



**TC06996**

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**Appeal number: TC/2010/01716**

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*AGGREGATES LEVY – rock extracted from opencast gold mine – whether rock exempt from aggregates levy as consisting of “mainly shale or slate” – section 17(4) Finance Act 2001– related penalty –*

**FIRST-TIER TRIBUNAL  
TAX CHAMBER**

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**OMAGH MINERALS LIMITED**

**Appellant**

**- and -**

**THE COMMISSIONERS FOR HER MAJESTY’S  
REVENUE & CUSTOMS**

**Respondents**

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**TRIBUNAL: JUDGE GUY BRANNAN**

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**Sitting in public at The Royal Courts of Justice, Belfast on 1-3, March 2017, 10-12 January 2018 and 15-16 August 2018 with written submissions in September and October 2018**

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**Frank O’ Donoghue QC, instructed by Elliott Duffy Garrett, Solicitors, for the Appellant**

**Christopher McNall, Counsel, instructed by the General Counsel and Solicitor to HM Revenue and Customs, for the Respondents**

## DECISION

### Introduction

5 1. The Respondents ("HMRC") have assessed Omagh Minerals Limited ("the  
appellant") in the sum of £304,290 (plus interest of £4,454 and a penalty of  
£15,214.50) under Schedules 5 and 6 Finance Act 2001 ("FA 2001") in respect of  
alleged arrears of aggregates levy for periods 01/09 and 04/09. The assessment in  
question is dated 5 October 2009 (the assessment<sup>1</sup>). The appellant now appeals  
10 against the assessment and the penalty.

2. The appeal relates to rock removed from the appellant's opencast gold mine in  
2008 – 2009. Essentially, HMRC contends that the rock consisted of mica schist and  
vein quartz i.e. rock which is not exempt from aggregates levy under section 17(4) FA  
2001. The appellant, on the other hand, says that the rock consisted of "slate" within  
15 the exemption contained in section 17(4) and that, therefore, no liability to aggregates  
levy arose.

3. At the request of the parties, I delivered a preliminary decision<sup>1</sup> on 31 October  
2018 in relation to Article 6 of the European Convention on Human Rights and its  
applicability to this appeal ("the Article 6 Decision"). In that decision I concluded  
20 that:

- (1) the assessment did not engage Article 6;
- (2) the penalty was a "criminal charge" for the purposes of Article 6 of the  
Convention; and
- (3) Article 6 did not apply to the whole of the proceedings (i.e. to both the  
25 assessment and the penalty proceedings) but applied only to proceedings in  
relation to the penalty.

### The evidence

4. The following persons provided witness statements and oral evidence and were  
cross-examined.

30 5. On behalf of the appellant, those witnesses were:

- (1) Mr Nicholas Hardie, General Manager of the appellant (from  
approximately mid-2007 to August 2011);
- (2) Mr Roland Phelps, Managing Director of the appellant;

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<sup>1</sup> amended under Rule 37 of the Tribunal Procedure (First-tier Tribunal)(Tax Chamber) Rules  
2009. The original version of the decision was released prior to the third hearing of this appeal in  
August 2018.

(3) Mr Ronan Conway, Financial Controller/Deputy General Manager of the appellant; and

(4) Mr Rodger Wells, a geologist and director of a company called Ground Check Ltd, who gave expert evidence on behalf of the appellant

5 6. On behalf of HMRC, the witnesses were:

(1) Mr Andrew Thrower, an engineering geologist and employee of Capita Symonds Limited (“CSL”); and

(2) Professor Peter Doyle, an independent geological consultant, Visiting Professor in geology at University College London and a subcontractor of CSL, who gave expert evidence on rock samples provided to him by Mr Thrower.

10 7. In addition, I was provided with an agreed bundle of documents.

### **The hearing of this appeal**

8. The hearing of this appeal occurred in three stages. Mr Hardie, Mr Phelps and Mr Thrower gave evidence at the first hearing on 1-3 March 2017. Mr Wells also gave evidence in chief at that hearing. The hearing resumed on 10-12 January 2018 when it was anticipated that Mr Wells would be cross-examined. Unfortunately, however, because of the illness of a close relative, Mr Wells was unable to attend the resumed hearing. Therefore, Professor Doyle gave evidence and was cross-examined, out of sequence, at the second hearing. It was, therefore, necessary to hold a further hearing (on 15-16 August 2018) at which Mr Wells was finally cross-examined. Professor Doyle was recalled so that he could comment on the evidence given in cross-examination (and re-examination) by Mr Wells.

9. Shortly before the second hearing, HMRC produced a report written by the British Geological Survey (“the BGS report”) about the mine site at Cavanacaw. The BGS report contained comments on the percentages of psammite (a form of sandstone, which was not slate) and pelite rock (a description which includes slate and schist, see further below) at the mine. I was told that Mr Phelps was unaware of this document, although a copy had been sent by the author to Mr McFarlane, the appellant’s geologist. Mr O’Donoghue argued that the BGS report supported the appellant’s case (a claim denied by HMRC) and noted that the report had been sent to Mr Thrower. Mr Thrower, however, had not mentioned the BGS report in his evidence. Mr O’Donoghue therefore applied for Mr Thrower to be recalled and to submit himself to cross-examination in relation to the BGS report. I accepted this application (which was opposed by HMRC) and directed that Mr Thrower be recalled (at the third hearing – which was evidently necessary to hold in order to complete Mr Wells’ evidence) to be cross-examined in relation to the BGS report.

10. The appellant also applied to have two further witness statements made by Mr Phelps admitted into evidence. The second witness statement simply attached Ordnance Survey Aerial Photography Sheets showing the mine and which had been referred to at the first hearing. The photographs were taken in October 2009. I directed that this witness statement should be admitted. In relation to Mr Phelps’ third

witness statement I admitted the first three paragraphs of the statement but excluded the remainder which constituted a commentary in the nature of expert evidence – Mr Phelps was not an independent expert witness. In any event, I was satisfied that the excluded paragraphs could be dealt with in cross-examination of Mr Thrower or in submissions.

11. In order to use the time available at the second hearing as profitably as possible, in the unavoidable absence of Mr Wells, I directed that Professor Doyle should give evidence out of sequence but that he should also be given the opportunity to be recalled if required by HMRC to be examined and, if necessary cross-examined, on the issues arising out of Mr Wells’ cross-examination or from the Tribunal’s questions (if any).

12. At the third hearing, HMRC produced a third witness statement of Mr Thrower. I admitted the first 19 paragraphs of that witness statement but excluded the remaining paragraphs. I admitted certain exhibits, but excluded others. Finally, I directed that Mr Phelps could be recalled to give evidence in relation to the documents which had been admitted.

### **The Finance Act 2001 – aggregates levy provisions**

13. In very broad terms, aggregates levy is a tax on the commercial exploitation of sand, gravel and rock dug from the ground, dredged from the sea or imported into the UK. It was introduced by Part 2 of FA 2001 as an environmental tax to encourage the recycling of aggregates and the use of alternative material. Aggregates levy was charged, so far as relevant to this appeal, at a flat rate of £1.95 for every tonne of aggregate extracted.

14. As we shall see, from approximately 26 May 2008 until February 2009 the appellant permitted a local road contractor, PT McWilliams ("the Contractor"), to remove surplus rock, excavated from the mine, which was then used by the Contractor in road construction. Although the appellant was not paid by the Contractor for the rock so removed, it was common ground that this arrangement constituted the commercial exploitation of the rock for the purposes of the aggregates levy provisions of FA 2001. Thus, it was common ground that, if the rock removed from the gold mine by the Contractor was not exempt, the appellant was liable for the tax charged by the assessment.

15. Section 16 FA 2001 imposes the charge to tax, as follows:

“Charge to aggregates levy

(1) [A tax], to be known as aggregates levy, shall be charged in accordance with this Part on aggregate subjected to commercial exploitation.

(2) The charge to the levy shall arise whenever a quantity of taxable aggregate is subjected, on or after the commencement date, to commercial exploitation in the United Kingdom.

(3) The person charged with the levy arising on any occasion on a quantity of aggregate subjected to commercial exploitation shall be the person responsible for its being so subjected on that occasion.

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(4) The levy shall be charged at the rate of [£2] per tonne of aggregate subjected to commercial exploitation; and the amount of levy charged on a part of a tonne of aggregate shall be the proportionately reduced amount.

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(5) The levy shall be under the care and management of the Commissioners of Customs and Excise (in this Part referred to as “the Commissioners”).

(6)....”

16. Section 17 FA 2001 defines what is meant by “aggregate” and “taxable aggregate”, so far as material, as follows:

**“Meanings of “aggregate” and “taxable aggregate”**

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(1) In this Part “aggregate” means (subject to section 18 below) any rock, gravel or sand, together with whatever substances are for the time being incorporated in the rock, gravel or sand or naturally occur mixed with it.

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(2) For the purposes of this Part any quantity of aggregate is, in relation to any occasion on which it is subjected to commercial exploitation, a quantity of taxable aggregate *except to the extent that—*

(a) *it is exempt under this section;*

....” (Emphasis added)

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17. The relevant exemption at the centre of this appeal is contained in section 17(4) FA 2001:

“(4) For the purposes of this Part a quantity of any aggregate shall be taken to be a quantity of aggregate that is exempt under this section if it consists *wholly or mainly* of any one or more of the following, or is part of anything so consisting, namely—

30

(a) coal, lignite, *slate* or shale;

....” (Emphasis added)

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18. Again, it was common ground that the rock extracted from the appellant’s gold mine was not “coal”, “lignite” or “shale”. Therefore, the issue in this appeal was whether the rock removed by the Contractor was “wholly or mainly...slate”. It should be noted that there is no definition in the statute of the word “slate”. As we shall see, the appellant contended that what was removed by the Contractor was wholly or mainly slate, a conclusion with which HMRC disagreed.

19. As regards the penalty imposed on the appellant the relevant provisions are contained in paragraph 9 Schedule 6 FA 2001, as follows:

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**“Misdeclaration or neglect**

(1) Subject to sub-paragraphs (3) to (5) below, where for an accounting period—

5 (a) a return is made which understates a person's liability to aggregates levy or overstates his entitlement to any tax credit or repayment of aggregates levy, or

10 (b) at the end of the period of 30 days beginning on the date of the making of any assessment which understates a person's liability to aggregates levy, that person has not taken all such steps as are reasonable to draw the understatement to the attention of the Commissioners,

the person concerned shall be liable to a penalty equal to 5 per cent of the amount of the understatement of liability or (as the case may be) overstatement of entitlement.

(2) Where—

15 (a) a return for an accounting period—

(i) overstates or understates to any extent a person's liability to aggregates levy, or

20 (ii) understates or overstates to any extent his entitlement to any tax credits or repayments of aggregates levy,  
and

(b) that return is corrected—

(i) in such circumstances as may be prescribed by regulations made by the Commissioners, and

25 (ii) in accordance with such conditions as may be so prescribed,  
by a return for a later accounting period which understates or overstates, to the corresponding extent, any liability or entitlement for the later period,

30 it shall be assumed for the purposes of this paragraph that the statement made by each such return is a correct statement for the accounting period to which the return relates.

(3) Conduct falling within sub-paragraph (1) above shall not give rise to liability to a penalty under this paragraph if the person concerned provides the Commissioners with full information with respect to the inaccuracy concerned—

35 (a) at a time when he has no reason to believe that enquiries are being made by the Commissioners into his affairs, so far as they relate to aggregates levy; and

40 (b) in such form and manner as may be prescribed by regulations made by the Commissioners or specified by them in accordance with any such regulations.

(4) Conduct falling within sub-paragraph (1) above shall not give rise to liability to a penalty under this paragraph if the person concerned satisfies the Commissioners or, on appeal, an appeal tribunal that there is a reasonable excuse for his conduct.

(5) Where, by reason of conduct falling within sub-paragraph (1) above—

(a) a person is convicted of an offence (whether under this Act or otherwise), or

5 (b) a person is assessed to a penalty under paragraph 7 above,  
that person shall not by reason of that conduct be liable also to a penalty under this paragraph.”

## **The facts**

### *The Cavanacaw Mine*

10 20. The appellant owns approximately 180 acres of land at Cavanacaw Mine (“the mine” or the “gold mine”), Omagh, County Tyrone, Northern Ireland. The mine is an opencast gold mine. On 3 May 1995 planning permission was given to the appellant for an "Opencast pit for the extraction of gold and silver and associated minerals, with associated plant in storage."

15 21. The mine is one of the very few gold mines in the United Kingdom.

22. On 8 January 2002, HMRC wrote to the appellant confirming the appellant’s liability to register for aggregates levy. The letter noted that if the appellant used rock materials which it had extracted, aggregates levy could be due even though the appellant had not received a payment for the rock in question.

20 23. The appellant's mining operations required it to remove surrounding rock (which was referred to as "overburden") away from the seam which contained gold ore. In effect, the mine was a large pit or crater with the gold-bearing rock at the centre and bottom of the mine. The sides of the mine were layered by “shelves” or “steps” for safety purposes, giving the sides of the mine a terraced appearance. The  
25 gold-bearing rock is located in an almost vertical seam. It is extracted by ripping away the surrounding rock using mechanical excavators to expose the seam. The ore is then processed on-site at a processing plant, prior to the ore concentrate being sent to Canada for further processing.

30 24. The rock removed was initially mainly retained on-site to enable subsequent restoration of the mining site. However, the appellant appreciated that there would a surplus of approximately 40% of the excavated overburden i.e. a surplus above and beyond that required to restore the site to its original condition.

### *Removal of rock by the Contractor*

35 25. As I have already explained, from approximately 26 May 2008 until February 2009, the appellant permitted the Contractor to remove surplus rock, excavated from the gold mine, which was then used in road construction. In this decision I shall refer to the rock so removed as “the rock”. During this period a very considerable quantity of rock was removed from the site of the mine by the Contractor. Over 8,200 truck-loads (with a payload of a maximum of 19 tonnes per truck), equating to

approximately 500,000 cubic meters of rock, were taken away from the mine by the Contractor. Mr Hardie relied on the information supplied by the Contractor as regards the number of truckloads of rock removed from the mine.

26. No samples of the contents of the Contractor's trucks were taken.

5 27. Initially, the Contractor removed the rock from a stockpile<sup>2</sup> at the mine site, consisting of rock which had been excavated by the appellant. However, the appellant later encouraged the Contractor to excavate the rock itself using mechanical diggers inside the pit.

#### *HMRC enquiry*

10 28. HMRC wrote to the appellant on 24 October 2008 i.e. whilst the Contractor was still removing rock from the mine. The letter referred to recent media coverage "of aggregate which has been taken from your extraction site by a local contractor for road construction." The letter concluded that the appellant should have been registered for aggregates levy "several months ago". The letter enclosed an  
15 application to register for aggregates levy.

29. On 31 October 2008, the appellant and the Contractor completed a joint application to enter into an aggregates levy credit agreement with the Department of the Environment.

20 30. In brief, from 1 April 2004 the aggregates levy credit scheme ("ALCS") provided an 80% credit from the aggregates levy to anyone who commercially exploited aggregates in Northern Ireland provided that the aggregate originated in Northern Island and the mine or quarry operator entered into an agreement with the Department of the Environment in Northern Ireland. Broadly speaking, these agreements set targets for improvement in environmental performance of the mine's  
25 operations. The agreements would also provide for monitoring by the Department of the Environment against agreed targets.

31. The application form required the applicants to indicate, by ticking the appropriate boxes, the types of minerals extracted from the site. In Box 6c ("Economic Minerals") it was indicated that "Metalliferous ores" would be extracted.  
30 In addition, Box 6f ("Metamorphic Rock") indicated that "Schist" would also be extracted (the relevant box was ticked). Box 6f also contained a box for "Slate", but this was left unticked. Although the contact at the appellant given on the form was Mr Nick Hardie, the appellant's General Manager (and a director of the appellant), the form was actually signed by Mr Ronan Conway on 30 October 2008. Mr Conway was  
35 the appellant's financial controller and an accountant by background. The form had been prepared by the Contractor, was signed by Mr Conway because at the time Mr Hardie was unavailable (although Mr Hardie had warned Mr Conway that the form

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<sup>2</sup> Mr Hardie's evidence was that there were four different stockpiles at the mine, some of which was set aside for remediation work. Mr Hardie confirmed that Mr Thrower had taken samples from the rock stockpile.



was “on its way”). Nonetheless, Mr Conway considered that it was relevant to his position as Financial Controller because it was an application to reduce any aggregates levy that could become payable. Mr Conway said that he did not tick the relevant box in respect of “Schist” because the form had been pre-prepared by the Contractor and this entry had already been made before the document was produced to him. He did not know that the entry was incorrect. He had simply accepted the advice from the Contractor’s representative and signed the form as prepared by them. Mr Conway said that he had very little knowledge of mineralogy.

32. Mr Conway said that, at around the time that he signed the form, there had been discussions between him and Mr Hardie concerning aggregates levy in which the opinion had been expressed that the rock being extracted by the Contractor was exempt and that, in any event, the Contractor would be liable for any duty payable.

33. When Mr Hardie was asked in cross-examination why the appellant had applied to enter into an aggregates levy credit agreement if he believed that the rock was exempt, Mr Hardie replied that he had been advised, by HMRC and the Contractor that this was what the appellant should do. Mr Hardie considered that the reference to “Schist” on the application form was an error because there were many different types of rock on the site.

34. Next, on 4 November 2008, two HMRC officers, Ms Crawley and Mr McCauley, attended the mine as previously arranged. The two officers met Mr Conway who explained to them that Mr Hardie was on leave. Mr Conway took the officers on a tour of the site during which he explained that the appellant had entered into an agreement with the Contractor whereby the Contractor was permitted to remove surplus rock arising from the appellant’s mining operations.

35. A further meeting was arranged for 18 November 2008. HMRC was again represented by Ms Crawley and Mr McCauley and, in addition, Mr Greene. The meeting was held at the offices of the Contractor. The Contractor was represented by Mr McWilliams and by Ms Stewart. Mr Hardie and Mr Conway represented the appellant. In addition, Mr Andrew Moag of Andrew Moag Consulting, who I believe was acting for the Contractor, was also present.

36. At the meeting, Mr McWilliams confirmed that the rock was being used as “granular fill” on the construction of the A5 road at Ballygawley. The Contractor had come to a verbal agreement with the appellant whereby the former would remove approximately 300 tonnes of rock per day. According to Ms Crawley’s note of the meeting, there was a discussion about the potential liability to aggregates levy because “no one was able to say conclusively that the aggregate is shale/mud rock.” The note records that HMRC gave Mr Hardie a registration form for aggregates levy. The note also records that it was proposed to test the rock using an independent geologist and that the appellant was to register for the aggregates levy with HMRC and for the ALCS. The note was not clear as to whether the appellant or the Contractor was proposing to test the rock.

