by Chinova.
- Overall the QAQC assays represent 22% of all results, this is better than the current industry standard. All QAQC results are monitored and procedures are followed to repeat assays which show imprecision. Assay bias trends were not found to be significant. Further discussion on these results is

	<p>shown in section 3, "Audits or Reviews".</p> <ul style="list-style-type: none"> • Laboratory inspections were generally conducted 3 times a year by project personnel 2008-2012 and once a year 2012-2014. • Pulp residues of each sample (master pulps) are stored on site in a weatherproof warehouse. • Drill core is stored in core trays catalogued with palette storage. 						
<p><i>Verification of sampling and assaying</i></p>	<ul style="list-style-type: none"> • Two independent Australian resource consultancies have prepared mineral resource statements for JORC and NI43-101 compliant public reporting of the Merlin mineral resource between 2008 and 2012. This required site visits and included reviews of a completed drill section and observations of significant sections of massive molybdenite where high grade Mo assays were present. These observations confirmed the general tenor of the Mo mineralisation indicated. • 2013 metallurgical drilling was undertaken to collect a bulk sample for test work. The sample was composited from four close spaced PQ drill holes. Two holes were located 6m apart when intersecting lens 5 and effectively acted as a twin hole program. The overall results indicated significant variation in grade and intercept width. Local grade and thickness variability is therefore anticipated in the modelling and mining process. • Primary data was captured on tough books laptops using industry standard drill hole software. Data entry was auto-validated as data was entered e.g. no overlapping samples or invalid geology codes allowed. • The primary data is always kept and is never replaced by adjustment or interpreted data. A set of priority codes is used to flag the accuracy of the data. 						
<p><i>Location of data points</i></p>	<ul style="list-style-type: none"> • The Merlin Deposit has a local grid system established, Starra Regional Grid (SRG). The SRG grid system was used during previous mining operations in the later 1990's, and used by Chinova for the Starra 276 mine. The local grid was reviewed by Chinova before readopting it in 2011. The RL is assigned as the Australian Height Datum (height above sea level) plus 4,000 metres. Hence the surface is approximately 4350m RL. • Chinova undertook to survey drill hole location and resurvey of some previous holes by an independent surveyor in 2009. Subsequently Chinova undertook surveys using an internal registered surveyor using RTK GPS system for surface, and Leica 1200 series for underground. • Topography data is provided by a detailed LiDAR survey procured by Chinova in 2004. This provides sub-meter topography accuracy implemented in a topography surface model using 1 m contours. The Merlin Mineral Resource model does not intersect the surface topography i.e. the shallowest part of the block model above cut-off grade is approximately 70m below surface. • A combination of non-magnetic and magnetic down hole survey tools were used. <table border="1" data-bbox="620 1478 1219 1665"> <thead> <tr> <th>Method</th> <th># Holes</th> </tr> </thead> <tbody> <tr> <td>Gyro (non mag)</td> <td>60</td> </tr> <tr> <td>Down Hole Compass (mag)</td> <td>131</td> </tr> </tbody> </table> <ul style="list-style-type: none"> • Magnetic interference is not significant at Merlin however, where gyro surveys have been conducted to check hole accuracy then the gyro surveys are used for plotting. • After 2009 all compasses were regularly checked against a test survey orientation cradle. In the case of discrepancy the compass was sent for service and recalibration. 	Method	# Holes	Gyro (non mag)	60	Down Hole Compass (mag)	131
Method	# Holes						
Gyro (non mag)	60						
Down Hole Compass (mag)	131						
<p><i>Data spacing and</i></p>	<ul style="list-style-type: none"> • Drill hole spacing is varied within the deposit, with 12.5 m spacing in parts of 						

<p><i>distribution</i></p>	<p>the deposit in the south, increasing to 50 m drill spacing at the northern extremes of the deposit. A recent infill drilling program reduced the spacing to average of 32m in the southern block.</p> <ul style="list-style-type: none"> • This closer space drilling has been used to support and upgrade the mineral resource category to a measured classification. Similarly, the broad space drilling in the northern block has resulted in a downgrade of the resource category to inferred classification, particularly in the narrow lenses. • No exploration results reported. • No diamond drill core or RC samples were composited before assaying. 												
