

Response to D. Jennings, *A Critical Analysis of the Report: 'Statement of Significance: Cârnic Massif, Roşia Montană, jud Alba Romania'* by A Wilson, D Mattingly and M Dawson

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SUMMARY

This paper is a response to a report commissioned by the Roşia Montană Gold Corporation (RMGC) to discredit a *Statement of Significance* written in 2010. It notes that the review by David Jennings of York Archaeological Trust was written at the same time that the author provided editorial copy in support of mining in Roşia Montană, and argues that by misrepresenting and misinterpreting the *Statement* it does not constitute an independent or impartial review.

This paper details our reasons for rebutting his criticisms and re-affirms our understanding that Roşia Montană is the most extensive and most significant underground Roman gold mining complex currently known anywhere. This alone is sufficient to give it outstanding international significance. That significance is increased by association with an above-ground landscape of settlements, cemeteries, shrines and ore-processing sites, together with the discovery of wax tablets providing insights into the mining communities and the nature of mine labour and organisation.

In addition, we note that there are important mining remains from the early modern period (17th–19th centuries) which remain only scantily documented, and contain features, such as wooden rails, whose survival is certainly unusual. The surface landscape of early modern mining, with its header ponds for driving stamp mills, is also an important early industrial survival. We re-affirm our position that these remains and others constitute a palimpsest and historic landscape whose importance renders their archaeological discharge unjustifiable, and which is moreover worthy of consideration for World Heritage status.

1. INTRODUCTION

In 2010 we wrote a *Statement of Significance* for the Romanian Minister of Culture on the heritage value of the Roşia Montană gold mining district. This report remained confidential, but the public disclosure of its contents, in October 2013, has reignited debate about a modern mining proposal by RMGC that will destroy a substantial part of the historic landscape.¹

Until the release of the *Statement* we have observed our contractual obligations on disclosure and have declined to discuss the report or its conclusions. Unfortunately in November 2013 a report commissioned by the Roşia Montană Gold Corporation (RMGC) was issued which sought to discredit the *Statement of Significance* and impugn our professional standards.² The report, written by Mr David Jennings of York Archaeological Trust, however, contains serious inaccuracies, misrepresents our position and misinterprets the nature of our work.³ Consequently we feel obliged to respond.

On 20 November 2013, Roşia Montană Gold Corporation (RMGC) published via their company websites a document entitled *A Critical Analysis of the Report: 'Statement of Significance: Cârnic Massif, Roşia Montană, jud Alba Romania' by A Wilson, D Mattingly and M Dawson*, written by David Jennings of York Archaeological Trust.⁴ Although claiming to discuss our *Statement of Significance* synthetically (p. 1), Jennings report does not represent a balanced or impartial review. It is a document commissioned by RMGC with the principal purpose of discrediting the *Statement*. Critical it certainly is; an analysis of the report as a whole it is not, and much of Jennings' criticism addresses the summary section rather than the body of the *Statement* where the detailed arguments were presented.

¹ *Statement of Significance: Cârnic Massif, Roşia Montană, jud Alba Romania'* by A. Wilson, D. Mattingly and M. Dawson (2010; updated with executive summary in July 2011). The *Statement of Significance* was released on 17 October 2013 at: <http://totb.ro/exclusiv-totb-citeste-integral-raportul-specialistilor-straini-despre-importanta-rosiei-montane-pentru-patrimoniul-mondial-a-carui-existenta-a-fost-negata-de-ministerul-culturii/>

² *A Critical Analysis of the Report: 'Statement of Significance: Cârnic Massif, Roşia Montană, jud Alba Romania' by A Wilson, D Mattingly and M Dawson* available at: http://rmgc.ro/Content/uploads/reports/D_Jennings_response_WMD_report.pdf

³ Jennings abbreviates his references to our earlier report as 'WMD', but we shall refer to it here as *Statement of Significance*.

⁴ "Following media comments on the report signed by three British specialists that had taken a three-day visit to Roşia Montană, in 2010, Roşia Montană Gold Corporation (RMGC) has asked for "[a detailed analysis of the assetions and the arguments included in this report.](http://en.rmhc.ro/york-archaeological-trust-the-10-year-heritage-research-at-rosia-montana-cannot-be-contradicted-by-a-three-day-visit-2.html)" (<http://en.rmhc.ro/york-archaeological-trust-the-10-year-heritage-research-at-rosia-montana-cannot-be-contradicted-by-a-three-day-visit-2.html>, 20 November 2013, last accessed 1 December 2013)

Jennings' report employs several tactics in representing the *Statement of Significance* as erroneous or fallacious, subsequently using the cumulation of these criticisms to reject the report as a whole. In many cases his critique seriously misrepresents both the content and tenor of the report. Jennings cites statements taken out of context, attributes a more extreme position to the *Statement* text than is actually taken and bases criticism on his misrepresentation of the text. In short Jennings' misrepresents, misinterprets, and misquotes the *Statement of Significance* in order to support his contention that RMGC should be licensed to mine gold at Roşia Montană.

In attempting to discredit the *Statement of Significance* Jennings' report claims that it:

- contains '*numerous factual errors*';
- is superficial, completed in haste, without adequate consultation on work by RMGC-sponsored projects and specialists;
- exaggerates the significance of Roşia Montană;
- does not recognise that RMGC have spent a lot of money and that preservation by record is an acceptable recompense for such expenditure
- does not acknowledge that the historic landscape of Roşia Montană lacks *integrity* and, therefore, cannot be preserved or developed as a heritage site.

In response, we refute the '*numerous factual errors*' (Jennings cites 12) and rebut the criticisms made of our work and competence. The *Statement of Significance* is the product of wide-ranging research and extensive experience. It was undertaken with the full co-operation of RMGC who hosted the field inspection at Roşia Montană and provided access to published and unpublished evidence. Nevertheless we stand by the conclusions of the *Statement of Significance* and, in turn, question the impartiality of Jennings, whose history of consultancy and advocacy on behalf of RMGC is a matter of published record.

In responding to the Jennings report we have sub-divided our response in a tripartite scheme based on generic criticism, alleged errors of fact and approaches to conservation practice, and made extensive use of quotations from the *Statement of Significance* to ensure that the original text and conclusions are made clear.

2. GENERIC CRITICISM

The Jennings report alleges that three generic faults are implicit in the production of the *Statement of Significance*.

Firstly, Jennings questions our role in evaluating the heritage value of Roşia Montană by invoking the public debate in which some have assumed that the *Statement* must be correct because of our professional and academic status. A particular concern seems to be our affiliation with the Universities of Oxford and Leicester. As Jennings puts it (p. 21):

“Finally, in the public domain, arguments from authority (*Argumentum ab auctoritate*), in particular as Professor Andrew Wilson is based at the University of Oxford, have been used to sustain the conclusions of the WMD report. The inherent weakness of this form of argument and the fallacies that can develop from this position are well understood within academic discussion and should not obscure rational engagement with the issues”.

Jennings seeks to support his argument of *Argumentum ab auctoritate* indirectly in the text of his report noting his own involvement with RMGC since 2011⁵ and by citing projects with which he was involved when director at Oxford Archaeology.⁶ Whilst there is no doubt about Jennings’ track record in developer-funded archaeology, it remains unclear why commercial experience should take precedence in conservation practice, especially when funded, promoted,⁷ published and advertised, in this case by RMGC, over impartial and independent assessment.

In fact, the commission to undertake the *Statement of Significance* was made precisely because of the authors’ ability to offer a broad view of the Roman period and its mining industry, untainted by prior involvement with the RMGC project to discharge the archaeological condition prior to mining at Roşia Montană.

