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Pursuant to the

Construction Contracts (Security of Payments) CCA 2004

Adjudication Number	35.14.01
Prescribed Appointor	RICS Dispute Resolution Service
Adjudicator	John Tuhtan¹
Applicant:	
Respondent:	
Project:	
Amount to be paid by Respondent	\$12,214,814.31 including GST
Due date for payment	Within 7 days of release of determination
Adjudication Fees Apportionment	Applicant: 50% Respondent: 50%
Date of Determination or Dismissal	9 March 2014
Payment Claim	Claimed Amount : \$26,175,154.32 including GST Dated : 25 October 2013
Notice of Dispute / Response to Payment Claim	Notice of Dispute Amount : Nil
Adjudication Application	Dated: 28 January 2014
Adjudicator Acceptance	Dated: 29 January 2014
Adjudication Response	Dated: 11 February 2014

¹ Registered Adjudicator Number 35

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DETERMINATION

- 1) I, John Tuhtan², the adjudicator appointed pursuant to section 30(1)(a) of the *Construction Contracts (Security of Payments) Act (NT) (CCA)*, for the reasons set out below, determine that:
 - a) The amount to be paid by the respondent to the applicant is \$12,214,814.31 including GST.
 - b) Interest is due on the adjudicated amount at a rate of 8% per annum from 2 December 2013.
 - c) The respondent is to pay the adjudicated amount to the applicant within 7 days of the date of the determination being released.

BACKGROUND

- 2) The application arises from an unpaid payment claim made by the applicant on the respondent under section 8(a) of the CCA for construction work carried out under a construction contract at the *[project site description omitted] Project*.

APPOINTMENT OF ADJUDICATOR

- 3) Pursuant to section 28(1)(c)(iii) of the CCA, the applicant served its adjudication application on the RICS Dispute Resolution Service, which is a prescribed appointor under the CCA.
- 4) The adjudication application was referred to me as adjudicator on 29 January 2014 by the RICS Dispute Resolution Service pursuant to section 30(1)(a) of the CCA.
- 5) The RICS Dispute Resolution Service served a notice of my acceptance of the appointment on the claimant and the respondent on 29 January 2014.

DOCUMENTS

- 6) The following documents were provided to me:
 - a) Adjudication application submissions dated 24 January 2014 on 29 January 2014; and
 - b) Adjudication response dated 11 February 2014 on the same date.
 - c) The applicant's further submissions dated 18 February 2014.

² Registered Adjudicator Number 35

JURISDICTION

- 7) The parties entered into a contract to carry out [*excavation*] work relating to the Project on the [*project site description omitted*] (**site**) on or about 8 May 2012 (**Contract**). The Contract was entered into after the commencement of section 9 of the CCA.
- 8) The work carried out under the Contract is '*construction work*' as defined in section 6(1) of the CCA.
- 9) Accordingly, the Contract is a construction contract as defined in section 5(1) of the CCA and the CCA applies to disputes arising under the Contract.
- 10) Pursuant to section 27 of the CCA, the applicant is a party to the Contract under which the payment dispute has arisen and is, therefore, entitled to apply to have the dispute adjudicated.
- 11) I am not aware of any unresolved application for adjudication or order, judgment or finding by an arbitrator or court dealing with a matter arising under the Contract as referred to in sections 27(a) or 27(b) of the CCA.
- 12) I am, therefore, satisfied that I have jurisdiction to determine the adjudication application pursuant to the CCA.

PAYMENT CLAIM (PROGRESS CLAIM NO. 17)

- 13) The applicant served the respondent with Progress Claim No. 17 on 25 October 2013, which was a payment claim for the purposes of the CCA. The progress claim was comprised of 2 parts as follows:
 - a) Bill No. 1 - General
 - (i) for [*work details omitted*] work carried out;
 - (ii) for standby up to and including 24 September 2013;
 - (iii) for standby from 25 September to 25 October 2013;in the amount of; \$2,920,610.00 excl. GST;
 - b) Bill No. 2 – Variations and Claims
 - (i) for standby from 1 December 2012 to 1 May 2013;
 - (ii) for latent conditions encountered during the period 3 October 2012 to 18 October 2013;
 - (iii) deductions for amounts certified on account;

(iv) for work carried out [*plant details omitted*] during the period 18 to 25 October 2013;

(v) for standby of the [*plant*] during the period 18 to 25 October 2013;

in the amount of \$20,874,985.00 excluding GST.

- 14) The total amount claimed to date under the Contract is \$59,225,426.04 excl. GST and Progress Claim 17 is a payment claim in the amount of \$23,795,594.84 excl. GST.

PAYMENT CERTIFICATE

- 15) The respondent received the applicant's Progress Claim 17 on 25 October 2013 and issued a payment certificate pursuant to clause 37.2 of the Contract on 7 November 2013. The payment certificate was comprised as follows:
- a) For Bill 1 item 2, the claimant **claimed \$664,160.00** for [*work details omitted*] and the respondent re-measured the work carried out and **certified \$697,130.80**.
 - b) For Bill 1 item 4 part a, the claimant **claimed \$862,050.00** for '*Standby Sept 2013 claimed in PC 16*' and the respondent **certified \$NIL** and referred to its reasons given in its letter dated 30 September 2013.
 - c) For Bill 1 item 4 part b, the claimant **claimed \$1,394,400.00** for '*Standby 25 Sept to 25 Oct 2013*' and the respondent **certified \$100,800.00** and referred to its reasons given in its letter dated 30 September 2013.
 - d) For Bill 2 item 2, the claimant **claimed \$6,224,400.00** for '*Standby for compensable hours between 0000 hrs 1 December 2012 and 0000 hrs 1 May 2013*' and the respondent **certified \$NIL** because it asserted the applicant had no contractual entitlement to payment and furthermore this claim has been the subject of a prior determination made on 16 September 2013.
 - e) For Bill 2 item 5a, the claimant **claimed \$18,971,498.00** for '*Reasonable rate for material harder than 7 MPa as outlined in the Claim Letter of 25 October for the period 3 October 2012 to 18 October 2013. Reasonable Rate of \$55.91 less Contract Rate of 23.72. For works to 25 October 2013*' and the respondent **certified \$NIL**. The respondent referred to its reasons given in its letter dated 30 September 2013 and also asserted the applicant had not established a contractual entitlement to payment. Specifically, the applicant had not established:
 - (i) "*...an entitlement to a latent condition within the meaning and terms set out in clause 25 of the subcontract*";

- (ii) [that] “...specific materials...(large quartz veins and quartzite greater than 5% of the total [extracted] volume or veins thicker than 400 mm) are present in any of the areas [excavated] during the period relevant to this claim”;
 - (iii) [that] “...materials [extracted] during the relevant period constitute underlying material that is greater than a UCS of 7 MPa...”;
- f) In the payment claim, Bill 2 item 6, contains a credit for \$3,000,000, which the respondent says is ‘an amount previously paid on item 5a’. I take this to mean that the respondent previously paid on account \$3,000,000.00 in relation to a claim for the excavation of material with a UCS greater than 7 MPa.
 - g) For Bill 2 item 14, the applicant previously **claimed \$1,236,250.00** for ‘Mobilisation of [plant] + 15%’ and the respondent **certified \$1,236,250.00** and referred to its reasons given in its letter dated 30 September 2013.
 - h) In this payment claim, the applicant has credited \$1,256,250.00 because of its claim under item 5a that superseded the claim the respondent previously certified in the sum of \$1,256,250.00.
 - i) For Bill 2 item 15, the applicant previously **claimed \$577,323.00** for ‘Working dayrate for [plant] + 15%’ and the respondent **certified \$576,323.00** and referred to its reasons given in its letter dated 30 September 2013.
 - j) In the payment claim, the applicant has credited \$577,323.00 because of its claim under item 5a that superseded the claim the respondent previously certified in the sum of \$577,323.00.
 - k) For Bill 2 item 17, the applicant **claimed \$414,000.00** for [plant] Working Rate + 15%’ and the respondent **certified \$2,142,139.50** subject to the provision of certain information.
 - l) For Bill 2 item 17, the applicant **claimed \$78,660.00** for [plant] Standby Rate + 15%’ and the respondent **certified \$188,271.00** subject to the provision of certain information.
- 16) In summary, the respondent has certified the value of the completed work as \$38,913,911.93 excl. GST and a payment of \$3,481,341.30 excl. GST accordingly.

DATE OF PAYMENT DISPUTE

- 17) Pursuant to section 8(a) of the CCA, the payment dispute occurred on the day the amount claimed in the payment claim was due to be paid but was not been paid in full or the claim was rejected or wholly or partly disputed.

- 18) On 7 November 2013, the respondent indicated by way of its payment certificate that the claim was rejected and partly disputed.
- 19) The payment claim was due to be paid on 2 December 2013³, which is the date of the payment dispute for the purposes of this determination.

APPLICATION FOR ADJUDICATION

- 20) Section 28(1) of the CCA entitles an applicant to make an application for adjudication of a payment dispute within 90 days of the occurrence of the payment dispute.
- 21) I am satisfied that the payment dispute occurred on 2 December 2013.
- 22) The applicant applied for adjudication of the payment dispute on 28 January 2013, which is within the time permitted by and in accordance with section 28(1) of the CCA. Specifically;
 - a) The application is in writing as required by section 28(1)(a) and 28(2) of the CCA.
 - b) The application was served on the respondent on 28 January 2014, pursuant to section 28(1)(b) of the CCA.
 - c) The application was served on RICS Dispute Resolution Service on 24 January 2014, pursuant to section 28(1)(c)(iii) of the CCA.
 - d) The adjudicator and prescribed appointer did not require any deposit or security for the costs of the adjudication.
- 23) I am, therefore, satisfied that the adjudication application satisfies the requirements of section 28 of the CCA.

ADJUDICATION RESPONSE

- 24) Pursuant to section 29(1) of the CCA, the respondent has 10 working days after the date on which it is served with an application for adjudication to prepare and serve its written response on the adjudicator and the applicant.
- 25) The respondent served its adjudication response on 11 February 2014.
- 26) I am satisfied, therefore, that the respondent served its response within the timeframes prescribed in the CCA.

³ *Department of Construction and Infrastructure v Urban and Rural Contracting Pty Ltd [2012] NTSC 22 at 20.*

JURISDICTIONAL CHALLENGES RAISED BY THE RESPONDENT IN THE RESPONSE

- 27) In the response, the respondent raised a number of jurisdictional challenges and asserts that I have no jurisdiction and ought not to proceed to a determination.
- 28) A summary of the respondent's jurisdictional challenges is as follows:
- a) *"A substantial part of the claim is out of time"*

Paragraph 1.2 of the response identifies 4 different claims that were each made for the first time in progress claims 12, 13, 14 and 15 respectively.

The respondent asserts that as the claims were all first made in excess of 90 days prior to the date of the application for adjudication, pursuant to section 28 of the CCA those past payment claims and payment disputes are out of time to adjudicate.