<p><i>Orientation of data in relation to geological structure</i></p>	<ul style="list-style-type: none"> • Mineralisation in lens 5 is localised on the contact of the Kuridala Formation (shale/phyllite) and Staveley Formation (calc-silicate). Lenses 6 and 7 are located within the calc-silicate, however small scale faulting and intense alteration make the host rock relationships variable. • Mineralised lenses dip at approximately 50° to the east, and can be as steep as 70° or as shallow as 30°. • The Merlin high grade Mo mineralisation forms narrow lenses typically only a few metres in width. They average 3.9 m in true width and vary between 1 m and 20 m. • At Merlin, surface drill holes are drilled west (across dip) while the underground holes are drilled easterly (from the footwall access). Surface drill holes are vertical or inclined between 60° and 80° to the west. This results in oblique intersections in (vertical) holes drilled prior to 2010. The table below lists the number of surface holes in each orientation (note different totals for each lens depending on how many lenses are in each hole). <table border="1" data-bbox="589 915 1330 1026"> <thead> <tr> <th></th> <th>Lens 5</th> <th>Lens 6</th> <th>Lens 7</th> </tr> </thead> <tbody> <tr> <td># Vertical</td> <td>63</td> <td>38</td> <td>11</td> </tr> <tr> <td># Drilled at 45-85 degrees</td> <td>75</td> <td>26</td> <td>17</td> </tr> </tbody> </table> <ul style="list-style-type: none"> • All core, where possible is oriented using Reflex ACT I or II RD orientation tool with stated accuracy of +/-1% in the range of 0 to 88°. 		Lens 5	Lens 6	Lens 7	# Vertical	63	38	11	# Drilled at 45-85 degrees	75	26	17
	Lens 5	Lens 6	Lens 7										
# Vertical	63	38	11										
# Drilled at 45-85 degrees	75	26	17										
<p><i>Sample security</i></p>	<ul style="list-style-type: none"> • Bulka bags were zip tied with security tags and checked on receipt at the Commercial Laboratory for tampering or damage. • The Commercial Laboratory was notified electronically of the sample despatch. The shipments were examined on arrival at the laboratory and Chinova received confirmation of the state of security seals on bags, the samples comprising each batch, and laboratory report numbers assigned to each batch. 												
<p><i>Audits or reviews</i></p>	<ul style="list-style-type: none"> • The sampling techniques and data collection process are of industry standard and have been subject to multiple internal and external reviews on many aspects of the Merlin deposit since being discovered in 2008. • 2008-9 drilling used electronic downhole (magnetic) multi shot survey equipment. However, an audit of the data recommended checking due to the absence of a routine calibration test bed i.e. a frame with a known dip and azimuth that downhole compasses can be compared to. Chinova undertook a program to re-survey with a down hole gyroscopic tool. • Chinova, (2010) undertook a program to re-survey all the collar locations within the Merlin deposit using an external consultant from Mt Isa. Collar surveys are now completed by Chinova mine surveyors. • An independent resource estimate by an Australian consultancy reviewed assay results supplied by the laboratory, to the electronic database. The laboratory supplied 642 batch reports covering Mount Dore drilling from 2007 to 2010. It was found by the external reviewer that the laboratory assay data compared directly to the assay data provided by Chinova and used for the resource estimate. • Chinova (2008-09) undertook an extensive review of Mo and Re assay methods, particularly the relative effectiveness of 2 acid versus 4 acid digests. Documented in the Merlin Feasibility Study 2012. 												