Secondly, Jennings’ report implies the *Statement* was superficial and hasty, citing, in particular, that we made only a three-day visit to the location. The implication is picked up even more strongly by RMGC on their website reporting his conclusions beneath the

⁵ Jennings 2013, Introduction, 1

⁶ Jennings 2013, Fundamentalist approach to conservation options, 18

⁷ <http://www.rosiamontanenews.com/how-rosia-montana-mine-will-save-heritage/573> (last accessed 10 December 2013).

strap line: "The 10-year heritage research at Roşia Montană cannot be contradicted by a three-day visit".⁸

The report was, in fact, the result of two months of intensive research, assimilating published and unpublished documentation on the area's heritage, and drew upon a much longer accumulation of experience in Roman mining landscapes and archaeology. The site visit allowed us to form a clearer picture of the spatial relationships between features, the physical character of underground remains, the above-ground archaeology and related landscape features. Despite the brevity of the field trip we visited a large number of locations. It enabled us to compile a more complete map of the Roman mining landscape than we had found in any of the published and archive reports (fig. 1 in the *Statement of Significance*). This is the first map to give an overview of the ancient mining landscape of the Roşia Montană mining region since Pošepny's map of 1868. It presents the locations of known underground and above-ground ancient remains on the same map. None of the reports published by 2010 had done this, the effect of which, unintentionally or otherwise, had been to obscure the relationship between sites and the significance of the landscape as whole. The lack of such a map has also hindered comprehension of how the proposed mining works would affect the historic landscape of the area. A fundamental point made by the *Statement of Significance*, consequently, was that the Roşia Montană mining region should be studied and considered as a palimpsest landscape, rather than, as in past practice, a series of separate archaeological sites or remains focused on a single period.

Jennings also criticises us for not consulting directly with the specialists like Béatrice Cauuet who had been involved in the archaeological work on the ground. The reasons for this are straightforward. In the first place we had access to the majority of published and unpublished reports commissioned by RMGC, together with other previous published material, which gave us a very full picture of the work that had been carried out. Contrary to the assertions made by Jennings (which we rebut on a point-by-point basis below), we did not make fundamental errors in deploying this information in our report. Secondly, at meetings with RMGC's archaeologists whilst at Roşia Montană we were able to ask specific questions about the nature of work carried out. Thirdly, it was also evident that the archaeologists involved with work funded by RMGC were fully engaged in a project to discharge an archaeological condition which would allow mining under Romanian law,⁹ rather than to assess, impartially, the heritage value of Roşia Montană.

⁸ <http://en.rmgc.ro/york-archaeological-trust-the-10-year-heritage-research-at-rosia-montana-cannot-be-contradicted-by-a-three-day-visit-2.html>

⁹ Referring to the scope of the "Alburnus Maior" National Research Programme, Paul Damian says: "The objectives of such archaeological researches were the identification and investigation of all the sites of interest from an archaeological point of view; excavations were performed in order to

Whilst at Rosia Montana, our host Adrian Gligor (RMGC's Vice President for Patrimony and Sustainable Development) made the company's views clear and subsequently we were able to access the work of the archaeological team commissioned by RMGC through written records and reports.

Our brief was to assess the significance of the mining landscape as a whole and the Cărnic Massif in particular, and our deliberations were very much informed by the results achieved by teams of archaeologists and historians working with RMGC support over more than a decade. What that work has demonstrated is that Roşia Montană is indeed of the very highest heritage value and that, despite great advances in knowledge and understanding achieved, the scale of destruction envisaged by the proposed mining project will leave numerous important questions about this remarkable landscape unanswered and unanswerable. Nevertheless as the *Statement of Significance*, makes clear:

"Despite a substantial budget having been expended, the currently achieved level of mitigation is completely inadequate to be considered as preservation by record. In particular, we draw attention to the many questions that remain about the location of Roman settlements and the full extent of underground workings and the lack of any detailed record of the other highly significant phases of settlement and mining activity. If mining were to go ahead, we believe a massively increased archaeological budget and expanded archaeological team will be required to document what will be lost. Even then, preservation by record would hardly be an acceptable substitute for the loss of a unique landscape of outstanding world significance." (*Statement* p. 8)

We maintain our view that the archaeological work undertaken to date is wholly inadequate given the significance of the heritage resource that may be destroyed. Jennings claims that a 4% evaluation of the accessible land has already been undertaken, noting that 2% is routine in the UK. The surface excavations totalled some 2.2ha,¹⁰ merely 0.2% of the 1,100 ha for which RMGC sought the archaeological discharge.¹¹ Much hinges here on the fact that Jennings talks only of "accessible land"; but RMGC's mining project will affect *all* the land within the area for which they seek discharge, not simply the areas readily accessible for archaeological excavation. If one were to evaluate only 2% of the proposed

archaeologically discharge the area outside Roşia Montană, West of the Cetate massif, i.e. the locations: Găuri-Hop, Hăbad, Tăul Țapului, Nanului Valley, as well as the area inside the built-on area of the village Gura Cornei-Abrud" (Damian 2003, 26). The intended result was clearly pre-judged at the start of the archaeological research. The signatures of Paul Damian, Béatrice Cauuet, Bruno Ancel, Antoine Constans, Călin Tămaş, and Christian Vialaron appear on a "Proposition de décharge archéologique" dated 20 February 2009 which is annexed to the report Cauuet *et al.* 2009 (217-221), recommending the archaeological discharge of a large area of the Cărnic massif.

¹⁰ Damian (ed.) 2003, 9.

¹¹ Piso in O'Hara 2004, Part II, Para. 22.

total area, an evaluation by means of a further 20ha of surface excavations, ten times the scale of what has been accomplished to date, would be required. We note below the reasons why we consider that the underground excavations of the Cărnic massif have not been exhaustive, especially with regard to the early modern period workings.

3. ALLEGED FACTUAL ERRORS

We take the criticisms and alleged errors in the order Jennings lists them on pp. 1-2 of his document:

1. "Statements of fact placing the mining at Roşia Montană as the largest, most extensive underground mining complex in the Roman Empire (fallacy of insufficient sample)"

Jennings here refers to the sentence on p. 7 of the *Statement* which reads: "The evidence of Roman mining in Cărnic is part of the largest, most extensive and most important underground mine complexes within the Roman Empire. It is, in this important respect, unique." On pp. 2-3 of his document he says "this statement is fallacious as it seeks to position our understanding of Cărnic as one that can be known substantively and demonstrated within a well-developed field of knowledge." In essence, his argument is that because many Roman mining sites are poorly explored, we cannot know that Roşia Montană is unique, and there may be other sites like it, which are merely less well explored.

In fact, the fuller context of the *Statement of Significance* makes it wholly clear that we are talking about known mines: later on the same page of the Executive Summary we say "The Roman mines at Roşia Montană represent the most extensive and most important underground Roman gold mines known anywhere", a statement repeated in the body of the *Statement* (p. 25): "The Roman mines at Roşia Montană represent the largest (most extensive) and most important underground Roman gold mines known anywhere." This fact alone would be sufficient to qualify the site as of exceptional international significance, a candidate for World Heritage Status satisfying the four criteria for inclusion on the UNESCO WHO list that we give on p. 28 of the *Statement*. It is not legitimate to conclude, as Jennings does on p. 3, that the site's "uniqueness cannot be validated and this has substantial implications for the development of appropriate preservation and mitigation strategies". Assessment of the significance of cultural heritage assets must performe be

made on the basis of what is known; one cannot claim that it is acceptable to destroy a site which is unique in the current state of knowledge on the grounds that one day somebody *might* find another one a bit like it. As we say on p. 87 of the *Statement*:

“It is a key principle of Cultural Resource Management that one seeks to protect what is currently of unique importance – until future work demonstrates that the other Romanian mining sites were of equal or greater importance (and replicate the technological features recorded there) the presumption must be that Roşia Montană was the largest and most significant mining site in Dacia and among a small group of pre-eminently important Roman mining sites from elsewhere.”¹² (*Statement* p. 87)