37. On 18 November 2008, the appellant applied for registration in respect of aggregates levy. The application form was signed by Mr Hardie. In addition to being the appellant's General Manager, Mr Hardie was an experienced mining engineer, although not a geologist.

5 38. On 22 January 2009, HMRC received the appellant's aggregates levy return for the period 26/05/08 to 31/01/09, signed by Mr Hardie and dated in which

*Ground Check Ltd's first report –23 February 2009*

39. In the event, the Contractor instructed Ground Check Ltd ("GCL"), a firm of site investigation specialists based in Northern Ireland, to carry out an assessment of rock samples delivered to GCL's offices by an employee of the Contractor, although the actual rock samples had been selected by the appellant's geologist, Mr James McFarlane, as being representative of the material removed by the Contractor. It should be noted that GCL did not themselves take a sample of the rocks from the mine. Two bags of samples were delivered to GCL by the Contractor. The examination of the samples provided by the Contractor was carried out by Mr Rodger Wells, an engineering geologist and a director of GCL. GCL reported its conclusions in a letter dated 23 February 2009 stating that the rock material was a combination of shale and slate and was therefore exempt from aggregates levy.

40. In his 23 February 2009 letter, Mr Wells referred to the Geology Map for Omagh (sheet 33) which indicated that the location of the mine was underlain by metamorphic rocks which belonged to the Mullaghcarn Formation, of the Southern Highland Group (Upper Dalradian). The letter continued:

25 "The strata are composed of a succession of schistose semi-pelitic (metamorphosed siltstone) and pelites (metamorphosed mudstone); which exhibit a slaty cleavage (foliation).

**"Rock Classification**

The rock samples were consistent with the geological mapping of the Cavanacaw region and the stratigraphy of the Mullaghcarn Formation, and comprised of the following materials:

- 30
- PELITE: Weak to moderately weak, pale grey, fine-grained argillaceous, slightly weathered, schistose PELITE (Shale)
  - SEMI-PELITE: Weak to moderately weak, medium grey, fine to medium grained argillaceous, slightly weathered, schistose SEMI-PELITE (Slate)

35 The structure of both of the above samples exhibits a thinly laminated schistose foliation (cleavage) that is defined by horizontally aligned biotite mica minerals; this causes the rock to split into thin flakes along the penetrative cleavage planes, where the samples can be broken/crushed under light to moderate hand pressure.

40 **Aggregate Levy Classification**

The rock is therefore classified as exempt from the Aggregate Levy Tax under the terms of Section 3.2 (a) of the Aggregates Levy Notice (AGL 1); where the strata are classified as shale/slate type rock.”

41. I shall consider Mr Wells’ evidence in more detail, but for the time being I shall  
5 simply note that, in his oral evidence, Mr Wells explained his reference to  
“horizontally aligned biotite mica minerals” by stating that mica minerals occurred in  
slate and “squashed” together, causing the rock to split. This tendency to split was  
referred to as “schistosity.”

42. Furthermore, Mr Wells explained that his reference to “Shale” in the first bullet  
10 point in relation to “PELITE” was a mistake and should have been a reference to  
slate. He said that he had misinterpreted the material provided to him. The sample was  
delivered to him consisted of dark fine-grained fissile rock, which cleaved easily – he  
had been confused. Mr Wells considered that, today, there was no shale in the mine  
pit, although this seemed to contradict Mr Phelps’ later assertion that 30% of the 70%  
15 of pelite rock was shale.

*HMRC visits the mine on 12 March 2009*

43. The appellant’s aggregates levy return for the period 4 August 2008 to 31  
January 2009 was due on 28 February 2009 and contained a “received” date which  
was indistinct. The return was dated by Mr Hardie on 13 March 2009. For  
20 completeness, I should add that the appellant’s return for the period 1 February 2009  
to 30 April 2009 was dated 27 April 2009 and was marked as received on the same  
day by HMRC. Both returns recorded a nil figure for the levy due for the period. The  
returns respectively recorded the amount of exempt aggregates commercially  
exploited in the period as being 152,342 tonnes and 3705 tonnes.

44. Mr McCauley wrote to the appellant on 20 February 2009 and arranged a  
25 meeting at the mine on 12 March 2009, describing the purpose of the visit as “an  
Aggregate Levy education event” and an opportunity to confirm the registration  
details. Mr McCauley noted that the appellant had indicated that geologists had tested  
the rock exploited from the mine and determined it to be exempt. Mr McCauley  
30 requested a copy of the report.

45. Mr McCauley’s note of the meeting records that he and his colleague, Mr  
Clements, met Mr Hardie on 12 March 2009. Mr McCauley’s note recorded that the  
appellant sought registration following the 4 November meeting but expected that the  
rock may qualify for exemption. He also recorded that the appellant had applied for  
35 an aggregates levy credit agreement by way of a safeguard, should the rock be  
deemed taxable. Mr McCauley’s note also stated, as I have already indicated, that the  
appellant’s geologist, Mr James McFarlane, had selected what he considered to be a  
representative sample of the material removed by the Contractor and that this had  
been taken to GCL for examination. Mr Hardie provided Mr McCauley with a copy of  
40 GCL’s report (i.e. Mr Wells’ letter of 23 February 2009) and Mr McCauley noted that  
GCL had concluded that the rock was exempt as being shale or slate.

46. The following day, 13 March 2009, Mr Hardie sent a letter to Mr McCauley. The letter stated that, as regards the classification of the rock, the rock samples examined by GCL were representative samples selected by Mr McFarlane, the appellant's geologist. Mr Hardie reported that Mr McFarlane had examined the rock  
5 against the definitions in HMRC's Aggregates Levy Handbook and provided the following assessment:

**“Cavanacaw Country Rock Descriptions for Aggregate Levy Exemption**

10 Country (waste) rock at Cavanacaw can be classified as exempt from aggregate Levy tax as it conforms to the BGS descriptions in section 20 of the Aggregates Levy Notice (AGL 1) of applicable exempt rocks outlined in section 3.2 of the same notice.

15 Rocks at the site can be classed as shales and slates due to their lithological properties that conform to the specified BGS descriptions. These shales and slates are interbedded in various thicknesses varying from a few centimetres to several metres and all have a gently undulating north-westerly dip.

– Shales according to section 20.3.3

20 The shales comprise predominantly of fine quartz and the clay mineral muscovite (also in its finer form sericite) with varying levels of chlorite as an accessory. The proportions of these minerals vary in different bands of the rock which are generally less than a centimetre thick, with some being more quartz, chlorite or mica rich. The colour of the shales therefore varies between grey and a light green depending on the mineralogy.  
25

30 These rocks are a product of compaction and alteration through diagenetic processes caused by burial and can be easily split into thin flakes along cleavage either by a knife or in places by hand. A knife blade is also able to scratch these rocks and produce a pale grey powder due to the high content of weakly cemented muscovite and sericite.

– Slates according to section 20.3.4

35 The slates on site are composed of fine quartz and the clay mineral muscovite (also in its finer form sericite) with varying levels of chlorite as an accessory. The colour of the slates varies from a light to very dark grey and occasionally has a green hue depending on the mineralogy. Pyrite can often be found disseminated through these slate layers. A single, well-defined, cleavage is present that is a product of the metamorphic alteration of the rock and can be split along this plane  
40 with a hammer and chisel. The rock is much tougher than the shales present on site and they need to be broken with a hammer, although scratching the surface with a knife will produce a pale grey powder.”

47. Mr McCauley wrote to Mr Hardie on 20 March 2009, following the “education event” meeting on 12 March 2009. In that letter, Mr McCauley referred to the  
45 geological analysis of:

“...the aggregate which you deemed to be representative of that removed by PT McWilliams from your site – as referred to in Ground Check Ltd’s letter dated the 23rd February and your further letter of 13 March 2009.”

5 48. I should note that neither of the two letters to which Mr McCauley referred indicated that the Contractor removed the rock samples which were analysed by GCL. Mr Hardie’s letter of 13 March specifically stated (consistent with Mr McCauley’s notes of the meeting of 12 March) that the rock samples were selected by Mr McFarlane, the appellant’s geologist and not by the Contractor. Mr Wells’ witness  
10 statement did, however, state that the samples had been taken by the Contractor from the mine and also stated that the samples had been delivered to Mr Wells at GCL’s offices by the Contractor. I conclude that the rock samples provided to Mr Wells were selected by Mr McFarlane.

15 49. Mr McFarlane did not give evidence. He had left the appellant’s employment and the appellant said that it had lost contact with him.

*HMRC return to the mine with Capita Symonds Limited*

20 50. Mr McCauley’s letter of 20 March 2009 also indicated that HMRC were considering whether to undertake an independent test of the rock at the mine. Consequently, on 28 May 2009, Mr McCauley wrote to Mr Hardie indicating that HMRC did indeed wish to carry out an independent geological test. This was followed by an email from Mr McCauley to Mr Hardie on 1 July 2009 confirming that the geological testing visit would take place in the morning of 28 July. In that email, as in his letter of 28 May 2009, Mr McCauley noted that he wanted to test rock which was “representative of that removed earlier and declared on your aggregate  
25 [sic] levy returns to date....”

30 51. Accordingly, on 28 July 2009 Mr McCauley, accompanied by Ms Trimble (HMRC) and Mr Andrew Thrower (a geologist employed by CSL), attended the mine and met Mr Hardie and Mr McFarlane. This was the first time that Mr Thrower had taken a rock sample at a mine but he had taken samples from other sites such as quarries approximately six times.

35 52. According to Mr McCauley’s note of the visit, Mr Hardie and Mr McFarlane showed their visitors around the site and Mr Hardie indicated the stockpiles of rock which he considered to be representative of that removed by the Contractor and also the area of the site where the Contractor had been extracting the rock. Mr McCauley records that it was agreed that Mr Thrower would sample the rock in these areas and that a Sampling Agreement was subsequently signed by Mr Thrower, Mr Hardie and Mr McCauley.

40 53. This Sampling Agreement was dated 28 July 2007. As regards the location of the samples, the Sampling Agreement stated (apparently in Mr Thrower’s handwriting): “Took 4×Approx 15 kg bulk disturbed samples. Taken NE corner of stockpile”.

54. The Sampling Agreement stated:

5 “This agreement is to certify that the parties named below agree that the samples named above, were sampled representatively from the stockpile(s) identified by the operator, for laboratory examination to BS 812 Part 104 to determine the composition of the aggregate exploited. HMRC may assess for Aggregates Levy if appropriate based on this analysis of the samples taken.”

55. It is evident that Mr Hardie read the Sampling Agreement because he corrected the description of the site which referred to a “quarry” and inserted the word “mine”.  
10 Mr Hardie confirmed that he had made this amendment.

56. Mr Hardie said that he considered that the sampling visit by HMRC was merely a bureaucratic exercise undertaken in order to complete the appellant’s registration for aggregates levy. On the basis of the previous GCL report commissioned by the Contractor and the opinion of Mr McFarlane, Mr Hardie believed that the rock was  
15 exempt from aggregates levy. Even if the rock had not been exempt, Mr Hardie, as I shall explain, believed that the Contractor had undertaken to be responsible for any liability to aggregates levy.

57. Mr Hardie was not familiar with BS 812 Part 104 – he said he was a mining engineer, not a geologist. He considered that the material removed by the Contractor  
20 was what he described as “bulkfill” – it was not a prepared product. Mr Hardie explained that “bulkfill” was simply used to fill in voids and spaces whereas an aggregate was a construction material. Sand or gravel would not need processing but other aggregates needed to be crushed and screened. The Contractor had not removed processed aggregates from the mine.

25 58. Mr Thrower, in his witness statement, stated that Mr Hardie had informed those present at the meeting on 28 July that the Contractor was removing “extracted Mica-Schist” material from the “Rock and Till Stockpile”<sup>3</sup>. In his oral evidence, however, Mr Thrower corrected his witness statement and accepted that Mr Hardie had not referred to “Mica-Schist”. Moreover, in his oral evidence Mr Hardie considered Mr  
30 Thrower to have been incorrect to refer to the “Rock and Till Stockpile”. Mr Hardie stated, and I accept, that there were four stockpiles. The first stockpile was mainly comprised of peat and the second stockpile was comprised of glacial till (clay). The materials in both of these stockpiles were retained for eventual remediation work. In addition, the third stockpile contained low-grade rock from immediately beside the  
35 vein and the fourth stockpile was the rock stockpile from which the Contractor removed the rock and from which Mr Thrower took his samples.

59. Mr Thrower, accompanied by Mr McFarlane, collected the rock samples from the rock stockpile. He used a shovel to collect the samples and, as already indicated, he collected four sacks (each weighing approximately 10 to 15 kg) comprising bulk  
40 disturbed samples of material from the stockpile. He cleared the surface material (to

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<sup>3</sup> "Till" was clay which was set aside for eventual remediation work. Professor Doyle confirmed that there was no till in the sample he examined.

an approximate depth of 200 mm) before taking the samples from different places evenly distributed across the face of the stockpile. Mr Thrower estimated that he took 5-7 increments per sack. Neither Mr Hardie nor Mr McFarlane raised any concerns about the sampling process, although Mr Hardie was not present when the actual  
5 sampling took place<sup>4</sup> – only Mr McFarlane accompanied Mr Thrower. Mr Thrower and Mr McFarlane took about 20 minutes to collect the rock samples.

60. Mr Thrower put the samples in bags, cable-tied them closed and attached labels giving the day and weight of the sample. The labels were not retained and Mr Thrower had no record of the information contained on the labels.

10 61. In cross-examination, Mr Hardie accepted that the rock in the fourth stockpile from which Mr Thrower had taken his samples was representative of the rock dug from the pit and removed by the Contractor, as a whole. It was only in 2012, after the appellant had received HMRC's assessment to aggregates levy, that Mr Hardie became aware of Mr Phelps' view that the stockpile from which Mr Thrower had  
15 taken his samples was not representative of the rock removed by the Contractor.

62. I consider Mr Hardie's opinion to be important. He lived at the mine and supervised and directed where digging should take place. He had a much greater day-to-day involvement in excavation operations than Mr Phelps, who only visited the mine every month or so. Mr Hardie confirmed that he was present at the mine  
20 throughout the period May 2008 to February 2009 i.e. the period during which the Contractor removed the rock. If anyone knew whether the rock stockpile from which Mr Thrower took his rock samples was representative of the rock removed by the Contractor it was Mr Hardie.

63. Mr Hardie also accepted that although he referred in his witness statement to  
25 being "required" to sign the Sampling Agreement, he had not in fact been forced to do so by HMRC.

#### *HMRC's decision and assessment*

64. The Report was received by HMRC on 14 September 2009. Mr McCauley then wrote to Mr Hardie on 24 September 2009, enclosing a copy of the Report and  
30 advised him that HMRC would be raising an assessment for £304,290 based on the exempt tonnage figure declared on the appellant's 01/09 and 04/09 returns, being 152,342 tonnes and 3,705 tonnes respectively at the (then) rate of £1.95 per tonne.

65. On 22 October 2009, the appellant's solicitors requested a review of Mr McCauley's decision which was undertaken by Mr Allan Donnachie, an HMRC  
35 Appeals and Review Officer. In a letter dated 7 December 2009, Mr Donnachie upheld Mr McCauley's decision on the basis of the findings of the Report.

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<sup>4</sup> He remained in his office on the site.

66. Meanwhile, an assessment in the total amount of £323,958.50 (which included tax, interest and an under-declaration penalty) was issued by HMRC on 5 October 2009. It is against this assessment that the appellant now appeals.

5 67. Mr Hardie wrote to Mr McCauley on 18 December 2009 noting that in paragraphs 1. and 6.28 of the Report it was stated that the samples were taken from the “rock and till stockpile”. Mr Hardie pointed out that the samples were taken solely from the rock part of the stockpile. No samples of, peat and soil were examined or sampled by Mr Thrower. Mr Hardie suggested that this was a “fundamental flaw” in the Report. However, Mr Hardie’s evidence was that there were several stockpiles at  
10 the mine, including those in respect of peat and soil which were being retained for restoration of the mine. At the hearing it was not suggested that Mr Thrower took samples from the wrong stockpile.

*The Contractor goes into administration – October 2011*

15 68. The Contractor went into administration on 4 October 2011. This was significant because the evidence of Mr Hardie, which is consistent with contemporaneous documents, was that the Contractor had agreed to bear any aggregates levy liability which was found to be due. Although the Contractor, through its solicitors, denied agreeing to such a liability it was my view that it was more likely than not that the Contractor had agreed to be liable.

20 *The Capita Symonds Ltd Report*

69. Mr Thrower transported the samples of rock he had collected by car and said that he delivered them the following day to Professor Peter Doyle, a subcontractor of CSL, for petrographic analysis. Professor Doyle’s evidence was that the samples were delivered on 8 August 2009. It appears that Professor Doyle was away on holiday  
25 when Mr Thrower delivered the rock samples, probably on 29 July 2009. The samples were left by Professor Doyle’s back door for several days, in four labelled bags until the Professor returned.

70. Professor Doyle’s role was to analyse the rock samples provided to him. He did not visit the mine.

30 71. The results of Professor Doyle's analysis were contained in the CSL report (“the Report”), dated 25 August 2009, prepared by Mr Thrower and which described his visit to the mine and the sampling process.

72. Paragraph 1.1 of the Report stated that the purpose of CSL’s assessment was

35 “to ascertain if material identified in specific mutually agreed areas on site at the mine was eligible for exemption from the Aggregates Levy on the basis of geological analysis.”

73. In the Report, Mr Thrower stated that he had walked round the site during his visit to develop an overview of the geological setting of the mine and, where necessary, to obtain and reference samples of the strata identified in the rock faces



prior to sampling the rock from the stockpile. He took photographs and made sketches during this inspection of the mine. Mr Thrower explained in the Report that he had undertaken this walk around the mine in order to ensure that the samples to be tested were representative of the material being assessed and to provide a context for the results of the laboratory analysis.

74. The Report noted that field observations of the strata exposed in the East and West faces of the mine confirmed the stratigraphy of the mine, comprising psammitic and pelitic rock formations. I should explain that it was common ground that psammitic rock did not constitute slate (still less, shale). Mr Thrower noted that the strata comprised:

“massively bedded metamorphosed sandstone layers (psammite) up to 0.50 m in thickness, interbedded with more thinly bedded metamorphosed silts and shales (pelite) up to around 0.20 m in thickness. The proportion of psammite to pelite appears to be approximately 70% to 30% respectively throughout the sequence.”

75. Mr Thrower stated that he obtained hand specimens from the East and West faces of the mine in order to make a comparison with the stockpiled materials and to verify the provenance of the material from the mine workings.

76. On the basis of his examination of the geological setting and his walking inspection of the mine, Mr Thrower noted in the Report that the provenance of the stockpiled material sampled and analysed was considered to be satisfactorily confirmed as being from the working of the mine. The Report also stated that the specific sampling location from the stockpile was proposed by CSL and this location was agreed on with the appellant’s representatives and HMRC.