Section 2: Reporting of Exploration Results

<p><i>Mineral tenement and land tenure status</i></p>	<ul style="list-style-type: none"> Chinova holds the current mining leases for the Merlin Deposit. <table border="1" data-bbox="529 296 1383 558"> <thead> <tr> <th>Tenure Type</th> <th>Number</th> <th>Name</th> <th>Area (ha)</th> <th>Granted</th> <th>Expires</th> </tr> </thead> <tbody> <tr> <td rowspan="4">ML- Mining Lease</td> <td>2688</td> <td>Mount Dore Extended No1</td> <td>125.48</td> <td>21/06/79</td> <td>30/06/20</td> </tr> <tr> <td>2689</td> <td>Mount Dore Extended No2</td> <td>129.6</td> <td>27/04/78</td> <td>31/05/29</td> </tr> <tr> <td>2690</td> <td>Mount Dore Extended No3</td> <td>129.6</td> <td>24/08/79</td> <td>31/05/29</td> </tr> <tr> <td>2691</td> <td>Mount Dore Extended No4</td> <td>120.46</td> <td>12/07/79</td> <td>31/07/20</td> </tr> <tr> <td>EMP</td> <td>10783</td> <td></td> <td>75,684 ha approx</td> <td>26/10/96</td> <td>25/10/17</td> </tr> </tbody> </table>	Tenure Type	Number	Name	Area (ha)	Granted	Expires	ML- Mining Lease	2688	Mount Dore Extended No1	125.48	21/06/79	30/06/20	2689	Mount Dore Extended No2	129.6	27/04/78	31/05/29	2690	Mount Dore Extended No3	129.6	24/08/79	31/05/29	2691	Mount Dore Extended No4	120.46	12/07/79	31/07/20	EMP	10783		75,684 ha approx	26/10/96	25/10/17
Tenure Type	Number	Name	Area (ha)	Granted	Expires																													
ML- Mining Lease	2688	Mount Dore Extended No1	125.48	21/06/79	30/06/20																													
	2689	Mount Dore Extended No2	129.6	27/04/78	31/05/29																													
	2690	Mount Dore Extended No3	129.6	24/08/79	31/05/29																													
	2691	Mount Dore Extended No4	120.46	12/07/79	31/07/20																													
EMP	10783		75,684 ha approx	26/10/96	25/10/17																													
<p><i>Exploration done by other parties</i></p>	<ul style="list-style-type: none"> All holes in the Merlin Deposit were drilled by Chinova since 2008. 																																	
<p><i>Geology</i></p>	<ul style="list-style-type: none"> Merlin mineralisation is hosted within carbonaceous metapelites and metasiltstones. The molybdenite mineralisation occurs as breccia infill, disseminations, stylolites and irregular fracture infill along and adjacent to a major fault contact between the underlying Staveley Formation and overlying Kuridala Formation. Much of the Mo-Re mineralisation at Merlin, and the overlying Cu mineralisation at Mount Dore, remain concealed under extensive granite. The high-grade, northeast-trending and east-dipping molybdenite mineralisation occurs at the base of the carbonaceous metapelite unit (Kuridala Formation) and above the calc-silicate banded unit (Staveley Formation). The contact is complex and this is manifest as several high grade lenses as indicated in some drill holes. Evidence from drilling suggests an overlap of the molybdenum-rhenium and the polymetallic mineralisation phases. Fracture-controlled and breccia-matrix molybdenite mineralisation is hosted within K-feldspar-altered and albitised black shales and siltstones, which lie below the schist and phyllite. The footwall structure at the base of the phyllite and schist appears to have the strongest Mo and is inferred to have developed good open structures due to competency contrast. This basal contact also appears to have acted as significant barrier for the Mo-rich fluids, thus resulting in ponding of the metals in the favourable structures just below the contact. The mineralised matrix-breccias contain sub-rounded clasts of K-feldspar and clay-altered siltstone with very minor clay, with molybdenite partially to completely replacing the breccia matrix. Minor patchy pyrite and chalcopyrite within the matrix are commonly enveloped by molybdenite. Molybdenite also occurs as stylolitic fracture fill, disseminations and preferential infill of folded bedding planes. 																																	