2. “That RMGC has focussed its work principally on the Roman evidence² (argument from ignorance [*argumentum ad ignorantiam*]: RMGC has spent \$4.95 million to-date on architectural survey and conservation of the Austro-Hungarian and later period, with work also on ethnography, modern mining history and material culture)”

Jennings’ criticism refers, as his footnote 2 makes clear, to p. 7 of the *Statement*, citing in support the expenditure by RMGC on reports by Popoiu (2004), Rişcuţa (2007) and Vialaron (2006).¹³ The passage of the *Statement* to which Jennings refers actually reads:

“From the outset the authors had assumed that the Statement of Significance would focus, as has the work of Roşia Montană Gold Corporation, principally on the Roman evidence. However, the site inspection above and below ground quickly made it clear that Roşia Montană represents a landscape of probably unparalleled complexity, of great significance for the history of other periods too.” (*Statement* p. 7)

¹² Whether through unfamiliarity with the nature of Roman mining exploitations, or deliberate misrepresentation, in trying to downplay the significance of Roşia Montană Jennings on p. 3 of his report misleadingly conflates above-ground and underground mines in his figures of over 550 Roman mining estates known from Spain (many of these are in fact hydraulic opencast mines in NW Spain) and over 40 mines in Romania (10 of the 44 sites mentioned in the *Cultural Heritage Baseline Report* are in fact gold washing sites exploiting placer deposits in river valleys: Stantec Consulting 2006, Appendix D pp. 132-142).

¹³ Popoiu 2004 is not included in Jennings’ bibliography, but evidently it refers to the first edition of the 2010 report by her which we cite in the *Statement*; Rişcuţa 2007 was cited in the *Statement* and Vialaron 2006 was unpublished and not made available to us by RMGC.

We do not write that RMGC has focused *only* on the Roman evidence; we say that their work has focused *principally* on it. We do not make an argument from ignorance: we in fact cite the same study by Rîșcuța (2007) and a more recent edition of the one by Popoiu (2010). It was evident at the time of writing that RMGC had commissioned work on architectural survey and conservation of buildings of the Austro-Hungarian and later periods, and ethnographic work on modern mining history. Reading though this work it was surprising, however, that the RMGC had not, at least by 2010, when the *Statement* was written, included excavation of Austro-Hungarian or early modern ore-processing sites and stamp mills. It is evident that investigation of the underground mining archaeology has paid much more attention to the Roman-period mining remains than the early modern mining galleries.¹⁴ The point that we make elsewhere in the *Statement* is that much further work along these lines (architectural, historical, *and* archaeological) needed to be done; and that this includes the need to consider the *landscapes* of these later periods. This is clear on p. 27 of the *Statement* : "By the late 19th to early 20th century, many private mines were in operation around Roșia Montană and this forms part of the family history of the modern mining community. Again, this merits documenting in greater detail than hitherto achieved. The associated footnote reads:

"Popoiu 2010; Pošepny 1868a/b; Rîșcuța 2007 make important contributions to the historical, ethnographical, socioeconomic and cultural record of the Early Modern mining communities, but there is potential to extend the documentation archaeologically and thematically." (*Statement*, 27 n. 44)

3. "That medieval mining is to be found in the Corna and Roșia Montană valleys and on the mountains of Cârnic, Cetate, Cârnicel and Jig-Văidoaia⁵ (fallacy of ambiguity: see Section 2.2 below)."

Jennings makes great play of a possible ambiguity in the sentence on p. 7 of the *Statement*: "In the Corna and Roșia Montană valleys and on the mountains of Cârnic, Cetatae, Carnichel and Jig-Văidoaia Roman, medieval, 18th- and 19th-century mining, together with the galleries and installations of the communist period have together created a unique palimpsest of exploitation." We do not claim that there is known evidence for medieval mining in all of these areas: our point here is about the cumulative evidence for different periods *which together created* a palimpsest of mining activity (see further below

¹⁴ Cauuet *et al.* 2006, 55 (on the 18th-/19th-century works in the Cârnic massif, which Cauuet terms "modernes"): "Ces travaux modernes n'ont pas fait l'objet des investigations particulières, exceptée la voie de roulage en bois d'une galerie de Pietra Corbului : dans deux secteurs, ils ont été néanmoins relevés en plan ce qui permet de confronter nos relevés avec les plans d'archives"; p. 57.

under point 5). The evidence for medieval settlement and mining is clearly discussed on pp. 45-46 of the *Statement*. The case for the outstanding significance of Roşia Montană does not rest on the medieval evidence, the extent of which is acknowledged to be slight.

4. "That pre- and Post-Roman phases of activity have not been studied at all⁶ (false statement: see Section 2.3 below)"

Jennings suggests that the evaluation was extensive and the absence of evidence for both periods equates to an absence of activity in the area pre- and post-Roman. Jennings cites Zlatna as the nearest evidence of Dacian activity, but, as Oltean points out,¹⁵ there is no consistent pattern of recording or data management for the pre-Roman period in Romania. Jennings also misconstrues the third paragraph of our executive summary (p. 7). It is clear from the evaluation literatures that there is no attempt in the evaluation to contextualise the absence of pre-Roman Dacian activity.

While we agree that there is currently no good evidence for pre-Roman mining at Roşia Montană, and in fact incline to the view that any pre-Roman activity there probably did not involve underground mining, and perhaps not even opencast mining, but was rather confined to panning for gold in rivers, there is no scholarly agreement on this issue. It is a question of considerable importance. It has a bearing on debates over the reasons for Trajan's invasion and conquest of Dacia, on the sources of Dacian gold, and on the level of mining technology in the region before the Romans arrived. Was the impact of the Roman conquest merely to increase the scale and intensity with which the mines at Roşia Montană were worked (Ciugudean 2012), or did it involve the introduction of completely new techniques, opening up wholly new possibilities for the exploitation of subterranean resources? On one side are ranged scholars such as Cauuet, the mining expert who has led the underground archaeological investigations for RMGC, and Ciugudean, both of whom assume that there should be some evidence of pre-Roman underground or at least open-cast mining; on the other, those who (like ourselves) would see little or no underground mining prior to the Roman conquest.¹⁶

Cauuet's reports have pointed to some evidence which she claims may suggest pre-Roman mining (Cauuet *et al.* 2002, 16 and 64), but much of this is based on radiocarbon dates calibrated with an outdated calibration curve and reported to only one standard deviation (68.2% probability);¹⁷ the more usual reporting to two standard deviations (95.4%

¹⁵ Oltean 2007, 7–10.

¹⁶ Cauuet *et al.* 2002; 2009; Ciugudean 2012.

¹⁷ The original calibrations were done using the IntCal04 curve (Reimer *et al.* 2004): Cauuet *et al.* 2009, fig. 830.

probability) with more recent curves, give crucially different results pushing the probable calibrated date range for most of the samples in question well past the date of the Roman conquest, removing any need to see them as evidence for pre-Roman mining.¹⁸ The one incontrovertibly pre-Roman radiocarbon-dated sample, as Jennings notes, was found near the exit of a gallery that on the basis of its profile and digging technique is clearly Roman, and may have washed in from the surface. Cauuet *et al.*'s belief that there is pre-Roman evidence was founded in part on their dating of shoring in a gallery in the Jarina area to AD 50–80, i.e. before the Roman conquest of the region.¹⁹ In our report we use a more up-to-date radiocarbon calibration curve and report to two standard deviations, which shows that the date could go as late as AD 126 and is probably, therefore, early Roman: "1965 +/- 40 BP; calibrated using OxCal and the 2009 atmospheric curve = 46 BC to AD 126 at 95.4% probability. The date range given in *CHBR*, p. 94 uses an old and less correct calibration curve."²⁰ The simplest explanation is that the shoring dates from the Roman period, at the later end of the possible radiocarbon date range, after the conquest in AD 106.