77. In particular, the Report stated that the appellant had identified the stockpile to the west of the mine site. Mr Thrower took his bulk disturbed samples from this stockpile.

78. The Report concluded that petrographic analysis by Professor Doyle determined that the sample of the stockpile consisted predominantly 84.85% of coarse fragments ( $\geq 5$  mm in size), consisting of a mixture of mica schist and vein quartz. The remaining 15.15% consisting of fine aggregate (less than 5 mm in size). The Report stated that these results were consistent with the field observations made during Mr Thrower’s site visit.

79. It was common ground that mica schist and vein quartz are rocks which are not exempt from the aggregate levy – they are not “slate”.

80. In more detail, mica schist was described in the Report as:

“Fine-grained metamorphic rock, demonstrating fabric known as schistosity, comprising laminae of muscovite mica (two chloride altered to chlorite in places) alternating with laminae of interlocking quartz grains. Grain size varies from 0.1 – 1.0 mm, the larger part

being finer grained. The mineral content is as follows: Quartz 55%,  
Muscovite mica 40%, Chlorite 4% and accessory minerals 1%.”

81. Vein quartz was described as:

5 “Quartz derived from veins, comprising interlocking crystals of quartz  
with some subsidiary materials and opaques (vein minerals): Quartz  
98%, Opaques and subsidiary minerals 2%.”

82. In the Report, Mr Thrower stated:

“Sampling was carried out using procedures in accordance with BS  
812 part 102 (Testing Aggregates: Methods for sampling).”

10 83. Professor Doyle's witness statement, however, stated as follows:

15 "5. On 28 July 2009 I was instructed by Capita Symonds to carry out an  
analysis of an aggregate sample to be collected by them from Cavanacaw  
Mine, Omagh, Tyrone, Northern Ireland, with a view to identifying the  
lithologies (rock types) within the sample supplied and determining the  
percentage of each in accordance with BS 812: part 104, which is the relevant  
standard for lithological analysis. The sample was delivered to my premises  
on 8 August 2009, and comprised four bulk aggregate bags stated to be  
approximately 15 kg each. The actual mass of the sample was 51.2 kg. BS  
20 812: part 104 recommends minimum sample sizes of laboratory samples  
according to maximum particle size contained within them. It specifies that  
the minimum mass for aggregates samples with particle sizes of 40.0 mm be  
100 kg. The sample supplied by Capita Symonds Ltd was less than that  
recommended by this standard, but given the dominance of a single lithology  
in the sample it is unlikely that a greater mass would materially affect the  
outcome of the analysis.

...

30 8. The coarse fraction of the sample was therefore found to comprise 100%  
mica schist or vein quartz.... With no other lithologies present, it is reasonable  
to assume that the fines are also composed of fine fragments of either mica  
schist or quartz, and in my opinion the sample therefore comprises 100% non-  
exempt lithologies. Though the mass of the sample supplied by Capita  
Symonds was less than the minimum specified by BS 812:104, it is unlikely  
that this would materially affect the outcome of the analysis, given the  
dominance of non-exempt lithologies."

35 84. I have reviewed BS 812:104 and, as Professor Doyle states, it recommends that  
the sample size for maximum particle sizes of 40.0 mm should be 100 kg. The  
sampling carried out by Mr Thrower did not therefore comply with BS 812:104. Mr  
Thrower believed that there had been a telephone call with Professor Doyle to discuss  
this issue. Mr Thrower believed that he had also discussed this issue with his line-  
40 managers, Mr Patrick Cox and Dr Alan Thompson (who had reviewed Mr Thrower's  
report before its release). Mr Thrower also believed that he had had email  
correspondence with Professor Doyle on this issue, but the emails were not exhibited  
to his witness statements and could not subsequently be found.

45 85. I should also observe that in Appendix 2 to the Report, Professor Doyle set out  
detailed descriptions of the mudrock classifications used in the Report. As regards  
“Slate”, this was described as: “a mudrock (often referred to as “pelite”) which has

undergone metamorphism to create a strongly cleaved rock in which the cleavage planes are pervasively developed throughout the rock (Stow, 1981; Yardley, 1989).”

5 86. Finally, the Report referred to the hand specimens obtained by Mr Thrower during his visit to the mine. The hand specimens were taken from the east face of the mine and compared to the samples taken from the rock stockpile. These hand samples were not provided to Professor Doyle. Mr Thrower referred to these specimens as follows:

| <b>Sample No.</b> | <b>Hand Specimen Description</b>  | <b>Rock type</b>                   |
|-------------------|---|------------------------------------|
| East Face 1       | Fine-grained (up to and less than 1 mm) white and greenish grey metamorphic rock, comprising fine mm scale moderately distinct laminations of quartz and mica with occasional larger elongate crystals of feldspar up to 1 cm in length. Mineral proportions are not possible to identify in hand specimen. Sample clearly shows a schistose fabric associated with interbedded layers of muscovite mica. | Mica-Schist (Semi-Pelite)          |
| West Face 1       | Fine-grained white and greenish grey metamorphic rock, comprising indistinct fine mm scale laminations of quartz and mica. Frequent iron straining (Haematite) on weathered surfaces. Abundant mica crystals on laminations surfaces and frequent fine mm scale quartz veins. Sample shows an indistinct schistose fabric and breaks into blocky fragments.   | Mica-Schist (Psammite/Semi-Pelite) |
| East Face 2       | Fine grained (up to and less than 1 mm) greenish grey metamorphic rock, comprising distinct fine mm scale laminations of mica. High proportion of micaceous minerals arising in soapy texture on laminations surfaces. Displays a distinct schistose fabric and can be broken under moderate hand pressure.   | Mica-Schist (Pelite)               |

10 87. The above table of hand specimen descriptions referred to photographs taken in respect of each of the three samples and which were appended to the Report.

*Ground Check Ltd's second report – November 2011*

88. In 2011 the appellant instructed Mr Wells of GCL to undertake a geological inspection of material arising from the mine. Mr Wells carried out a site visit on 20 October 2011 and he prepared an Aggregate Quality Assessment Report (“GCL

Report 2”) for the appellant dated 9 November 2011. Thus, Mr Wells’ visit took place almost two and a half years after the Contractor finished removing rock from the mine.

5 89. Mr Wells stated in GCL Report 2 that his engagement was “undertaken to examine the petrology of the country rocks that underlie the [mine] site and to assess the aggregate potential of the spoil (waste rock) that is removed from the open pit mining operations.” Mr Wells was aware that his assessment was to be used to determine whether the rock was exempt from aggregates levy.

10 90. Mr Wells undertook a “guided walk over” survey of the mine with the appellant’s supervising geologist (Ms Coulter) and the Mine Manager (whom Mr Wells did not identify).

15 91. Mr Wells examined the petrology, stratigraphy and physical properties of the different rock types. He did this in order to estimate the relative qualities of “competent rock and unsuitable materials”. Mr Wells also examined the apparent grading (i.e. particle size distribution) of the stockpiled materials. Mr Wells’ report stated that the in-situ strata were classified in accordance with BS EN ISO 146891:2003 and the BGS Rock Classification Scheme Research Report RR 99 – 02. The spoil (waste rock) material was classified in accordance with BS EN ISO 20 14688:2002. Mr Wells also examined rock core specimens which had been recovered from an inclined rotary borehole that had recently been drilled for exploration purposes.

25 92. The geological characteristics confirmed by Mr Wells’ walkover survey of the mine and inspection of the exposed strata in the walls of the pit were that the rocks represented a stratified sequence of low-grade metamorphic rocks. The characteristics of the sedimentary protolith were clearly recognisable in the upper layers of the pit and could be classified as “metamudstone/metasandstone” in accordance with the BGS Rock Classification Scheme. Mr Wells considered that the grade of metamorphism increased with depth and there was a gradual transition towards “pelite/semi-pelite and psammite” rock.

30 93. Mr Wells gave a geotechnical description of the characteristics of the site and the different rock types:

35 “The rocks represented a stratified sequence of low-grade metamorphic rocks; where the characteristics of the sedimentary protolith are clearly recognisable in the upper layers of the pit; where Rock descriptions can be prefixed with the term ‘METAMUDSTONE/METASANDSTONE’ in accordance with the BGS Rock Classification Scheme. The grade of metamorphism appears to increase with depth where there is a gradual modal transition towards ‘PELITE/SEMIPELITE and PSAMMITE’ rock. Due to the hazardous nature of the rock faces the metamudstone/pelite and metamudstone/psammite strata were described as an undifferentiated rock unit.

40

A geotechnical description of the different rock types is given below:

– Weak, dark grey becoming greenish grey, fine grained, slightly to moderately weathered, slaty METAMUDSTONE/schistose PELITE with very thinly to thinly laminated fissile slaty/foliation cleavage, with very smooth planar surfaces.

5                   – Moderately strong to strong, pale grey, fine to medium grained, slightly to moderately weathered, slaty METASANDSTONE/PSAMMITE with very thin to medium spaced foliation cleavage, with smooth planar surfaces.”

94. In contrast to Mr Thrower, Mr Wells, based on his inspection (from a distance)  
10 of the exposed rock face, noted that the stratigraphic sequence was dominated by alternating layers of metamudstone/pelite strata, which accounted for “approximately 70 – 80% of the succession, while beds and localised masses of metasandstone/psammite strata account for the remaining 20 - 30%”. Mr Wells did not take samples. In other words, Mr Wells’ evidence estimated the proportion of  
15 pelite to psammite strata as being broadly in inverse proportion to that estimated by Mr Thrower. Mr Phelps’ evidence as to the proportions of pelite and psammite strata was the same as that of Mr Wells.

95. Mr Wells also inspected core specimens which represented 56m deep sections  
20 through the rock. These core specimens recorded that the rock was, in Mr Wells’ opinion, predominantly composed of metamudstone/pelite rock with occasional bands of metasandstone/psammite. Mr Wells’ report continued:

25                   “The country rocks were formed under conditions of low to medium pressure and temperature. The metamudstone/pelite rocks were formed from the gradual metamorphism of clay rich mudstone rocks; which passed through a continual process involving the production of shales, metamudstone (slates) and pelites; which exhibit a slaty/schistose fabric that is formed by the alignment of platy phyllosilicate grains (micas). This fissile property causes the country rock to split into thin sheets.”

30 96. Mr Wells observed that as a result of the mining operations the alternating layers of the different types of rock that were broken out of the open pit became mixed during the excavation, loading and deposition in stockpiles. As a result the spoil (waste rock) represented a heterogeneous material, which exhibited a wide-  
35 ranging particle size – from fine (silt/clay) through to cobbles and occasional large boulders of competent meta-psammite that tended to break out in intact blocks ranging from 200 mm to 1 m diameter. Mr Wells observed that the majority of the spoil in the stockpiles was composed of disaggregated meta-pelite rock.

97. In Mr Wells’ opinion the material in the stockpiles comprised:

40                   “Poorly sorted (heterogeneous), slightly clayey to clayey/silty, Sandy (fine to coarse), angular (sharp-flaky to tabular) GRAVEL with many angular (sharp-flaky to tabular) metapelite and metapsammite cobbles and occasional (tabular to blocky) metapsammite boulders ranging from 200 mm to 1000 mm diameter.”

98. Mr Wells concluded that the stockpiled materials would not comply with the mixture and grading requirements specified for aggregates by Series 504 drainage stone or series 800 for road construction of Specification for Highway Works of the Manual of Contract Documents for Highway Works. He noted that the tendency of the weak schistose rock to split into thin platy/lenticular and sharp angular fragments was also undesirable for use in earthworks, as this may lead to the development of anisotropy within the fill. Mr Wells considered that these properties would be undesirable for use in geotechnical engineering, where the material would not be considered a suitable aggregate and that the physical properties of the schistose rock material would not comply with the durability tests required by Series 800. Mr Wells also considered that the stockpiled materials might also fail to comply with the acceptability criteria specified for use as general fill in Series 600 earthworks.

99. On the basis of the above, Mr Wells was of the opinion that the waste rock (spoil) would have no commercial or saleable value.

100. In his conclusions, Mr Wells stated that the dominantly metamudstone/pelite (and differentiated) rock could be exempted from aggregates levy on the basis that the majority of the strata have the characteristics of low-grade metamorphic slate rocks (such as shale and slate). All of those rocks were composed of phyllosilicate minerals that were found in the clay-rich mudstone rocks; and were formed under conditions of increasing compaction (pressure), temperature and mineral alteration. The metamudstone/pelite rocks were also characterised by a slaty/foliation cleavage, which caused the rock to split into thin sheets. This property also reflected the fissile nature of slate rocks, where cleavage planes were formed by very thin to thin laminations.

*Mr Phelps' evidence*

101. Mr Phelps was the managing director of the appellant and described himself as a geologist and a mining engineer. He held a combined studies degree in mining and geology from the University of Leeds and graduated in 1976. He had worked in the mining industry since he graduated.

102. Mr Phelps' evidence covered a number of geological matters and included a detailed critique of the CSL Report. Mr Phelps was not, however, an independent expert witness – he is the managing director of the appellant and therefore had a direct interest in the outcome of this appeal. Indeed, I formed the view, whilst listening to Mr Phelps' oral evidence, that his evidence, at times, was not dispassionate.

103. For example, Mr Phelps was cross-examined about the first GCL report in February 2009. He was asked whether he thought that Mr Wells' analysis (Mr Wells had not at that stage given evidence) was satisfactory. Mr Phelps said that he thought it was an accurate analysis of the rock types at the site. That was a conclusion which even Mr Wells did not seek to defend – he admitted that he had mistakenly identified some of the rocks as shale.

104. Moreover, there were a number of aspects in which I considered Mr Phelps' purported expert evidence to be incorrect. For example, in his witness statement Mr Phelps said that mica schist "in my opinion... [is] not truly a schist because [it has] not received sufficient metamorphism to become so." This statement was plainly  
5 contradicted by the evidence of Professor Doyle, which I accept, and, in my view, was simply incorrect.

105. Therefore, in relation to matters of expert opinion, I consider that Mr Phelps' evidence should be given considerably less weight than that of those other witnesses giving expert opinion evidence (Mr Wells, Mr Thrower and Professor Doyle).

10 106. Mr Phelps visited the mine on a frequent basis – sometimes as much as one week each month or sometimes for three days every six weeks. Generally, Mr Phelps believed that he visited the mine 8 to 10 times a year.

107. Mr Phelps considered that the sample removed by Mr Thrower was too small. Moreover, he criticised Mr Thrower's sampling technique. In Mr Phelps' view it was  
15 necessary to remove the surface material before taking a sample and it was necessary to take samples at varying depths in order to ensure that it represented the stockpile. If there was too much material then it was necessary to employ a technique known as "cone and quartering" in order to end up with a representative sample. This process involved laying the material out flat and then sectionalising it in order to end up with  
20 a resultant representative sample. This was a lengthy process and could not be completed in the approximately 20 minutes which Mr Hardy had described as the time period during which Mr Thrower's sample was taken. Moreover, it could not have been completed by the use of a shovel but would have required a mechanical excavator.

25 108. Mr Phelps criticised CSL's reliance on BS 812 Part 104, which he considered was written with processed material (i.e. material which had been crushed and screened, with larger pieces removed and recycled three crushing) in mind. The material removed from the mine by the Contractor was, according to Mr Phelps, unprocessed – it was dug up by an excavator and put in a truck or in the stockpile and  
30 then, in the latter case, removed from the stockpile.

109. Moreover, Mr Phelps' evidence was that most of the rock had been excavated by the Contractor directly from the mine, put into trucks and then driven away. Only a minority of the rock was removed from the rock stockpile. This was also consistent with the evidence of Mr Hardie, who indicated that less than 50% of the rock removed  
35 by the Contractor had been taken from the rock stockpile.

110. Mr Phelps also noted that the Contractor had directly excavated rock in the southern part of the mine where there was a greater proportion of fine-grained (pelite) materials, whereas in the northern part of the pit there was a greater percentage of sandstone. Furthermore, the coarser grained materials (psammite) were at greater  
40 depths and the Contractor was kept away from these beds because they were closer to the ore veins. Mr Phelps estimated the proportion of psammite to pelite to be 30% to

70% respectively. In other words, he agreed with the evidence of Mr Wells and disagreed with the evidence of Mr Thrower on this issue.

111. Later, in cross-examination, Mr Phelps indicated that 70% of the rock in the relevant part of the mine (i.e. rock which had been removed by the Contractor) was either shale or slate and that approximately 60 – 70% of the rock (i.e. rock which was either shale or slate) was actually slate.

112. Mr Phelps agreed that psammite was not slate or shale and was not exempt for the purposes of aggregates levy. He maintained, however, that slate was a pelite even though in the BGS Rock Classification Scheme (Volume 2) “Classification of metamorphic rocks” the terms “pelite” and “slate” appeared separately. Mr Phelps considered that metapelite (i.e. pelite that had been subject to metamorphosis) was slate and this was the relevant classification for the purposes of this appeal. Although it was not in the BGS classification, Mr Phelps considered that the term “meta-pelite” was in common usage.

113. Mr Phelps quoted from the SCMR (International Union for Geological Sciences (IUGS) Subcommittee on the Systematics of Metamorphic Rocks) (2007) this noted that in the English language, many geologists differentiated between a slate which is a fine-grained rock possessing a well-developed schistosity and a schist which was a medium-grained rock with good schistosity. The IUGS decided, however, to use the term “schist” to cover all rocks with a well-developed schistosity, including slates and phyllites. Thus, Mr Phelps contended that slate was schist but not all schist was slate. Mr Phelps also considered that mica was a material commonly found in slates.

114. Mr Phelps also noted that whilst Professor Doyle’s analysis referred to mica schist and quartz, quartz was not a lithology reported in the CSL field examination. Accordingly, the statement in the CSL Report that Professor Doyle’s results were consistent with the field observations made on the site visit on 28 July 2009 was not correct. Mr Phelps accepted that some quartz was present in the country rock (i.e. non-ore) found at the mine. This was, however, a very minor constituent and Mr Phelps estimated it to form less than 2% of the total amount of rock. Mr Phelps considered that the significant presence of quartz in the sample taken by Mr Thrower evidenced a sampling bias likely caused by particle segregation within the stockpile, due to the durability of the material. The stockpile was likely to degrade due to weathering and would change over time. It was, therefore, in Mr Phelps’ view necessary to “dig down” into the stockpile to obtain a representative sample.

115. In cross-examination, Mr Phelps was asked whether the first GCL report of 23 February 2009, in particular the sampling techniques, also exhibited all the deficiencies in respect of which Mr Phelps criticised the CSL Report. Mr Phelps replied that the purpose of the first GCL report was to examine the “rock suite” at the mine and that it fulfilled that purpose. Mr Phelps accepted that more weight should be placed on the GCL Report 2. In relation to the GCL Report 2, Mr Phelps did not accept that it too exhibited the deficiencies which he identified in the CSL Report. In preparing the GCL Report 2, Mr Wells was not applying the standards for processed materials. In any event, Mr Phelps considered that the observation of outcrops and



core samples was more relevant than samples taken from the stockpile (the latter had to be representative).