<p><i>Drill hole Information</i></p>	<ul style="list-style-type: none"> Exploration results are not presented in this report 																																	
<p><i>Data aggregation methods</i></p>	<ul style="list-style-type: none"> Exploration results and aggregates are not presented in this report 																																	
<p><i>Relationship between mineralisation widths and intercept lengths</i></p>	<ul style="list-style-type: none"> Exploration results are not presented in this report 																																	
<p><i>Diagrams</i></p>	<ul style="list-style-type: none"> Exploration results are not presented in this report 																																	
<p><i>Balanced reporting</i></p>	<ul style="list-style-type: none"> Exploration results are not presented in this report 																																	
<p><i>Other substantive exploration data</i></p>	<ul style="list-style-type: none"> Resources are primarily defined by drilling and assaying. Geophysics and surface geochemistry are used in exploration. 																																	
<p><i>Further work</i></p>	<ul style="list-style-type: none"> Further work concentrating on mapping geological structures and combining that with geochemical and geophysical data to target extensions. 																																	

Section 3: Estimation and Reporting of Mineral Resources

<p><i>Database integrity</i></p>	<ul style="list-style-type: none"> Chinova has used an acQuire database to manage and store the company's geological database since 2009. Assay data is imported electronically from the laboratory. Assay priorities are assigned by assay method if different methods were used for the same interval. 'Best assay' is assigned the highest priority. Repeats are not averaged to produce the 'best' assay; this conforms with standard industry practice. Multi-shot and gyro down hole surveys uploaded into acQuire, have priorities based on method used. The results of the single down hole surveys are written onto survey forms by the driller, and entered manually into the database (system adds 5.0239 degrees to the magnetic azimuth to align the reading with the local grid). Collar surveys are uploaded into acQuire. These have priorities and the most accurate survey method is used. Drill hole logs are generally entered directly into acQuire data logger software at the core shed, allowing the entry forms to perform basic validation during logging. Data templates with lookup tables and fixed formatting are used for collecting primary data. Chinova has dedicated database management and QAQC staff who ensure all relevant data is entered and collated into the commercial integrated database system, acQuire. <ul style="list-style-type: none"> Monitor QAQC data for assaying and survey information. Undertake equipment calibration. The project has been reviewed and audited on several occasions. Golder Associates completed a database audit against available hard copy and digital information.
<p><i>Site visits</i></p>	<ul style="list-style-type: none"> The Competent Person for this Mineral Resource update is the Manager Resource Planning (Geoff Phillips), a full time employee of Chinova who has been based at the Merlin project since 2009.
<p><i>Geological interpretation</i></p>	<ul style="list-style-type: none"> Interpretation is based on geological knowledge acquired through data acquisition from drilling and underground workings, including detail geological core logging, assay data, underground development face mapping and ore body contacts and level mapping. This information increases the confidence in the interpretation of the deposit. Broad lithological wireframes are constructed to model the adjacent marker horizons. (Quartzite and Granite). The mineralisation in lens 5 is localised on the contact of the Kuridala Formation (shale/phyllite) and Staveley Formation (calc-silicate). In general the wireframes defining the mineralisation are modelled on this contact and lens 5 is first of all constructed at a 0.3 % Mo cut-off grade. Lenses 6 and 7 are modelled in the footwall zone, semi-parallel with lens 5, also at a 0.3% Mo cut-off grade. However small scale faulting and intense alteration require subjective correlations. Alternative correlations, particularly of lenses 6 and 7, are possible and would impact on detail mine design. It is not possible to resolve these alternatives with the current drill spacing; however changes in correlation are unlikely to affect the global mineral resource significantly. Wireframes of the Molybdenum lenses are expanded to two metres in locations where the grade intercept is less than 2 metres. This allows for the smallest blocks in the model to populate the relatively thin lenses without gaps. For lens 5, 34% of the intercepts increase to 2m, lens 6, 22%, and lens 7, 20%.
