AVENIRA LIMITED

ASX: AEV

ASX ANNOUNCEMENT

27 September 2023

Mineral Resource Estimate of 66Mt @ 30% P_2O_5 to support DSO Feasibility Study

Highlights

- **Independent consultants Matrix Resource Consultants have issued a Mineral Resource estimate for the Wonarah deposit based on a 27% P_2O_5 cut-off grade. At this cut-off grade, the resultant Mineral Resources estimate for the Wonarah Project is 66Mt at 30% P_2O_5.**
- **The cut-off grade and resultant Mineral Resources estimate supports the Wonarah Project DSO Feasibility Study.**
- **At this cut-off grade, the resultant Mineral Resource estimate affirms Wonarah as one of Australia's largest high-grade Phopshate Rock deposits.**
- **The grade and size of the Wonarah Project further support Avenira's plans to integrate feedstock from Wonarah into its proposed downstream activities, including the proposed Yellow Phosphorous, Thermal Phosphoric Acid and LFP Projects.**

Avenira Limited **(ASX: AEV)** ("**Avenira**" or "**the Company**") is pleased to announce further details regarding the Mineral Resource estimate for the 100%-owned Wonarah Phosphate Project in the Northern Territory, Australia.

Table 1 below shows the Wonarah resource model re-evaluated with a 27% P_2O_5 cut-off grade. At this cut-off grade, the resultant Mineral Resources estimate for the Wonarah Project is 66Mt at 30% P_2O_5. This assessment reinforces the deposit's potential to support Direct Shipping Ore (DSO) operations and downstream processing opportunities such as Yellow Phosphorous, Thermal Phosphoric Acid and Lithium Iron Phosphate.

Table 1: Wonarah Mineral Resource estimates at 27% P_2O_5 cut-off grade

Resource Category	Tonnes	P_2O_5	Al_2O_3	CaO	Fe_2O_3	K_2O	MgO	MnO	Na_2O	SiO_2	TiO_2
	Mt	%	%	%	%	%	%	%	%	%	%
Measured	3.4	30.9	3.14	42.1	0.85	0.18	0.19	0.05	0.08	18.0	0.14
Indicated	9.6	30.0	3.43	38.8	1.14	0.28	0.11	0.03	0.08	24.7	0.15
M+I	13.4	30.2	3.35	39.7	1.07	0.26	0.13	0.04	0.08	22.9	0.15
Inferred	53	30	3.1	40	1.3	0.3	0.1	0.1	0.06	22	0.1
Total	**66**	**30**	**3.1**	**40**	**1.3**	**0.3**	**0.1**	**0.1**	**0.06**	**22**	**0.1**

Figures in Table 1 have been derived from the block model constructed by the Competent Person in September 2012 constrained within Avenira's current Mineral Licences. These have been rounded to reflect the precision of estimates and include rounding errors.

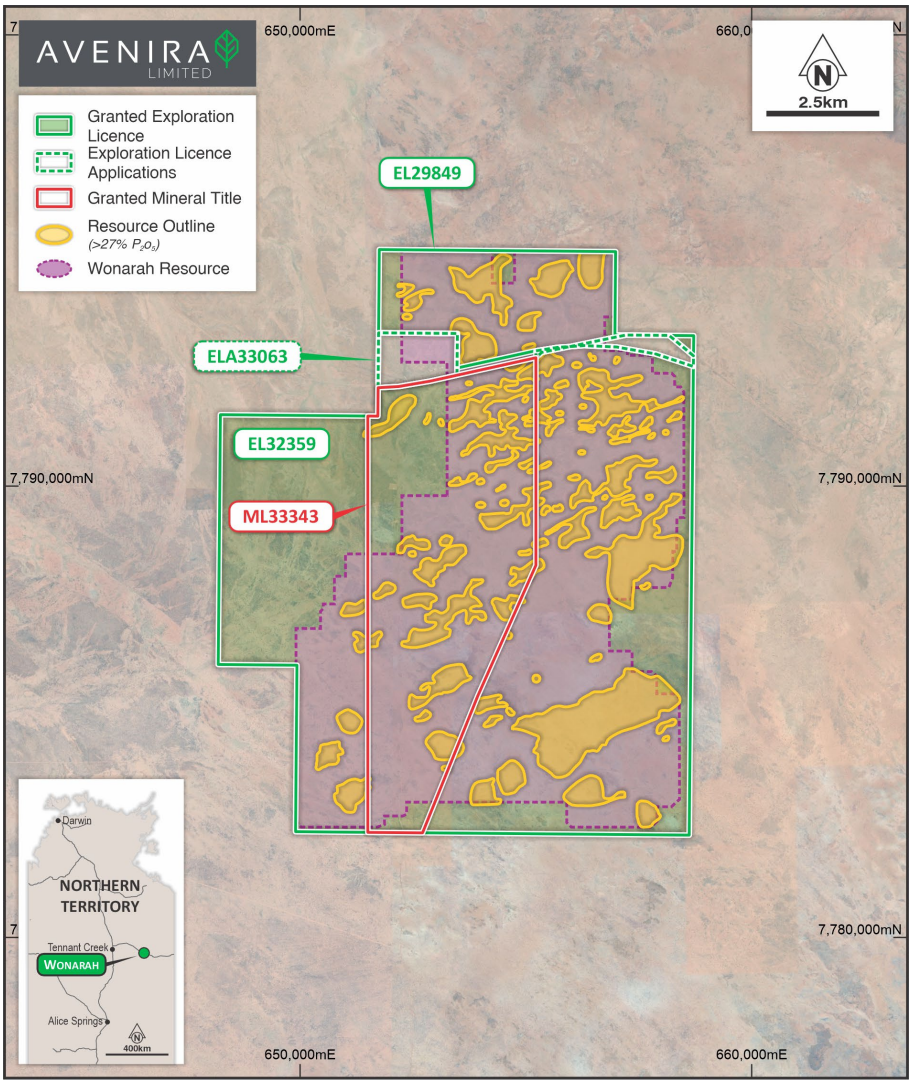
The Mineral Resource estimate for the Wonarah deposit remains unchanged at the previously reported cut-off grades, being:

- 533Mt at 21% P_2O_5, based on a 15% P_2O_5 cut-off grade; and
- 812Mt at 17% P_2O_5 based on a 10% P_2O_5 cut-off grade[1].

Wonarah Mineralised Domain and Deposits

Mineralised domains are identified within two distinct deposits, Main Zone (Figure 1) and Arruwurra (Figure 2).

Figure 1: Wonarah Main Zone Resource Block Model >27% P_2O_5

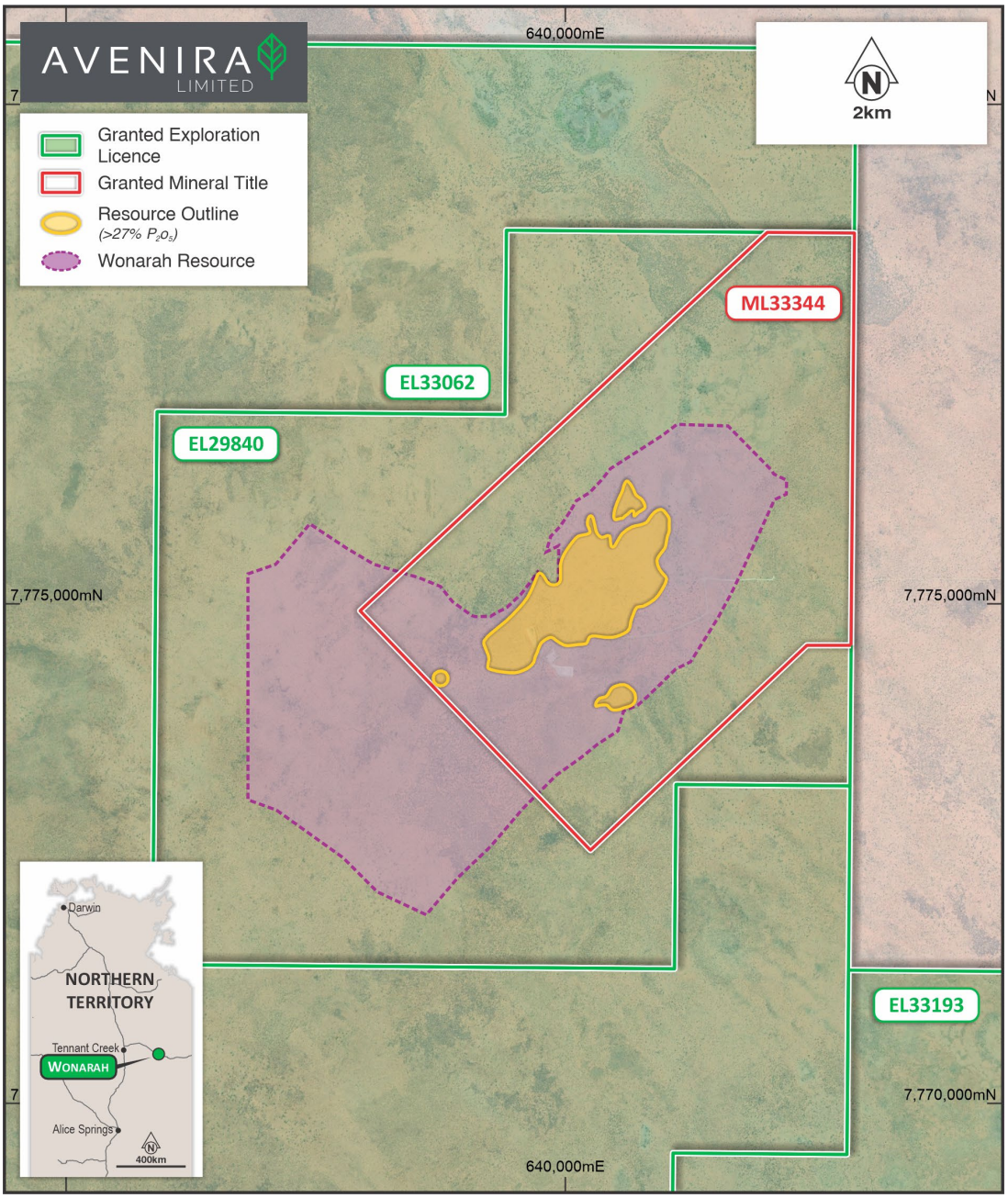


[1] Please refer to Appendix II for further information on the Wonarah Mineral Resource Estimate by Cut-Off Grade.