Cauuet in 2002 (p. 67) also suggested that the trapezoidal cross-section of the ancient mining galleries is probably a pre-Roman Dacian tradition which continued under Roman rule. More recently her statements on this issue have become more cautious but as recently as 2012 Cauuet and Tămaş were still maintaining that the trapezoidal cross-section might either be of local, Dacian, origin or an import by Dardanian miners in the Roman period, and that future research would be needed to illuminate that question.²¹ Our own stance is clear (*Statement of Significance*, pp. 52-3): "As there is no firm evidence for pre-Roman underground gold mining in Romania (the Dacian gold seems to have derived from alluvial deposits), the trapezoidal galleries can hardly be a Dacian technique, and their sudden appearance at Roman-period mines in Romania is best explained by the import of the technique by the mine administration and/or its workforce from elsewhere."

The important point, though, is that no strategy of archaeological research has yet been directed at the question of whether or not there was any pre-Roman mining at Roşia Montană, or indeed what kind of pre-Roman activity, if any, there was in the landscape. Cauuet appears to have been assuming that it should be there, but has not yet found it.

¹⁸ E.g. IntCal09 (Reimer *et al.* 2009), which we used in our *Statement of Significance*, and IntCal13 (Reimer *et al.* 2013).

¹⁹ Stantec Consulting 2006, 94.

²⁰ *Statement of Significance*, p. 33 n. 65. (*CHBR* = *Cultural Heritage Baseline Report*, = Stantec Consulting 2006. The old calibration curve used was IntCal04, = Reimer *et al.* 2004, as is clear from Cauuet *et al.* 2009, fig. 830). Use of the IntCal13 curve adjusts the IntCal09 results only very slightly, to between 46 BC to AD 125 at 95.4% probability.

²¹ Cauuet and Tămaş 2012, 233.

The sampling strategy for settlement sites has not yet found positive evidence, but remains insufficiently intense to demonstrate the absence of pre-Roman activity.

For the Post-Roman period Jennings readily dismisses the potential evidence of radiocarbon dating because it does not suit his model of inactivity in the eighth to eleventh centuries. But there is no attempt to contextualise the apparent absence of physical activity within the framework of current knowledge or debate. Here again there is no scholarly consensus, and work needs to be targeted on the question. Both Rîșcuța's and Popoiu's reports prepared for RMGC refer to the continued occupation of the region after the Roman withdrawal,²² and assume some small-scale mining until the revitalisation of larger-scale mining with the importation of German colonists in the thirteenth century under the Hungarian kings.²³ Cauuet has claimed that finds from the Zeus sector of the Cetate massif "révèlent une accumulation de remblais post-exploitation dès le II^e siècle de notre ère, avec des prolongements jusqu'à la fin du IV^e siècle", but gives no further detail.²⁴ The analysis of lead pollution levels from a peat bog 15 km to the north Roșia Montană shows elevated levels of lead pollution for some period after the Roman withdrawal from the province, which may reflect continued mining activity;²⁵ these questions require further investigation.

5. "That there is 'an extraordinarily detailed record' of medieval mining" (fallacy of ambiguity: See Section 2.2)"

Jennings appears to have deliberately missed the point that what is unique is the *palimpsest* of mineral exploitation which includes the medieval evidence. In the two passages he quotes from p. 7 of our report, the phrases "have together created a unique palimpsest of exploitation" in the first passage, and "In combination" in the second, are crucial. This is quite clear from the body of the *Statement*, which is explicit about the nature and extent of the medieval remains. What the *Statement* actually says is:

²² Rîșcuța 2007, 81: "Following the Roman retreat, information on the general organisation of the mining activities in Dacia and particularly the Zlatna-Rosia area are scarce. The archaeological sources in the area demonstrate that the mining activity continued over the following centuries."; Popoiu 2010, 16: "After the withdrawal of Roman administration and the military, the region continued to be populated, as the archaeological sources indicate. Mining remained an occasional occupation, limited only to the needs of the community members".

²³ Popoiu 2010, 16–17; Roman, Wollmann, and Sântimbrian 1982, 29.

²⁴ Cauuet 2008, 10.

²⁵ Cauuet *et al.* 2009, 198–203 and figs. 836–837.

"The Medieval and Renaissance mining landscape

Significant. The rarity of medieval traces in the Roşia Montană area gives any evidence of mining from this period a high national importance, but it is unlikely that the mine works of this period will have European-wide significance. Nonetheless, this is still an element in the story of Roşia Montană and should not be neglected. The technologies employed and scale of workings need to be studied as part of the diachronic story of mine history at Roşia Montană. (*Statement* p. 17 *cf.* pp. 45-46, with further detail)

Balmoşesti - Gura Minei (Medieval settlement)

Significant. The apparent absence of other known medieval settlement in the Roşia Montană area, indicates this is of considerable local importance for understanding activity in the region in the post-Roman period and prior to the re-colonisation of the valley by large-scale mining operations in the Early Modern period." (*Statement* p. 17, *cf.* pp. 45-46, for further detail)

"However, the cultural landscape of Roşia Montană is not restricted to the Roman episode of exploitation. Although medieval activity was more restricted, it was clearly present and needs to be researched in fuller detail." (*Statement* p. 27)

6. "Assumed existence of intact settlements, ore-processing areas, religious buildings and cemeteries for all areas where Roman mining has been located". (hasty generalisation: no consideration of impact of later mining on earlier deposits: see Section 2.4 below)

Section 2.4 of Jennings' report is entitled "There is an intact Roman landscape". Jennings cites page 10 of the Executive Summary claiming: "The strong impression given by this paragraph is that the integrity of the Roman landscape is intact and that, as stated elsewhere in the WMD report, the 'gaps' in evidence relate to lack of investigation." This is a particularly egregious example of Jennings' tactic of attributing a more extreme position to the *Statement* than that which it actually takes.

In fact, nowhere is it stated that there is an intact Roman mining landscape. The word "intact" is used only three times in the *Statement*: in Appendix 1 (p. 99) in the context of discussing criteria used in Australia for assessing the significance of heritage sites, and twice (pp. 15 and 52) when noting that most of the archaeology at Cetate does *not* survive intact:

"...would be highly significant if more of the Cetate works survived intact."
(*Statement* p. 52).

It is simply untrue that that the statement takes no account of the destructive impact of later mining works on the Roman mining landscape. We say:

"The Cetate ('fortress') massif is now largely destroyed by communist-era opencast mining but was formerly one of the two major massifs of the area, along with Cârnic. Until the commencement of the large opencast mine in the 1970s, the Cetate massif had four ancient opencast pits ('curtile Romane') on the top, and the sides were riddled with mine galleries of ancient, medieval and Early Modern date. Photographs taken before the recent mining began show the massif as being similar in shape to and nearly as large as the Cârnic massif. Nearly all of this has been destroyed by the recent opencast, but ancient workings remain visible in two sectors"; (*Statement* p. 30)

and:

"The overall cultural value of the Cetate area has been substantially reduced by the destructive opencast mining." Moreover, on pp. 12 (the Executive Summary) and 39 (the body of the *Statement*) we note that "in the area of the best preserved Roman galleries [in Cârnic], later mine workings have truncated and obliterated features, necessitating interpolation and interpretation". (*Statement* p. 32)

The point is that the degree of preservation of the Roman mining landscape *in its present form*, imperfect as it is, is still exceptional in terms of ancient mining landscapes, and allows the examination of the interrelationship of underground workings, mining settlements, cemeteries, and religious shrines in a manner rare or impossible elsewhere. Our conclusion, that there are missing sites in the landscape, is supported by the success of the extensive programme of test-pitting of a small percentage of the landscape carried out in the RMGC-sponsored archaeological work. While some sites that once existed will undoubtedly have been destroyed by subsequent mine workings, we believe that further investigations will significantly add to the list of sites discovered and in particular anticipate that some sites lie buried beneath later mine waste that has hitherto been largely ignored.