116. It was put to Mr Phelps that Mr Wells' conclusion in the GCL Report 2 was that the rock which he observed was unsuitable for construction, general infill material and for earthworks. Mr Phelps replied that the material removed by the Contractor was used for a very restricted application i.e. "bulkfill".

117. Mr Phelps disagreed with Mr Hardie's opinion that the stockpile was representative of the material removed by the Contractor. He commented that Mr Hardie was not a geologist and that he (Mr Phelps) had seen the rocks that were taken by the Contractor. Mr Phelps stated that stockpiles were dynamic and rocks were constantly added to the stockpiles. He noted that the appellant had added to the stockpiles from different places i.e. places that were different from those excavated by the Contractor. Mr Phelps considered that the rock stockpile from which Mr Thrower took his samples was unrepresentative of material taken by the Contractor because different proportions of strata were present when CSL took their samples. Mr Phelps considered that the core of the stockpile had not changed between February and July 2009 but greater thickness had been added and this would have had a different character from the core, with new materials added from different places in the open pit. Mr Phelps also noted that the geology of the mine changed from south to north.

118. Mr Phelps considered that it would have been better if Mr Hardie had not signed the Sampling Agreement or had noted that he had not examined the samples or reviewed the relevant BS standard. He believed that Mr Hardie had been led to believe that this was a purely standard procedure and that neither Mr McFarlane nor Mr Hardie themselves understood the standards in question.

119. Mr Phelps made it clear that he did not dispute Professor Doyle's findings in relation to the actual rocks he examined, but considered that he had been provided with an unrepresentative sample. Mr Thrower, in his view, did not carry out a proper sampling procedure. Indeed, Mr Phelps considered that the quantity of quartz found by Professor Doyle was evidence of segregation in relation to the stockpile tested by Mr Thrower.

120. It is clear that Mr Phelps disagreed with Mr Hardie on the question whether the stockpile from which Mr Thrower took his samples was representative of the rock removed by the Contractor. As I have indicated earlier in this decision, I have come to the conclusion that the views on this matter of Mr Hardie are to be preferred to those of Mr Phelps: Mr Hardie lived at the mine and had a much greater day-to-day knowledge of the excavation operations. Mr Phelps, by contrast, only visited the mine every 4 to 6 weeks. In my judgment, Mr Hardie was much better placed than Mr Phelps to form a judgement as to the representative nature of the rock stockpile from which Mr Thrower took his samples than Mr Phelps.

*Mr Wells' oral evidence in chief*

121. Mr Wells accepted that in 2009, when he wrote the first GCL report, he knew nothing of the mine site. He had looked at the geological map (sheet 33) for that part of Northern Ireland. From this he had concluded that the site was underlain by metamorphic rock as part of the Mullaghcarn formation.

122. The first GCL report did not involve a site visit. With the benefit of hindsight, Mr Wells considered that he would have preferred a more rigorous process.

123. Mr Wells described the Mullaghcarn formation as comprising mainly schistose semi-pelite fine grained rock. The rock exhibited "schistosity" i.e. it easily split into layers – it was a "slaty" type of rock.

124. Now that Mr Wells had inspected the mine, he considered that the rock layers were predominantly pelite rocks with some layers of psammite.

125. Mr Wells accepted that the references in his first report to "shale" were a mistake and should have been to slate. He had confused shale with slate. From his subsequent examination of the mine Mr Wells was satisfied that there was no shale on the site

126. In relation to the GCL Report 2 in November 2011, Mr Wells said that he did not take rock samples, because he could examine the exposed faces of the rock in the mine. The exposure of the rock on the sides of the mine allowed him to see quite clearly the bedding structures or laminations within the individual beds. He considered that type of examination to be superior to a mere sampling.

127. An inspection of the exposed rock faces led him to the conclusion that the majority of rock was "akin to pelite slate" as opposed to sandstone. He estimated that 70% to 80% of the rock in question was pelite or semi-pelite and that 20% to 30% of the rock was psammite. Mr Wells considered that pelite was a slate.

128. Mr Wells' inspection of the mine in 2011 did not change his opinion about the suitability of the rock for construction. He considered it to be unsuited for construction purposes – the rock was very weak - it broke down and weathered easily. Mr Wells referred to the rock as "ravelling". This was apparent from the manner in which the rock had been extracted. He understood that the Contractor had extracted the rock using buckets and ripping tools. Harder ("more competent") rock, such as psammite, would have required blasting or hydraulic equipment. Psammite would, therefore, have been harder to dig out from the mine.

129. Mr Wells noted that he had examined core samples retained at the mine which confirmed that the rock was predominantly composed of meta-mudstone/pelite rock with occasional bands of meta-sandstone/psammite. He considered that only the psammite rock had value as an aggregate.

130. Mr Wells noted that in his 2011 site visit, there was a wide variation in the size of the rock in question. He considered that it was not possible to take a representative

sample because of the variety of stone sizes. In his view, a 50 kg sample was insufficient. Moreover, a 160 kg sample (recommended in respect of “coarse gravel” in BS 5930:1999 (Section 3) would likewise not be representative because of the presence of oversized material. Based on visual assessment, Mr Wells had undertaken a volumetric assessment of the stockpile. He assessed the volume of cobbles, boulder-sized material (over 200 mm diameter) in order to assess what the stockpile contained. He considered that this was a better approach than bag samples or a sieve analysis.

131. Mr Wells noted that approximately 500,000 m<sup>3</sup> of rock had been removed by the Contractor from the mine. He considered that a sample of four bags, each containing 15kg, was inadequate given that volume of material.

132. Mr Wells repeated the views expressed in the GCL Report 2 that the stockpiled materials were not suitable as an aggregate for use in road construction.

133. In relation to Professor Doyle’s second witness statement, Mr Wells drew attention to the following sentences (paragraph 7):

“The BGS Rock Classification Scheme recognises that metamorphic rocks may be classified according to whether features of what it terms the original ‘protolith’ (i.e. the primary state before metamorphism) can still be distinguished after metamorphism. As defined by the BGS Rock Classification Scheme ‘if the sedimentary protolith of a metamorphic rock is clearly recognisable, then the rock should be classified using a name from the sedimentary rock classification scheme ... prefixed by ‘meta’.”

134. During his visual inspection Mr Wells observed sedimentary rock structures which indicated the sedimentary protolith, allowing him to identify the rock. He was able to identify the sedimentary protolith in some areas (where it was clearly recognisable) but not in others. However, because it was one site, this was immaterial. This was because the rock would not have changed from one part of the mine to another. It was possible to see what Mr Wells described as the “bedding structure” very clearly in some areas.

135. Referring to Professor Doyle’s analysis of the rock samples obtained by Mr Thrower, Mr Wells noted that Professor Doyle’s analysis was that the samples were 40% mica and 55% quartz (disregarding vein quartz) and that the rock was therefore a pelite. Apart from the vein quartz, the rock was all mica schist and, using the BGS Rock classification for modal composition, the rock was a pelite and therefore a “slate-type” rock. In Mr Wells’ opinion a pelite was a slaty-type rock. Mr Wells referred to Professor Doyle’s definitions contained in an appendix to his first witness statement entitled “Standard mud rock classification applied in descriptions” (i.e. descriptions in his witness statement) where Professor Doyle stated:

“Slate is a mud rock (often referred to as pelite) which has undergone metamorphism to create a strongly cleaved rock in which the cleavage planes are pervasively developed throughout the rock (Stow, 1981; Yardley, 1989)”

136. Applying that definition, Mr Wells considered that the pelite rock that he observed at the mine was slate. As to whether pelite was schist, Mr Wells considered that this was a grey area which depended on the schistosity of the rock concerned. Finally, Mr Wells considered that slate was a type of schist, but that not all schist was slate.

*The British Geological Survey Report*

137. The BGS report (“Express Report, February 2009, Cavanacaw Gold Mine, Co. Tyrone”) (“the BGS report”) was prepared by Dr AG Leslie and was dated February 2009. The report described itself as an: “Examination of the lithology, and structural architecture, of the Dalradian rocks hosting the mineralised rocks of the Cavanacaw deposit.”

138. The report had been sent, by email, by Mr McFarlane to Mr Thrower on 30 July 2009.

139. The BGS report stated:

**“Lithology**

The West and East walls of the main excavation provide good and generally continuous exposure of the Dalradian host rocks to the mineralised (Kearney) vein (panoramic photo sets are available for large parts of both East and West walls of the pit and can be “stitched” together as required).

All of the rocks exposed are metasedimentary, no volcanic extrusive, intrusive igneous or other meta-igneous rocks occur in the exposed sections. No significant sections were obscured from view. Bedrock comprises a heterolithic sequence of psammitic, and pelitic rocks<sup>5</sup>, bedded on a cm- to decimetre-scale.

Most common are mixed sequences of psammite layers 20-40 cm thick, interbedded with pelite layers 1-20 cm thick. Psammite layers are typically relatively sharply defined in contrast clearly with adjacent pelite layers; more gradational transitions are also locally seen through micaceous psammite and semi-pelite into pelite. Discrete units of semi-pelite are not a significant component of the lithostratigraphy.

Psammite layers that typically range from 40 to 80 cm thick occur in more massive, psammite-dominated units; these typically occur as 5-8 m thick packages overall and comprise approximately 20-30% of the visible section. Such massive units typically grade structurally downwards into the more heterolithic psammite/pelite sequences (i.e. structurally inverted upwards fining).

Discrete layers of dark (chloritic) pelite are more rarely developed in the sequence but do occur as metre-scale (2-5 m thick) units of friable schistose pelite. This lithology is characterised by a penetrative

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<sup>5</sup> Professor Doyle explained that this meant that mix layers of psammite and pelitic rock were stacked on top of each other.

schistosity defined by muscovite and chlorite. Elongate lenticular mm-cm-scale masses of vein quartz are conspicuous, aligned within the schistosity. These pelite units are relatively weak compared to the psammite layers and are more difficult to examine in detail.

5

...

### **Pelitic rocks**

Pelitic rocks carry a pervasive, penetrative mica schistosity [reference to diagram] which is often anastomosing in profile. This fabric clearly (hand lens) crenulates an earlier mica schistosity..., and envelopes elongate lenticular ribbons or lenticular augen, of vein quartz. The second fabric is marked by a strong preferred parallel orientation of muscovite and chlorite, foliation surfaces typically feel 'soapy' due to the abundance of chlorite. This mica fabric consistently verges SE (or SSE)... dipping more steeply to the NW...."

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### 15 *Professor Doyle's evidence*

140. In his first witness statement Professor Doyle said:

"5. On 28 July 2009 I was instructed by Capita Symonds to carry out an analysis of an aggregate sample to be collected by them from Cavanacaw Mine, Omagh, Tyrone, Northern Ireland, with a view to identifying the lithologies (rock types) within the sample supplied and determining the percentage of each in accordance with BS 812: part 104, which is the relevant standard for lithological analysis. The sample was delivered to my premises on 8 August 2009, and comprised four bulk aggregate bags stated to be approximately 15 kg each. The actual mass of the sample was 51.2 kg. BS 812: part 104 recommends minimum sample sizes of laboratory samples according to maximum particle size contained within them. It specifies that the minimum mass for aggregates samples with particle sizes of 40.0 mm be 100 kg. The sample supplied by Capita Symonds Ltd was less than that recommended by this standard, but given the dominance of a single lithology in the sample it is unlikely that a greater mass would materially affect the outcome of the analysis.

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6. A laboratory sample was prepared from the aggregates supplied by riffing and splitting into two equal components, each then subjected to the qualitative and quantitative procedures as defined in BS 812: part 104. The sample consisted of mixed, all-in crushed rock aggregate with grades from > 37.5 mm down to fines of <1.18. The lithology of the sample was uniform throughout both test portions, predominantly (97.84%) of fine-grained metamorphic rock, demonstrating fabric known as schistosity, demonstrating laminae of muscovite mica (altered to chlorite in places) alternating with laminae of interlocking quartz grains. Its grain size varied from 0.1-1.0 mm, the larger part being finer grained. The mineral content was as follows: Quartz 55%; Muscovite mica 40%; Chlorite 4% and Accessory minerals 1%. The fabric and mineral content of this rock indicate that it is a mica schist. Mica schist is a rock that has undergone heat and pressure during its formation, and is identified by its interlocking crystals and schistosity

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(as described above); these features are absent in the exempt lithologies of clay, slate and shale. The remaining 2.16% of the sample consists of vein quartz, which is commonly found associated with metamorphic rocks of this type.

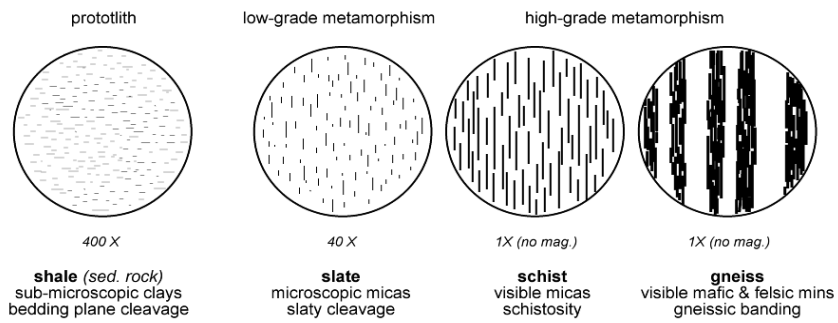
5 7. In order to determine the percentage of the two lithologies within the  
test portions, a quantitative examination required sieving of the test  
portions into size fractions, and accessing the composition of the size  
fraction by hand separation and weighing of sub- samples. Each  
10 sample was divided and each test portions sieved into size fractions of  
37.5 mm, 20.0 mm, 10.0 mm, 5.0 mm, 2.36 mm and 1.18 mm where  
appropriate, using sieves with appropriate apertures. The mass of each  
size fraction was determined for both test portions. Each size fraction  
was hand separated into the constituent lithologies, and the mass of  
15 each determined. This process was repeated for both test portions.  
Finally, the composition of each fraction, the overall composition of  
each test portion, and the confidence limits for these estimates were  
calculated according to the procedure prescribed in BS 812:104. A  
breakdown of the results of the sample is given below, being the  
20 results for the coarse aggregates in the sample which comprised  
84.85% of the sample, finds comprising the remainder of it.

| <b>Lithology</b>   | <b>Test portion A</b> | <b>Test portion B</b> | <b>Average</b> |
|--------------------|-----------------------|-----------------------|----------------|
| <b>Mica Schist</b> | 93.398%               | 97.290%               | 97.844%        |
| <b>Vein Quartz</b> | 1.602%                | 2.710%                | 2.156%         |

25 8. The coarse fraction of the sample was therefore found to comprise  
100% mica schist or vein quartz... With no other lithologies present,  
it is reasonable to assume that the fines are also composed of fine  
fragments of either mica schist or quartz, and in my opinion the sample  
therefore comprises 100% non-exempt lithologies. Though the mass of  
30 the sample supplied by Capita Symonds was less than the minimum  
specified by BS 812:104, it is unlikely that this would materially affect  
the outcome of the analysis, given the dominance of non-exempt  
lithologies."

141. In his second witness statement, Professor Doyle responded to a number of  
points made by Mr Wells in his witness statement (which attached a copy of GCL's  
35 second report). After referring to the paragraphs in GCL Report 2 set out in paragraph  
93 above, Professor Doyle continued:

40 "6. The British Geological Survey (BGS) Rock Classification Scheme  
Volume 2 Classification of Metamorphic Rocks, Research Report RR  
99-02... discusses the classification and naming of metamorphic rocks,  
representing those rocks that have undergone change (known as  
metamorphism, from an original state through heating and/or pressure  
resulting in the growth of new minerals and/or the creation of new  
'fabrics' such as cleavage or foliation. I exhibit a copy of this report as  
45 PD 1. These features distinguish metamorphic rocks from those in an  
unaltered state, as illustrated in Figure 1



**Figure 1: Metamorphism of a 'protolith' to form metamorphic rocks.**

5 7. The BGS Rock Classification scheme recognises that metamorphic rocks may be classified according to whether features of what it terms the original 'protolith' (i.e. the primary state before metamorphism) can be still distinguished after metamorphism. As defined by the BGS Rock Classification Scheme 'if the sedimentary protolith of a metamorphic rock is clearly recognisable, then the rock should be classified using a name from the sedimentary rock classification scheme... prefixed by 'meta'.

...

15 9. Mr Wells' report identifies both Metamudstone/Pelite and Metasandstone/Psammite in the quarry [sic]. Metamudstones (aka 'Pelites') are metamorphic rocks that are metamorphically altered mudstones. In turn, mudstones are one of a family of fine-grained sedimentary rocks ('mud rocks' is) comprising, in the BGS scheme, of 'siliciclastic rocks with a grain size of <.032 mm'. Metasandstones (aka 'Psammites') are in turn based on a protolith of sandstone, comprising siliciclastic with 'grain sizes of .032 to 2 mm'. (It should be noted at this point that as sandstone is not exempt from aggregates levy, it follows that metasandstone is similarly not exempt.)

25 10. Mr Wells' findings are at variance with my own, given in my [first] witness statement..., which identified [para 6], that in addition to a small portion of pure quartz, the sample was predominantly composed of:

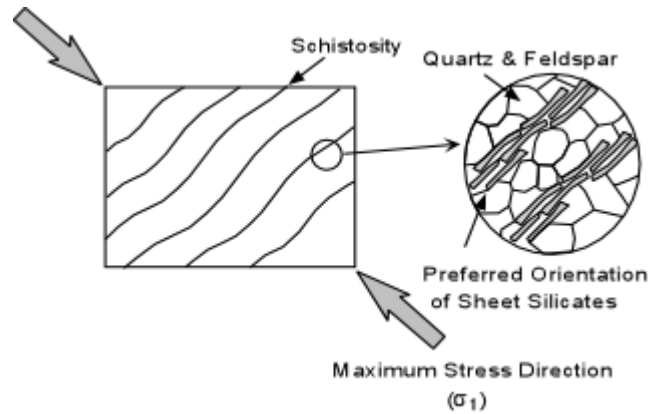
'A fine grained metamorphic rock, demonstrating fabric known as schistosity, demonstrating laminae of muscovite mica (altered to chlorite in places) alternating with laminae of interlocking quartz grains,'

30 and which continued:

'The fabric and mineral content of this rock indicate that it is a mica schist. Mica Schist is a rock that has undergone heat and pressure during its formation, and is identified by its interlocking crystals and schistosity... these features are absent in the exempt lithologies of clay, slate and shale.'