- b) *"The only claim that could be adjudicated under the under the Subcontract and the CCA is for the month prior to the 25 October 2013 payment claim"*

The respondent points out that the present claim is for the period 1 May 2013 to 25 October 2013. The respondent then asserts that to the extent that any part of Progress Claim 17 was first claimed in a previous progress claim, then because; *"...[the applicant] has chosen not to adjudicate prior monthly payment disputes in the relevant period and cannot do so in this adjudication."*

- c) *"The amount claimed in the Adjudication Application exceeds the disputed amount claimed in [the applicant's] payment claim No. 17 dated 25 October 2013."*

The respondent points out that the applicant has claimed in its adjudication application an amount greater than that claimed in the payment claim and asserts that *"the excess is not adjudicable...because it does not form part of the payment dispute..."*

- d) *"The claims should not be adjudicated ...because of the complexity of the matter and the insufficient prescribed time"*

FURTHER SUBMISSIONS

- 29) As the jurisdictional challenges were raised after the applicant submitted its application for adjudication, the applicant did not have the opportunity to reply to the respondent's jurisdictional challenges.
- 30) Accordingly, on 13 February 2014 pursuant to section 34(2)(a) of the CCA, in order to ensure that the applicant was afforded natural justice, I wrote to the parties and requested the applicant to provide me its submissions in response to the jurisdictional challenges raised by the respondent by 18 February 2014.

- 31) On 18 February 2014, I received the applicant's reply to the respondent's jurisdictional challenges.
- 32) On 18 February 2014 in accordance with clause 34(3)(a) of the CCA, I requested an extension from the Registrar to 9 March 2014 to make my determination. The Registrar approved the request on 18 February 2013.

DETERMINATION OF THE RESPONDENT'S JURISDICTIONAL CHALLENGES

- 33) Set out below are my determinations relating to each of the respondent's jurisdictional challenges.
- 34) I reject the respondent's jurisdictional challenges that are set out above in subparagraph (28)a) is entitled; "*A substantial part of the claim is out of time*" for the following reasons:
 - a) Pursuant to section 8 of the CCA a payment dispute arises if, "*when the amount claimed in a payment claim is due to be paid under the contract, the amount has not been paid in full or the claim has been rejected or wholly or partly disputed;*"
 - b) Pursuant to section 28(1) of the CCA; "*to apply to have a payment dispute adjudicated, a party to the contract must, within 90 days after the dispute arises*" make the application for adjudication. If the applicant fails to make the application for adjudication within that time, then it loses the right to have that payment dispute adjudicated forever.
 - c) The respondent states that payment disputes arose in the May, June, July and August 2013 payment claims and, accordingly, the applicant is now out of time.
 - d) Additionally, the respondent asserts that the May, June, July and August 2013 claims are "*repeat claims*", which are not permitted under the CCA following the decisions of the NT Court of Appeal in;
 - *AJ Lucas Operations Pty Ltd v Mac-Pac Attach Equipment Hire Pty Ltd (2009) 25 NTLR 14 (Mac-Pac)*; and
 - *K & J Burns Electrical Pty Ltd v GRD Group (NT) Pty Ltd & Ors [2011] NTCA 1 (K&J Burns)*.
 - e) I note that the CCA does not define a repeat claim and I disagree with the respondent's interpretation of K&J Burns. The correct conclusions to be drawn from K&J Burns on the subject of repeat claims were articulated by her Honour Kelly J as follows:

"[116] If a construction contract contains a written provision about

payment claims, the Act defines "payment claim" by reference to the terms of the construction contract actually made by the parties: s 4 of the Act. It is to that contract that the adjudicator must go to determine whether there is a "payment claim" and hence a "payment dispute" for him to adjudicate. If the construction contract does not contain such a written provision, the Act implies into the contract the relevant contractual provisions in the Schedule of the Act.

...

[118] The second matter I want to comment upon is the question of "repeat claims".

[119] In AJ Lucas, Southwood J made the following remarks:

Clause 13 of the appellant's standard hire agreement provides for the rendering of accounts at monthly intervals and for the payment of accounts within 30 days from the end of the month in which a valid tax invoice is received. The clause contains no express provision for the making of repeat claims and there is no basis for implying such a provision in the standard hire agreement. Further, s 8 of the Act does not permit a payment dispute to be re triggered by the making of a repeat claim in respect of the performance of the same obligations under a construction contract.

[120] The underlined words in this passage were used as the basis for a submission that, as a matter of law, the Act does not allow for (indeed prohibits) what have been referred to as "repeat claims". It was said that s 8 defines when a payment dispute arises, and once a dispute has arisen about a particular amount, it cannot arise again. Read in the context of the whole passage, the underlined words are not authority for such a proposition.

[121] As Southwood J made clear, the contract in question in AJ Lucas provided for monthly invoices and made no provision for "repeat claims".

[122] In this case, the contract contained a form of provision for the making of payment claims which is common in construction contracts. It provided for what is effectively a "rolling claim". That is to say, each payment claim is to specify the whole of the value of the work said to have been performed, from which must be deducted the amount already paid, the balance being the amount claimed on that payment claim. It is readily apparent that if any payment claim is not paid in full:

- (a) a payment dispute will arise in relation to the part unpaid when the claim is due for payment under the contract; and
- (b) despite that, each subsequent payment claim must include a "repeat claim" for that unpaid part.

[123] There is nothing in the Act which renders this form of contractual provision unenforceable - or takes it outside the power of an adjudicator to adjudicate upon. What the adjudicator is obliged to do when faced with a payment claim under a contract of this kind is the same as he does for any other contract: he should look at the contract and determine whether the payment claim complies with the provisions of the contract, when the amount claimed would be due for payment under the contract (if payable), and whether the application has been lodged within 90 days of that date.

[124] I agree with Southwood J (in his reasons on this appeal) that a payment dispute does not come to an end - or a fresh payment dispute necessarily arise - simply because a further claim is presented seeking payment of precisely the same amounts for the performance of precisely the same work. However, I also agree with Olsson AJ that there is no reason why a contract could not authorise the inclusion in a progress payment claim of earlier unpaid amounts, so as to generate a new payment claim, attracting a fresh 90 day period. In each case one must look to the contract to determine when a payment was due and hence when the payment dispute arose. One imagines that in most contracts, a "repeat invoice" claiming no new work and simply served in an attempt to "re-set the clock" for the purpose of an application for adjudication, would not have the desired effect. However, one cannot be dogmatic. There are contracts, for example, where the contractor is to put in a final claim setting out all amounts claimed: each of these may have been the subject of one (or more) progress claims, and there may have been no new work done. It is always a matter of going to the contract to determine when the payment dispute arose according to the express and/or implied terms of the contract. [Emphasis added]

- f) Additionally, In K&J Burns, his Honour Olsson AJ said:

[260] Whilst I respectfully accept that the manner in which s 8 sets out to define what constitutes a payment dispute does not make any provision for the re- triggering, by a repeat payment claim, of a payment dispute in respect of a payment claim that had been made earlier, as to which the 90 day limit has expired, nevertheless, it does not prohibit such a practical situation arising if such a situation is expressly stipulated for by the relevant construction contract.

[261] I see no reason why such a contract could not authorise the inclusion in a progress payment claim of earlier unpaid amounts, so as to generate a new payment claim, attracting a fresh 90 day period. Such a situation did not arise in Mac-Attack. [Emphasis added]

- g) The respondent does not distinguish between "repeat claims" and "rolling claims" and has not given due regard to the terms of the Contract, which permit "rolling claims". Specifically, clause 37.1 of the Contract states:

"Progress claims

The Contractor shall claim payment progressively in accordance with Item 28.

An early progress claim shall be deemed to have been made on the date for making that claim.

Each progress claim shall be given in writing to the Superintendent and shall include details of the value of WUC done and may include details of other moneys then due to the Contractor pursuant to provisions of the Contract."

The Contract requires each progress claim to set out the value of the work under the contract up to the date of the progress claim. It does not limit or identify certain work done or state that it requires only the details of the value of the work carried out since the last progress claim.

- h) Pursuant to K&J Burns, the applicant's "rolling claims" are not in breach of the CCA because they are permitted under the Contract.
- i) Unhelpfully, the respondent relies on WA cases that are inconsistent with current law in the Northern Territory. Similarly, the other case law proffered by the respondent are not relevant. Accordingly, I reject the respondent's assertions at [3.16] to [3.21] because K&J Burns was clearly decided and represents the current law in the Northern Territory.
- j) Accordingly, parts of the applicant's payment claim are not out of time because there are no "repeat claims" of the type discussed in Mac-Attack.
- k) For the above stated reasons I also reject the respondent's assertion that; *"the only claim that could be adjudicated under the [work-type omitted] subcontract and the CCA is for the month prior to the 25 October 2013 claim"*.

- 35) I accept the respondent's jurisdictional challenges that is set out above in subparagraph (28)c) is entitled; *"The amount claimed in the Adjudication Application exceeds the disputed amount claimed in [the applicant's] payment claim No. 17*

dated 25 October 2013.” And reject the applicant’s further submissions on this point for the following reasons:

- a) Section 8 of the CCA states;

8 *Payment dispute*

A payment dispute arises if:

(a) when the amount claimed in a payment claim is due to be paid under the contract, the amount has not been paid in full or the claim has been rejected or wholly or partly disputed; or...

- b) Section 26 of the CCA states;

26 *Object*

The object of an adjudication of a payment dispute is to determine the dispute fairly and as rapidly, informally and inexpensively as possible.

- c) The scope of the dispute is clearly identified in section 8. There is nothing in the CCA that permits the applicant to claim more than the amount claimed that gives rise to the payment dispute.
- d) I do not read any implication of the type asserted by the applicant in its further submission dated 18 February 2013. In fact, it appears to be that if such a right was implied, then that would not facilitate the resolution of the payment dispute rapidly, informally or inexpensively as required under section 26 of the CCA.

- 36) I reject the respondent’s jurisdictional challenges that are set out above in subparagraph (28)d) is entitled; *“The claim should not be adjudicated because of its complexity and the prescribed time”* because I have read, considered and determined the value of the payment dispute in accordance with the CCA within the prescribed time.

REASONS FOR THE DETERMINATION

- 37) Pursuant to section 34 of the CCA, I have considered the following matters in making this determination:
- a) the adjudication application and its attachments;
- b) the response and its attachments; and
- c) the further written submissions validly made by the parties.