Main Zone Mineralisation Characteristics:

The estimated mineralised scope encompasses an extensive area of around 10 km by 14 km, reaching depths of about 75 m below the surface. The combined sequence of mineralised formations, including variably mineralised mudstone phosphorite, chert breccia phosphorite, and undifferentiated transitional sediments, with an average thickness of approximately 10 m. A significant proportion of the Main Zone resource lies within 50 m of the surface.

Figure 2: Wonarah Arruwurra Resource outline >27% P_2O_5



The Arruwurra deposit showcases mineralised domains characterised by a primary mudstone phosphorite unit (APH), accompanied by an underlying high-grade unit of indurated phosphate (BPH). In the Main Zone, the mineralised domains encompass a Mudstone Phosphorite (MPH) unit, followed by a layer of Chert Breccia Phosphorite (CBX), and further includes undifferentiated Transitional Sediments (TUN). Within the Transitional Sediments, sporadically occurring and variably developed beds of high-grade porcellaneous mudstone phosphorite are identified as Transitional Phosphorite (TUP).

Additionally, thin and irregularly distributed zones of heightened phosphate grades within the mudstone, located above the primary mineralised envelope, are referred to as Concentrated Mudstone Units (CMU).

Arruwurra Mineralisation Characteristics:

The Arruwurra Mineral Resource spans an expansive area measuring approximately 6 km by 2.5 km and extends approximately 55 m below the surface. The predominant concentration of mineralisation within Arruwurra is situated within the APH unit, which averages thickness of approximately 6 m. Accompanying this unit is the internally variable basal BPH zone, averaging around 1.6 m in thickness. Notably, a substantial portion of the Arruwurra resource is located within a 30 m depth from the surface.

Mineral Resources Classification and Cut-off Grade

The Mineral Resources outlined using a 27% P_2O_5 cut-off encompass mineralisation from various domains, including Arruwara's BPH domain, and the MPH and TUP domains within the Main Zone.

For the BPH mineralisation in Arruwara, estimations based on drilling spaced at 125 by 125m and 250 by 250m intervals are categorised as Measured and Indicated, respectively. Broadly sampled mineralisation estimates are classified as Inferred.

In the Main Zone, MPH mineralisation tested by 250 by 250m spaced drilling is categorised as Indicated. All other estimates, which include more broadly sampled portions of the MPH domain, along with all estimations for the TUP domain, are classified as Inferred.

One of Australia's Largest High Grade Phosphate Resources

Wonarah's Mineral Resource estimate of 66Mt at 30% P_2O_5 makes it one of the largest known high-grade rock phosphate deposit in Australia. The higher grade and size of the Wonarah Project further support Avenira's plans to integrate feedstock from Wonarah into its proposed downstream activities, namely the proposed Yellow Phosphorous, Thermal Phosphoric Acid and LFP Projects.

Basis of Estimate – Mineral Resource

Resources were estimated by Ordinary Kriging of 1 m down hole composited assay grades from RC and diamond drilling within wireframes representing the mineralised domains. Zones of mineralisation were established predominantly at grades of 10% P_2O_5 or higher. The estimates include P_2O_5, Al_2O_3, CaO, Fe_2O_3,K_2O, MgO, MnO, Na_2O, SiO_2 and TiO_2 grades with variograms modelled for each attribute.

The estimates use bulk densities derived from 520 immersion density measurements of oven-dried diamond core samples, specific to individual mineralised zones. The densities vary from 1.7 to 2.0 (t/bcm).

Mineral Resource estimates are classified as Measured, Indicated and Inferred by resource domain, estimation search pass and a set of polygons defining areas of relatively consistent drill hole spacing.

For P_2O_5 cut off grades of 10% and 15% Measured resources include estimates for Arruwurra mineralisation tested by 125 by 125 m spaced drilling and Main Zone MPH mineralisation tested by 125 by 62.5 m drilling. Indicated resources include Arruwurra mineralisation and Main Zone MPH, CBX and TUN mineralisation tested by 250 by 250 m spaced drilling. Inferred mineral resources include all estimates for the Main Zone CMU and TUP domains and estimates for the other mineralised domains tested by drilling spaced at broader than 250 by 250 m generally to around 500 by 500 m.