35 11. The BGS Rock classification scheme (section 3.3) identifies 'Schist' as 'a medium-grained strongly foliated rock that can be readily split into flakes or slabs due to a well-developed preferred orientation of the majority of the minerals present'. This 'preferred

orientation' is caused by the growth and alignment of new minerals during the process of metamorphism, and the 'foliation' refers to a fabric of the rock displaying the alignment. This is usually known as 'schistosity', and is typically non-planar, with distinctive 'wavy' surfaces. It is not usual for the 'protolith' to be identified in schistose rocks. The process of orientation of minerals such as mica (known as 'sheet silicates') is illustrated in Figure 2



**Figure 2: The creation of schistosity through the alignment of minerals**

12. As defined in the BGS classification scheme... 'Slate' differs from 'Schist' [in] that it is a 'compact, fine grained rock with a strong fissility along planes in which the rock can be parted into thin plates indistinguishable from each other in terms of lithological characteristics'. Slate is identifiable from its uniform grain size and ability to split (a property known as fissility) into defined and distinctly planar sheets. Slate was not identified in the samples analysed.

13. My results of my analysis identified the following; a) it was not possible to identify a sedimentary 'protolith' in the samples; b) the presence of new mineral growth, particularly micas, in preferred orientation is indicating the process of metamorphism; and c) the presence of the distinctive fabric known as 'schistosity'. These results indicate that the terms 'metamudstone/pelite' and 'metasandstone/psammite' are inappropriate in this case, and that 'schist' is correct identification. Schist is not exempted from the Aggregates Levy.

14. In summary:

- a) The materials exempt from Aggregates Levy are slate, shale and clay alone.
- b) The samples collected by Capita Symonds, in which I analysed, consisted of mica schist, which is not exempt.
- c) Mr Wells' report examined the quarry as a whole and identified that it is developed into metamorphic rocks, none of which fall into the categories of 'shale, slate and clay'.
- d) The report specifies that 'metamudstone/schistose pelite' and 'metasandstone/psammite' were identified at the quarry [sic].



5 It suggests that the samples are mudstones and sandstones which have been subjected to some form of alteration and relies upon the identification of the protolith, the original unmetamorphosed state. I could not recognise any such protolith in the sample.

10 e) It could never be argued that psammite (metamorphosed sandstone) is exempt from aggregates levy. As to metamudstone/pelite, the grade of metamorphism (the amount of heating and pressure received to change the original mudstone) is measured in new crystal growth in the formation of physical features like cleavage and schistosity. Mr Wells' report seeks to argue that a rock was identified that was similar to mudstone, with little new mineral growth and, at most, flat cleavage planes (closely spaced flat planes of weakness typical of slate). I, however, identified a great deal of new crystal growth (40% mica, 55% quartz) and the development of schistosity – wavy laminae created by the orientation of minerals. Since the samples had recognisable schistosity, they were a schist.”

20 142. I have quoted at length from Professor Doyle's witness statements because (particularly as regards the second witness statement) it clearly identifies the points of difference between the opinions of Mr Wells and Professor Doyle. Also, Figure 1 was a helpful diagram that was referred to many times at the three hearings.

25 143. In Professor Doyle's oral evidence he confirmed that slate was not the same as schist and that mica schist was a form of schist. Both slate and schist were metamorphic rocks. Shale was a sedimentary fine-grained rock which had not been subject to metamorphosis. Psammite was a coarser-grained rock which was originally made up of compressed sand.

30 144. Slate was a fine-grained sedimentary rock which had been subjected to pressure. This created a set of planes which allowed the rock to be split along the planes. This planar quality was often referred to as “slaty cleavage” and gave rise to the use of slate as a roofing material. Schistosity was different from planar foliation and was another type of foliation. It was not that of flat planes but of peculiar wavy forms, like a “rucked up” carpet with fine ridges and troughs. Professor Doyle gave an analogy of a seashore with wave-marks in the sand as the tide receded. These wavy forms, characteristic of schistosity, were created by pressure and more heat which allowed minerals to grow in alignment thereby creating schistosity. If a rock exhibited schistosity then it had wavy foliation and could be classified as a schist.

40 145. Slate, according to Professor Doyle, was characterised by its planar slaty cleavage and it was not associated with abundant new mineral growth. Where rock was subject to heat and pressure the rock graduated to phyllite and to gneiss.

45 146. Professor Doyle said that there were different degrees of metamorphism i.e. different levels of heat and/or pressure. In the case of slate it was predominantly pressure (rather than heat) that produced the planar cleavage and there was little visible mineral growth. Referring to Figure 1 in his second witness statement, the

mineral growth particles increased in size from shale and slate on the left to gneiss on the right of the diagram. The presence of mineral growth in a rock allowed one to deduce that there had been heat applied to the rock which created new minerals from chemicals in the rock: mica, for example. Schist consisted of mica which was oriented in a particular direction. Thus wavy foliation and new mineral growth were characteristic of schist and indicated a higher degree of metamorphism than occurred in relation to slate. This type of foliation was very distinctive and was different from the planar (flat) cleavage of slate where there was little or no visible mineral growth. With schist, mineral growth caused by the application of heat in the metamorphic process was usually visible, whereas in slate it was not usually visible.

147. Professor Doyle discussed the evolution of naming conventions in relation to metamorphic rocks. In relation to “pelite”, the term was now recommended to be used for fine-grained mudrock which had undergone metamorphism. Thus shale could not be described as a pelite because it had not undergone metamorphism. The recommended practice was to include in the description of pelitic rock fine-grained sedimentary rock which included slate and/or schist. Beyond that it was more difficult to identify the protolith.

148. In relation to psammitic rock, Professor Doyle observed that this was a metamorphic rock but it was not sedimentary. It was the sand-based rock and was coarser grained in contrast to pelitic rock which was fine-grained.

149. The use of the word “meta” (e.g. meta-mudstone and meta-sandstone) was part of the evolving/changing system of naming metamorphic rocks. If it was possible to identify the original protolith then geologists were encouraged to do so. Therefore a “meta-mudstone” could clearly be seen as a mudstone which had been subject to some degree of metamorphism.

150. Professor Doyle was asked to comment on the first paragraph of the BGS report under the heading “Pelitic rocks” quoted at paragraph 138 above. He noted the reference to “a pervasive, penetrative mica schistosity” and to “foliation”. Professor Doyle’s opinion was that the report was describing schist not slate. The reference to “augen” was, Professor Doyle explained, to an eye -shaped piece of quartz in a ribbon (lenticular) vein of quartz. If the author of the BGS report had been referring to slate, Professor Doyle considered that he would have used the expression “slaty cleavage” and not “schistosity”.

151. Professor Doyle was referred to photographs of core boxes in Mr Phelps’ witness statement. The accompanying text stated: “The core box shows thinly bedded, fine-grained, shales and slates, some with mild schistose fabric.” Professor Doyle was of the opinion that rock with “schistose fabric” could not be slate and instead was a reference to schist.

152. Professor Doyle was also referred to a sentence in the first GCL report of 23 February 2009, written by Mr Wells, which read:

“The strata are composed of a succession of schistose semi-pelitic (metamorphosed siltstone) and pelites (metamorphosed mudstone); which exhibit a slaty cleavage (foliation).”

153. Professor Doyle considered that the sentence made sense as far as the semicolon  
5 but not thereafter. The reference to “slaty cleavage” was inconsistent with the earlier  
reference to “schistose” semi-pelitic rock. “Foliation” was a fabric imposed on an  
original rock which could be either slaty cleavage or schistosity. Slaty cleavage was  
not the same as schistosity. In relation to the report’s later reference to “semi-pelite”  
10 rock as being “schistose SEMI-PELITE (Slate)”, Professor Doyle was of the clear  
opinion that if a rock was schistose it could not exhibit slaty cleavage and was  
therefore not slate. Professor Doyle considered that Mr Wells was incorrect when he  
described as schistose rock as being slate. Describing schistose rock as slate was not a  
mainstream view and not one that Professor Doyle had come across.

154. Professor Doyle was asked whether “fissility” (the ability of rock to split) would  
15 be a common description that could be applied to schist. Professor Doyle considered  
that it would not be a common description.

155. In relation to the “chain of custody” of the bags of rock samples delivered by  
Mr Thrower to Professor Doyle’s home, Professor Doyle said that the bags had been  
left securely at the side of his house – they were sealed and had not been tampered  
20 with.

156. When Professor Doyle tested the rocks sampled by Mr Thrower, he found that  
they were predominantly schist.

157. Professor Doyle stated that pelite or pelitic rock was a term given to a family of  
rocks which had been metamorphosed but whose origin was that of mud rock. Pelitic  
25 rock included slate and schist. In summary, Professor Doyle stated that slate was not  
schist and schist was not slate. Professor Doyle rejected Mr O’Donoghue’s suggestion  
that there was a “reasonable body of geological opinion” that slate was a schist.

158. In relation to BS 812:104, Professor Doyle said the standard sought to guide  
analysts in order to ensure a 95% confidence limit (paragraph 10 c)). Table 1 (clause  
30 5.2) was based on the idea that a sample would contain 20% of a “constituent of  
interest” (i.e. “the thing that you were looking for”). The minimum test portion mass  
was that shown in Table 2 (clause 8.2). For a test portion with a maximum particle  
size of 40 mm, the minimum mass of the test portion was 51 kg. In the present case,  
the “constituent of interest” was pelitic schist which constituted 97% of the sample.  
35 According to Figure 1 of BS 812: Part 104:1994 paragraph 8, all that was needed to  
achieve a 95% confidence level, according to Professor Doyle, was a test portion of  
between 10-100 g. As the percentage of the constituent of interest in the sample  
increased, the mass of the test portion the increased. If the maximum particle size was  
100 mm, then a test portion of 1 kg was required to attain a 95% level of confidence.

40 159. Professor Doyle confirmed that his analysis of the rock samples had been  
carried out in accordance with BS 812: part 104. However, Professor Doyle noted that  
BS 812: part 104 only applied to processed aggregates; he considered that it was

arguable that the standard did not apply in the present case because the general view was that processed aggregates were aggregates which had been sorted and crushed.

160. Mr O'Donoghue questioned Professor Doyle about the maximum and minimum particle sizes. Mr O'Donoghue noted that from the photographs of the rock stockpile it appeared that there were large boulders and that therefore a maximum particle size of 40 or 50 mm was incorrect. Professor Doyle, however, drew attention to paragraph 8.1 of 812: pt 104 which noted that if a constituent was present as a small proportion, it may be impractical to examine test portions large enough to give a relative error of plus or minus 10%. It was, therefore, necessary to take into account practicality.

161. In relation to the labelling of the bags left by Mr Thrower, Professor Doyle could not, after an interval of eight years, remember what was on the label although he said that the bags were labelled, although later he admitted that his recollection could be faulty. Professor Doyle had not taken photographs of the labels.

162. In cross-examination Professor Doyle seemed to be, at some points, suggesting that Mr Thrower had taken samples in accordance with BS 812: part 102. That may be true, but as Mr O'Donoghue pointed out to Professor Doyle, NOTE 1 to Clause 5.2 of BS 812:104 stated that the minimum sample sizes given in Table 1 (of clause 5.2) "take precedence over the recommendations of clause 5 of BS 812: part 102.... for this procedure." In other words, although the mass of Mr Thrower's samples may have satisfied Part 102, they were inadequate for an analysis under Part 104. Eventually, Professor Doyle agreed with this proposition.

163. Professor Doyle accepted that the rock samples delivered by Mr Thrower were, in his opinion, "light" i.e. less than the recommended mass in accordance with clause 5 Part 104. However, Professor Doyle maintained that because 97% of the sample consisted of one type of rock this made no difference to the outcome of his analysis.

164. It was also put to Professor Doyle that from the photographs of the rock stockpile, it was clear that the maximum particle size exceeded 50 mm – there was some large rocks in the stockpile. Professor Doyle thought it was probable that this was the case put considered the requirements of Part 104 the required samples of that size to be taken if practicable. Professor Doyle also referred to NOTE 1 to clause 5.3 of Part 104. This noted that:

"All aggregate sources exhibit some variability. It is therefore important to ensure that an adequate and well defined sampling scheme is used."

165. Professor Doyle asserted that a well-defined sampling scheme had been implemented.

166. Mr O'Donoghue asked whether Professor Doyle had recorded the various steps in the qualitative examination of the laboratory sample in accordance with clause 7 Part 104. Professor Doyle confirmed that he had done so in his report. His examination was a continuous process. He rejected Mr O'Donoghue's suggestion that by not recording his quantitative analysis otherwise in his report he had not followed

Part 104. He noted that his qualitative analysis was that the rock he was examining was schist and his quantitative analysis was that it was 97% to schist.

167. Professor Doyle noted that because there was an overwhelming preponderance of one lithology (97% mica schist) it was irrelevant whether the laboratory sample was less than 100 kg. Even if the sample had been 500 kg the result would have been the same.

168. Professor Doyle confirmed that neither the CSL Certificate of Sampling nor the Sampling Agreement dated 28 July 2009 had been supplied to him.

169. Professor Doyle confirmed that he had never visited the mine, although he had been to the region.

170. Professor Doyle was cross-examined on the BGS report. He noted that the report referred to the fact that: “discrete layers of dark (chloritic) pelite are more rarely developed in the sequence but do occur as a metre-scale (2-5 m thick) units of friable schistose pelite.” By “friable” Professor Doyle understood the author to mean that the rock was easy to break into small fragments. Professor Doyle considered that slate was less “friable” – it split in a planar manner where as “friable” rock broke into smaller chips. Furthermore, although the BGS report referred to crenulation, this was in the context of schistosity. Professor Doyle noted that crenulation could occur in slate, but the reference to crenulation in the BGS report was referring to crenulation occurring in relation to schist. Crenulation was a feature of structural rock architecture and was not specific to any particular rock – it was, effectively, the intersection of one rock layer with another.

171. Professor Doyle stated that the percentage of psammite to pelite rock (i.e. whether it was 70% pelite and 30% psammite or vice a versa) was irrelevant because schist was not slate. In any event, there was no psammite in the sample that Professor Doyle examined.

172. Professor Doyle agreed that mica appeared in slate, siltstones and shales. This was derived from tiny fragments deposited by rain and rivers. This “detrital mica” was different from the new mica is grown by metamorphic rocks in the metamorphic process. Slate was less likely to have mica aligned with the slaty cleavage because, as already explained, slate was a rock primarily formed by pressure not heat. Therefore slate was likely to have detrital mica.

173. As regards phyllite, an intermediate stage between slate and schist, Professor Doyle said that this was a rock formed by pressure and heat whereas slate was predominantly formed in the metamorphic process by pressure rather than heat. Rock displaying schistosity was not a slate but would be a phyllite or a schist.

174. As regards the IUGS definition, Professor Doyle did not accept that slate was a schist; he said there were many other definitions which would exclude slate being a schist. Professor Doyle accepted that naming conventions in relation to metamorphic rocks were still the subject of debate. Nonetheless, Professor Doyle considered that the IUGS definition was what he described as an “outlying opinion” presented in one

research document. In most textbooks, slate would not be referred to as a schist. Schistosity and slaty cleavage were both foliations but they would be distinct. Schistosity involved the growth of new minerals and alignment of those minerals in a particular direction – that did not occur in slate. Professor Doyle found the paragraph upon which Mr Phelps relied in the IUGS report puzzling.

175. Mr O’Donoghue, however, referred to an International Union of Geological Sciences (“IUGS”) research report (found by reference to a link on the BGS website), exhibited to Professor Doyle’s second witness statement, which stated:

“The existing terminology for metamorphism and metamorphic rocks includes many names based on specific mineralogical and/or structural and/or other criteria. These have been called specific names by the SCMR . Such names usually have very precise connotations, but have not been developed in a systematic way to embrace a whole range of metamorphic rocks ....

Some of these specific names have become extremely widely used for common rock types. Examples of such terms are: ... slate (for a fine-grained rock with a well-developed regular fabric *or schistosity*).” (Emphasis added)

176. Professor Doyle responded that he did not agree with that view and neither would the general geological community.

177. Mr O’Donoghue continued by quoting further extracts from the IUGS research report as follows:

“*Schistosity*: ‘A preferred orientation of inequant mineral grains or grain aggregates produced by metamorphic processes. A schistosity is said to be *well developed* if inequant mineral grains or grain aggregates are present in a large amount and show a high degree of preferred orientation, either throughout the rock or in narrowly spaced repetitive zones, such that the rock will split on a scale of less than 1 cm. A schistosity is said to be *poorly developed* if inequant mineral grains or grain aggregates are present only in small amounts or show a low degree of preferred orientation or, if well-developed, occur in broadly spaced zones such that the rock will split on a scale of more than 1 cm.’

...  
It should be noted that each of these structural rock terms will cover a number of specific rock names. Thus, the term ‘schist’ encompasses a number of names for rocks *that possess a well-developed schistosity (as defined), for example, slate and phyllite...*” (Emphasis added)

178. Professor Doyle noted that this was a recommendation in a research report. He disagreed with the views expressed and indicated that the “vast majority of textbooks” would take a different view. Slate was distinguished by slaty cleavage and was not distinguished by new mineral growth and parallel wavy layers. Mr O’Donoghue, on the other hand, suggested that to Professor Doyle that the above extract supported Mr Phelps’ view that slate was a schist. Professor Doyle was, however, emphatic that the

view expressed by Mr Phelps and the IUGS research report was not a view shared by the vast majority of the geological community. Even if Mr Phelps' view was accepted (which Professor Doyle did not), slate was characterised by planar cleavage whereas schist was something distinctly different: it did not have planar, parallel cleavage planes but was, instead, wavy with new mineral growth. Slate was not a schist.

179. Furthermore, Professor Doyle noted that in paragraph 26 B of the IUGS report the terms pelite and psammite were used to refer to sedimentary rocks i.e. rocks which had not been metamorphosed. Professor Doyle considered this to be an error.

180. Mr O'Donoghue drew Professor Doyle's attention to the GCL Report 2, in which Mr Wells stated:

“The country rocks were formed under conditions of low to medium pressure and temperature. The meta-mudstone/pelite rocks were formed from the gradual metamorphism of clay-rich mudstone rocks; which passed through a continual process involving the production of shales, meta-mudstone (slates) and P lights; which exhibit a slaty/schistose fabric that is formed by the alignment of platy phyllosilicate grains (micas). This fissile property causes the country rock to split into thin sheets.”

181. Professor Doyle criticised Mr Wells' report. Professor Doyle considered that the interchangeable use of “slaty” and “schistose” (after the semicolon) was an error. Moreover, Professor Doyle considered that there was no continual metamorphic process which went from mudstone to shale and then shale to slate. Mudstone and shale were distinct rocks. Shale was not a metamorphic rock. Furthermore, Mr Wells statement that meta-mudstone was slate was inaccurate; in Professor Doyle's opinion meta-mudstone led to slate. In referring to the alignment of phyllosilicate grains, Mr Wells was describing schist not slate. Moreover, Professor Doyle noted that Mr Wells' comments in his report about the potential end use of the rock in question had no bearing on its classification. Professor Doyle, however, agreed with Mr Wells' opinion that schistose rock constituted a poor aggregate for construction purposes.