Summary of relevant events

- 38) In February 2012, ShoreASCO appointed the respondent to design and construct the [site details omitted] (**Project**).
- 39) In March 2011, the respondent invited the applicant tender for the [excavation] work (**Works**) for the Project. The tender documents included the following geotechnical reports:
 - a) Douglas Partners report entitled *Sediment Sampling for Rock Hard Stand [site details omitted]* dated February 2010.
 - b) Douglas Partners report entitled *'Report on Previous Geotechnical Information and Suggested Further Work'* dated October 2010.
 - c) Aurecon report entitled *[site details omitted] Factual Geotechnical Investigation Report* dated February 2012 marked 'Draft,' and which contained logs of the boreholes taken and a subsequent Revision 2 of that report dated 6 May 2011 that did not include the borehole logs.
- 40) The geotechnical reports that showed that most of the material to be [removed] had a Unconfined Compressive Strength (**UCS**) of less than 7 MPa. Specifically;
 - a) At pages 22 to 29, 35 and 'Table 7.14', the Aurecon Report indicates that that the [work] area consists of soft alluvial material overlaying low strength meta-siltstone;
 - b) UCS results for samples of siltstone and meta-siltstone were found to be typically in the range of 3-8 MPa.
 - c) Section 7 of the Aurecon Report and Section 6 in the Douglas Partners reports indicate that the material present at the site was comprised of soft overlying materials and low strength phyllite, low to medium strength siltstone and very low to low strength meta-siltstone. Neither the Aurecon nor the Douglas Partners reports indicated the presence of quartzite or quartz veins on the site.
 - d) The Aurecon and Douglas Partners Reports suggested that there was a possibility of quartz or quartzite veins in the broader region of the Burrell but did not identify any within the site. The geotechnical information provided indicates that large quartz veins and quartzite may be present in the [general vicinity of the project site], but no such material is identified on the site.
- 41) On 8 May 2012, the applicant and the respondent entered into an amended AS4000 - 1997 contract for [work type omitted] works on the site.

- 42) On 2 October 2012, *[work]* commenced. The applicant asserts that it soon became apparent that the material being *[extracted]* was much harder than that anticipated because there was a large amount of quartzitic sandstone present.
- 43) On 9 November 2012, the applicant notified the respondent; *'that the underlying material being [extracted] since the commencement of [work] may have a UCS strength greater than 7 MPa and that the proportion of quartzite may be higher than 5% of the [extracted] volume'*
- 44) On 17 November 2012, the applicant notified the respondent that it had encountered areas of extremely hard material that were classified by Coffey as sandstone with UCS of 16.8, 24.9 and 30.8 MPa.
- 45) On 20 November 2012, applicant and the respondent met to discuss testing the materials to be *[removed]*. The parties did not agree on a testing methodology.
- 46) The applicant asserts that 169,500 m³ was *[removed]* during 2 October 2012 to 30 November 2012, which was referred to as Campaign 1.
- 47) On 8 January 2013, the parties jointly inspected the material in the deposition pit. The parties agreed at the inspection that there was siltstone, sandstone, quartz, quartzite and conglomerate debris in the pit. Field testing indicated that the rocks were between 'low' and 'high' strength.
- 48) On 5 February 2013, *[name omitted]* of the respondent said that it was for the applicant to determine the percentage of material that had a UCS greater than 7 MPa. *[Name of respondent's representative omitted]* said that he considered that the percentage of hard material was very small and in the order of 5 to 10%.
- 49) *[excavation]* for Campaign 2 commenced on 1 May 2013. Upon commencement of Campaign 2, the applicant claims to have again encountered quartzitic sandstone, which caused the *[respondent's extraction plant]* to shudder even more violently than before. The applicant also claims that cutter teeth and wear block turnover greatly increased.
- 50) On 6 May 2013, the applicant notified the respondent that it had again encountered hard rock.
- 51) On 10 May 2013, the applicant served an adjudication application on the respondent. Part of the payment claim was in relation to latent conditions, but the Adjudicator determined that there was insufficient evidence available to prove the presence of latent conditions.
- 52) On 6 June 2013, the applicant notified the respondent of the hard underlying conditions it had encountered and recommended options for completing the works including mobilising *[other plant]* to the site.

- 53) The applicant commenced mobilising *[further plant]* to site from mid-August 2013. The applicant claims that it planned that the *[further plant]* would work in conjunction with the *[existing plant]* as follows;
- a) The *[further plant]* would extract the very hard rock by ripping with a single tooth attachment onto the backhoe arm.
 - b) The *[existing plant]* would leave its current work area and relocate to the area that the *[further plant]* had ripped. The *[existing plant]* would then clean away the debris that had been produced by the *[further plant]*. The *[existing plant]* would then return to its earlier location and resume *[work]*.
- 54) From 11 September 2013, the *[further plant]* was used to carry out test *[work]* by using the bucket to collect large samples of the hard rock encountered on site while waiting for a purpose built ripper that was being manufactured overseas. The *[further plant]* was recovering pieces of sandstone and quartzite much larger than 400mm by 400mm.
- 55) On 19 September 2013, the *[further plant]* commenced *[work]* with the purpose built ripper.
- 56) On 28 October 2013 the applicant notified the respondent that it had completed the Stage 1 works. The *[further plant]* finished work at 2:00 am on 20 October 2013 and the *[existing plant]* finished work at 12:00 pm on 23 October 2013.

The Contract

- 57) The parties entered into a contract for *[excavation]* work on the site on or about 8 May 2012 (**Contract**).
- 58) The Contract is comprised of 7 parts and further documents were incorporated by reference therein. Specifically, the parts were as follows:
- a) Part 1 is the Formal Instrument of Agreement (**FIA**). The FIA makes it clear that Parts 1 to 7 form the Contract and the order of precedence is Part 1 to Part 7 in descending order of priority.
 - b) Part 2 sets out the special conditions of contract (**Special Conditions**);
 - c) Part 3 is an amended form of AS4000-1997 that are the general conditions of contract (**General Conditions**);
 - d) Part 4 sets out the scope of works and incorporates 6 drawings and a *[excavation]* plan (**Scope of Works**);
 - e) Part 5 sets out the basis of payment including a schedule of rates to be used to value the completed work (**Schedule of Rates**);

- f) Part 6 that sets out key dates relevant to the Contract including the commencement and completion dates for Campaigns 1 & 2.
 - g) Part 7 that refers to geotechnical reports, a hydrographic survey report, 6 drawings and a [work] plan and to 7 other documents that are incorporated into the Contract by reference.
- 59) The Contract requires the Works would be carried out in 2 'Stages' and over two 'Campaigns'. The Campaigns are defined in the Contract as follows:
- a) 'Campaign 1' was scheduled to commence on 1 August 2012 and be completed by 31 October 2012 during which Stage 1 works would be carried out. 'Stage 1' works involved [work details omitted]. Stage 1 contains a nominal 597,400m³ (approximately 85%) of the works. 'Stage 2' works involved the [work details omitted] after the respondent had completed the [project construction details omitted] with a nominal quantity of 87,600m³.
 - b) Stage 2 works were to be carried out 'Campaign 2' that was scheduled to commence on 1 May 2013 and achieve Practical Completion by 31 July 2013.

What work did the applicant contract to perform?

- 60) This dispute arises from a claim for damages due to alleged latent conditions or alternatively a claim to be paid a reasonable amount for work that the applicant carried out and for which there was no agreed price in the Contract.
- 61) Prior to analysing what the applicant should have anticipated based on the Contract that it accepted, it is useful to examine the nature and extent of the work that the applicant was required to carry out under the Contract.
- 62) The Scope of Works articulates the nature and extent of the work that the applicant was required to carry out under the Contract. Specifically, the Scope of Works states;

"...The [omitted] works to be undertaken include:

1. Removal of the overlying loose sediment material (predominantly soft silt, soft clays, sands and gravels) from the areas to be [work details omitted].

The Principal has estimated the volume of this material to be [extracted] at approximately 205,000 cu m.

2. Removal of the underlying materials to the design levels of -7.7 CD or -8.7 CD.

This material is described in the geotechnical information provided by the Principal to be predominantly highly weathered,

weak phyllite (meta siltstone).

The Principal has estimated the volume of these materials to be approximately 480,000 cu. m, [omitted]. [Emphasis added]

- 63) In other words, the applicant was required to remove;
- a) About 205,000 m³ of “overlying loose sediment material”; and
 - b) About 480,000 m³ of “the underlying materials to the design levels of -7.7 CD or -8.7 CD.” The extent of the [works] area was shown on drawings included by reference in Parts 4 and 7 of the Contract.
- 64) The Contract made it clear that the:
- a) overlying materials were “predominantly soft silt, soft clays, sands and gravels”; and
 - b) underlying materials were as described in the “geotechnical information provided by the Principal to be predominantly highly weathered, weak phyllite (meta siltstone).”
- 65) The Scope of Works also made it clear that;
- a) the rate for [removal] was only to be used for valuing the [extraction] of materials with an unconfined compressive strength (UCS) of less than 7 MPa. Specifically, the Scope of Work states;

“The rate for [extraction] in the Schedule of Rates of this underlying material is limited to material with a maximum UCS of 7 MPA”
 - b) [removal] of quartz veins and quartzite for up to 5% of the [extracted] volume would be valued by applying the rate for [extraction] set out in the Schedule of Rates;
 - c) but if the quartz veins were thicker than 400 mm, then that would be a deemed latent condition pursuant to clause 25 of the General Conditions and valued accordingly. Specifically, the Scope of Works states:

“The geotechnical information provided indicates that large quartz veins and quartzite may be encountered in the [vicinity of the project site], but no such material has been identified in the area of the Subcontract works.

If such material is encountered, and constitutes more than 5% of the [extracted] volume, or if it occurs in veins thicker than 400mm, such material will constitute a Latent Condition under clause 25 of the General Conditions of Contract.”

The first paragraph states that the risk of encountering quartz veins and

quartzite in the [works] area was small.

- 66) The Scope of Works and Part 7 of the Contract referenced certain design drawings. Those drawings clearly defined the area and the levels at the bottom of the cut that the applicant was required to [excavate] under the Contract.
- 67) It may, therefore, be concluded that in order to [excavate] the defined area and achieve the design [excavation] levels of -7.7 CD to -8.7CD, the applicant was required to:
- a) remove all overlying and underlying materials in the [works] area that were described in the Principal Supplied Documents set out in Part 7; and
 - b) remove underlying materials that it should have reasonably anticipated in accordance with clause 25 of the General Conditions that had an UCS of more than 7 MPa. For the avoidance of doubt, clause 25 of the General Conditions states;

25.1 Scope

Latent conditions are physical conditions on the site and its near surrounds, including artificial things but excluding weather conditions, which differ materially from the physical conditions which should reasonably have been anticipated by a competent Contractor at the time of the Contractor's tender if the Contractor had inspected:

- a) all written information made available by the Principal to the Contractor for the purpose of tendering;
 - b) all information influencing the risk allocation in the Contractor's tender and reasonably obtainable by the making of reasonable enquiries; and
 - c) the site and its near surrounds.
- c) remove underlying materials that it should have reasonably anticipated in accordance with clause 6 of the Special Conditions that had an UCS of more than 7 MPa. For the avoidance of doubt, Clause 6.1(c) of the Special Conditions states;

"The Contractor warrants and represents to the Principal that:

- (c) *It [the applicant] has done everything reasonable (including to the extent possible, visiting and examining the Site and its surroundings) to inform itself fully as to the physical conditions or obstructions upon and below the surface of the Site, and the local conditions, including but not limited to, climatic and hydrologic conditions at,*

near or relevant to the Site, or any other condition or characteristic of the Site affecting or which may affect its performance of this Contract and obtained all necessary information as to risks, contingencies and other circumstances which could have an effect on the performance of the WUC under this contract;

- (d) *It has informed itself of the nature of the Works and materials necessary for the execution of the Works;*
- (e) *The contract sum allows for all costs and expenses which may be incurred by the Contractor as a result of matters referred to, identified in, or reasonably to be inferred from the performance of the WUC in accordance with this Contract;”*

- 68) Nowhere in the Scope of Works or in the Contract does it say that the applicant was not required to *[remove]* materials that had a UCS of more than 7MPa or to *[remove]* quartzite and quartz veins that were thicker than 400 mm.