7. "Statement that Cârnic 'is the most extensive and most significant Roman mining system mapped anywhere in the empire'⁹. (False statement: Las Medulas, Roman mines, World Heritage Site is far more extensive covering 40 km²). "

For clarity, this should have read "the most extensive and most significant *underground* Roman mining system mapped anywhere in the empire'. The Las Medulas mining area is of course a hydraulic opencast system of a completely different nature. The fact remains that Roşia Montană is the most extensive and most significant underground Roman gold mining complex that has been mapped (see also (1) above).

8. "Statement that Cârnic massif contains three major types of working unparalleled elsewhere, namely pillar-supported working chambers; spiral staircase galleries and vertical working spaces whose roofs are cut in reverse stairs¹⁰. (False statement: examples of two of these forms are known elsewhere in the Empire and in other areas of Roşia Montană which will be subject to in-situ conservation: see Section 2.5 below)."

Jennings' report (p8) claims: "On page 11 of the WMD report the status of 'high significance' is given to the Roman Cârnic underground mines on the basis of the false assertion of the pre-eminent size of the Roman workings (see Section 2.1 above) combined with a further false statement on the uniqueness of the types of workings to be found there." Yet the *Statement* makes it clear that the unique elements of the Cârnic system are only a part of the reason for the attributing high significance to these workings:

"Highly significant. This is the most extensive and most significant Roman mining system mapped anywhere in the empire. In addition to complexity and extent of the underground mining works here, the Roman galleries in the Cârnic massif contain at least three major types of working that are unparalleled elsewhere, even within Roşia Montană: pillar-supported working chambers; spiral staircase galleries, and vertical working spaces ('dépilages') whose roofs are cut in reverse stairs. A fourth type, extensive stepped descending communication galleries, is paralleled in other areas of Roşia Montană (Ţarina) and elsewhere (Kosmaj, Serbia), but the instances in Carnic are longer and exceptionally well preserved. The Roman Cârnic workings are of exceptional international significance and should be preserved *in situ* in their entirety." (*Statement* pp. 11–12 – see also points 1 and 7 above where the pre-eminence of the size of the Roman underground workings is made clear)

Our statement regarding the unique quality of these three elements echoes the report of the mining excavators (Cauuet *et al.* 2009, 211): "Certaines ouvrages de Cârnic ne se retrouvent pas encore ailleurs dans l'espace minier, comme les chambres de piliers, les chantiers verticaux taillés en gradins, les puits inclinés hélicoïdaux avec marches et les longues galeries de recherches ouvertes en descenderies avec marches."

Jennings' discussion on pp. 8-9 of his document obfuscates the issue by discussing a fourth type of working, stepped communication passages, which we make perfectly clear are paralleled elsewhere and which we do not claim are unique to Roşia Montană.

Jennings rightly points out that "the use of pillars to support chambers was a standard practice in classical mining from the Ancient Greek and throughout the Roman period" (p. 8) and cites Plutarch's *Moralia* 843D and one of the Vipasca tablets (*Vip. II, 12*) in support. The fact is that archaeologically known examples of this practice are, if not unique, very rare. Jennings himself can only cite three other examples. One is allegedly from Thasos, although Jennings does not provide a reference and his footnote 41 unfortunately reads "Check Reference: - Plate 139, p134 - Wagner *et al* 1988?". More unfortunately, Wagner *et al.* 1988 is not in his bibliography. The other examples are from Três Minas and Segobriga (Spain), the latter explored only in recent years. Even if not unique, the rarity of known surviving examples of what was apparently once a common ancient technique lends these particular importance.

Moreover, from Cauuet *et al.*'s reports it appears that the working method used to create the pillared chambers in Cârnic has not been recorded elsewhere, and remains unique in the current state of documented Roman gold mines. Possibly this is what Cauuet meant when she claimed that these features were unique to the Cârnic massif.²⁶ Exploitation chambers such as those in the Cârnic 9 network were created by driving a series of short galleries of trapezoidal cross-section side-by-side, and then knocking out sections of the walls between them, leaving pillars of rock to support the ceiling.²⁷ We are not aware, and nor apparently is Cauuet, of published parallels for this working technique.

Similarly, if 'dépilages with roofs cut as reverse stairs' (working spaces where a gold vein is followed downwards by lowering the floor of the workings in stages, leaving the roof of the working space stepped in the form of a reverse staircase) are now known not in fact to be unique to Roşia Montană, they are certainly rare and exceptional. The other known examples referred to by Jennings appear to be recently discovered or unpublished. The

²⁶ Cauuet *et al.* 2009, 211.

²⁷ Cauuet 2008, 17.

photograph of the *lapis specularis* mines in Segobriga (Spain) which is referred to in his footnote 44 was taken on 13 February 2012, two years after the *Statement* was written. Jennings states that there are “other examples known more locally in the Apuseni Mountains from the Roman mines of Gura Barza (Brad) and, Bucium (Petru and Pavel adit and Butura de Jos adit)” but does not provide any reference, and it appears that these remain unpublished.²⁸

However, since Gabriel Resources, the parent company of Roşia Montană Gold Corporation, also hopes to mine gold deposits at Bucium,²⁹ it would be particularly disingenuous to argue that the ancient galleries at Roşia Montană should be sacrificed because others, with similar features, exist at Bucium.

Jennings’ conclusions to his discussion of this issue on p. 9 say:

“Thus, it is acknowledged that the spiral staircase galleries have not been recorded elsewhere so far, but many simple staircase galleries exist (in Brad and in Roşia Montană at Paru Carpeni-Ţarina and Cătălina Monuleşti). It is, therefore, highly questionable whether this leads to a conclusion that this necessitates preservation *in situ* of the entire mining complex rather than a more nuanced response, particularly taking into account that they will be conserved by museum-replica built at 1:1 scale as part of the proposal for the heritage programme for the RMP.”

But we make clear that it is not only the presence of individual elements that may be unique or rare, but their combination, that gives extra significance to the site:

“Yet the importance of the site for understanding ancient mining techniques lies not only in the survival of unique elements: it is the extensive networks of interconnected galleries, working chambers and drainage installations that enables one to understand how Roman mines, and the wider mining landscape of which they were a part, really functioned.” (*Statement* p. 67)

²⁸ In 2006, the *Cultural Heritage Baseline Report* noted with regard to Bucium: “Mining system not scientifically researched” (Stantec Consulting 2006, 135).

²⁹ As is made clear on Gabriel Resources’ main website: <http://www.gabrielresources.com/site/bucium.aspx> (last accessed 10 December 2013). No assessment of the impact on archaeological remains appears yet to have been published.

9. "Statement that the northern part of the Cârnic massif has not 'been subjected to the same intensity of exploration' by the archaeologists as the southern part of the massif¹. (False statement: directly contradicted by the Specialist Report of the excavator: see Section 2.6 below)."

Jennings here refers to p. 12 of the *Statement*, where in fact we make clear that:

"Although the recent work has mapped all the Roman workings which are accessible through the Early Modern and communist-period galleries, it is very likely that further ancient workings remain to be found in the northern part of the massif." (*Statement* p. 12)

The point is that the grid of modern galleries is less dense in the northern part of the massif (and particularly in the north-western part) and, therefore, fewer modern galleries traverse it. This means that it is much less likely that they would intersect ancient galleries and thus allow access to them from the interior. Ancient galleries will have been dug in from the north and their entrances may lie buried. Jennings himself acknowledges this when he says (based on Cauuet *et al.* 2009, 28): "At the same time, the surface of the massif was explored for evidence of mining, including old entrances to the mines, but it was rendered difficult by the large-scale disturbances to the surface (e.g. large-scale waste-tips from previous mining)".

We do know, however, that ancient galleries existed here – "the Roman galleries of the 'St. Ladislau' Mine, in which several wax tablets were found in 1820, have not been relocated in the recent investigations." (*Statement* p. 12). This point, as with the point discussed under (11) below, highlights the need for trial trenching through waste heaps here and elsewhere on slopes that might reveal ancient mine entrances.