Mineral Resources at 27% P_2O_5 cut off include mineralisation within the Arruwara BPH domain, and the MPH and TUP domains at Main Zone. At this cut-off grade estimates for BPH mineralisation tested by 125 by 125 m and 250 by 250 m spaced drilling are classified as Measured and Indicated respectively, with estimates for more broadly sampled mineralisation classified as Inferred. For main zone, MPH mineralisation tested by 250 by 250 m spaced drilling is classified as Indicated, and all other estimates including more broadly sampled portions of the MPH domain and all estimates for the TUP domain classified as Inferred.

Additional details of the Mineral Resource estimates and sampling information are provided in Appendix I. Appendix II tabualtes the Mineral Resources for the project at a range of cut-off grades. Commenting on the revised cut-off grade for the Wonarah Mineral Resource, Brett Clark, Avenira's Executive Chairman stated:

> *"The identification of high grade zones within the Wonarah Mineral Resource Estimate cements its position as Australia's largest known high grade phosphate deposit. It also underpins the strategic significance of Wonarah to the agricultural and rapidly growing battery chemistry industries.*
>
> *The high grade and long-life of the Wonarah deposit provide us with great flexibility and confidence as we pursue our direct shipping ore project and other downstream ventures".*

This announcement has been authorised for release by the Board of Directors of Avenira.

Brett Clark
Executive Chairman

Competent Persons Statement

The information in this report that relates to Mineral Resources for Wonarah is based on information compiled by Mr Jonathon Abbott, a Competent Person who is a Member of the Australian Institute of Geoscientists. Mr. Abbott is a director of Matrix Resource Consultants Pty Ltd and provides geological consulting services to the Company. Mr. Abbott has sufficient experience that 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. Abbott consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Appendix I – JORC Code, 2012 Edition – Table 1 report template

Section 1 – Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling..*	• Exploration and resource drilling undertaken by Avenira (previously named Minemakers) and previous holders of the Wonarah tenements totals 2,111 RAB, aircore, RC and diamond cored holes for 100,238 m of drilling. • Resource estimates are primarily based Avenira RC and diamond drilling. A small number of holes drilled by previous tenement holders provide information in areas of limited Avenira sampling and represent around 4% of the resource dataset.
	• *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.*	• RC and diamond holes were generally sampled over 1 m down hole intervals. • Avenira RC sub-samples were collected by riffle splitting. Diamond core was halved for assaying using a diamond saw. • All of Avenira drilling and sampling was supervised by field geologists.
	• *Aspects of the determination of mineralisation that are Material to the Public Report.*	• Hand-held XRF measurements were used to aid selection of intervals for assaying. These results were not used for drilling intercept calculations • pXRF is a hand-held XRF unit used to provide qualitative measurements and to confirm visual observations. • A Olympus Vanta M series hand-held XRF unit was used on 3-beam Geochem setting with a 20 second reading period for each beam. • Certified reference standard materials are used to ensure the unit is calibrated correctly in the field, with measurements completed daily. Calibration was successful if the reference standards returns observations within two standard deviations of the standards certified values
	• *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information*	• 92% of Avenira RC and diamond samples were assayed by Amdel. ALS and Ammtec assays provide 7% and 1% of the Avenira resource dataset respectively. • Amdel's sample preparation comprised oven drying and crushing of the entire sample to -2mm, with a 100 g sub-sample collected by rotary splitter pulverised to -106 microns. A 0.1 gram sub-sample of the pulverised material was fused with lithium metaborate and analysed by XRF for P_2O_5, Al_2O_3, CaO, Fe_2O_3, K_2O, MgO, MnO, Na_2O, SiO2 and TiO_2. ALS and Ammtec used similar procedures to Amdel.
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg 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 RC drilling utilised face sampling bits with diameters of generally 5 to 5 ¼ inches (127-133 mm). • All diamond drilling was triple tube, at HQ and PQ diameter. Diamond core was not oriented. • All Wonarah drilling was vertical with the exception of 4 diamond holes and 44 RC holes primarily drilled for ground-water investigation.

Criteria	JORC Code explanation	Commentary
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *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.*	• RC sample recovery was assessed by weighing total recovered sample material. The recovered weights show generally reasonably consistent sample recoveries averaging 84% for the mineralised samples which is consistent with good quality RC drilling. • Additional confirmation of the reliability of RC sampling is provided by 30 twinned diamond holes which show very similar average phosphate grades to the paired RC holes. • Diamond core recovery was assessed by measuring recovered lengths for core runs. Recovery measurements are available for 95% of Avenira holes and show an average recovery of 91% for mineralised intervals, which is consistent with good quality diamond drilling. • Available information suggests that the resource sampling is representative and does not include a systematic bias due to preferential sample loss or gain.
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.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• Avenira RC and diamond holes were routinely geologically logged by industry standard methods, with logging available for around 88% of RC and diamond drilling. • Subsamples of all RC chips were retained in chip trays for the future reference. Diamond core was routinely photographed • The geological logging is qualitative in nature, and of sufficient detail to support the resource estimates. • Hand-held XRF measurements were used to aid selection of intervals for assaying. These results were not used for resource estimation.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *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.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• RC samples were collected over generally 1m down-hole intervals and sub-sampled with a three tier riffle splitter. Virtually all RC samples were dry, with only 0.1% logged as wet. • Diamond core was halved for assaying using a diamond saw. • Measures taken to ensure the representivity of RC and diamond sub-sampling include close supervision by field geologists, use of appropriate sub-sampling methods, routine cleaning of splitter and cyclones, and rigs with sufficient capacity to provide generally dry, high recovery RC samples. • Information available to demonstrate the representivity of sub-sampling includes RC field duplicates and paired RC and diamond holes. • The available information demonstrates that the sub-sampling methods and sub-sample sizes are appropriate for the grain size of the material being sampled, and provide sufficiently representative sub-samples for resource estimation.