What underlying materials does the geotechnical information provided by the Principal predict?

- 69) The geotechnical information provided by the Principal referred to in the Scope of Work is set out in Part 7 as follows:
- a) A report from Aurecon entitled; “*Near Shore Factual Geotechnical Investigation Report*” referenced 41840-009/01 Rev 2 and dated 6 May 2011 (**Aurecon Report**); and
 - b) A report from Douglas Partners entitled; “*Report on previous geotechnical information and suggested further work [work and site details omitted]*” (**Douglas Partners Report**)
- 70) The Aurecon Report makes the following references to conditions that could be anticipated in the *[works]* area though it is silent as to the extent of such conditions. Specifically;
- a) Section 1 of the Aurecon report states;

“The purpose of the geotechnical investigation was to provide geotechnical information to be used to design a program of [material extraction] strategic locations around the existing [project site] and to assist with the civil design of a number of elements associated with the proposed major redevelopment of the existing [project site].” [Emphasis added]
 - b) Section 3.2 of the Aurecon Report states;

"The 1:100,000 scale geological map for the Darwin area (Northern Territory Geological Survey (NTGS), 1983) indicates that the site is likely to be underlain by Quaternary aged marine deposits comprising mud, clay and silt. Poorly sorted sand, lithic fragments, shell and limonite may also be present (NTGS, 1983; 1986)..."

...Solid geology is represented by sediments of the Early Proterozoic aged Burrell Creek Formation (BCF), which is part of the Finness River Group. According to NTGS the Burrell Creek Formation comprises interbedded lutitic, arenaceous and rudaceous rocks which have undergone varying degrees of metamorphism. The rocks of the BCF typically comprise shale, siltstone and phyllite, fine to very coarse sandstone, quartzite, conglomerate and minor graphitic phyllite (NTGS, 1986).

Sandstone arenites form an estimated 30-40% of the BCF and typically form blocky beds about 0.2 to 2.0 m thick which are strongly jointed, commonly fractured, and quartz-veined (NTGS, 1986). Coarser sandstones and conglomerates contain varying amounts of quartz and pebbles and are either evenly distributed in massive varieties or well-sorted in graded beds. Fine to medium grained sandstones of the BCF may be laminated and graded in places, and cross-laminations and ripples are common. Medium to coarse grained quartzite is common throughout the sequence (NTGS, 1983). Larger quartz veins up to 1.5 m in thickness have also been encountered in this formation (Douglas Partners, 2010)."

c) Section 3.3 states;

"Previous borehole investigations in this part of [the general vicinity of the project site] encountered sedimentary and metasedimentary rocks, recorded as sandstone, quartz sandstone, phyllite, metasiltstone and metaclaystone (Douglas Partners, 2010). ...

...Rock strength was also recorded as being variable with very low to low strengths typically recorded within the upper 2 m of rock, and thereafter low to high strength with lower strength bands of weathered and fractured rock. Where quartz sandstone was encountered, rock strengths were recorded as being high to very high (Douglas Partners, 2010).

Quartz veins were encountered during drilling at some locations, notably within BH7 as recorded by the Dames and Moore (1993) Investigation. A quartz vein was recorded [details omitted] within BH7, which is located to the immediate east of the proposed [works area] for the [project]."

d) Section 7.1 states;

A total of 35 boreholes were drilled as part of the near shore geotechnical investigation and all encountered similar geology. As-drilled borehole location plans are included in Appendix B. The findings from the boreholes are comparable to findings of previous ground investigations in this part of [the general vicinity of the project site] and are in agreement with the published geology.

Each borehole encountered a layer of very soft and/or loose unconsolidated marine alluvial sediment, which was variable in composition and thickness. These sediments unconformably overlie very steeply dipping to vertically bedded sedimentary and metasedimentary rocks, predominantly siltstone and metasiltstone, of the Burrell Creek Formation (BCF). In some boreholes, residual clay soil derived from weathering of the BCF was encountered underlying marine alluvial sediments and exhibits the properties of a soil.

e) Section 8 states;

The Burrell Creek Formation typically comprises sedimentary and metasedimentary rocks, with the predominant rock type being metasiltstone. Rocks are steeply bedded and/or laminated, with bedding inclined typically subvertical to vertical. Jointing and fracturing is prominent within the rocks and is typically perpendicular to bedding and lamination. Laboratory testing and logged descriptions confirm that intact siltstone and metasiltstone are typically of low to medium strength, although high and very high strength rock was also encountered. Weathering is typically more prominent toward the top of the sequence beneath the alluvial materials and becomes less with depth.

...

Previous borehole investigations in [the general vicinity of the project site] have reported encountering large quartz veins up to 700 mm in width and also report the presence of quartzite. High to very high strength quartz veins were also encountered in some boreholes with a maximum estimated thickness of 600 mm in borehole P7, although an intact vein was not recovered. Quartzite was not encountered in this investigation. It is recommended that, on the basis of both the present investigation and historic borehole data, an allowance be made for the presence of very high strength quartz veins within the [work site] area.

71) The Douglas Partners Report makes the following references to conditions that could be anticipated in the [works] area though it is silent as to the extent of such conditions. Specifically;

a) Section 4 states;

“...In engineering terms, the BCF is a sequence of sub-vertical sedimentary beds of mainly siltstone but with some sandstone and claystone. The strike of the beds is orientated almost north-south. The beds have been subject to heat and pressure and are therefore termed metamorphic rocks; such as meta-siltstone and meta-sandstone. The meta-siltstone that is mica rich is termed phyllite. Quartz veins up to 1.5 m thick have intruded the formation. Some of the veins still exist as very high strength quartz, and some intrusions have altered the sandstone beds to high strength quartz sandstone.

Due to the above geological processes, the rock strength varies from

extremely low strength (phyllite) to very high strength (quartz and quartz sandstone) and these different strength sub-vertical beds can exist side by side. Drill holes less than 1 m apart in an east-west direction can intersect very different strength rocks.

...

To illustrate the different strength rocks in the BCF, a borehole log and core photos of the very low strength meta-siltstone from Borehole HBH2 at the Darwin City Waterfront Project, and a borehole log and core photos of the very high strength quartz sandstone from Borehole BH545 at the Wickham Point Gas Plant site represented in Appendix 8.

High strength quartz sandstone rock has also been encountered in boreholes at South Shell Island and Walker Shoal in the East Arm Port Development Zone."

- 72) Based on the above extracts that are cited above at paragraphs (70) and (71), it appears clear to me that the Aurecon Report and the Douglas Partners Report both indicate that the likelihood of encountering hard rock including sandstones, quartz veins and other high to very high strength rocks while carrying out the [omitted] work was more than a remote possibility.
- 73) I interpret the Aurecon Report and the Douglas Partners Report as indicating that it is probable that the [omitted] work under the Contract would include some [extraction] of hard rock with a UCS of more than 7 MPa regardless that neither report quantified to any extent the precise location or the estimated volume of rock with a UCS greater than 7 MPa.

What underlying materials did the applicant anticipate?

- 74) [Name omitted] of the applicant states the following in his sworn statement attached to the adjudication application;

4.10 I was aware that the Aurecon and Douglas Partners reports suggested that there was a possibility of quartz or quartzite veins being present in the broader region of the Burrell Creek Formation but it was not anticipated that any significant quantities were present in the site area because none had been identified in connection with the area to be [excavated]. I expected that the [applicant's extraction plant] would be able to deal with any such veins that might occur up to 400mm thick by clearing the material around the vein then breaking off the exposed vein. However, I was concerned that the [applicant's extraction plant] would not be able to [remove] any veins thicker than 400 mm.

...

4.12 On 7 April 2011, I informed [names omitted] (NT Area Manager of the respondent) by email that the initial desktop review carried out by me had shown that the [applicant's extraction plant] should comfortably

[remove] the material described. A copy of the email is attached and marked 'CLH-2'.

4.13 The majority of the [extraction] to -7m LAT appeared to be soft alluvial sands/clays overlying extremely weak to weak, highly weathered phyllite (meta siltstone). Since that time, the depth to be [excavated] was increased to -8.7m LAT in a small part of the area in front of the proposed [project works]. I advised in my email that the geotechnical information made mention of vertical bands of quartz and quartzite; in the Burrell Creek formation, but that none of that material had been identified in the area of the works. I advised that if such bands were encountered they would be hard to deal with but provided they were not too thick the [applicant's extraction plant] should be able to deal with them, albeit at perhaps a much slower rate of production. I further advised that if the area was found to have many of these bands, even though none had been identified by the geotechnical information then [other extraction plant] could be brought into deal with them.

4.14 Accordingly I decided that any contract entered into for the [type of work omitted] work should express exactly what conditions had been allowed for in the Contract price to maintain the anticipated production rate and what conditions would require additional payment.

4.15 On 9 January 2012, [the applicant] forwarded a draft contract prepared by its consultant, [name omitted], to [the respondent] for its consideration. The draft contract included in Part 4 the Scope of Work details of what geotechnical conditions had been allowed for in the contract price and to determine the production rate. The Scope of Work stated:

'...The rate for [extraction] in the Schedule of Rates of this underlying material is limited to material with a maximum UCS of; 7 MPa.

The geotechnical information provided indicates that large quartz veins and quartzite may be present in the [general vicinity of the project] area, but no such material has been identified in the area of the Subcontract works. If such material constitutes more than 5% of the [extracted] volume, or if it occurs in veins thicker than 400mm, such material will constitute a Latent Condition under clause 25 of General Conditions of Contract...'

4.16 My intent in the wording of these two qualifications was:

- (a) to clearly state that we had provided our best price of [removing] phyllite (meta- siltstone) material with a UCS up to 7MPa. If harder material was encountered, then the works would need to be repriced; and
- (b) to express the physical limitations of the ability of the [plant] to deal with veins of hard material. I expected that if such veins were up to 400nun thick, then the [applicant's

extraction plant] would be able to clear the material around the vein and then break off the exposed vein. But it would not be able to do this with thicker veins.

...