The point is made explicitly again in the *Statement*:

"The map of underground workings in the Cârnic massif that accompanies the proposal for archaeological discharge shows a large concentration of Roman galleries in the south-central part of the massif and around Piatra Corbului, with a small network N of the central part of the hill. It is evident that the underground survey strategy has necessarily been conditioned by access through the communist-era network of tunnels within the interior of the massif, but this is less likely to intercept the Roman workings that entered the massif from the northern side, since the recent grid of galleries is less dense here. However, since the

Romans seem to have riddled the other main massifs of the region with tunnels from all accessible sides, it is certain that they worked Cârnic from the N too. Indeed, a plan of the Cârnic works explored in 2000-2005 strongly suggests this, with a number of short galleries traced on the N side of the massif; it is unlikely that all Roman mine galleries here have yet been found and more are to be expected here." (*Statement* p. 76)

Interestingly, in the one zone of the northern part of the massif where a dense modern network of galleries ("galeries récentes" in Cauuet's terminology) does exist, the Cantaliste region in the NE slopes of the Cârnic massif, a complex of Roman galleries with a criss-crossing grid exploiting an ore vein is shown on Cauuet *et al.*'s plan of the ancient workings (Cauuet 2009, fig. 10). This complex, discussed briefly on pp. 40-41 of her report, raises interesting questions and has the potential for illuminating Roman techniques of systematic exploitation underground. Its discovery, via the modern galleries, further supports the probability that there are other ancient mine workings in the northern part of the massif that have not been intersected by modern works.

Moreover, the caption to the plan of "travaux modernes" (i.e. 17th-19th-century) mine works in the Cârnic massif in Cauuet's own report (Cauuet *et al.* 2009, fig. 9) acknowledges that "Les zones Glam-Ranta et Piatra Corbului [i.e., the southern part of the massif] paraissent plus importantes que les autres car elles ont été relevées en détail". The significance of this is that it acknowledges that the early modern 17th-19th-century workings in the northern part of the massif have not yet been fully mapped in detail, a point made explicit elsewhere in Cauuet *et al.* (2009, 55, 57): "Pour ces secteurs [Corhuri and Cantaliste, in the northern part of the Cârnic massif], un relevé complet des ouvrages modernes, sans doute plus 15 km linéaires, peut mettre en évidence un nombre beaucoup plus élevé des galeries principales modernes". For the Corhuri area, Cauuet *et al.* state that "son exploration a été intense, mais incomplète (travaux récents)".³⁰ If the recent works have not been fully explored, one cannot know whether they provide access to further early modern and ancient workings, which evidently exist in the area.³¹

³⁰ Cauuet *et al.* 2009, 37.

³¹ Cf. Cauuet *et al.* 2009, 37-41.

10. *Statement that future re-interpretation will be impossible if the Cârnic galleries are only preserved-by-record¹² (false statement: the discipline of archaeology is founded on constant re-interpretation of excavation results)*

As any archaeologist knows, reinterpretation is made infinitely more difficult if the primary evidence has been destroyed. Excavation of former mines may remove the backfill and accumulation within mine galleries but retention of the galleries themselves, with their working traces which are revealing of methods and techniques of mining, is in this respect analogous with the investigation of architectural structures. Under such circumstances the material evidence remains to be re-examined in the light of new questions; it is evident from the reports we have seen that while there is a very high standard of excavation and documentation in the mining archaeology,³² a number of key questions have not been fully considered. For example, why were the galleries abandoned? Was it because they had ceased to be productive and the ore veins exhausted, or could there be other factors? Were they abandoned suddenly for different reasons, for example, the Antonine Plague or Marcomannic invasions in AD 167, and/or the Roman withdrawal from the province in 271/275? Do the working traces on the gallery walls and faces present a picture of sudden abandonment, in the middle of uncompleted works, or of gradual and progressive abandonment of different galleries as the ore bodies were depleted?

Equally important to future interpretation is conservation practice. As Viñas has explained, contemporary theory of conservation is developed around democratic narratives, but focusses heavily on the concept of sustainability.³³ Whilst the economic sustainability of conservation has been advocated by many in the way that Jennings represents RMGC's case at Roşia Montană, more important is the application of the notion of sustainability to those features of an object which convert it into something valuable and contribute to its significance. As Viñas explains, the point is that this brings into prominence a factor of 'primary relevance' which might be overlooked in contemporary conservation: *future users*. The principle of sustainability in conservation mandates that future users should be taken into account when decisions are made. Viñas goes on to note that this confers on contemporary conservation long-term purposefulness; it precludes abuse of the notion of negotiation in the way expressed by Jennings. Whilst it is true that archaeologists constantly re-interpret the past according to contemporary values, the destruction of the Roşia Montană galleries and their survival merely through reproduction denies future generations of the potential to re-evaluate the intangible, symbolic meanings attributed

³² Cauuet *et al.* 2002; 2003; 2009; Stantec Consulting 2006.

³³ Viñas 2008, 194–7.

to the remarkable survival of Roman mines amongst the tangible and extensive evidence of later exploitation.

Once again Jennings has created a false dichotomy by interpreting the concept of conservation narrowly in terms of recorded evidence, and archaeological re-interpretation simply in terms of technological insight. To destroy the remains at Cârnic, to which this section refers, denies in reality, and conservation theory, the interests of future users who cannot complain or express their opinions.

This central point is also recognised in conventional archaeological theory. Understated in Jennings' approach is the recognition that "archaeology can never escape from the influences of the social and economic milieus in which it is practised",³⁴ an observation which reinforces the positivist standpoint that the need to retain the physical remains of important historic artefacts is analogous to the retention of physical specimens in the natural sciences. The destruction of Cârnic, and its replacement by a museum model, therefore, also denies the interests of archaeological re-interpretation from primary evidence.

11. *"Statement that Roman settlement may exist close to Roman mines at Jig Văidoaia¹³ (false statement: no Roman mines are known at Jig Văidoaia)."*

We are quite explicit in the report about the fact that no Roman mines are *known* at Jig Văidoaia, but that there are good reasons for assuming their existence, as we make clear:

"Jig-Văidoaia

3.32 This massif lies on the North side of the valley, overlooking the NW part of Roşia Montană village. The known underground workings here, visible in the rock face, were excavated by gunpowder with shot-holes, so are not earlier than the 17th century. These do not communicate with any Roman galleries, and no Roman galleries have yet been identified in this area. However, at Jig-Piciorag there is a Roman necropolis (with 34 cremation burials excavated) and a Roman ore-processing site on the slope above it, implying the existence of ancient mine galleries above this whose entrances remain undiscovered." (*Statement* pp. 42-43)

and again:

³⁴ Trigger 2007, 546.

“At Jig-Văidoaia the presence of ancient mines is implied by ore-processing areas high up the hillside; surely the miners were not carrying ore up the hill to process it, and even though no Roman mine galleries are known here they are to be expected, their entrances covered by later mining waste.” (*Statement* pp. 75)

12. “The Roşia Montană mines in the Austro-Hungarian period retains many unusual features¹⁴ (*Fallacy of insufficient sample: no mention is made in the WMD report of any other Austro-Hungarian mine including the medieval and later World Heritage Site of Banská Štiavnica – the leading mining centre of the Austro-Hungarian Empire. See Section 2.7 below*).”

We say “unusual”, not “unique”. The survival of wooden rails from the 18th century is indeed unusual. So too are the extremely large working chambers or ‘corandas’, not yet recorded in much detail. Jennings’ statement (p. 11) that because of later remodelling of some galleries “the objective of preserving a fully intact mining complex from the Austro-Hungarian period is compromised” is a red herring—we do not claim that there is a fully intact Austro-Hungarian mining complex surviving, merely a highly significant one.