Criteria	JORC Code explanation	Commentary
Quality of assay data and laboratory tests	• *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	• Hand-held XRF measurements were used to aid selection of intervals for assaying. These results were not used for resource estimation(see above for unit and QC protocols). • Avenira assay quality control procedures include certified reference standards, coarse blanks and external laboratory checks. These results have established acceptable levels of precision and accuracy for the assays included in the current estimates.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.*	• No drill hole results are reported in this announcement.
	• *The use of twinned holes.*	• Avenira diamond drilling includes 30 holes drilled within 10 m of RC holes. The twinned diamond and RC holes show very similar mineralisation grades and thicknesses providing confidence in the reliability of the RC sampling.
	• *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*	• For Avenira drilling, sample intervals, and geological logs were directly entered into lap-top computers. These logs and laboratory assay files were merged directly into a central Micromine database • Avenira database and geological staff routinely validate database entries with reference to original data. • The Competent Person's independent checks of database validity include: Comparison of assay values with geological logging, comparison of assay values between nearby holes, checking for internal consistency between, and within database tables, comparisons between assay results from different sampling phases, and for most assays from Avenira drilling the results from laboratory source files were compared with database assay entries. These checks showed no significant discrepancies in the databases used for resource estimation. • No original source data is available for checking of database entries for Rio Tinto drilling. These data represent only 4% of the resource dataset and any uncertainty associated with their validity does not significantly affect confidence in the resource estimates.
	• *Discuss any adjustment to assay data.*	• No assay results were modified for resource estimation.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* •	• Around 55% of drill holes informing mineral resources have high accuracy differential GPS collar surveys. The remainder of collar locations were measured by hand-held GPS, with elevations derived from the aerial survey. • No holes were down-hole surveyed. For the comparatively widely spaced and shallow vertical holes the lack of comprehensive differential GPS collar surveys and lack of down-hole surveys and does not affect confidence in resource estimates.

Criteria	JORC Code explanation	Commentary
	• *Specification of the grid system used.*	• All surveying was undertaken in Map Grid of Australia 1994 (MGA94) Zone 55 coordinates.
	• *Quality and adequacy of topographic control.*	• In October 2008, Fugro Airborne Surveys completed an aerial survey of the Wonarah area. Data captured in the survey included topographic elevations measured by radar altimeter relative to differential GPS locations. • Topographic control is adequate for the current estimates.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.*	• Drill hole spacing at Main Zone varies from more than one by one km in peripheral portions of the deposit to around 250 by 62.5 m in several comparatively small areas. • For peripheral Arruwurra mineralisation, drill spacing ranges from around 500 by 500 m to one by one km in the far west of the deposit. Central portions have been sampled by generally 250 by 250 m spaced drilling with an area including virtually the entire BPH zone infilled to 125 by 125 m spacing.
	• *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.*	• The data spacing has established geological and grade continuity sufficiently for the current Mineral Resource Estimates.
	• *Whether sample compositing has been applied*	• Drill hole samples were composited to 1 m down-hole intervals for resource modelling.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *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 mineralisation is flat lying to gently undulating, and perpendicular to the generally vertical drill holes. • The drilling orientation achieves un-biased sampling of the mineralisation.
Sample security	• *The measures taken to ensure sample security.*	• Sample collection for Avenira drilling was supervised by Avenira geologists. • Wonarah is in an isolated area with limited access to the general public. Samples selected for assaying were collected in heavy-duty polywoven plastic bags that were immediately sealed. The bagged samples were then delivered directly to the analytical laboratories in Mount Isa by Avenira employees or contractors, or less commonly by a local freight carrier. • Results of field duplicates and inter-laboratory checks, twinned holes, and the general consistency of results between sampling phases and drilling methods provide confidence in the general reliability of the resource data.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• Sample data reviews have included comparisons between various sampling phases and methods which provide some confidence in the general reliability of the data. • The Competent Person independently reviewed the quality and reliability of the resource data. These reviews included observation of drilling and sampling,

Criteria	JORC Code explanation	Commentary
		review of database consistency, comparison of laboratory source files with database entries, and review of QAQC information. • The Competent Person considers that the sample preparation, security and analytical procedures adopted for the Wonarah drilling provide an adequate basis for the Mineral Resource estimates.