4.20 The qualifications referred to above at paragraph 4.15 were included unchanged in the executed contract

- 75) From the statement of *[applicant's representative]* it is clear that the applicant was aware that there may be hard rocks in the *[works]* area, however, it was not possible to determine the location or extent of such conditions if they did exist in the *[subcontract works]* area.
- 76) In order to manage the risk of encountering underlying material with a UCS of greater than 7 MPa, the parties agreed that the *[excavation]* of overlying and underlying material with a UCS of less than 7 MPa would be valued at the rate for *[extraction]* set out in the Schedule of Rates. Unfortunately, the parties did not set out a process or formula for determining how materials with a UCS of more than 7 MPa would be measured.
- 77) The parties did, however, agree a dayworks rate and a standby rate, which are set out in the Contract. I will examine these in more detail below.

Claim for damages due to latent conditions pursuant to clause 25 of the Contract

- 78) The applicant claims that the occurrence of all material with a UCS of more than 7 MPa on the site was a latent condition and that the work carried out in relation to that latent conditions be valued under clause 25 of the General Conditions on the basis of reasonable rates.
- 79) I am not persuaded that the applicant's claim for a latent condition can succeed for the following reasons.
- 80) Clause 25 of the Amended form of AS4000-1997 states;

"25 Latent conditions

25.1 Scope

Latent conditions are physical conditions on the site and its near surrounds, including artificial things but excluding weather conditions, which differ materially from the physical conditions which should reasonably have been anticipated by a competent Contractor at the time of the Contractor's tender if the Contractor had inspected:

- a) all written information made available by the Principal to the Contractor for the purpose of tendering;*

- b) *all information influencing the risk allocation in the Contractor's tender and reasonably obtainable by the making of reasonable enquiries; and*
- c) *the site and its near surrounds.*

25.2 Notification

The Contractor, upon becoming aware of a latent condition while carrying out WUC, shall promptly, and where possible before the latent condition is disturbed, give the Superintendent written notice of the general nature thereof.

If required by the Superintendent promptly after receiving that notice, the Contractor shall, as soon as practicable, give the Superintendent a written statement of:

- a) *the latent condition encountered and the respects in which it differs materially;*
- b) *the additional work, resources, time and cost which the Contractor estimates to be necessary to deal with the latent condition; and*
- c) *other details reasonably required by the Superintendent.*

25.3 Deemed variation

The effect of the latent condition shall be a deemed variation, priced having no regard to additional cost incurred more than 28 days before the date on which the Contractor gave the notice required by the first paragraph of subclause 25.2 but so as to include the Contractor's other costs for each compliance with subclause 25.2." [Emphasis added]

81) Furthermore Clause 6.1(c) of the Special Conditions states;

"The Contractor warrants and represents to the Principal that:

...

- (c) *It has done everything reasonable (including to the extent possible, visiting and examining the Site and its surroundings) to inform itself fully as to the physical conditions or obstructions upon and below the surface of the Site, and the local conditions, including but not limited to, climatic and hydrologic conditions at, near or relevant to the Site, or any other condition or characteristic of the Site affecting or which may affect its performance of this Contract and obtained all necessary information as to risks, contingencies and other circumstances which could have an effect on the*

performance of the WUC under this contract;

- (d) *It has informed itself of the nature of the Works and materials necessary for the execution of the Works;*
- (e) *The contract sum allows for all costs and expenses which may be incurred by the Contractor as a result of matters referred to, identified in, or reasonably to be inferred from the performance of the WUC in accordance with this Contract;”*

- 82) I have read *[the applicant’s representative’s]* statement and I am satisfied that the applicant inspected all written information made available by the respondent to the applicant for the purpose of tendering.
- 83) The applicant admits it read and has displayed an understanding of the Principal Supplied Documents, which were the Aurecon Report and the Douglas Partners Report.
- 84) *[The applicant’s representative]* admits that he; “*was aware that the underlying geology of the region was the Burrell Creek Formation. I did not and could not have deduced from the tender geotechnical reports which analysed the actual [extraction] area that the area to be [excavated] would have these multiple strata of sandstone and very hard materials.*”
- 85) *[The applicant’s representative]* further states that he engaged a geotechnical consultant to review the Aurecon Report and Douglas Partners Report and to provide him with a report as to the likelihood of encountering underlying materials with a UCS of more than 7 MPa.
- 86) Similarly, I am satisfied that the applicant inspected all information influencing the risk allocation in the applicant’s tender by the making of reasonable enquiries because of the following statements made by *[the applicant’s representative]*:
- a) *[the applicant’s representative]* admits that he was concerned that the applicant may encounter underlying materials with a UCS of more than 7 MPa.
 - b) *[the applicant’s representative]* admits that he negotiated terms to mitigate that risk. Evidence of that negotiation is provided at paragraphs 4.13 to 4.16 of his statement. Specifically, the applicant agreed to;
 - i) *[extract]* materials with a UCS of less than 7 MPa and for quartzite and quartz veins up to 5% of the *[extracted]* volume at the rate of \$23.72 per m³.
 - ii) *[extract]* quartzite and quartz veins that were thicker than 400 mm valued

under clause 25(3) of the General Conditions.

- iii) a dayworks rate of \$10,500 per hour and a standby rate of \$4,200 per hour.
 - c) Similarly, I am satisfied that the applicant inspected the site and its near surrounds at the time of tender.
- 87) The Aurecon Report and the Douglas Partners Reports were provided to the applicant for the purposes of tendering indicate that it is likely that some underlying material to be *[extracted]* would have an UCS of more than 7 MPa.
- 88) I do not accept that a reasonable and experienced contractor given the Principal Supplied Documents but no precise locations of hard materials on the site would not have concluded that there were no materials to be *[extracted]* on the site with a UCS of more than 7 MPa.
- 89) Based on the information provided in the Aurecon Report and Douglas Partners Report and the applicant's admissions set out in *[the applicant's representative's]* statement, I am not persuaded that physical conditions on the site differed materially from the physical conditions that were anticipated by the applicant at the time of the applicant's tender.
- 90) Accordingly, the applicant's claim for payment due to additional work carried out because of latent conditions is rejected.

Claim for additional payment for the removal of hard underlying materials at a reasonable rate

- 91) In the event that its claim for latent conditions does not succeed, the applicant's alternative argument is that since the Contract does not provide a relevant rate for valuing *[extraction]* of underlying material with a UCS of more than 7 MPa and, therefore, it is entitled to payment for that work at reasonable rates pursuant to a term implied by the operation of section 17 of the *Construction Contracts (Security of Payments) Act*.
- 92) For the avoidance of doubt, section 17 of the *Construction Contracts (Security of Payment) Act 2004* states;
- "The provisions in the Schedule, Division 2 are implied in a construction contract that does not have a written provision about the amount, or the way of determining the amount, that the contractor is entitled to be paid for the obligations the Contractor performs."*
- 93) Schedule 1 of the *Construction Contracts (Security of Payment) Act 2004* states;
- "2 Contractor entitled to be paid*

(1) *The contractor is entitled to be paid a reasonable amount for performing its obligations.*

(2) *Subclause (1) applies whether or not the contractor performs all of its obligations."*

- 94) By way of background, nowhere in the Contract does it say that the applicant is not required to *[extract]* materials with a UCS greater than 7 MPa.
- 95) For the reasons stated above paragraphs, it is clear that the *[extraction]* of all materials to construct the *[works area]* described in the design drawings referenced in Parts 4 and 7 of the Contract was included in the applicant's Scope of Works.
- 96) Accordingly, the *[removal]* of underlying materials with a UCS of more than 7 MPa was not a variation to the Contract, it was work that the applicant had to carry out under the Contract.
- 97) As stated above, the Contract required the applicant to:
- a) *[Remove]* underlying and overlying materials with a UCS of less than 7 MPa at the rate of \$23.72 per m³.
 - b) *[Remove]* an amount quartzite and quartz veins up to 5% of the *[extracted]* volume at \$23.72 per m³.
 - c) If the quartzite or quartz veins are thicker than 400 mm, then that would be a deemed variation pursuant to clause 25 of the Contract and the work to remove such material would be valued accordingly.
 - d) *[Remove]* underlying materials with a UCS of more than 7 MPa valued in accordance with the Contract, or if there is no method of valuing such work then valued pursuant to a term implied by the operation of section 16 of the *Construction Contracts (Security of Payment) Act*.
- 98) The Contract does not clearly articulate how underlying materials with a UCS of more than 7 MPa that the applicant was required to *[remove]* would be valued. Nonetheless, I am satisfied that the Contract does provide a rate for valuing the *[excavation]* of overlying and underlying materials with a UCS of more than 7 MPa for the following reasons:
- a) Part 5 of the Contract that is entitled; "*Basis of Payment*" states; "*The Work under the Subcontract shall be paid for in accordance with the Schedule of Rates*".
 - b) The Schedule or Rates sets out a lump sum for mobilisation, a lump sum for demobilisation, a rate per cubic metre for *[removal]* of material with a max

UCS of 7 MPa, a rate per hour for standby and a rate per hour for daywork.

- c) There is no rate per cubic metre for underlying materials that have a UCS greater than 7 MPa in the Schedule of Rates, however, the explanatory notes in Part 5 that precede the Schedule of Rates state;

“Dayworks

The rate for dayworks is set out in item 5.0 for the [applicant’s extraction plant] spread excludes consumables such as cutter teeth. Cutter teeth will be paid to the Contractor at cost upon sufficient documentary evidence being provided by the Contractor to the Principal.

- d) Item 5.0 of the Schedule of Rates indicates that the rate to be applied per hour of work performed by the [applicant’s extraction plant] spread is \$10,500.00.
- e) The only productive activity for which the [applicant’s extraction plant] spread could be used was to perform [excavation] in conditions other than those for which the work was to be valued under the rate for “[excavation] of overlying soft alluvial materials and underlying phyllite material max UCS 7 MPA”.
- f) The explanatory note relating to the reimbursement of cutter teeth in Part 5 supports the conclusion that the parties intended that the valuation of [the removal] of materials with a UCS of more than 7 MPa be carried out by application of the daywork rate stated at item 5.0 of the Schedule of Rates. This is because consumables such as teeth will only need replacing after [extraction] work is carried out.

- 99) Regardless that the [removal] of material with a UCS of more than 7 MPa was not a variation, clause 34.4 of the General Conditions sets out an order of precedence of methods for valuing work performed or to be performed under the Contract:

“36.4 Pricing

The Superintendent shall, as soon as possible, price each variation using the following order of precedence:

- a) *prior agreement;*
- b) *applicable rates or prices in the Contract;*
- c) *rates or prices in a priced bill of quantities, schedule of rates or schedule of prices, even though not Contract documents, to the extent that it is reasonable to use them; and*
- d) *reasonable rates or prices, which shall include a reasonable*

amount for profit and overheads..." [Emphasis added]

- 100) The Contract provided an applicable rate for the [removal]of materials with a UCS of more than 7 MPa, which was the day works rate set out in item 5.0 and the term set out in the explanatory notes of Part 5 of the Contract.