182. Professor Doyle accepted that there was no psammite in the sample which he analysed. He noted, however, that although a percentage of the rocks in the mine were psammite, he was not sure that this was true of the rock stockpile.

183. In re-examination, Professor Doyle was referred to the explanation of rock types commonly used for aggregates in Table 2 of BS 812 – 102. This stated:

“**Schist**’ a metamorphic rock in which the minerals are arranged in nearly parallel bands or layers. Platy or elongate minerals such as mica or hornblende cause fissility in the rock which distinguishes it from a gneiss.

“**Slate**’ a rock derived from argillaceous sediments or volcanic ash by metamorphism, characterised by cleavage planes independent of the original stratification.”

184. Professor Doyle agreed with this differentiation of schist and slate. Professor Doyle also explained that the transition from slate to schist was not a continuum. Metamorphosis was complex. At one end of the spectrum metamorphism involved only pressure (as was usually the case with slate) or, at the other end, metamorphism  
5 could involve only heat (e.g. marble) between these two extremes there was a range of metamorphic rocks which have been subject to heat and pressure in varying degrees. There was also regional metamorphism e.g. a rock which had been subject to pressure could later be subject to heat. In the case of pelitic rocks if these were subject to heat and pressure then the result was phyllite, schist and gneiss. In other words,  
10 metamorphism could transform one rock into another type of rock. However, a rock could not be both a schist and a slate.

*Mr Wells' evidence – cross-examination and re-examination*

185. As I have noted, Mr Wells was unable to attend the second hearing of this appeal because of the illness of a close relative. Therefore, Professor Doyle gave  
15 evidence and was cross-examined before Mr Wells himself was cross-examined. I think it therefore is more logical to summarise the relevant portions of Mr Wells' evidence in cross-examination after having summarised that of Professor Doyle.

186. Mr Wells accepted that he was a mining geologist rather than a geologist who specialised in the mineralogy.

20 187. Mr Wells disagreed with Professor Doyle's opinion that slate was not schist. Mr Wells referred to and adopted the IUGS definition referred to above. In any event, Mr Wells noted that the foliation of the rock at the mine was planar "with some schistosity printed over that."

25 188. Mr Wells accepted that he had not visited the mine in February 2009 and did not know where the rock samples (which he described as 4 to 6 lumps of rock) which he examined had come from. He had not applied British Standards but had carried out a straightforward petrographic examination. It had taken him no more than one hour. Mr Wells admitted that he had not understood the gravity of the issues at stake.

30 189. Mr Wells said that the rock exhibited straight planes (i.e. planar) rather than wavy layers. As regards mineral growth, there was probably mica which he said was common for slate and schist. There was visible mica in the samples he examined in February 2009. Subsequently, in what seemed to me a contradiction of his previous statement, Mr Wells added that it was possible to infer the presence of mica from the sheen on the surface of the rock. It seemed to me that his first answer was more  
35 reliable i.e. that particles of mica were visible to the eye.

190. Mr Wells agreed with the diagram set out in paragraph 6 of Professor Doyle's witness statement (see paragraph 138 above). As to whether slate and schist were different rocks, this depended upon the classification system. Mr Wells agreed that  
40 slate was rock that had been subjected to low-grade metamorphism whereas schist had been subjected to higher grade metamorphism, but added that he did not think rock had to be one thing or the other but, based on cleavage and foliation, could be



“somewhere between the two”. He did not accept that slate and schist were two different types of rock. Nonetheless, Mr Wells accepted that in “mineralogical terms” slate and schist were different; thus, the size of mineral particles was different. Mr Wells appeared to indicate that, what he described as, the geotechnical and mineralogical definitions of slate were different.

191. In relation to the BGS report, Mr Wells accepted that the presence of garnet indicated the presence of higher grade metamorphism.

192. Referring to the IUGS classification system, Mr Wells considered that slate was a schist.

193. Mr Wells agreed that shale was not a metamorphic rock and that he had misclassified the rock he examined in February 2009 as shale. Mr Wells explained that the rock had been fine-grained and was finely cleaved. He denied that he had been told to describe it as shale – it was just a mistake. He described his February 2009 assignment as a small job and said that he did not understand the context against which he was being asked to examine the rock. He admitted that he had been more focused on the engineering properties of the rock.

194. As regards his half-day visit to the mine in 2011, Mr Wells repeatedly referred to the rock as being “slate-type” rock, which he described as a form of schist. He had observed a layered sequence of psammite and pelite rock. He had looked at what was exposed on the face of the rock walls and distinguished one type of rock from another. Some rocks exhibited cleavage and were less competent than the psammite layers of rock. Overall, Mr Wells considered that the rock was 70% pelite and 30% psammite.

195. Mr Wells was challenged on his estimate of the relative proportions of pelite and psammite rock. Nonetheless he maintained his estimate of the proportions because it was possible to distinguish bands of weaker rock (pelitic) from more competent (psammitic) rock. Moreover, Mr Wells had examined three or four core boxes.

196. In re-examination, Mr Wells noted that the IUGS classification system as referred to in Professor Doyle’s report classified rock into schist, gneiss and granofels. Slate would fall into the schist category.

197. I asked Mr Wells how it would be possible to extract psammite rock from the mine. Mr Wells replied that he would be necessary to use a special pneumatic breaker. This would not be necessary for the extraction of pelite rock.

*Professor Doyle’s further evidence in response to Mr Wells’ cross-examination and re-examination*

198. As I have already noted, Professor Doyle’s evidence in chief and cross-examination was taken out of sequence because of the unavoidable absence of Mr Wells at the second hearing. Accordingly, it was necessary to recall Professor Doyle

in order that he could comment upon the evidence given by Mr Wells in cross-examination and re-examination.

199. Professor Doyle rejected the suggestion (that Mr Wells appeared to make) that the geotechnical and mineralogical definitions of slate were different. The use of the terms slate and schist remained the same regardless of whether a geologist was a mineralogical geologist or an engineering geologist. All geologists would have had a basic training in rock types.

200. Professor Doyle also rejected Mr Wells' suggestion that slate was a type of schist. Slate, according to Professor Doyle, was a very distinct rock type. The term "slate" applied only to very fine-grained rock (where the mineral grains were not visible to the naked eye) with a well-defined slaty cleavage. This meant that the rock could be split into fine plane are sheets sometimes only millimetres thick. Slate contained fine-grained micas. Schist, on the other hand, did not split into thin sheets and was not fine-grained. Slate could not be described as a schist. The IUGS's classification scheme was an attempt to simplify matters. However, in most literature there was a distinction between slate and schist. Slate was defined as Professor Doyle had just described and schist was defined by its schistosity. Slate did not have schistosity.

201. Professor Doyle rejected Mr Wells' description of slate as having a lesser degree of schistosity than a schist. Slate was fine-grained with microscopic particles that could not be seen by the human eye. The alignment of the grains resulted in slaty cleavage. Schist was coarser grained and less aligned therefore its cleavage was less planar. According to the definition in the British Geological Survey Rock Classification Scheme Volume 2 (Research Report Number RR 99-02), slate and schists were classified as separate rocks. At paragraph 9.5 of that report it was stated:

"The term **slate** has been used traditionally as a rock name for a compact, fine-grained, low-grade metamorphic rock with a slaty cleavage, that is, a strong fissility along planes that allow the rock to be parted into thin plates, indistinguishable from each other in terms of lithological characteristics. However, the name also has industrial connotations for a rock which is, or has been used for roofing, billiard tables, drawing boards, damp proof courses et cetera on account of its strong fissility. In this context, the facility may be of either tectonic or bedding depositional origin. The protolith of a "slate" is almost invariably fine-grained but can include mudstones, volcanoclastic rocks or even pyroclastic rocks. It may therefore be in igneous or sedimentary rock. On the basis of the range of lithologies that have been encompassed within the name slate, together with the practical connotations in the name, it is not a preferred route name. However, it is accepted that the name is entrenched in the literature and that it is useful as a general field name for fine-grained fissile rocks of undefined protolith, many of which can be hard to classify modally because of the fine grain size. Few qualifiers other than colour, for example *grey-green slate*, will be appropriate for the root name **slate** since the use of the name implies that little is known about the rock other than grain size and texture. If a protolith or modal root name can

be used, it is preferable to indicate the presence of a slaty cleavage by textural qualifier *slaty*, for example *slaty* meta-mudstone, *slaty* slate semi-pelite, *slaty* metatuffite.”

202. Slaty cleavage, according to Professor Doyle, was different from schistosity. Slaty cleavage involved very closely spaced planar cleavage which was distinct from schistosity found in schist. When Mr Wells referred to the rock he examined as “ravelling”, this meant that the rock broke into small fragments. “Fissility” referred to the capability of rock to split. Foliation was created by metamorphism and slaty cleavage and schistosity could together be described as “foliation”. Slate was ultra-fine grained with a preferential alignment of microscopic micas with the result that slate splits along cleavage planes. Professor Doyle stated categorically that if it was possible to see the grains in the rock then the rock was not slate but a schist. In a schist the minerals were aligned preferentially but, because of the process of metamorphism, the minerals were coarser and there was new mineral growth.
203. Professor Doyle said that the BGS Rock classification scheme was the generally used standard in contrast to the IUGS classification.
204. Professor Doyle said that the vast majority of undergraduates would understand the difference between slate and schist and that that the distinction which he drew between slate and schist represented a common understanding of rock types.
205. In relation to the rock that he had examined, it was likely to crush into small pieces and was flaky. Slate and schist were not in Professor Doyle’s opinion good aggregates, although Professor Doyle expressed the caveat that he was not an engineering geologist.

*Mr Thrower’s third witness statement*

206. Prior to the third hearing, Mr Thrower produced a third witness statement. The paragraphs of that witness statement which I admitted into evidence dealt with the BGS report provided to Mr Thrower by Mr McFarlane.
207. I also admitted a number of documents exhibited to Mr Thrower’s third witness statement which were:
- (1) An article dated 2009 authored by Mr James McFarlane and others entitled “Acicular Baryte in the Cavanacaw Gold Mine, County Tyrone, Northern Ireland.” The article was published in the Journal of the Russell Society (“the McFarlane article”);
  - (2) an extract from a report entitled “British Regional Geology: Northern Ireland” prepared by the Geological Survey of Northern Ireland;
  - (3) A Technical Report of the Gold Mining and Exploration Interests of the Omar Gold Project of Galantas Gold Corporation (the appellant’s parent corporation of which Mr Phelps was a director) in Counties Tyrone and Fermanagh, Northern Island prepared by ACA Howe International Limited (“ACA Howe”), dated December 2005 (“the ACA Howe 2005 Report”). ACA

5 Howe is an international independent geological and mining consultancy with offices in Canada and the UK. The ACA Howe 2005 Report was attached to a listing particulars prepared for the purpose of admitting the shares of Galantas Gold Corporation to listing on AIM. There were two other reports prepared by ACA Howe in 2008 and 2012 (the “ACA Howe 2008 and 2012 Reports”). There were two further reports (in 2013 and 2014) prepared under the supervision of Mr Phelps (“the 2013 and 2014 reports”)<sup>6</sup>.

10 208. Mr Thrower explained that although the BGS report had been forwarded to him by email on 30 July 2009 by Mr McFarlane, due to the timescales involved in the tribunal process, he had forgotten about its existence. He said that Mr McFarlane had asked him not to share it any more widely and that it had not been published.

15 209. Mr Thrower considered that the BGS report did not contain information that would alter the findings or conclusions in the CSL report the CSL report was a factual account of the field visit that Mr Thrower undertook, reporting his observations and the work undertaken in collecting the sample and the analysis undertaken by Professor Doyle.

20 210. In fact, Mr Thrower considered that the BGS report supported both his and Professor Doyle’s findings as regards the lithologies present at the mine and the relative proportions of those lithologies. The BGS report described the bedrock as comprising a heterolithic sequence of psammite and pelite; in other words the psammite and pelite were interbedded i.e. alternating psammite and pelite. Mr Thrower noted that the report then described two principal units that formed the observed section. These were the more typical heterolithic mixed sequences of psammite and pelite, and the massive psammite dominated units that occurred in larger 5-8 m packages. Mr Thrower further noted that the most common unit observed was the heterolithic mixed sequences of psammite and pelite. The psammite layers were described as being 20-40 cm in thickness, and the pelite layers were described as being 1-20 cm in thickness. Mr Thrower considered that the description indicated that the most dominant rock type in the heterolithic mixed sequence was psammite, which occurred in significantly greater thicknesses than the pelite. Mr Thrower considered that the consideration of the modal thicknesses provided in the BGS report suggested that the heterolithic mixed sequences contained approximately 75% psammite and 25% pelite.

35 211. Mr Thrower continued by noting that the estimated 20-30% psammite material discussed in the BGS report was referring only to the more massive psammite-dominated units observed by the BGS, and not the amount of psammite in the overall section. The psammite layers in those psammite-dominated units were described as being 40-80 cm in thickness, and occurring in 5-8 m thick packages. Mr Thrower

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<sup>6</sup> The 2013 and 2014 reports contain the following statement:

"This report... has not been prepared independently of Galantas Gold Corporation. It has been prepared under the overall supervision of R. Phelps C.Eng MIOM3 (President & CEO of Galantas Gold Corporation) a Qualified Person for the purposes of Canadian National Instrument 43-101. Parts of the report have been drawn from prior independent reports where that information has been assessed as reasonable in the context in which it is used."

considered that, therefore, the proportion of psammite in these units would be far greater than that seen in the heterolithic mixed sequences. The report went on to describe how the more massive units graded downwards to the more typical heterolithic sequences of psammite and pelite described above.

5 212. Mr Thrower noted that the BGS report also described discrete layers of dark schistose pelite occurring in 2-5m thick packages. These pelite layers were, however, found to be more rarely developed in the section.

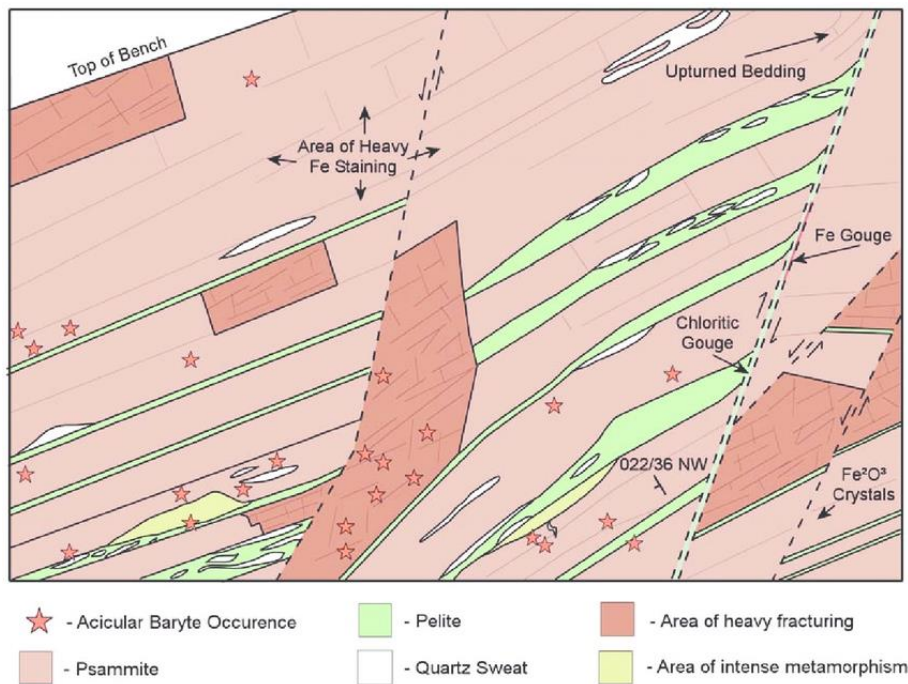
213. Mr Thrower concluded that the BGS report actually demonstrated a higher percentage of psammite material than the pelite material in the total section. These  
10 findings were consistent with the CSL report.

214. Mr Thrower also exhibited an article authored by Mr McFarlane (the appellant's geologist), Dr Norman Moles and Dr David Green published in the Journal of the Russell Society (2009) entitled "Acicular Baryte in the Cavanacaw Gold Mine, County Tyrone, Northern Ireland". In that article the authors describe the host rocks at  
15 the mine as "psammites, semi-pelites and pelite that have reached garnet grade." Mr Thrower considered that this was consistent with the metamorphic conditions observed in the BGS report. A metamorphic grade that had reached the garnet stage was, in Mr Thrower's opinion, consistent with intermediate to high grade metamorphism in the formation of schistose fabrics, i.e. schist.

20 215. The article described the locality where the acicular baryte was found:

"The main locality where acicular baryte is founders on the eastern side of the main N-S trending vein structure, within an area of competent iron-stained psammite interbedded with thinner pelitic beds."

25 216. The article contained the following diagram (although there was no scale to the diagram):



217. According to Mr Thrower’s oral evidence, the diagram gave a fair representation of the face of the mine as he observed it on his visit on 28 July 2009, with psammite as the most dominant material.

5 218. As regards the ACA Howe 2005 and 2008 Reports, a paragraph in each report entitled “Local Geology and Gold Mineralisation” stated:

10 “As mapped at 1/50,000 scale by the Geological Survey of Northern Island, the Lack geological inlier is composed of undifferentiated, mixed semi-pelite, schistose psammite and pelitic schist of the Neoproterozoic Supergroup. In the south-west part of the inlier, there are several, small, Dalradian, schistose amphibolite bodies described as metamorphosed sequence of basic volcanoclastic and igneous rocks. The schistosity in the Dalradian dips at various angles from 20 to 65° in various directions but generally to the north-north-west...