Section 2 – Reporting of Exploration Results

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.* • *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.*	• Arruwurra mineral resources lie within Exploration Licence 29840. Main Zone Mineral Resources lie within Exploration Licences 29849,32359 and 33063 which are held by Avenira. The underlying land tenure is NT freehold held by the Arruwurra Aboriginal Corporation. • Mining Licence applications ML33343 and ML33344 are also in place over EL32359 and EL29840 to ensure security of tenure
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Data from holes drilled by Rio Tinto provide information in areas of limited Avenira sampling and represent around 4% of the resource dataset.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• Wonarah is hosted by late Proterozoic to early Palaeozoic sedimentary rocks of the Georgina Basin. Phosphate mineralisation is hosted by gently undulating mudstone phosphorite and chert breccia phosphorite units of the Upper Gum Ridge Formation. • The majority of Arruwurra mineralisation lies within a layer of mudstone phosphorite which averages around 6m thick with a variably developed high grade indurated basal zone averaging approximately 1.6 m thick. • Main Zone mineralisation is hosted within a sequence of mudstone phosphorite and chert breccia phosphorite and undifferentiated transitional sediments with an average combined thickness of around 10m. The majority of Main Zone Mineral Resources lie within the mudstone phosphorite and chert breccia. The undifferentiated transitional sediments contain generally low phosphate grades and represent only a small proportion of estimated Mineral Resources.

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:*
	  ○ *easting and northing of the drill hole collar*
	  ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*
	  ○ *dip and azimuth of the hole*
	  ○ *down hole length and interception depth*
	  ○ *hole length.*
	• *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.*
		• No drill hole results are reported in this announcement.

	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades*	• No drill hole results are reported in this announcement.

Criteria	JORC Code explanation	Commentary
Data aggregation methods	*are usually Material and should be stated.* • *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 assumptions used for any reporting of metal equivalent values should be clearly stated.*	• No include equivalent values are reported.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	• The mineralisation is flat lying to gently undulating, and perpendicular to the generally vertical drill holes, with down-hole lengths representing true thicknesses.
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.*	• Approprite maps are include in the body of this announcement.
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.*	• No drill hole results are reported in this announcement.
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.*	• Metallurgical data has been previously reported. This has revealed that the material from Wonarah is suitable for the NovaPhos process or production of MAP and DAP product.
Further work	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Further extensional and/or infill drilling may be carried out, as well as drilling or bulk test pit activities to recover samples for further metallurgical and geotechnical test work prior to any proposed mining, Diagrams and plans may show culturally sensitive areas that are subject to a confidentiality agreement and are not shown here.

Section 3 – Estimation and Reporting of Mineral Resources

Criteria	JORC Code explanation	Commentary
Database integrity	• *Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.* • *Data validation procedures used.*	• For Avenira drilling, sample intervals, and geological logs were directly entered into lap-top computers. These logs and laboratory assay files were merged directly into a central database. • Avenira database and geological staff routinely validate database entries with reference to original records. • The Competent Person's independent checks of database validity undertaken by: Comparison of assay values with geological logging, comparison of assay values between nearby holes, checking for internal consistency between, and within database tables, comparisons between assay results from different sampling phases, and for most assays from Avenira drilling the results from laboratory source files were compared with database assay entries. • These checks showed no significant discrepancies in the databases used for resource estimation. • No original source data is available for checking of database entries for Rio Tinto drilling. These data represent only 4% of the resource dataset and any uncertainty associated with their validity does not significantly affect confidence in the resource estimates.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	• Mr Abbott visited Wonarah on the 12th and 13th of March 2009. The site visit included inspection of drilling and sampling activities, and discussions of details of the project's geology and drilling and sampling with Avenira geologists and Mr Abbott gained an improved understanding of the geological setting and mineralisation controls, and the resource sampling activities.
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* • *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling Mineral Resource estimation.* • *The factors affecting continuity both of grade and geology.*	• Geological setting and mineralisation controls of the Wonarah mineralisation have been confidently established from drill hole logging. • Resources were estimated within wireframes representing mineralised domains interpreted on the basis of geological logging and P_2O_5 assay grades. • Mineralised domains interpreted for Arruwurra comprise a main mudstone phosphorite unit (APH) with an internal basal indurated high phosphate grade unit (BPH). • Mineralised domains interpreted for Main Zone comprise a Mudstone Phosphorite (MPH) unit underlain by Chert Breccia Phosphorite (CBX) and undifferentiated transitional sediments (TUN) which contain locally developed and generally discontinuous beds of high grade porcellaneous mudstone phosphorite designated as transitional phosphorite (TUP). • The mineralised domains were interpreted with reference to geological logging and are trimmed by areas of basement highs, where mineralisation has been not