Claim for damage sustained by the applicant's plant

- 101) The applicant submits that from 1 May 2013 to 25 October 2013, it carried out the [excavation] of materials with a UCS of more than 7 MPa that was a latent condition and at certain times it could not work because it was required to carry out repairs to the [applicant's extraction plant] due to the latent conditions.
- 102) Further, I do not see anything in the Contract nor any instruction from the respondent that required the applicant to continue to use the [applicant's extraction plant] in conditions that the applicant now claims caused extensive damage to the [plant].
- 103) The Contract makes it clear that the applicant was required may be required to excavate some hard materials.
- 104) Paragraphs 4.12 and 4.13 of [the applicant's representative's] statement confirms that the applicant represented to the respondent that the [applicant's extraction plant] was capable of carrying out the excavation of some hard materials and, if the material was too hard then [other plant] would be brought in.
- 105) The parties agreed that the [applicant's extraction plant] was suitable to carry out the work described in the Principal Supplied documents and, accordingly, the Contract states:

"Equipment

Without limiting the general nature of clause 28 of the General Conditions, the Contractor shall provide the following equipment for the Works:

- *[description of the applicants extraction plant]..."*
- *On 7 April 2011, the applicant informed the respondent⁴ that its [plant could extract] the material described."*

- 106) Accordingly, I reject the applicant's claim that the respondent is liable for damage sustained by the [applicant's extraction plant] while carrying out the work under the Contract. Even if there were latent conditions, which I have rejected, the respondent was not liable for damage sustained by the [applicant's extraction plant] while carrying out the [works in] those latent conditions.

⁴ email marked 'CLH-2'

- 107) The applicant made the decision to continue *[work]* knowing that the *[applicant's extraction plant]* may be being damaged because it was working in very hard rock conditions and for which it was not designed. Accordingly the respondent is liable for such damage.

How should underlying material with a UCS of more than 7 MPa be valued?

- 108) For the reasons stated above, I have determined that the Contract required the applicant to:
- a) *[Remove]* underlying and overlying materials with a UCS of less than 7 MPa at the rate of \$23.72 per m³.
 - b) *[Remove]* quartzite and quartz veins up to 5% of the *[extracted]* volume at the rate of \$23.72 per m³.
 - c) If the quartzite or quartz veins are thicker than 400 mm, then that would be a deemed variation pursuant to clause 25 of the Contract and the work to remove such material would be valued accordingly.
 - d) *[Remove]* underlying materials with a UCS of more than 7 MPa valued at the rate of \$10,500 per hour plus consumables such as cutter teeth that are to be reimbursed at cost but excluding the volume referred to in above subparagraph (108)(c).

THE UNDERLYING MATERIAL THE EXPERTS SAY THE APPLICANT ENCOUNTERED

- 109) As I have rejected the applicant's claim for latent conditions above, I will not consider the respondent's experts reports to the extent that they opine what conditions should have been anticipated based on the Principal Supplied Documents set out in Part 7 of the Contract.
- 110) The Contract requires the applicant to *[extract]* all materials within the site to a certain design that is set out in the Principal Supplied Documents. Generally, the applicant is required to *[extract]* all material with a UCS of less than 7 MPa at the rate of \$23.72/m³. The material with a UCS of more than 7 MPa is to be *[extracted]* on the basis of \$10,500/hour plus the reimbursement of the cost of consumables including cutter teeth.
- 111) Compressive strength is the capacity of a material to withstand axially directed compressive forces. The most common measure of compressive strength is the uniaxial compressive strength or unconfined compressive strength (**UCS**).
- 112) The only metric that is used to distinguish which rate is to be applied to value work carried out by the applicant is the material's UCS. At the time of tender, the respondent provided certain expert reports of *[omitted]* geological conditions that were based on a small number of samples and that contained

predictions as to the conditions that were expected. It is impossible to have definitely determined the extent of material with a UCS of more than 7 MPa due to the limited sampling.

- 113) The applicant claims that the majority of underlying material *[removed]* during the period 1 May 2013 to 25 October 2013 had a UCS of more than 7 MPa and has provided geotechnical experts' reports to support its claim.
- 114) The respondent admits that there was some underlying material that had a UCS of more than 7 MPa, however, it asserts that;
- a) the volume of such material is far less than that claimed by the applicant and it has provided geotechnical experts' reports to demonstrate that the applicant's geotechnical experts exaggerated the extent of the underlying material with a UCS of more than 7 MPa;
 - b) the volume of material with a UCS of more than 7 MPa is most likely less than 5% of the total volume *[removed]* and, therefore, the applicant is not entitled to additional payment in addition to the Contract rate for *[excavating]* that is \$23.72/m³.
 - c) *[the additional plant]* was mobilised and used to rip the majority of underlying material that had a UCS of more than 7 MPa, which it has certified and paid;
 - d) the applicant has failed to prove that there was any significant amount of underlying materials with a UCS of more than 7 MPa except for that ripped by the *[additional plant]*.
- 115) In addition to reading the Principal Supplied Documents set out in Part 7 of the Contract, I have read the;
- a) Coffey Geotechnics Pty Ltd (**Coffey**), Pells Consulting (**Pells**) and Golder Associates Pty Ltd expert reports provided by the applicant; and
 - b) the Douglas Partners Pty Ltd (**Douglas Partners**), Fugro Survey Pty Ltd (**Fugro**), Royal Haskoning Australia Pty Ltd (**HaskoningDHV**) expert reports provided by the respondent;
- 116) The applicant's experts' methods used and the detailed information provided are highly specialised and carried out by professionals with many decades of postgraduate studies. Those experts appear to me to be of "best in the world class" categories.
- 117) Some of the non-destructive methods adopted seem to be inherently prone to doubt because they rely on statistical inference of data with significant variability. Similarly, the destructive methods adopted are far from certain as

they also rely on many factors that are variable that overall represent a very small sample of the total volume *[extracted]*.

- 118) The applicant's expert's conclusions are as to the probable distribution of certain materials and the extent of underlying materials with a UCS of more than 7 MPa over the site.
- 119) Similarly, the respondent has provided expert commentary from highly qualified, experienced and well-respected experts to explain the variability of the methods adopted by the applicant's experts. Accordingly, the respondent's experts' reports attempt, in a respectful and scholarly manner, to cast doubt as to the applicant's experts' conclusions and suggest that the extent of the underlying material with a UCS of more than 7 MPa on the site was much less than claimed by the applicant.
- 120) In this context and in order to form a view on the balance of probabilities as to which expert's conclusions I prefer, I have carefully considered the applicant's expert's conclusions and the criticisms offered by the respondent's experts. I have set out the reasons below as to why I have adopted certain expert's conclusions in relation to the extent of overlying and underlying materials with a UCS of more than 7 MPa that the applicant *[extracted]* during the period 1 May to 25 October 2013.

Coffey Reports

- 121) Over the course of the work carried out by the applicant, the instructed Coffey to carry out many geotechnical surveys and reports of the materials to be *[removed]* and that had been *[excavated]* on the site. Specifically;
 - a) On 22 January 2013, Coffey provided a report entitled *[name omitted]*. The report was in relation to 90 samples of *[extracted]* materials. 4 of 5 samples strength tested indicated the material had a UCS between 14.0 MPa and 35.7 MPa.
 - b) On 31 January 2013, Coffey provided a report entitled; '*[name omitted]*- 9 UCS Tests'. The 9 samples strength tested indicated the material had a UCS between 7 MPa and 26.3MPa.
 - c) On 20 February 2013, Coffey provided a report entitled '*[name omitted]*'. Samples were identified as being of four rock types - siltstone, slump breccia, quartzose sandstone and quartzitic sandstone. The samples strength tested indicated the material had a UCS between 6.21 MPa and 143 MPa with an average UCS of 41.09 MPa. The report states;

*"...The UCS values and point load testing undertaken by Coffey indicate that the material being *[extracted]* is variable in strength and contains*

rock greater than 7 MPa. It suggests that the degree of variability and strength is greater than indicated by the borehole logs and rock test data in the Aurecon geotechnical report.”

- d) On 18 April 2013, Coffey provided a report entitled *[name omitted]*'. This report provided details of 8 boreholes drilled to depths of between 0.3 and 4.5 metres depth below bed level. The report concluded that the rock type in the areas tested was predominantly sandstone.
- e) On 14 May 2013, Coffey provided a draft report entitled *[name omitted]*'. The report only set out survey data and did not provide any interpretation of the results.
- f) On 7 June 2013, Coffey provided its draft interpretive report entitled '*Coffey Geophysical Study of [location omitted] -Interpretive Report*' of the surveys it carried out in March and April 2013. Section 7 of that report states:

“...Correlations with available UCS values has indicated that the material bulk in the site exceeds 7 MPa and is likely to be considerably stronger....

It is recommended that the information provided in this report be integrated with the geotechnical information and the [plant] performance. Also additional ultrasonic testing should be done on available or new rock samples to improve the correlation of intact velocity with UCS.”

- g) On 12 July 2013, Coffey provided a report entitled; “*Geophysical study of [location omitted] – Interpretive Report – Addendum 1*”. That report states;

“Two samples from the site (C3 & C4) were initially tested for Ultrasonic velocities and the UCS values with these results included in the Interpretative Report. These provided seismic or sonic velocities (V_s) of the intact material....

The measured UCS values show a wide range from 17 to 153 MPa averaging 56 MPa. The siltstone samples occupy the lower range of UCS values from 17 to 23 MPa. None of the samples tested have UCS values at or below 7 MPa.”

- 122) On 20 December 2013, Coffey provided a report entitled '*Geophysical Study of [location omitted] - Interpretive Report*'. This report provides Coffey's interpretation of the marine geophysical surveys it carried out on the site during March and April 2013.
- 123) The March and April 2013 surveys Coffey were carried out by non-destructive investigations of *[omitted]* materials on the *[work]* site by the use of *[omitted]* methods.