The fact that technological development of mining was faster at Banská Štiavnica than it was in Roşia Montană is not incompatible with our claim, and misses the point.³⁵ (Jennings is actually incorrect to state that gunpowder was first used in underground mining at Banská Štiavnica; there is evidence for its use at Le Thillot in the Vosges in 1617, 10 years before its use at Banská Štiavnica in 1627.³⁶) If one could date the earliest galleries opened with gunpowder at Roşia Montană that would add an important piece to the puzzle of how fast and under what circumstances the use of gunpowder in mining spread. Transylvania was incorporated into the Habsburg dominions only in 1690/1; was it before or after this that the use of gunpowder appears at Roşia Montană? What is important, and still to be undertaken, is a closer analysis of the chronology and technology of the early modern workings at Roşia Montană in order to trace the consequences for mining at Roşia Montană of the region’s incorporation into the Habsburg dominions and later the Austro-Hungarian empire (1868). We are explicit in our statements that much more work needs to be done on recording, dating, and understanding the sequence of development of these 17th–19th-

³⁵ Nonetheless, despite Jennings’ comments about the relative technical development of Banská Štiavnica, we note that RMGC’s own heritage Management Plan points out that “The high technical level of the exploitation at Roşia was recognized at an international level during the World Industrial Exhibition in 1856.” (Rosia Montana Gold Corporation 2006, 21)

³⁶ Pierre 1993; 2008, 45–7.

century works, and on the mining landscape of this period in its totality (*Statement* pp. 14–15, 46–48, 63–65).

Jennings' critique in section 2.7 of his document misleadingly conflates early modern (Austro-Hungarian) and interwar mining where he writes (p. 11):

"The most developed underground network of mines within the Apuseni Mountains was to be found at Brad, with the Victor gallery from the Ruda mine (together with the works from the Victor level [+348 m]) constituting more than 22 km of works and being noted by Ghitulescu and Socolescu as the most developed and important gallery from Apuseni Mountains⁵⁵. The claim for the unusual size and significance of the Roşia Montană mine at the level of the Austro-Hungarian Empire cannot be sustained."

Yet, in point of fact, the Victor gallery formed the main entrance of the mine of the Soc. Mica mining company, which was established in 1920.³⁷ This gallery and its associated extensive works belongs to the inter-war years, not to the Austro-Hungarian period (the Austro-Hungarian empire was dissolved in 1918).

4. CONSERVATION PRACTICE

4.1 Outstanding universal value and world heritage site (Jennings 2013, 11, Section 3)

Jennings' report appears to equate our *Statement of Significance* with an application for World Heritage Status. This ignores the Introduction to our report which explains (*Statement of Significance*, p. 18), "the purpose of the report is to inform ... decision-making with regard to the potential [heritage] impact of further mining on the Roman mine workings and other mining heritage at Roşia Montană." The remainder of Section 1 of our report (pp. 18-24) explains clearly what a Statement of Significance is and what criteria we use for evaluating significance. We make a comparison with the criteria used for World Heritage Status to show what we mean by "of outstanding international significance". The Jennings report also ignores the explanatory text both on p. 19 and in Appendix 3 which situates the report in the context of informed conservation in which "The statement is part of 'a logical progression from understanding the history and fabric of the heritage asset, into an explicit assessment of the significance, and from there, directly into

³⁷ Ghitulescu and Socolescu 1941, 395; Baron 2011.

the formulation of policies for retaining that significance”, citing Clark’s 1998 commentary. Jennings’ report further ignores the explanatory text of Appendix 3 which illustrates a variety of examples and formats in which the Statement of Significance has been employed.

As the *Operational Guidelines for the **Implementation** of the World Heritage Convention*³⁸ make clear, the users of such Guidelines are State Parties. An application for World Heritage Status can only be made by a nation state. Treating the *Statement of Significance* as an application for World Heritage Inscription, therefore, establishes a false equivalence which the Jennings report proceeds to exploit arguing that Roşia Montană does not satisfy the conditions of Integrity.

4.2 Integrity (Jennings 2013, 12, Section 3.1)

Jennings usefully outlines the processes leading to WHS inscription:

- a) includes all elements necessary to express its outstanding universal value;
- b) is of adequate size to ensure the complete representation of the features and processes which convey the property’s significance;
- c) suffers from adverse effects of development and/or neglect.

In considering points a) and b), Jennings’ report summarises the fragmentary nature of the 4 km of Roman mine galleries, arguing that at no point can we examine a fully intact settlement with occupation, ore processing, religious sites and associated cemetery. This constitutes a false dichotomy as the criteria for **Integrity** requires “all elements necessary to express its outstanding universal value’ and ‘adequate size to ensure the complete **representation** of the features and processes which convey the property’s significance”. Jennings’ argument that there is not an intact landscape misrepresents the accepted/implicit character and, understood, fragmentary nature of any archaeological record. As the *Statement of Significance* makes clear it is the palimpsest of mining evidence which suggest that Roşia Montană satisfies the criteria of Integrity:

“From the outset the authors had assumed that the *Statement of Significance* would focus, as has the work of Roşia Montană Gold Corporation, principally on the Roman evidence. However, the site inspection above and below ground quickly

³⁸ *Operational Guidelines for the **Implementation** of the World Heritage Convention* 2013 I Introduction, IA the Operational Guidelines, Key Users 3

made it clear that Roşia Montană represents a landscape of probably unparalleled complexity, of great significance for the history of other periods too. In the Corna and Roşia Montană valleys and on the mountains of Cărnic, Cetatae, Carnichel and Jig-Văidoaia Roman, medieval, 18th- and 19th-century mining, together with the galleries and installations of the communist period have together created a unique palimpsest of exploitation." (*Statement*, summary p. 7 and paragraph 4.36, p. 67).

We furthermore make the point that the surviving remains are given added significance by their association with inscriptions and writing tablets which allow insights into the population of the area and the organisation of mine workings in Roman times (*Statement*, pp. 7, 25).

The Jennings report continues (pp. 12–14), arguing that Roşia Montană does not satisfy the criteria of Integrity because of the following effects of development and neglect, in particular:

- The area is unstable (and therefore difficult to conserve)
- Depopulation
- Investment is required
- Planning blight
- Communist period
- Lack of financial capacity
- State of historic buildings

Whilst these criteria are relevant to a State party in formulating an application for World Heritage Status they remain outside the remit of the *Statement of Significance* which focused on heritage value. However, recognising the absence of detailed analysis of these factors and the nature of any application for World Heritage Site status, the *Statement of Significance* consistently refers to the *potential* or equivalence of Roşia Montană to World Heritage status (see Preface p. 1 "potential to become..."; Executive Summary "Comparable to..." p. 7, "potential ..." p. 8, and in the text 2.9 "constitute a powerful case as of equivalence to World Heritage Status").

Jennings' commentary focuses attention on the importance of such factors to any decision making. The lack of cited references to any analysis or study suggests it remains to be undertaken.

4.3 *Inadequate comparative analysis* (Jennings 2013, 14, Section 3.2)

Jennings further argues that the absence of comparison with the Austro-Hungarian site at Banská Štiavnica is an omission which invalidates the report's inclusion of Austro-Hungarian elements within the heritage value of the site. Yet as the *Statement of Significance* acknowledges in the Preface:

"The report emphasises the significance of taking a landscape based approach to the heritage of the Roşia Montană region. It also highlights important periods for which the documentation is currently poor or non-existent, for instance, the transitions from pre-Roman Dacia to Roman province, from Roman Dacia to early medieval Transylvania, and later the high medieval and Austro-Hungarian periods." (*Statement* Preface, see also paragraphs 1.13, 2.7, 4.28, 4.44, 4.58).

From the RMGC literature available in 2010 (Popoiu 2010, *Statement of Significance* para. 4.44), it is clear that a proper analysis of the Austro-Hungarian period has yet to be carried out.