<p><i>Dimensions</i></p>	<ul style="list-style-type: none"> The high grade Mo-Re mineralisation zone at Merlin comprises three narrow high grade veins between 2 and 10 m in width, defined over a strike

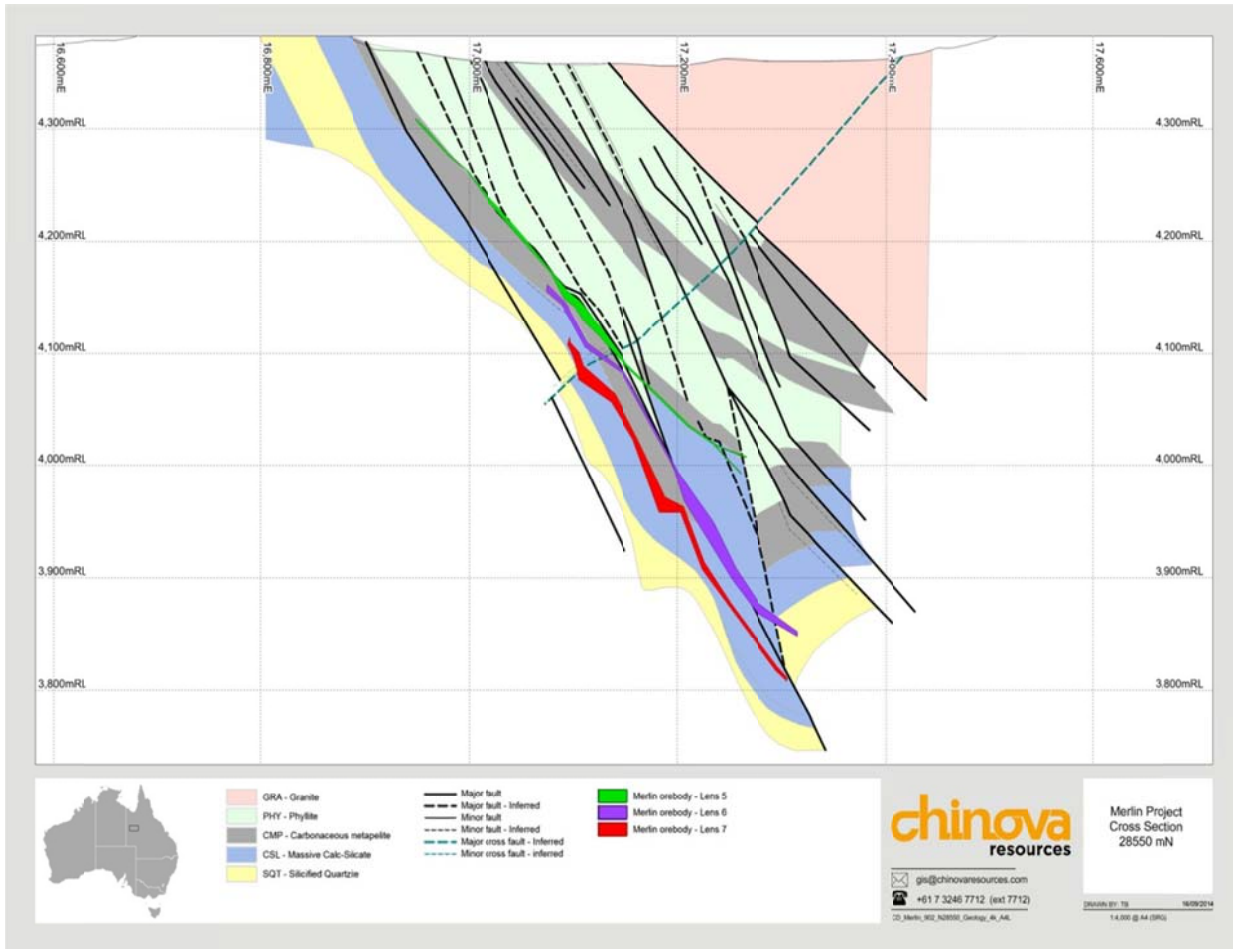
	<p>length of 1,000 m and between depths of 60 m and 580 m. This is surrounded by weak low grade mineralisation, predominantly in the footwalls of lens 6 and 7.</p>
<p><i>Estimation and modelling techniques</i></p>	<ul style="list-style-type: none"> • Block estimation has been completed within Datamine Studio 3 Resource Modelling software version 3.23.53. Three dimensional mineralisation wireframes were completed within Studio 3. These wireframes are used as hard boundaries for the interpolation. • A block model was constructed from the geological interpretations and LiDAR topography with multiple cell dimensions. The parent cell size for Merlin is 5m x12.5m x 5m (E,N,RL) sub-celled to 1m x 2.5m x1m. • The block model extends from 16850mE to 17390mE, 28000mN to 29150mN, and vertically from 3700m RL to 4340m RL. Elements in the estimation are Mo, Re, as well as trace elements Cu, Au, Pb, Zn, Ag, S, Fe, As, CIR07 (carbon) and CIR018 (graphite). • The drill hole data was composited to 2m intervals by geological domain for use in estimating grades into the Mineral Resource Estimation. A review of 1 m compositing showed there were insufficient samples shorter than 2m to change the composite length. • The number of 2m composites generated for the three lenses and the inter-vein material was 15,470. • Variogram modelling remains unchanged from the previous estimate completed by Golder Associates. Mo and Re show good correlation and used the Mo variography for Re. A review in 2014 indicated immaterial changes. • Outlier samples within the drill hole sample data were restricted by applying top-cut values to the 2 metre composite file determined from summary statistics. The top-cut values represent the 99.7 percentile of the data. Lens 5 Mo top cut is 24.72 % Mo (includes the high grade 4300 block), lens 6 Mo top cut is 12.82 % Mo and lens 7 Mo top cut is 4.97% Mo) • Grade wireframes were used to constrain the block model, and allowed lens and inter-lens material to be estimated separately. The maximum wireframe extrapolation is ½ the distance to the nearest drill hole. • Search parameters were selected on the basis of the general drill spacing of approximately 50 m and QKNA results undertaken by external consultants in preparation of the Mineral Resource for the 2012 Feasibility Study. Three search passes within the mineralisation lens were undertaken as follows: <ul style="list-style-type: none"> ○ Pass 1: 75 m by 75 m by 