Criteria	JORC Code explanation	Commentary
		developed. The mineralised domains are consistent with geological understanding. • Due to the confidence in understanding of mineralisation controls and the robustness of the mineralisation model, investigations of alternative interpretations are unnecessary.
Dimensions	• *The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	• Arruwurra resources cover an area around 6 km by 2.5 km and extend to approximately 55 m below surface. The majority of Arruwurra mineralisation lies within the APH unit which averages around 6 m thick with the variably developed internal basal BPH zone averaging approximately 1.6 m thick. • Main Zone estimates extend over an area approximately 10 km by 14 km and extend to approximately 75 m below surface. The combined sequence of variably mineralised mudstone phosphorite, chert breccia phosphorite and undifferentiated transitional sediments averages around 10 m thick.
Estimation and modelling techniques	• *The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.*	• Resources were estimated by Ordinary Kriging of 1 m down hole composited assay grades within the mineralised domains. • The estimates include P_2O_5, Al_2O_3, CaO, Fe_2O_3,K_2O, MgO, MnO, Na_2O, SiO_2 and TiO_2 grades with variograms modelled for each attribute. • No upper cuts were applied to the estimates. This reflects the generally moderate variability of most attributes, and ameliorates the risk of understating secondary attribute grades. • Around the margins of the interpreted mineralisation, domain boundaries were generally extrapolated to a maximum of around half the drill hole spacing beyond drilling, with an extrapolation distance of generally less than 250 m. • Arruwurra estimation included un-folding of composite locations using the top of the mineralised domain as a reference surface. • Grade estimation included a four pass, octant based search strategy, with hard boundaries between domains. • Micromine software was used for data compilation, domain wire-framing, and coding of composite values, and GS3M was used for resource estimation. • The estimation technique is appropriate for the mineralisation style.
	• *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.*	• Within areas of consistent sampling coverage, the current estimates are consistent with previous resource estimates for the project. • Production to date for Wonarah is limited to a bulk sampling exercise undertaken at Arruwurra during 2009. Meaningful comparison of model estimates and production is impossible.
	• *The assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).*	• In addition to P_2O_5, the resource model includes estimates for Al_2O_3, CaO, Fe_2O_3, K_2O, MgO, MnO, Na_2O, SiO_2 and TiO_2. • Estimated resources make no assumptions about recovery of by-products.

Criteria	JORC Code explanation	Commentary
	• *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* •	• Arruwurra resources were estimated into 125 by 125 by 1 m parent blocks (east, west, vertical). Plan-view dimensions of the parent blocks approximate the drill hole spacing in the closest drilled portions of the deposit. • Main Zone resources were estimated into 125 by 30 by 1 m parent blocks. Plan-view dimensions of the parent blocks approximate half the drill hole spacing in the closest drilled portions of the deposit • For precise representation of interpreted domain volumes the parent bocks were sub-blocked at domain boundaries. • Grade estimation included a four pass, octant based search strategy. • Arruwurra search ellipsoid radii (east, west, vertical) and minimum data requirements range from 300 by 300 by 1.5m (8 data) for search 1 to 800 by 800 by 3 m (4 data) for search 4. • Main Zone search ellipsoid radii (east, west, vertical) and minimum data requirements range from 400 by 90 by 1.5m (8 data) for search 1 to 900 by 300 by 4.5 m (4 data) for search 4.
	• *Any assumptions behind modelling of selective mining units.*	• The estimates are intended to reflect medium to large scale open pit mining. Specific details of potential mining parameters are unclear reflecting the early stage of project evaluations.
	• *Any assumptions about correlation between variables.*	• The modelling did not include specific assumptions about correlation between variables.
	• *Description of how the geological interpretation was used to control the resource estimates.*	• The mineralised domains used for resource estimation are consistent with geological interpretation of mineralisation controls.
	• *Discussion of basis for using or not using grade cutting or capping.*	• No upper cuts were applied to the estimates. This reflects the generally moderate variability of most grade attributes, and ameliorates risk of understating secondary attribute grades.
	• *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	• Model validation included visual comparison of model estimates and composite grades, and trend (swath) plots. • Production to date for Wonarah is limited to a bulk sampling exercise undertaken at Arruwurra during 2009. Meaningful comparison between model estimates and production is impossible.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• Tonnages are estimated on a dry tonnage basis
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• The cut off grades used for resource reporting reflect Avenira's interpretation of potential project economics for their perceived development options for the project.

Criteria	JORC Code explanation	Commentary
Mining factors or assumptions	• *Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.*	• The estimates are intended to reflect medium to large scale open pit mining. Specific details of potential mining parameters are unclear reflecting the early stage of project evaluations. • With a maximum depth of 75 m, the resources appear amenable to open pit mining.
Metallurgical factors or assumptions	• *The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	• Metallurgical data has been previously reported. This has revealed that the material from Wonarah is suitable for the NovaPhos process or production of MAP and DAP.
Environmental factors or assumptions	• *Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.*	• Avenira previously prepared and processed an Environmental Impact Statement for a direct shipping ore project and the terms of approval under that process which remains applicable to Wonarah continue to apply. Avenira has received notice from the Northern Territory Environmental Protection Authority that environmental issues associated with the IHP beneficiation process can be addressed under a Mining Management Plan assessment process. It is not anticipated that there will adverse environmental effects from any mining or beneficiation operations. Baseline flora and fauna studies have not indicated any impediments to mining or processing. for DSO or IHP projects
Bulk density	• *Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.* • *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.* • *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	• Bulk densities were derived from 520 immersion density measurements of oven dried diamond core samples. • Densities (t/bcm) were assigned by mineralised domain as follows: • Arruwurra: APH 1.8, BPH 2.0 • Main Zone: CMU 1.8, MPH <30% P_2O_5 1.8, MPH >30% P_2O_5 2.0, CBX 1.7, TUN 1.7, TUP 2.0
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.*	• The estimates are classified as Measured, Indicated and Inferred by domain, estimation search pass and polygons defining areas of relatively consistent drill hole spacing as follows: • For P_2O_5 cut off grades of 10% and 15% Measured resources include estimates for Arruwurra mineralisation tested by 125 by 125 m spaced drilling and Main Zone MPH mineralisation tested by 125 by 62.5 m drilling. Indicated resources include Arruwurra mineralisation and Main Zone MPH, CBX and TUN mineralisation tested by 250 by 250 m spaced drilling. Inferred mineral resources include all estimates for the Main Zone CMU and TUP domains and estimates for