As we have explained above, Jennings' observation that the *Statement of Significance* is epistemologically insecure because there is only a limited database which does not allow us to make any judgement about Roşia Montană is unsustainable. Judgements of heritage value must be made on the basis of current knowledge.

Finally, given that Jennings insists that the incompleteness of the Roşia Montană landscape through the process of successive incidents of destructive mining reduces its heritage value, wider comparisons with other mining landscapes that have achieved World Heritage status are indeed instructive.

Including Banská Štiavnica (Slovakia), there are c. 15 current WHS designations with a primary focus on mining features, including, *inter alia*, Røros Mining Town (Norway), Cornwall and West Devon (UK), Historic Town of Guanajuato and Adjacent Mines (Mexico) and Las Medulas (Spain). These other UNESCO WHS mining landscapes share many of the same characteristics of palimpsest phases of exploitation and destructive process. They face similar issues of conservation and preservation, especially of underground features, nonetheless, they have been recognised as World Heritage Sites and have been successfully developed for sustainable tourism, bring employment and revenue to their regions.

4.4. *Inadequate understanding of the scope of the RMGC heritage programme* (Jennings 2013, 15, Section 4)

The remit of the *Statement of Significance* is made clear in the Preface and by illustration in the Appendices. It was to *rapidly assess the heritage value of the Cârnic massif at Roşia Montană*. Following the precepts of informed conservation, the report focussed on the heritage value of the available evidence in 2010. It is not helpful to argue that the purpose of the report should have been to assess the work of RMGC. Such a report had been written in 2009: *Roşia Montană Mining Project: Review of Environmental Statement regarding Archaeology Processes and Procedure* by Oxford Archaeology when Jennings was its director.³⁹

It is also important to note that Heritage Value is the starting point of an iterative process leading from potential to more detailed assessment and evaluation of evidence, survival, condition, mitigation and impact. It is a nested approach familiar from Environmental Impact Assessment and not limited to, or solely derived from, the World Heritage process. The *Statement of Significance* was an assessment of heritage value undertaken at a specific moment in time. It clearly benefitted from access to the work undertaken by archaeologists working on behalf of RMGC and, as the itinerary in Appendix 1 and the bibliography make clear, this information was supplied freely by RMGC at Roşia Montană. It is inappropriate to describe the *Statement of Significance* as having “used the exceptional realisation of the research potential derived from RMGC’s funding against the project” (Jennings Sec. 5, p. 18). Such information should be considered an accurate and, as far as possible, objective, record of archaeological evidence. Moreover, the research funded by RMGC was that necessary by law to enable an evaluation of the impact on the archaeological record of the proposed mining works; as is normal in developer-funded archaeology, the fact that the developer has to fund the work does not mean that the developer is thereby automatically entitled to proceed with development.

In the second paragraph Jennings concedes that the RMGC programme had shifted from a site-based approach to a landscape-oriented conservation plan in 2012, an approach promoted by the *Statement of Significance* in 2010.

The third paragraph is common ground and there is no suggestion that authors of the *Statement of Significance* questioned the professionalism of the RMGC team. Where the discrepancy really lies is in the value assigned to the historic environment by RMGC. The

³⁹ Welsh and Wain 2009.

difference between the RMGC assessment, evaluation and excavations and the *Statement of Significance* is clear. Whilst RMGC's work was focussed on facilitating gold mining, the *Statement of Significance* sought to provide an impartial and dispassionate opinion to aid in decision-making by the authorities.

Jennings is also critical of us (p. 15) for not referring to a number of documents that relate to additional aspects of work carried out at the behest of RMGC:

"Other documents like the inventory of Communist period machinery and equipment by Vialaron in 2006; the historic landscape surveys undertaken by Terrafirma; the GeoDesign and Forkers feasibility survey of the conservation costs associated with any proposals to conserve the Roman galleries in Cârnic do not seem to have been consulted."

Vialaron's report (2006; an inventory of Communist-era mining and ore-processing machinery) was not made available to us by RMGC. The GeoDesign and Forkers survey (Gifford, Geo-Design, and Forkers 2007) was consulted but it was our explicit brief to produce a Statement of Significance on the heritage value of the site, not to review the costs of presentation. We did of course read RMGC's Heritage Management Plan in which some of these issues were considered.⁴⁰

4.5 *Fundamentalist approach to conservation options* (Jennings 2013, 16, Section 5)

Jennings' key criticism of the *Statement of Significance* in section 5 is that it advocates preservation *in situ* and that this approach is not professionally sustainable. This judgement is based on his interpretation that the *Statement* uses 'the exceptional realisation of the research potential derived from RMGC's funding against the project' and has resulted from our inability to distinguish between historical research and conservation-led research. Such misrepresentation of the *Statement* is a familiar pattern in Jennings' criticism and he provides no evidence to support this contention. Furthermore the logical conclusion of Jennings' position would be the explicit exclusion of any information derived from RMGC's evaluation and recording when judging the significance of Roşia Montană; this is clearly untenable. Moreover, one should note that, as a developer, RMGC is obliged to fund such research as part of the pre-development evaluation programme; as with any pre-development research, there is no guarantee that the findings of that research would be to the developer's liking.

⁴⁰ Roşia Montană Gold Corporation 2006.

In misrepresenting the *Statement* as if it were part of a State-sponsored application for World Heritage Status, Jennings' implied criticism is misplaced and inaccurate. The detailed remit of the *Statement* is made clear in the Introduction where it is specifically focused on the archaeological evidence (para 1.10) and clearly excludes 'documentation related to the process of government review ... [which] ... plays no part in the Statement' (*Statement* para 1.11).

To justify his criticism Jennings outlines the processes to be undertaken by a nation State promoting the inscription of a World Heritage Site. In short this involves: a balance of public of benefit against harm (*Statement*, 5.3), that conservation strategies should be aligned with economic realities (5.5), that heritage does not have to remain inviolate (5.6), and that the state should ensure that excavation if permitted should be undertaken by suitably qualified persons (5.13). Yet none of these points are disputed by the *Statement*.

Similarly, Jennings' explanatory notes regarding the destructive nature of archaeological investigation (5.12), the preference of the Valletta Convention for preservation *in situ* (5.14) and the contribution towards the advancement of scientific understanding made by the RMGC's evaluation (5.17), although implied criticisms, are not disputed by the *Statement*.

Where the *Statement* specifically disagrees with Jennings is that we believe the heritage value of Roşia Montană equates to the status of a World Heritage Site. How preservation *in situ* is achieved is a matter for the State and requires further evaluation and conservation planning. This aspect of conservation was beyond the remit of the *Statement*, although the widening scope of research into mining landscapes and their presentation to the public was noted in para 1.21. The importance of the *Statement* is such that, now that it has been made public, it should form part of the evidence base of the Management Plan which RMGC is presently preparing.⁴¹ We note however that no *independent* report on the viability of developing an economy for the region based on cultural tourism, as an *alternative* to RMGC's mining project, has yet been commissioned or prepared. Such a study would need to be commissioned independently of RMGC.

⁴¹ The Management Plan in preparation is intended to replace that published in 2012: D. Jennings, 3rd December 2013, *pers. comm.*

5. CONCLUSIONS

Jennings' response to our *Statement of Significance* is a piece of work commissioned by RMGC with the specific purpose of criticising our report. It is not a balanced or impartial assessment. We detail above our reasons for rebutting his criticisms. The fact remains that Roşia Montană is the most extensive and most significant underground Roman gold mining complex currently known anywhere. This alone is sufficient to give it outstanding international significance. That significance is increased by association with an above-ground landscape of settlements, cemeteries, shrines and ore-processing sites, together with the discovery of wax tablets providing insights into the mining communities and the nature of mine labour and organisation. In addition, there are important mining remains from the early modern period (17th-19th centuries) which remain only scantily documented, and contain features such as wooden rails whose survival is certainly unusual. The surface landscape of early modern mining, with its header ponds for driving stamp mills, is also an important early industrial survival.

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