20 m (strike, down dip and cross strike orientations). ○ Pass 2: 150 m by 150 m by 30 m. ○ Pass 3: 300 m by 300 m by 60 m. • For the Mineralised Lenses, a three pass search ellipse was used with search radii based on the variogram ranges. Dip and dip-direction were estimated into the block model, for variable anisotropy, from grade wireframe surfaces based on the geological interpretation and interpretation of the internal orientation of the mineralisation. • For the inter-vein Mo mineralisation, a 2nd pass estimation was done. The first for grades above 0.3% Mo with a limited search radii, the second pass with a larger search radii to estimate below 0.3% blocks. • Ordinary kriging with locally varying anisotropy was used to estimate grades into the parent block. Grades were estimated on a parent block basis using block discretisation of 2 by 5 by 2. • The estimates were validated by: visual inspection of the model, construction of SWATH plots in easting, northing and RL, comparing drilling with model estimates, and a polygonal estimate. • Comparison of mean grades between the drill hole data, inverse distance estimates, rotated kriging estimates and the ordinary kriging estimates. The

	<p>estimate was also compared with the previous Mineral Resource reported in the 2012 Feasibility Study.</p> <ul style="list-style-type: none"> Estimation is not designed to provide grade discrimination across mining units.
<i>Moisture</i>	<ul style="list-style-type: none"> All density samples are calculated on a dry basis and dry bulk density used for the resource estimate.
<i>Cut-off parameters</i>	<ul style="list-style-type: none"> A cut-off grade of 0.30% Mo is used in line with the previous 2012 Feasibility Study.
<i>Mining factors or assumptions</i>	<ul style="list-style-type: none"> Preparation of the 2014 Feasibility Study has advanced the design of a selective underground mining operation. Two main mining methods are proposed to be applied depending on the best application to mineralisation dip and width. <ul style="list-style-type: none"> Where ground conditions and dip are favourable the preferred extraction method is long hole open stoping between 20m sublevels In poorer ground conditions or flatter dips, where grades are high the use of drift and fill is anticipated. It is intended that extraction horizons would be between 2.5m and 5m vertically to allow near complete extraction of the resources. Paste fill is intended in either an underhand or overhand configuration, dependent upon local geometry and timing requirements Minimising dilution from black shale (graphitic) is an important mining factor as well as scheduling to maintain a blend of graphite and Mo.