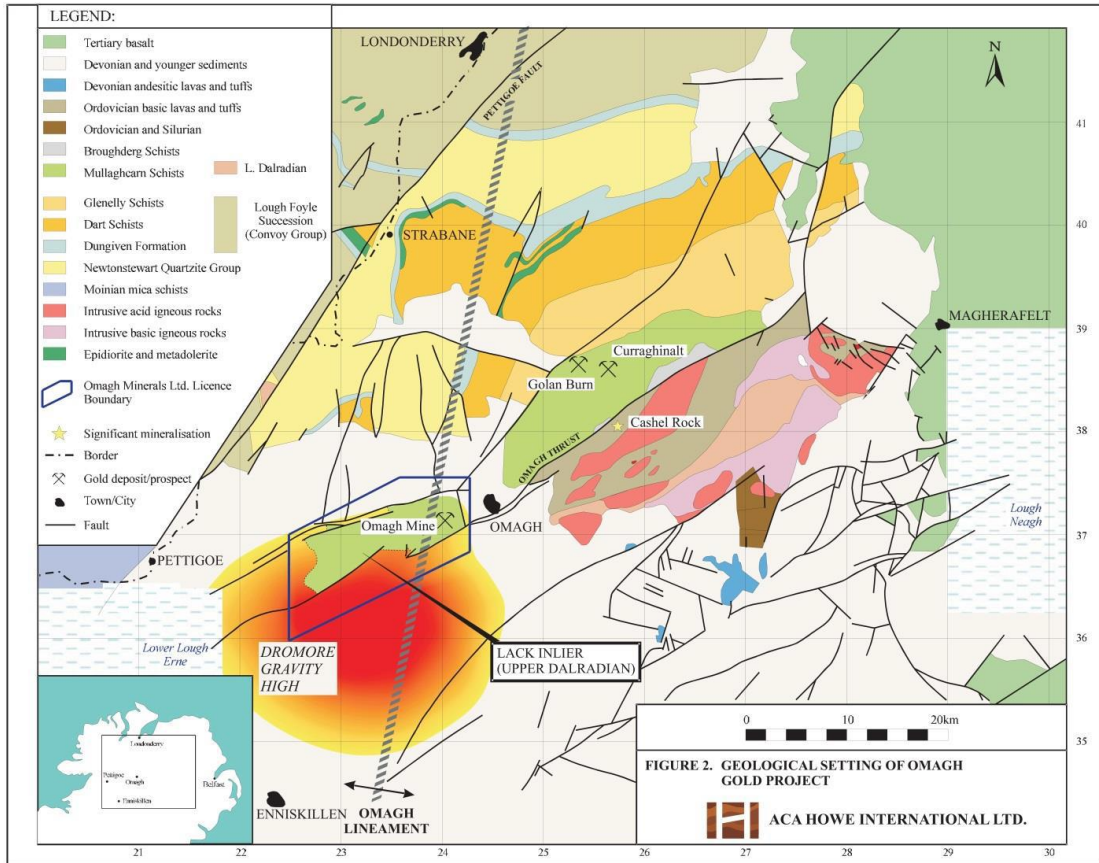
15 The Dalradian of the eastern half of the Lack inlier, where most of the exploration work has been done, consists mainly of a series of quartz-feldspar-muscovite-chlorite schists of varying composition with schistosity dipping at variable but generally low angles to the north-north-west...”

20 219. In the ACA Howe 2012 report the words “schistose” and “schist” in the first sentence of the first of the two paragraphs quoted above were omitted.

25 220. In relation to the 2013 and 2014 reports (i.e. those prepared under the supervision of Mr Phelps and not by ACA Howe), under the heading “Local Geology”, the wording is the same as the ACA Howe 2005 and 2008 reports. However, in the 2014 report under the heading “Local Geology” the first sentence reads as follows:

“As mapped at 1/50,000 by the Geological Survey of Northern Ireland, the Lack inlier is composed of an undifferentiated mixed semi-pelite, schistose psammite and pelitic *schistose slates*...” (Emphasis added)

221. All the reports (2005, 2008, 2012, 2013 and 2014) contained the following diagram entitled “Geological Setting of the Omagh Gold Project”) which described the area of the mine as comprising “Mullaghcarn Shists.”



222. In his oral evidence, Mr Thrower referred to photographs of the rock stockpile from which he took his samples (enclosed with an email from Mr McFarlane to Mr Thrower dated 7 August 2009). He said that the photographs showed the general nature of the material in the stockpile, with various “blocky” material with some “fines.” There was a significant proportion of “blocky” material which was the same as the rock in the face of the mine.

223. As regards the diagram at paragraph 213 above, Mr Thrower considered that the diagram represented the face of the mine as he saw it in July 2009. Psammite was the most dominant material. Mr Thrower acknowledged that he did not know which face the diagram showed and there was no scale. Based on his recollection and the photographs he had seen (particularly Mr Wells’ photographs), however, it was a fair representation of what he had observed in his July 2009 visit.

224. Mr Thrower also considered that the BGS report supported his evidence that approximately 70% of the rock found in the mine was psammite and 30% was pelite.

*Mr Phelps' further evidence*

225. Mr Phelps was recalled to give evidence in relation to Mr Thrower's third witness statement.

5 226. Mr Phelps considered that the diagram at paragraph 213 above was not representative of the mine's rock faces. It was a tiny section of the rock face.

227. As regards the percentage of pelite to psammite, Mr Phelps' view was that this was best demonstrated by the photographs of the core boxes.

228. In relation to the ACA Howe reports, Mr Phelps considered that they were accurate.

10 229. Mr Phelps said that psammite rock was not the type of rock exported by the Contractor.

15 230. In relation to the diagram featured in the 2005 ACA Howe and subsequent reports, reproduced at paragraph 218 above, Mr Phelps accepted that the mine was shown to be in an area of Mullaghcarne schists but he insisted that slate was a form of schist.

20 231. Mr Phelps was asked about the 2014 report referred to in paragraph 217 above and why the wording had been altered to include a reference to "schistose slates". Mr Phelps denied that ACA Howe would have disagreed with this report. However, Mr Phelps said he was aware that some geologists considered that slate was not schist. He therefore had decided to give what he described as a better description using the IUGS terminology. He denied that the altered wording was self-serving and said that he was simply attempting to give a better explanation.

**Submissions and discussion**

*Jurisdiction – whether a "best judgement" assessment*

25 232. In HMRC's opening submissions, Dr McNall argued that the assessment dated 5 October 2009 issued to the appellant was a "best judgement" assessment issued pursuant to para 2(2)(d) Schedule 5 FA 2001.<sup>7</sup> It was argued that this Tribunal's jurisdiction may be limited to a judicial review-type jurisdiction as a result of s42(2) FA 2001. Subsequently, HMRC changed their submissions and argued that the  
30 assessment was not a "best judgement" assessment but was, rather, an assessment issued on the basis of the appellant's aggregates levy returns periods 01/09 (the period 26/5/08-31/3/09) and 04/09. Dr McNall argued that the assessments "stand good" unless displaced by the appellant.

35 233. Mr O'Donoghue argued that the assessment was, indeed, a "best judgement" assessment under para 2(2)(d) Schedule 5 FA 2001 and that HMRC were in breach of the "best judgement requirement."

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<sup>7</sup> I note that the penalty was assessed under para 2 Schedule 10 FA 2001.



234. This was an appeal under s40 FA 2001. Section 40(1) specifies:

“..an appeal shall lie to an appeal tribunal from any person who is or will be affected by any decision of HMRC with respect to any of the following matters-

5 (a) whether or not a person is charged in any case with an amount of aggregates levy;

...

10 (f) whether or not liability to a penalty to interest on any amount arises in any person’s case under any provision made by or under this Part, and the amount of any such liability.”

235. Section 42(Determinations on appeal) sets out at paragraph (2):

15 “On an appeal under section 40 above, the powers of the appeal tribunal in relation to any decision of the Commissioners shall include *a power, where the tribunal allow an appeal on the ground the Commissioners could not reasonably have arrived at the decision,* either-

(a) to direct that the decision, so far as it remains in force, is to cease to have effect from such time as the tribunal may direct; or

20 (b) to require the Commissioners to conduct, in accordance with the directions of the tribunal a review or a further review of the original decision as appropriate” (emphasis added)

236. Paras 1 and 2 Schedule 5 FA 2001 (Assessments of amounts of levy due) relevantly provides:

25 (1) Where it appears to the Commissioners—

(a) that any period is an accounting period by reference to which a person is liable to account for aggregates levy,

(b) that any aggregates levy for which that person is liable to account by reference to that period has become due, and

30 (c) that there has been a default by that person that falls within sub-paragraph (2) below,

they may assess the amount of the levy due from that person for that period to the best of their judgement and notify that amount to that person.

(2) The defaults falling within this sub-paragraph are—

35 (a) any failure to make a return required to be made by any provision made by or under this Part of this Act;

(b) any failure to keep any documents necessary to verify returns required to be made under any such provision;

40 (c) any failure to afford the facilities necessary to verify returns required to be made under any such provision;

(d) the making, in purported compliance with any requirement of any such provision to make a return, of an incomplete or incorrect return;

(e) any failure to comply with a requirement imposed by or under Schedule 4 to this Act.

237. In my view, the assessment to aggregates levy was an assessment under paras 1 and 2(d) of Schedule 5 FA 2001. An assessment under those provisions has to be made by the Commissioners “to the best of their judgement”. In this case, HMRC concluded that the rock was not exempt and their assessment was based on the quantities of rock shown on the appellant’s returns as having been so removed.

238. Nonetheless, in my judgment, the jurisdiction of this Tribunal in considering an appeal against that assessment is a full appellate (rather than a supervisory) jurisdiction. The point is important because it bears directly on my approach to assessing the evidence. It seems to me that I need to consider the substantive issue of whether the rock removed by the Contractor was exempt and that matters to do with how Mr McCauley and the reviewing officer reached their decision and whether that decision was reasonable are of secondary importance.

239. This same jurisdiction question was considered by this Tribunal in *Northumbrian Water Ltd v HMRC* [2013] UKFTT 337 (TC) (Judge Raghavan and Ms Neil). The Tribunal said:

“96. A preliminary question arose as to the nature of the Tribunal’s jurisdiction in the appeal given the inclusion within the statutory powers given to the Tribunal of a power to direct a further review of the original decision where the Tribunal allowed the appeal on the grounds the Commissioner could not reasonably have arrived at the decision.

97. This was an appeal under s40 FA 2001. The particular subsections which are relevant are 40(1)(c) or according to HMRC s40(1)(a). Section 40(1) specifies:

“..an appeal shall lie to an appeal tribunal from any person who is or will be affected by any decision of HMRC with respect to any of the following matters-

(a)... whether or not a person is charged in any case with an amount of aggregates levy

(c) the registration of any person or premises for the purpose of aggregates levy...”

98. Section 42(Determinations on appeal) sets out at paragraph (2):

“On an appeal under section 40 above, the powers of the appeal tribunal in relation to any decision of the Commissioners shall include a power, where the tribunal allow an appeal on the ground the Commissioners could not reasonably have arrived at the decision, either-

(a) to direct that the decision, so far as it remains in force, is to cease to have effect from such time as the tribunal may direct; or

(b) to require the Commissioners to conduct, in accordance with the directions of the tribunal a review or a further review of the original decision as appropriate”

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99. The parties were in agreement that the Tribunal had full appellate jurisdiction rather than a supervisory jurisdiction concerned with looking at whether HMRC’s decision had not been arrived at unreasonably. The case concerned the question of whether the various locations where gravel was used together with the pit were a “site” within the meaning of s19(3)(e) and this was to be determined on the basis of the evidence put before the Tribunal and the facts found by it.

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100. That conclusion is supported by the fact s40 deals with a number of matters. One of those matters, for example, that set out in s40(1)(e) “the imposition of a requirement on any person to give security” is clearly a matter where there is discretion on the part of the Commissioners. Section 26 which is headed “Security for levy” states:

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“Where it appears to the Commissioners necessary to do so or the protection of the revenue they may require any person who is or is required to be registered to give security, or further security for the payment of aggregates levy...”[emphasis added].

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101. This is to be contrasted with s24 which sets out “It shall be a duty of the Commissioners to establish and maintain a register of persons who are required to be registered for the purposes of aggregates levy” and then in s24(2) sets out the conditions which give rise to a person being required to be registered.

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102. It is therefore understandable that s42 needs to cover directions in relation to decisions that have been reached unreasonably where matters of discretion are involved and therefore where a supervisory approach by the Tribunal might be justified. But, it is also clear that applying a supervisory approach is not required in all cases, and that it would not be appropriate to the determination of the issue in this case which is about applying statutory construction to a given set of facts and evidence rather than looking at the exercise of a discretion by HMRC .”

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240. In the Upper Tribunal Rose J (as she then was) noted (*HMRC v Northumbrian Water Ltd* [2015] UKUT 93 (TCC) at [11]) that the parties had agreed that the tribunal’s jurisdiction was appellate rather than supervisory.

241. With respect, I agree with the views expressed by this Tribunal in *Northumbrian Water*. The assessment in this case involves a potential substantive liability to tax. It would be unusual for an appeal in respect of such an issue to be dealt with by this Tribunal exercising only a supervisory jurisdiction. In my view, in hearing this appeal, I have full appellate jurisdiction i.e. I must consider all the evidence and conclude whether the rock was exempt from aggregates levy.

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242. I disagree with HMRC’s submissions that the assessment was not a “best judgement” assessment because, so the argument ran, the assessment was based on

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the appellant's aggregates levy returns. It is true that the quantum of the rock removed by the Contractor and upon which the calculation of the amount of levy due was made was based on the amount of rock recorded in the appellant's returns. However, it seems to me that both Mr McCauley and the reviewing officer were required to use their "best judgement" in determining the nature of the rock removed and, consequently, whether the exemption for "slate" applied. There is, therefore, no doubt in my mind that the assessment was made under paragraph 2(1) and (2)(d) Schedule 5 FA 2001 and was therefore a "best judgement" assessment.

*Best judgement*

243. The leading authority on the meaning of the statutory power of HMRC to make an assessment "to the best of their judgment" (relating to similar wording found in Value Added Tax Act 1994) is the decision of the Court of Appeal in *Customs and Excise Commissioners v Pegasus Birds Ltd* [2004] STC 1509. Carnwath LJ (as he then was) gave the main judgment, which is worth quoting at length, as follows:

"[16] In *Rahman (I)*, I drew attention to phrases used by Woolf J in the leading case under this Act (*Van Boeckel v Customs and Excise Comrs* [1981] STC 290) and in previous authorities in other tax contexts, to explain the effect of the 'best of their judgment' requirement (see [1998] STC 826 at 835):

'The passages I have italicised show that the tribunal should not treat an assessment as invalid merely because it disagrees as to how the judgment should have been exercised. A much stronger finding is required; for example, that the assessment has been reached "dishonestly or vindictively or capriciously"; or is a "spurious estimate or guess in which all elements of judgment are missing"; or is "wholly unreasonable". In substance those tests are indistinguishable from the familiar *Wednesbury* principles (see *Associated Provincial Picture Houses Ltd v Wednesbury Corp* [1948] 1 KB 223). Short of such a finding, there is no justification for setting aside the assessment.'

[17] In *Rahman (I)* it was common ground between the taxpayer and the Commissioners that the tribunal should adopt a 'two stage approach', which I described thus (see [1998] STC 826 at 835):

'... the practice is to consider these cases in two stages. (1) Consideration whether the assessment was made according to the "best judgment of the commissioners"; if not, the assessment fails, and stage (2) does not arise. (2) If the assessment survives stage (1), consideration whether the amount of the assessment should be reduced by reference to further evidence or further argument available to the tribunal ...'

[18]... I expressed my concerns (see [1998] STC 826 at 836, emphasis added):

'I accept the importance of the discipline, and I also acknowledge the desirability of not upsetting established practice without good reason. In principle there is nothing wrong in the tribunal considering the validity of the assessment as a separate and preliminary issue, when

that is raised expressly or implicitly by the appeal, and, as part of that exercise, applying the *Van Boeckel* test. *There is a risk, however, that the emphasis of the debate before the tribunal will be distorted. If I am right in my interpretation of Van Boeckel, it is only in a very exceptional case that an assessment will be upset because of a failure by the commissioners to exercise best judgment. In the normal case the important issue will be the amount of the assessment. The danger of the two-stage approach is that it reverses the emphasis ...'*

[19] In that case, the two-stage approach was applied in such a way that one of the tribunal, having dissented from the chairman's correct decision (as I found) on the best judgment issue, then wrongly regarded himself as having no further part to play in the consideration of the amount of the assessment. I held that the case had to be remitted to the tribunal. I concluded (see [1998] STC 826 at 840):

'This case illustrates the dangers of an over-rigid adherence to the two-stage approach. I do not wish to diminish in any way from the importance of guidance given by Woolf J to Customs officers as to how to exercise their best judgment when making assessments. However, when the matter comes to the tribunal, it will be rare that the assessment can justifiably be rejected altogether on the ground of a failure to follow that guidance. The principal concern of the tribunal should be to ensure that the amount of the assessment is fair, taking into account not only the Commissioners judgment but any other points that are raised before them by the appellant.'

*Rahman* (No 2)

[20] The latter passage was in terms adopted by Chadwick LJ in this court in *Rahman* (No 2) [2003] STC 150 at para 42.

...

[21] Chadwick LJ (para 5) noted that the wording of s 83(p) reflected 'the two distinct questions' which may arise where an assessment purports to be made under s 73(1):

'First, whether the assessment has been made under the power conferred under that section; and, second, whether the amount of the assessment is the correct amount for which the taxpayer is accountable.'

Having referred with approval (para 31) to my judgment in *Rahman* (1) and that of Dyson J to like effect in *McNicholas Construction Co Ltd v Customs and Excise Comrs* [2000] STC 553, he addressed the taxpayer's submission that because the tax due had been found to be less than half the amount of the assessment, the assessment could not have been to 'best judgment' (para 32). He regarded that as a 'non-sequitur':

'The explanation may be that the tribunal, applying its own judgment to the same underlying material at the second, or "quantum", stage of the appeal, has made different assumptions—say, as to food/drink ratios, wastage or pilferage—from those made by the commissioners. As Woolf J pointed out in *Van Boeckel* ([1981] STC 290 at 297), that does not lead to the conclusion that the assumptions made by the

5 commissioners were unreasonable; nor that they were outside the  
margin of discretion inherent in the exercise of judgment in these  
cases. Or the explanation may be that the tribunal is satisfied that the  
commissioners have made a mistake—that they have misunderstood or  
misinterpreted the material which was before them, adopted a wrong  
methodology or, more simply, made a miscalculation in computing the  
amount of VAT payable from their own figures. *In such cases—of  
10 which the present is one—the relevant question is whether the mistake  
is consistent with an honest and genuine attempt to make a reasoned  
assessment of the VAT payable; or is of such a nature that it compels  
the conclusion that no officer seeking to exercise best judgment could  
have made it. Or there may be no explanation; in which case the  
proper inference may be that the assessment was, indeed arbitrary  
[emphasis added].'*

15 That formulation of the 'relevant question' was part of the ratio of the  
decision in that case; it is binding on us, and on the tribunal in future  
cases.

[22] In the light of that authoritative statement of the law, I would  
caution against attempts to refine or add to it, by reference to  
individual sentences or phrases from previous judgments. In *Rahman*  
20 *(I)*, as already noted I listed a number of phrases used in earlier cases  
as 'examples', to illustrate that the test was higher than was being  
submitted by the taxpayer. I added that the tests were 'indistinguishable  
from the familiar *Wednesbury* principles'. In retrospect, I think the  
reference to *Wednesbury* principles was unhelpful and a possible  
25 source of confusion, and may raise as many questions as it answers  
(see the comments of Neill LJ in *John Dee Ltd v Customs and Excise  
Comrs* [1995] STC 941 at 952; and of the tribunal in *W H Smith Ltd v  
Customs and Excise Comrs* [2000] V&DR 1 at para 124). Another  
phrase (used by Woolf J in *Van Boeckel* [1981] STC 290 at 292)  
30 referred to the obligation of the commissioners 'fairly [to] consider all  
material placed before them'. As a general proposition that is  
uncontroversial. However, it should not be seen as providing a separate  
and sufficient test of the invalidity of the assessment, nor as justifying  
lengthy cross-examination to establish whether the relevant officers  
35 have in fact looked at *all* the available material. Even the term 'wholly  
unreasonable' (also used in *Van Boeckel*) may be misleading if it is  
treated as a separate test, rather than as simply an indication that there  
has been no 'honest and genuine attempt' to make a reasoned  
40 assessment.”