124) Section 11 of the 20 December 2013 report states:

- a) *"...I have been asked to provide an estimate of the total rock to be [extracted] after April 2013, which had a UCS of over 7MPa. My key conclusions in this regard are:*
- *I am very confident that siltstone and sandstone material with an in situ seismic velocity exceeding 2600 m/s has a UCS greater than 7MPa. This accounts for about 45% of the volume of rock to be [extracted] after April 2013. This is a conservative estimate.*
 - *There is also evidence that a significant quantity of such material with seismic velocities between 2400 m/s and 2600 m/s has a UCS greater than 7 MPa. This accounts for a further 19% of the material to be [extracted] after April 2013.*
 - *My best estimate is therefore that between 45% and 64% of the material to be [extracted] after April 2013 had a UCS greater than 7 MPa.*

I have also been asked to estimate the volume of quartzitic sandstone within the total rock to be [extracted] after April 2013. My key conclusions are as follows:

- *It is more difficult correlate seismic velocities directly with material types. Sandstones and quartzite generally have high UCS values greater than about 20 MPa and often much higher, whereas siltstone has lower UCS generally less than 10 MPa. However, some sandstones will have a lower UCS and some siltstones will have a higher UCS than these values. Having regard to these limitations, based on my analysis of the seismic and resistivity data and correlations with the physical sampling;*
 - *I am very confident that at least 13% of the volume of rock to be [extracted] after April 2013 with velocities over 3000 m/s was quartzitic sandstone*
 - *There is also some evidence that a further 12% of the material of the material with seismic velocities between 2800 and 3000 m/s was quartzitic sandstone*
 - *My best estimate is therefore that between 13% and 25% of the material [extracted] after April 2013 was quartzitic sandstone."*

Fugro Report

125) The Fugro report, among other things, reviews the Coffey geophysical report as to the materials that existed to be [extracted] on the site. Section 6 of the Fugro Report states:

- “The geophysical survey carried out by Coffey was very comprehensive and evidently well executed.
- The geophysical methods measured in bulk in situ physical parameters of the [omitted] material. The field procedures and processing were not appropriate to detect very localised features, eg thin (< than 2 m wide) high strength quartz veins. The presence of quartz veins was flagged by the Douglas report.
- The numerical geophysical values provided for velocity and resistivity, are within the expected range of magnitude for [project location].
- Recorded velocity anisotropy is consistent with the well known steeply dipping bedrock sequence of varying lithologies and degrees of metamorphism.
- The tendency towards higher velocity values on the eastern side of the [works] pocket is consistent with the more difficult conditions encountered there.
- However, there appears to be no compelling geophysical evidence to attribute the higher values to Sandstone rather than a meta-siltstone lithology - Ultrasonic measurements yielded meta-siltstone readings to 5,650 m/s. Particularly in the face of borehole evidence.
- UCS values from calls will tend to exaggerate the in situ strength due to the sampling required.
- Similarly strengths from post [excavation] samples will also tend to be biased towards higher values as the material available will be residual.
- From a comparison of velocity and UCS values, a threshold of 3000 m/s may be reasonable for strength of 7 MPa.
- Table 7 in the Coffey report has a volume of 57,827 m³ in excess of 3000 m/s representing 12.9% of the total volume. Any volume calculation based on the seismic velocities would have to make allowance for the quantity of material removed on the eastern side of the [works] pocket by [the additional extraction plant]. If this is simply a numerical quantity then it can just be subtracted; otherwise it would need to be provided as a xyz boundary.
- Recorded refraction values in excess of 3000 m/s are consistent with the presence of more competent meta-siltstone, but a more likely explanation is an interbedded sequence of siltstone and sandstone (known to be present from the sampling), with the later having a higher velocity. The composite velocity will be an average of the siltstone and sandstone velocities weighted in proportion to their thickness along the direction of seismic wave propagation. Unfortunately, as neither lithology has a unique velocity, it is not possible to calculate their relative proportions.

- *An alternative to using the refraction data as the basis for settlement may be to analyse [excavation] production at locations within the basin - this could then be used to define the extent of the harder material. The data would need to be available as production rates in various volume blocks.*

126) Section 5 of the Fugro Report states:

- *“Choice of geophysical techniques(s) - Both refraction and resistivity numerical in situ parameters that can be expected to be related to ease of [removability]. These methods are considered to be the most appropriate geophysical tools for the survey.”*
- *Field procedures - From information provided, the equipment and field procedures were appropriate. Without access to the original electronic files, it is not possible to validate the data quality, however the sections and plans prepared indicate consistency of data between adjacent lines and therefore an acceptable quality. The density of the acquired data (line spacing and line interval) was adequate. The difference in velocities recorded on N-S and E-W lines is consistent with the known bedrock strike.*
- *Refraction processing - Industry-standard software was used to derive the velocity sections. No information has been provided on the mechanism for the production of the contoured velocity surfaces, but their character suggests that the velocity pattern can be traced between adjacent lines. The general magnitude of the velocities is consistent with values measured elsewhere within [the locality of the project site] - ie over similar geology. One survey carried out by Fugro included lines immediately to the southwest of [location omitted], ie within 100m of the [works area]. Values close to the [location] were in the range 2,500 - 3,000 m/s and occasionally above. Without access to the raw data (or at least to verifiable Time - Distance relationships from the refraction shots), it is not possible to check the computations carried out by Coffey, however it seems unlikely that the general magnitude of the velocities presented is in error.*
- *Deriving UCS values from refraction velocities - There is no formula that directly links the UCS strength from a core sample to the in situ compressional wave velocity, as measured by refraction techniques. Where sufficient data is available, ie equivalent pairs of velocity and UCS, an attempt can be made to derive an empirical relationship, (a function). This process is site-specific, ie it is valid only for that particular geology. Typically, however, a large scatter of data is found. In the Coffey interpretative report, UCS and Ultrasonic test data from [work] site samples has been used to derive the relationship for siltstones/meta-sandstones. The function derived is : $UCS = 4.Sr - Vr - 5.5$ and the conclusion is drawn that a velocity of 2,800 m/s would have a UCS strength of 7 MPa, a key quantity for this project. Appendix B to this report also analyses the same data, but shows that the UCS threshold of 7 MPa is not reached until the velocity is 3,200 m/s. This discrepancy is*

very significant in terms of volumes of various velocity classes.

- *UCS results for the sandstone samples were very scattered (5 to 152 MPa), but with a grouping around 30 - 40 MPa corresponding to velocities in the range 3,500 to 5,000 m/s. There were only very localised velocities > 3,600 m/s recorded. While interbedded sequences of high and relatively low velocities may still be present (as described in the Coffey report), the near-absence of measured values in excess of 3,600 m/s would appear to eliminate the presence of extensive volumes of material in the 30 to 40 MPa bracket.*

127) The Fugro report does not raise any significant areas of concern in relation to the Coffey Interpretive report. In relation to the intact velocity that is the threshold for prediction of materials that have a threshold of more than 7 MPa, Coffey suggests at page 21 of the 20 December Report the intact velocity is 2,800 m/s and Fugro at section 6 of its report suggests the intact velocity is 3,000 m/s.

128) The Coffey prediction of intact velocity seems to be within the range of values that is reasonably anticipated by Fugro. In light of Fugro's other comments as to the adequacy and competence of Coffey generally, I am not persuaded to doubt the conclusions drawn by Coffey especially given the time spent carrying out numerous tests and analyses of the site.

129) Section 6 of the HaskoningDHV Report states:

"58. I have not had time to carry out a detailed assessment of the records of the sampling and testing of the materials that were photographed, logged and tested by Coffey. However, I make the following observations:

a. ...

b. The petrographic analyses showed that the materials tested included:

i. Sericite - a fine grained rock described as a siltstone.

ii. Slump breccia - a heterogeneous mixture of texture and mineralogy.

iii. Quartzose sandstone.

iv. Quartzitic sandstone .

c. No samples of quartzite were identified by petrographic analysis.

d. Whilst I have not had time to inspect the samples myself and verify the findings of Coffey's report, it appears that sandstone and slump breccia constitute a substantial proportion of the samples

logged and tested.

- e. I believe that the methodology for sampling material from the spoil heap came from Dr Haberfield's letter of 16th January. However, in my opinion, the proportion of sandstone and slump breccia recovered for testing will probably not be representative of the insitu [extracted] material for two reasons:
- i. The [extraction] process will tend to break down the less resilient materials and so these materials will not be measured by this approach.
 - ii. High strength materials will not be broken down by the cutter head and will therefore [not be] transported to the spoil heap.
59. Further sampling and testing was carried out by Hall. Dr Pells' expert report indicates that a further 550 samples were collected by Hall between March and September 2013. Coffey's Expert Report includes a summary of some of the larger samples. However, I have not yet been able to find more information on these samples. Similarly, Dr Pells' report notes that four additional boreholes (HBH1, HBH2, HBH3 and HBH8) were carried out within the [works] area. As yet, I have been unable to find records of this investigation.
59. On the basis of the above, I believe that there were significant quantities of materials present within the [works area] that were not covered by the [omitted] contract. However, given the time available, I have not been able to establish the quantity of these materials. On the basis of my review of the information that I have had a chance to review so far, I believe that a method based on pre-[extraction] geophysical testing (as earned out by Coffey) and calibrate to UCS test records represents the most appropriate approach to quantification . However, I believe that this will be a complex and inexact process for the following reasons:
- a. Given the perceived ground model of steeply dipping rock layers of various strengths and non-homogeneous weathering patterns, geophysical methods must rely on a degree of "averaging" as I understand that the technique will be unable to differentiate layers of one or two metres thickness.
 - b. The process of calibrating the geophysical data against measured UCS values will be subjective and difficult to verify statistically given the relative lack of data and the problems of interpreting UCS testing of steeply bedded and steeply foliated materials.

- c. *It will be possible to use geophysical techniques in conjunction with an interpretation of the UCS test and other data to produce a map of the interface between the "softer" UCS < 7MPa material and the "harder" UCS > 7MPa material. However, geophysical techniques will not be able to differentiate between different rock types reliably.*
60. *Given the short period available to complete this report, I have not had time to consider the detail of how Coffey or Dr Pells mapped the position of the interface between the rock with a UCS strength lower than 7MPa and a strength higher than 7MPa.*
61. *As stated above, before [extraction], the ground conditions within the [works area] were likely to have consisted of sub-vertically interbedded layers of lutites (phyllite, siltstone, meta-siltstone, etc.), arenites (sandstone, meta-sandstone, quartzose sandstone, quartzitic sandstone) and rudites (primarily conglomerate). These layers will have been intruded by veins of quartz or quartzite. Whilst the lutites will probably dominate in terms of total volume, the layers of sandstone will have had a disproportionate on the [removability] of the material.*
62. *From discussions with the Respondent's Geophysical Expert [name omitted] I understand that geophysical techniques will not have the resolution to accurately delineate relatively thin layers of high strength from surrounding weaker materials. However, by identifying areas that were [excavated] easily by the [plant] and areas that could not be [excavated] by the [plant], it may be possible to calibrate Coffey's geophysical data against the [excavation] records (rather than the borehole logs). This process would then allow the relative proportions of "softer" and "harder materials" to be estimated for the other [extraction] areas (where the [plant] experienced difficulty). The time taken for such an assessment would be controlled by assessment of the progress of the [excavation] works and the geophysical analysis as set out in [the Respondent's Geophysical Expert's] report.*
- 130) The Coffey predictions of composition of materials actually found and the methodology used by Coffey are generally supported by Haskoning DHV. In light of HaskoningDHV's other comments as to the adequacy and competence of Coffey generally, I am not persuaded to doubt the conclusions drawn by Coffey especially given the time spent carrying out numerous tests and analyses of the site.

Pells Report

- 131) The relevant extracts from the Pells Report upon which I have based my analysis of the quantum of material with a UCS of more than 7 MPa are set out below;

"2.2.2 Physical conditions actually encountered

...