<i>Metallurgical factors or assumptions</i>	<ul style="list-style-type: none"> The metallurgical process assumes first stage flotation concentrate followed by roasting, to recover payable Mo and Re. Testwork indicates that molybdenum and rhenium are successfully recovered via flotation. The grade of the flotation concentrate is negatively influenced by the presence of carbonaceous black shale within the ore. Penalties associated with the lower grade concentrate are avoided by the inclusion of downstream processing of the concentrate to produce technical grade molybdenum trioxide or ferro-molybdenum. Rhenium is also recovered as ammonium perrhenate during downstream processing.
<i>Environmental factors or assumptions</i>	<ul style="list-style-type: none"> Chinova holds an Environmental Authority (MIN 100894709) for the Merlin site. A revision to this EA was approved in February 2012 to account for the mining of the molybdenum/rhenium ore from the Merlin deposit, a three stage crushing circuit, the associated dewatering of the Mt Dore aquifer and the operation of a paste-fill plant. An EA amendment will be required to authorise the construction and operation of a concentrator at the Merlin site. Chinova also currently holds an Environmental Authority (MIN 100459006) for operations at the Osborne site. A revision to this Environmental Authority to account for new activities at that site, including the construction and operation of the processing facilities for the molybdenum/rhenium ore from Merlin and for the construction of the tailings storage facilities to accommodate the Merlin tailings was approved in March 2012. An amended EA was subsequently issued in February 2014. An assessment of the acid mine draining (AMD) potential of the molybdenum/rhenium process tailings was completed in 2011. The study concluded that the tailings can be classified as non-acid forming (NAF) with excess and available acid neutralising capacity (ANC). The tailings are therefore expected to have negligible risk of acid generation. The total metal concentrations, with the exception of molybdenum, are within the Queensland Government hazardous waste criteria for a non-hazardous dam and the dissolved metal concentrations in seepage are within Australian livestock drinking water guidelines and Queensland hazardous waste criteria. Overall the potential to cause significant water quality impacts from the tailings solids is considered to be low. A monitoring regime to progressively assess the geochemical characteristics of tailings will need

	<p>to be implemented.</p> <ul style="list-style-type: none"> • With the concentrator be located at Merlin there are a number of tailings disposal options. SLR Consulting Australia Pty Ltd have prepared an option study including: <ul style="list-style-type: none"> • Construction of a new tailings storage facility; • Use of the 222, 244 and 257 open pits; and • Use of the existing Southern Tailings Dam. • Based on the assessments carried out by RGS Environmental 2011, it can reasonably be expected that the vast majority of waste rock produced will be NAF with a high factor of safety.
<p><i>Bulk density</i></p>	<ul style="list-style-type: none"> • Bulk density measurements are taken on representative diamond drill core, nominally every 10m down hole. The bulk density is determined using Archimedes principle, where the samples are weighed dry and during immersion in water to determine their bulk density relative to that of water. • Chinova undertook a trial of different methods after which the slow wax method was replaced with a simple water immersion method in 2011. • The average bulk density for Merlin is 2.65 g/cm³. • For the 188 holes used for the mineral resource estimation there have been 5,191 bulk density measurements. • Bulk density values are estimated into the block model by Ordinary Kriging or if insufficient data a default of 2.62 g/cm³ is used.