244. In my judgment, these observations by Carnwath LJ are equally applicable to an  
assessment under paragraph 2 Schedule 5 FA 2001 as they are to VATA 1994. The  
question, therefore, is whether Mr McCauley and the reviewing officer made an  
“honest and genuine attempt” to make a reasoned assessment of the aggregates levy  
45 payable by the appellant.

245. Mr O’Donoghue criticised the way in which Mr Thrower had taken samples in  
July 2009 and, further, argued that Mr Thrower had not been instructed to take a  
representative sample of what had been taken away by the Contractor. He also  
criticised the lack of what he described as a proper “chain of custody” of those

5 samples from the date of their delivery by Mr Thrower to Professor Doyle’s address and Professor Doyle taking possession of the samples. The assessment and the review decision had been based upon Mr Thrower’s CSL report and Professor Doyle’s analysis. In addition, Mr McCauley and the review officer had ignored AGL 1, sections 3 and 20, and the submissions made by the appellant in their letter of 13 March 2009.

246. Applying public law principles, Mr O’Donoghue argued that the review decision and the assessment could not stand.

10 247. I reject those submissions. As Carnwath LJ makes clear in *Pegasus Birds* the correct test to apply, in determining whether an assessment has been made to the best of the HMRC officer’s judgement, is whether the officer made in “honest and genuine attempt” to raise an accurate assessment. In my judgment, both Mr McCauley and the review officer did exactly that. Whatever the alleged shortcomings, for example, of Mr Thrower’s sampling and Professor Doyle’s analysis may be, they did not seem to me to be matters that indicated that there had been a failure to produce an “honest and genuine” assessment. Rather, those matters and the other points made by Mr O’Donoghue, seem to me to go to the substantive question of the correctness of the assessment in the light of all the evidence. In my view, if I were somehow to disqualify the assessment on the basis that it failed the “best judgment” test (and see the reservations of Carnwath LJ as to the propriety of so doing, at [29]) I should be falling into the trap of placing undue weight on the first (i.e. the “best judgement”) step rather than concentrating on the substantive correctness of the assessment. Furthermore, in relation to Mr O’Donoghue’s submissions concerning public law, as Carnwath LJ made clear at [22], the correct test is not the public law *Wednesbury* test. I therefore reject those submissions.

*Burden of proof and standard of proof*

30 248. In the light of my Article 6 Decision, it seems to me that the burden of proof in relation to the assessment lies upon the appellant (*Grunwick Processing Laboratories v CCE [1987] STC 357*) – I see no sensible argument to the contrary. In relation to the penalty, the burden of proof rests on HMRC.

249. As to the standard of proof, as I understood it, it was common ground that the ordinary civil standard of proof i.e. the balance of probabilities, was applicable in this case and it is this standard that I have applied.

35 *The assessment – was the rock removed by the Contractor “slate” and therefore exempt from aggregates levy?*

40 250. Mr O’Donoghue noted that there had been no contemporaneous sampling undertaken of the content of the Contractor’s lorries. Furthermore no record had been kept of the methodology employed by the Contractor to remove aggregates from the mine. That is no doubt true but it therefore becomes necessary to establish from the rock remaining at the mine – the best evidence available – what the Contractor’s lorries would have contained.

251. Mr O'Donoghue then argued that CSL's brief was not to take a representative sample of what had been taken by the Contractor from the site over which exemption was claimed. However, I disagree. It seems to me perfectly clear from the evidence that Mr Thrower was intending to take samples which represented the rock taken  
5 away by the Contractor – that was the whole point of Mr Thrower's visit to the mine. Mr Hardie confirmed that the purpose of the visit by CSL was to determine whether or not the rock removed from the mine was exempt. He further confirmed that the rock stockpile from which Mr Thrower took his samples was representative of the rocks removed by the Contractor. In addition, Mr McCauley's email of 1 July 2009 to  
10 Mr Hardie expressly indicated that HMRC wish to analyse rock which was representative of that taken by the Contractor. Mr McCauley's note of visit also indicated that Mr Hardie the indicated the stockpiles of rock which he considered to be representative of that removed by the Contractor and also the area of the site where the Contractor had been extracting the rock.

15 252. In his evidence, Mr Phelps sought to contradict Mr Hardie's evidence that the rock stockpile from which Mr Thrower took his samples was representative of the rock removed by the Contractor. It was not until 2012 that Mr Hardie became aware of Mr Phelps' opinion (the Contractor having gone into administration in October 2011). I place little weight on Mr Phelps' evidence in this regard. I have already noted  
20 that Mr Hardie, who lived at the mine, considered the rock stockpile to be representative of the rock removed by the contractor. Moreover, Mr Hardie was accompanied by Mr McFarlane, a qualified geologist employed by the appellant when HMRC and Mr Thrower visited the mine to take the samples. Indeed, Mr McFarlane accompanied Mr Thrower whilst the samples were being taken. There is no indication  
25 in the evidence that Mr McFarlane or (at the time) Mr Hardie had any concerns about the representative nature of the stockpile. Moreover, the Sampling Agreement, signed by Mr Hardie, confirmed that the samples were agreed to have been "sampled representatively from the stockpile(s) identified by the operator." It therefore seems impossible to me for the appellant to now argue that the samples taken by Mr  
30 Thrower from the rock stockpile were not representative of the material removed by the Contractor.

253. Although Mr O'Donoghue argued that Mr Thrower's selection of rock did not include larger sections of rock or the finer materials, no objection to the method of sampling or the rock actually selected by Mr Thrower was raised by either Mr Hardie  
35 or Mr McFarlane at the time.

254. Consequently, far from there being, as Mr O'Donoghue described them, fundamental and irredeemable criticisms of Mr Thrower's sampling, it seems to me that Mr Thrower did indeed take a representative sample.

255. Much was made of the fact that Mr Thrower's samples only constituted a total  
40 weight of approximately 51 kg, whereas the applicable standard BS 812 Part 102 indicated that the minimum weight should be 100 kg. There is no doubt that Mr Thrower's samples did not comply with this standard and, in my view, Mr Thrower was incorrect in his report to state that the samples had been taken in accordance with that standard. Nonetheless, I accept the evidence of Professor Doyle that even if a



sample of 100 kg had been taken it would have made no difference given the dominance of a particular type of non-exempt lithology. Furthermore, since the 51 kg sample taken by Mr Thrower was 100% non-exempt (97.8% mica schist and 2.2% vein quartz), even if a further 49 kg had been retrieved as a sample and had consisted  
5 entirely of exempt slate, the test in section 17 (4) FA 2001 (“wholly or mainly... slate”) could not have been satisfied.

256. I should add that I was not convinced by Mr Phelps’ criticism of Mr Thrower’s method of sampling. No objections were raised at the time to Mr Thrower’s methodology. As to the question of the fact that Mr Thrower should have included  
10 some of the larger boulders as samples, I accept Professor Doyle’s observation that BS 812 Part 104 required samples of that size to be taken only if practicable.

257. There was much debate about whether the proportion of pelite to psammite rock in the relevant part of the mine was 70% to 30% or *vice versa*. Mr Wells and Mr Phelps held the former view and Mr Thrower held the latter view. I should add that, in  
15 this context, I found the BGS report ambiguous and considered that it did not shed clear light on this point, save to the extent that I agreed with Professor Doyle that the reference to “a pervasive, penetrative mica schistosity” in respect of pelitic rocks was describing schist not slate.

258. Even if I were to accept the proportions put forward by Mr Wells and Mr Phelps (i.e. that the proportion was 70% pelite to 30% psammite) that did not, in my view, take matters much further. It seemed to be accepted by both parties that the Contractor was unlikely to have removed psammite rock – this was a more competent and harder rock than pelite rock. It would have been extremely difficult to extract this rock with the type of mechanical diggers used by the Contractor.

259. Even if the Contractor had removed only pelite rock that does not establish that the rock so removed was slate. I accept Professor Doyle’s evidence, which was not challenged, that slate and schist were both types of pelite rock which had been subject to different degrees of metamorphism. I also accept Professor Doyle’s evidence that slate was not a schist. This contradicted the evidence of Mr Phelps, Mr Wells and the  
30 IUGS classification scheme (referred to in paragraph 110 above). Nonetheless, Professor Doyle’s evidence was clear that the IUGS definition was not one that represented the mainstream view of geologists. Professor Doyle’s evidence was that slate was a fine-grained metamorphic rock, with no visible mineral growth, and had planar slaty cleavage. It did not exhibit schistosity. Schistosity was different from planar foliation and was another type of foliation. It was not that of flat planes but of  
35 peculiar wavy forms. Thus it was not correct to describe slate as a schist. Professor Doyle’s evidence on this point seemed to me clear, authoritative and convincing. I conclude that slate is not a schist and does not exhibit schistosity.

260. In this context, I found Mr Wells’ evidence unclear and unconvincing. The first  
40 GCL report dated 23 February 2009 incorrectly concluded that the rock in question was, in part, shale. Mr Wells accepted that he had been mistaken –the rock was not shale. This was not a particularly promising start. But even allowing for this error, I note that Mr Wells described the rock he examined as “schistose” (both as regards

“pelite” and semi-pelite”). Accepting Professor Doyle’s evidence, I conclude that slate cannot be correctly described as “schistose”. In addition, Mr Wells described the rock which he examined as exhibiting “a very thinly laminated schistose foliation”. Again, this seems at odds with the rock being slate.

5 261. There was also one other aspect of the first GCL report which seemed to me telling. Professor Doyle’s evidence, which I accept, was that slate did not have visible mineral growth. Schist, on the other hand, did have visible mineral growth. In his first report, Mr Wells described the rock he examined as follows:

10 “The structure of both of the above samples exhibits a very thinly laminated schistose foliation (cleavage) that is defined by horizontally aligned biotite mica minerals...”

15 262. This suggests to me (and, indeed, as Mr Wells confirmed in cross-examination) that Mr Wells saw visible (mica) mineral growth in the samples that he examined in 2009. In other words, it seems to be more likely than not that Mr Wells was examining schist rather than slate. In slate, as Professor Doyle confirmed, individual grains were not visible to the eye. It also, in my view, indicates a confusion in terminology that affected much of Mr Wells’ evidence. He describes “schistose” foliation as “cleavage”. I accept Professor Doyle’s evidence that this is an inappropriate description. Slaty cleavage is a term used to describe slate – it is not schistose foliation because slate is not a schist.

20 263. In the second GCL report, Mr Wells included the statement quoted at paragraph 93 above. Once again, Mr Wells refers to “a slaty/schistose fabric.” Mr Wells later stated:

25 “The meta-mudstone/pelite rocks are also characterised by a slaty/foliation cleavage, which causes the rock to split into thin sheets. This property also reflects the fissile nature of slate rocks, where cleavage planes are formed by very thin to thin laminations.”

30 264. In his oral evidence, Mr Wells was imprecise. He frequently referred to the rock which he observed or examined as being “a slaty-type rock”, “a slate-type material”, or rock which was “effectively slate” or rock was “akin to pelite slate”. Mr Wells said that “slate-type rock” was a “form of schist”. He considered that “slaty cleavage” and “schistosity” were much the same thing. Mr Wells seemed to me reluctant definitively to identify the rock in question as “slate” and this imprecision pervaded much of his evidence, particularly his oral evidence. I have therefore treated Mr Wells’ evidence on this issue with some caution.

35 265. Mr O’Donoghue also criticised what he described as the lack of a “chain of custody” in relation to the samples delivered by Mr Thrower to Professor Doyle. There was no history of appropriate labelling or photographing of the exhibits so that it could be clearly established that the samples actually inspected by Professor Doyle were those taken from the mine. The evidence, however, was that Mr Thrower left the bags of samples at Professor Doyle’s house and that they were retrieved by Professor Doyle on his return from holiday. There was no evidence that other samples may have been confused or mixed up with the bags left by Mr Thrower. Moreover, there was no

evidence to suggest that the samples contained in the bags were somehow contaminated – this case deals with bags of rocks not fragile specimens of DNA. A bag of slate cannot be turned into mica schist and vein quartz by being left by a back door for a few days. Accordingly, I reject Mr O’Donoghue’s submissions on this point.

266. Mr O’Donoghue argued that it was not possible, either from the literature or from the opinion evidence given to the Tribunal, to decide whether the majority of the material placed in the Contractor’s lorries contained slate. In my view, this loses sight of the fact that the burden of proof lies upon the appellant in relation to the assessment. If Mr O’Donoghue is correct, and it is unsafe on the evidence before me to determine whether the rock removed by the Contractor was or was not slate, then the assessment must stand. In my view, however, I am satisfied that the rock was not slate. At the risk of repeating some of the points made above, my reasons for reaching this conclusion are as follows.

267. First, I am satisfied that the samples taken by Mr Thrower were representative of the rock removed by the Contractor. The sampling involved Mr Hardie, the mine manager who worked and lived at the mine, and Mr McFarlane, the appellant’s geologist. Mr Hardie confirmed that the rock stockpile from which Mr Thrower took his samples was representative of the rock removed by the Contractor. Mr Phelps disagreed, but Mr Phelps only visited the mine periodically and only raised his objections, according to Mr Hardie, in 2012. Furthermore, Mr McFarlane – who, as we have seen, carried out a detailed study of the mine’s geology – accompanied Mr Thrower when the samples were actually taken. No objections were raised as to the way in which Mr Thrower took his samples, the nature of the samples or the location from which they were taken. The Sampling Agreement also confirmed that the samples were representative. For the reasons given above, I reject the criticisms made of the sampling procedure followed by Mr Thrower.

268. Secondly, having concluded that Mr Thrower’s samples were indeed representative of the rock, Professor Doyle’s analysis concluded that the rock that he examined was 100% non-exempt (i.e. mica schist and vein quartz).

269. Thirdly, as I have said, I accept Professor Doyle’s evidence that slate is not schist and that the IUGS approach (which post-dates the enactment of section 17(4) FA2001) to including slate as a schist does not represent the mainstream view of geologists. Slate does not, therefore, exhibit schistosity. Instead, it exhibits slaty cleavage. On this point, Mr Wells’ evidence was inconsistent. At some points he referred to planar cleavage whilst the other points he referred to the pelite rock found at the mine as exhibiting schistosity. As I have noted, Mr Wells seemed reluctant to state categorically, particularly in his oral evidence, that the rock was slate. Instead, he employed various circumlocutions such as “slate-type” or “effectively slate” to describe the rock. GCL’s second report was based on a visit to the mine by Mr Wells over two years after the Contractor had removed the rock. Mr Wells took no samples and conducted no petrographic analysis. Significant parts of his evidence dealt with the suitability of the rock he observed at the mine as an aggregate – a question which seemed to me to be largely irrelevant to the issue before me, but no doubt of interest

to an engineering geologist such as Mr Wells. For these reasons, I found Mr Wells' evidence, the main independent expert evidence relied upon by the appellant, to be unconvincing. To be clear, I cast no doubts upon Mr Wells' honesty or integrity – his evidence was, however, less convincing and coherent than that of Professor Doyle when it came to distinguishing slate from schist.

270. Fourthly, it seems more likely than not that the rock which Mr Wells examined in his first report was schist. His reference to visible minerals seems to me incompatible with the rock being slate. Professor Doyle's evidence, which I have accepted, was that slate was a fine-grained rock and that minerals were not visible to the naked eye. Instead, visible minerals occurred in schist as a result of a higher degree of metamorphism.

271. Fifthly, in its application for the ALCS, Box 6f ("Metamorphic Rock") indicated that "Schist" would be extracted. Although Mr Conway stated that the form had been pre-completed by the Contractor, this seems to me significant contemporaneous evidence that the rock being extracted was schist rather than slate.

272. For these reasons, I dismiss the appeal in relation to the assessment.

#### *The penalty*

273. If I am correct that the rock removed by the Contractor was not slate, but mainly schist, then it must follow that the returns submitted in respect of the period 4 August 2008 to 31 January 2009 contained an understatement of the amount of aggregates levy to which the appellant was liable (para 9 (1)(a) Schedule 6 FA 2001).

274. Mr O'Donoghue did not seek to argue that the appellant could escape the penalty on any other ground (e.g. "reasonable excuse"). The burden of proof in respect of establishing the "reasonable excuse" defence lies upon the appellant (paragraph 9 (4) Schedule 6 FA 2001) and it was not contended that the appellant had a reasonable excuse.

275. On this basis, the penalty attributable to the above period must be confirmed.

276. In so far as the penalty is attributable to the subsequent period (1 February 2009 to 30 April 2009), the position seems to me unclear. Paragraph 9 Schedule 6 FA 2001 was repealed with effect from 1 April 2009 (Art 2 Finance Act 2008, Schedule 40 (Appointed Day, Transitional Provisions and Consequential Amendments) Order 2009). Dr McNall, in his written closing submissions submitted that the penalty in respect of both periods arose under paragraph 9 Schedule 6 FA 2001 because the returns were both "before 1 April 2010." No authority was quoted for this proposition and the matter was not, as far as I can see, addressed by Mr O'Donoghue. It is not immediately obvious to me why or on what basis the result which Dr McNall suggests should be so, but rather than reach a self-directed decision on this point, I have decided, in fairness, to adjourn this appeal in relation to the penalty attributable to the period 1 February 2009 to 30 April 2009 and I direct that the parties submit written

submissions (including full statutory references) on this issue within 30 days of the release of this decision.

**Decision**

277. For the reasons given above, I dismiss the appeal in respect of the assessments. I  
5 also dismiss the appeal in respect of the penalty relating to the period 04/08/08-31/01/09.

278. I have adjourned the appeal in relation to the penalty relating to the period 1 February 2009 to 30 April 2009 pending receipt of written submissions.

279. This document contains full findings of fact and reasons for the decision. Any  
10 party dissatisfied with this decision has a right to apply for permission to appeal against it pursuant to Rule 39 of the Tribunal Procedure (First-tier Tribunal) (Tax Chamber) Rules 2009. I direct that the application (and any application in respect of the Article 6 Decision) must be must be received by this Tribunal *not later than 56 days after a decision in respect of the penalty attributable to the period 1 February 2009 to 30 April 2009 is sent to the parties*. The parties are referred to “Guidance to  
15 accompany a Decision from the First-tier Tribunal (Tax Chamber)” which accompanies and forms part of this decision notice.

20 **GUY BRANNAN**  
**TRIBUNAL JUDGE**

**RELEASE DATE: 25 FEBRUARY 2019**