Criteria	JORC Code explanation	Commentary
		the other mineralised domains tested by drilling spaced at broader than 250 by 250 metres generally to around 500 by 500 m. • For P_2O_5 cut off grades of 27%, resources were claissified as follows: - Arruwurra BPH Mineralisation tested by 125 by 125 and 250 by 250 m spaced drilling are classified as Measured and Indicated respectively. - Arruwurra APH: All estimates are classified as Inferred. - Main Zone MPH Estimates for mineralisation tested by 250 by 250 m and closer spaced drilling are classified as Indicated category, with estimates for areas of broader spaced sampling classified as Inferred. - Main Zone CBX and TUN: All estimates are classified as Inferred. - Main Zone CMU and TUP domains comprise small zones generally intersected by few drill holes. All estimates for these domains are classified as Inferred. • Peripheral portions of the Main Zone deposit include areas with around 1 by 1 km spaced drilling. Mineralisation in these areas is too poorly defined for estimation of Mineral Resources, and is considered only as exploration potential.
	• *Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).*	• The resource classification accounts for all relevant factors.
	• *Whether the result appropriately reflects the Competent Person's view of the deposit.*	• The resource classifications reflect the Competent Person's views of the deposit.
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	• The resource estimates have been reviewed by Avenira geologists, and are considered to appropriately reflect the mineralisation and drilling data.
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.* • *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* • *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	• Confidence in the relative accuracy of the estimates is reflected by the classification of estimates as Measured, Indicated and Inferred.

Appendix II – Wonarah Mineral Resource Estimate by Cut-Off Grade

Cut-off P_2O_5 %	Resource Category	Tonnes	P_2O_5	Al_2O_3	CaO	Fe_2O_3	K_2O	MgO	MnO	Na_2O	SiO_2	TiO_2
		Mt	%	%	%	%	%	%	%	%	%	%
10%	Measured	78.3	20.8	4.85	28	1.11	0.43	0.25	0.04	0.10	39.7	0.21
	Indicated	222	17.5	4.75	23.2	1.49	0.47	0.20	0.04	0.09	48.3	0.22
	M+I	300	18.3	4.77	24.4	1.40	0.46	0.21	0.04	0.09	46.1	0.22
	Inferred	512	18	4.8	24	2.1	0.5	0.2	0.08	0.05	46	0.2
	Total	**812**	**18**	**4.8**	**24**	**1.8**	**0.5**	**0.2**	**0.07**	**0.06**	**46**	**0.2**
15%	Measured	64.9	22.4	4.47	30	1.1	0.37	0.19	0.04	0.09	37.0	0.19
	Indicated	133	21.1	4.77	28	1.53	0.47	0.21	0.04	0.09	39.7	0.22
	M+I	198	21.5	4.67	28.7	1.39	0.44	0.20	0.04	0.09	38.8	0.21
	Inferred	352	21	4.5	28	2.0	0.5	0.2	0.1	0.06	39	0.2
	Total	**533**	**21**	**4.6**	**28**	**1.8**	**0.5**	**0.2**	**0.1**	**0.07**	**39**	**0.2**
27%	Measured	3.4	30.9	3.14	42.1	0.85	0.18	0.19	0.05	0.08	18.0	0.14
	Indicated	9.6	30.0	3.43	38.8	1.14	0.28	0.11	0.03	0.08	24.7	0.15
	M+I	13.4	30.2	3.35	39.7	1.07	0.26	0.13	0.04	0.08	22.9	0.15
	Inferred	53	30	3.1	40	1.3	0.3	0.1	0.1	0.06	22	0.1
	Total	**66**	**30**	**3.1**	**40**	**1.3**	**0.3**	**0.1**	**0.1**	**0.06**	**22**	**0.1**

Rounding errors are apparent

Refer to ASX release dated 14 October 2022 for Mineral Resource estimate details. In accordance with ASX Listing Rule 5.23, the Company is not aware of any new information or data that materially affects the information included in this release and the Company confirms that, to the best of its knowledge, all material assumptions and technical parameters underpinning the estimates in this release continue to apply and have not materially changed.