<p><i>Classification</i></p>	<ul style="list-style-type: none"> • Mineral Resources have been classified into Measured, Indicated and Inferred categories based on drill hole intercept spacing, geological confidence, grade continuity and estimation quality. A combination of these factors guides the manual digitising of strings to construct envelopes that are used to control the Mineral Resource categorisation. • The geological model and mineral resources estimate reflect the competent person's view of the deposit
<p><i>Audits or reviews.</i></p>	<ul style="list-style-type: none"> • Independent verification of the mineral resources and data has been completed on numerous occasions, by various third parties, and includes, database audits, observed presence of Mo in core, QAQC assay results, assaying methods, collar survey, down hole survey, assay validation, resource estimate audit and validation. • The 2012 Feasibility Study Mineral Resource prepared by independent consultants concluded that Chinova has applied modern drilling, sampling and surveying methods to derive the data used as the basis for the mineral resource estimate. • Two independent consultants undertook a fatal flaw audit of the 2014 Resource Estimate. One focused on sampling and assay procedures and the other focused on mineral resource estimation. Each audit included approximately four days of site core and underground inspection. • The sampling audit relevant comments were: <ul style="list-style-type: none"> ○ Core drilling sample recovery is reported (July 2014 Resource Report) to be 96% for 'previous drilling' (pre 2013). Core inspection suggests that core recoveries in the Merlin Shear can be low but high in the H/W and F/W rocks so overall hole recoveries could be misleading. High core loss in the ore zone could produce positive or negative bias depending where the loss is occurring relative to metal distribution. ○ In the case of diamond drill sampling the change to sampling intervals based on geological boundaries is supported even if sample intervals are as small as 30cm. Drilling size should remain at HQ to ensure reasonable sample size for small interval sampling and to maximise sample recovery. ○ The June and July 2014 site QAQC report was reviewed. The regular QAQC and reporting is of a high standard. The level of assay laboratory standards submission is high and could be reduced to save costs without unduly reducing the efficiency of the

	<p>QAQC.</p> <ul style="list-style-type: none"> ○ The July 2014 report shows the results of high grade molybdenum assaying where four standards have all been assayed within specification (2SD) but all negative, on average by about 5% compared to the certification. Consideration should be given to tabulating the 'apparent bias' in monthly reports. The laboratory molybdenum assaying bias is apparent in other data, in the June 2014 report and between laboratory data and should be (further) investigated. The bias may be related to the digestion method which appears to vary between the laboratories. <ul style="list-style-type: none"> • The mineral resource audit contains the following relevant comments: <ul style="list-style-type: none"> ○ While no fatal flaws were detected in wireframing, composite preparation, variography and estimation of economic metals and deleterious graphite material for Merlin a number of suggestions are made in (the) report to potentially deliver a better outcome for the resource model which will also assist mine design. The resource confidence / classification issue was discussed at some length during the visit and the following points (were) noted; ○ Continuity of the structures which make up lenses 5 and 6 is generally very good and intercepts were gained with recent 25m infill holes where expected with a high degree of confidence in location. ○ Grade variation in the recent close spaced metallurgical PQ holes can be reconciled with interpretation variability between lenses 5 and 6 and the potential impacts of core loss. As such the short range 'highly variable' impressions gained from those holes may not be valid. ○ Drive development on 4300mRL has shown strong structural continuity with observed grade irregularity cut by cut reflecting the locally poddy nature of Mo in the deposit. Overall the drive delivered similar results to that expected from the model. ○ The resource now drilled to a nominal ~30m spacing ... (has an additional ~20 holes drilled (and) increased Mo grade by 5% and Re grade by 13% after OK estimation with no material change in tonnage or lens geometry. Given the closeness of these estimates following infill drilling, confidence in the geological and grade continuity in this zone could be upgraded after consideration of 'local' variability issues using a simulation technique to gauge potential impacts of variability on shorter scale production schedules.
<p><i>Discussion of relative accuracy/ confidence</i></p>	<ul style="list-style-type: none"> • Mineral Resources are reported in accordance with the guidelines of the 2012 edition of the Australasian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves. • The statement relates to the global estimate of tonnes and grade • The accuracy of the estimate is strongly dependent on: <ul style="list-style-type: none"> ○ accuracy of the interpretation and geological domaining, accuracy of the drill hole data (location and values), ○ orientation of local anisotropy and estimation parameters which are reflected in the global resource classification.

Typical Cross Section of Merlin Deposit, Section 28550mN



Recent Surface and Underground drilling since the previous estimate