1. The structure of the geology as encountered is consistent with the regional geology of the Burrell Creek Formation, namely, comprising near vertical beds orientated at approximately 15° east of north. This is shown by the pattern of the seismic velocity and in situ resistivity shown in the extracts from the Coffey Geotechnics study
2. Meta-sandstone samples with strengths up to about 150 MPa and of moderate to high abrasivity, were encountered within the [works area]. The samples of meta-sandstone can be reasonably correlated to being within areas with normalised resistivity of 7 or greater, and the high strength sandstones are interpreted to be shown by in situ seismic velocity, along strike (approximately north south), of 3000m/sec or greater.
3. The seismic velocity contours indicate that there was a substantial mass of sandstone in an uptilted vertical zone, at least 30m wide, running through the eastern side of the [works area]. There was another zone of sandstone about 20m wide running down the western side of the [works area] and a third narrow zone down the centre in the northern part of the [area].
4. *Above, and alongside, the masses of high strength meta-sandstone described in Points 2 and 3, above, was sandstone of similar mineralogy but lower strength, again typically within the zone defined by normalised resistivity of 7 or greater.*
5. ...
7. *Interpretation of the seismic data shows that it is highly probable³ that where in situ, north south, seismic velocities were greater than about 2600m/sec the rock conditions comprised either vertical beds of meta-sandstone with strengths typically greater than about 20MPa, separated by weaker vertical beds of meta-siltstone or fractured meta-siltstone with unconfined compressive strengths greater than 7MPa. [Highly Probable means the same as Almost certain, being defined by a probability of greater than 95%. Probable means the same as likely, being defined as a probability of greater than 65%].*

It is not possible on the basis of the available information to state which of these actually represent the conditions in the ground. This is because there is insufficient sampling information to discriminate between two equally valid interpretations of an in situ seismic velocity of 2600m/sec.

8. Interpretation of the seismic data in conjunction with the resistivity data

indicates that it is probable that the rock mass exhibiting north south in situ velocities of between 2400m/sec and 2600m/sec is similar to that described in Point 7, above.

...

2.2.4 Quantities

I have not done independent calculations of rock volumes of different categories, and in this regard I have relied upon the calculations in Coffey GEOPLCOV00166AA-AH. On the basis of the volume calculations given in that report I conclude as set out in Table 1.

TABLE 1

QUANTITIES OF UNFORSEEN ROCK

Item	Description of Rock Mass	Volume (Insitu cubic metres)
1	All rock still to be excavated at time of Coffey Geophysics survey (completed 11 April 2013)	448,000
2	Rock comprising meta-siltstone of UCS greater than 7 MPa, and/or interbedded meta-siltstone and meta-sandstone (in situ seismic velocity 2600m/sec to 3000m/sec) (NOT INCLUDING ITEM 3 BELOW)	143,000*
3	Rock comprising predominantly meta-sandstone of medium to high strength (in situ seismic velocity greater than 3000m/sec and resistivity >7)	58,000*(Note: resistivity of >7MPa gives 71,000 m ³)
4	Rock which probably comprises interbedded meta-siltstone and meta-sandstone or meta-siltstone of strength greater than 7MPa (in situ seismic velocity 2400-2600m/sec)	86 000

* Note these total 201,000 cubic metres which is the same as the combination of 2600 to 3000m/sec and >3000 given in Table 8 of the Coffey Geotechnics report GEOPLCOV00166AA_AH.

132) Neither the HaskoningDHV nor the Fugro Reports set out any criticisms that raise any significant doubts as to the methodology or conclusions proffered in the Pells Report.

133) Accordingly, I have used the information provided in Table 1 of the Pells Report

for the purposes of calculating the quantum of material with a UCS of more than 7 MPa [extracted] by the applicant.

Golder Report

- 134) Golder Report provides an analysis of the Principal Supplied Documents and comments as to their efficacy for the purposes of providing a tender.
- 135) As I have rejected the applicants claim for latent conditions, there is no point in providing any further discussion of the Golder Report.

VALUATION OF THE PAYMENT CLAIM

- 136) By way of summary, the payment claim relates to work carried out under the Contract during the period 1 May 2013 to 25 October 2013. The applicant claims that it accrued an entitlement to the payment claimed in one of the two following ways:
- a) The applicant encountered latent conditions throughout the period 1 May to 25 October 2013 and claims there is no appropriate rate for valuing the work carried out during that period of work. Accordingly, pursuant to the operation of *section 17* of the CCA, it must be paid on the basis of reasonable amount. The applicant asserts that this is payment of all costs (including repairs to the [plant] arising from the latent conditions) plus 21.3% for overheads and margin on the cost claimed.
- b) Alternatively, it carried out work under the Contract throughout the period 1 May to 25 October 2013 and claims there is no appropriate rate for valuing the work carried out during that period work. Accordingly, pursuant to the operation of *section 17* of the CCA, it must be paid on the basis of reasonable amount. The applicant asserts that this is payment of all costs (including repairs to the [plant] arising from the latent conditions) plus 21.3% for overheads and margin on the cost claimed.
- 137) For the reasons stated above, I do not accept that the applicant encountered latent conditions, and the first limb of its payment claim cannot, therefore, succeed.
- 138) In K&J Burns, Her Honour Kelly J made it clear that;
- "[116] If a construction contract contains a written provision about payment claims, the Act defines "payment claim" by reference to the terms of the construction contract actually made by the parties: s 4 of the Act. It is to that contract that the adjudicator must go to determine whether there is a "payment claim" and hence a "payment dispute" for him to adjudicate. [Emphasis added].*
- 139) I take K&J Burns to require me to consider all of the terms of the Contract in

order to determine the payment dispute regardless that either party may have made a claim for payment under a provision that does not apply in the current circumstances.

- 140) I accept that that the applicant is entitled to be paid for the *[omitted]* work performed and I also accept that item 2.0 of the Schedule of Rates is not appropriate because the Contract only expects that rate to be applied for material with a UCS of less than 7 MPa.
- 141) The Contract provides appropriate rates for the Work performed during the relevant period and I, therefore, do not accept that the applicant is entitled to be paid on the basis of a “reasonable rate”.
- 142) I have valued the payment claim on the basis of the Contract, information provided in the application and response and, specifically, in the Expert’s reports and the parties’ representatives’ sworn statements.

Volume of material [extracted] during the period 1 May to 25 October 2013

- 143) At paragraph 6.19 of his sworn statement, *[the applicant’s representative]* declares that the applicant *[removed]* 169,500 m³ during the period 2 October 2012 to 30 November 2012.
- 144) Under the Contract, the applicant was not permitted to work from 1 December 2012 to 30 April 2013. Accordingly, I have assumed that the total volume *[removed]* under the Contract as at 1 May 2013 was 169,500 m³.
- 145) On 7 November 2013, the Superintendent certified that the applicant had *[removed]* a total of 589,360 m³ up to 25 October 2013 under the Contract and in relation to the payment claim.
- 146) The applicant, therefore, *[removed]* 419,860 m³ (being 589,360 m³ less 169,500 m³) during the relevant period. 589,360 m³ is the amount of material *[removed]* as of 25 October 2013, which was certified by the respondent. 169,500 m³ is the amount declared as being completed as of 30 November 2012 by *[the applicant’s representative]* of the applicant.

Types of material [extracted] in the period

- 147) The Schedule of Rates states that the applicant was required to *[remove]* approximately 205,000 m³ of overlying material and 480,000 m³ of underlying material under the Contract. In other words a total of approximately 685,000 m³ of material was to be *[extracted]* under the Contract.
- 148) Neither party has provided any information that displaces those approximations and I have used those approximations for the purposes of this valuation as follows:

- a) The volume of overlying material [*extracted*] during the period 1 May to 25 October 2013 was calculated by applying the proportion of overlying material to total material stated in the Contract to the total volume of material actually [*extracted*]. Specifically, $((205,000 \text{ m}^3 / 685,000 \text{ m}^3 \times 419,860 \text{ m}^3)$.
 - b) This volume will be valued in accordance with item 2.0 of the Schedule of Rates, which is \$23.72/m³.
 - c) I have calculated the volume of overlying material [*removed*] during 1 May to 25 October 2013 as being 125,651 m³.
- 149) On the basis of the proportions stated in the Contract, the remaining volume [*extracted*] was underlying material.
- 150) The volume of the underlying material [*extracted*] during 1 May to 25 October 2013 was 419,860 m³ less 125,651m³, which is 294,209 m³.
- 151) For the purposes of valuing the [*extraction*] of the overlying and underlying material, we further must categorise the materials [*extracted*] as follows:
- a) Overlying material is to be valued in accordance with item 2.0 of the Schedule of Rates, which is \$23.72/m³.
 - b) Underlying material with a UCS of less than 7 MPa, is to be valued in accordance with item 2.0 of the Schedule of Rates, which is \$23.72/m³.
 - c) 5% of the underlying material with a UCS of more than 7 MPa⁵ is to be valued in accordance with item 2.0 of the Schedule of Rates, which is \$23.72/m³.
 - d) 95% of the underlying material with a UCS of more than 7 MPa, is to be valued in accordance with item 5.0 of the Schedule of Rates, which is \$10,500/hour.
 - e) Any quartzite or quartz veins that were greater than 400 mm thick were to be valued as a deemed latent condition under clause 25.3 of the General Conditions. Since the applicant has provided no evidence of the volume of such veins or any estimation from its experts as to the volume of quartzite or quartz veins that were greater than 400 mm thick, I cannot assess this item further.

Volume of various underlying materials

⁵ The applicant must [*excavate*] 5% of the underlying material with a UCS of more than 7 MPa at the rate of \$23.72/m³. Refer to above paragraph (97)b) and Part 5 of the Contract.

- 152) In its 20 December 2013 report, Coffey⁶ states that it has calculated that the applicant still had to *[excavate]* 448,459 m³ of underlying material as at 1 May 2013.
- 153) Paragraph 2.2.4 of the Pells⁷ Consulting report Dr Pells states that he relies on the Coffey report for the purposes of assessing the volume of material still to *[excavate]* as at 1 May 2013 and opines that of the 448,000 m³ underlying material still to be excavated, 287,000 m³ was underlying material with a UCS of more than 7 MPa. I have only had regard to these volumes for the purposes of calculating the proportion of Rock with a UCS of more than 7 MPa of the total volume of underlying material still to be *[extracted]*.
- 154) For the reasons stated above, I accept Dr Pell's estimate that 64% of the underlying material at 1 May 2013 has a UCS more than 7 MPa. 64% is calculated on the basis of Dr Pell's expert opinion that 287,000 m³ of 448,000 m³ is underlying material at 1 May 2013 has a UCS more than 7 MPa. It follows, therefore, that 36% of the underlying material has a UCS of less than 7 MPa.

Valuation of overlying and various underlying materials

- 155) At paragraph (150) above, I calculated that the volume of the underlying material *[extracted]* during 1 May to 25 October 2013 was 294,209 m³.
- 156) At paragraph (148) I have calculated the volume of overlying material *[extracted]* during 1 May to 25 October 2013 as being 125,651 m³.
- 157) The valuation of the payment claim will be calculated as the sum of each of the following sub-valuations;
- a) overlying material *[extracted]* are 125,651 m³ and will be valued in accordance with item 2.0 of the Schedule of Rates, which is \$23.72/m³;
 - b) the volume of underlying material *[extracted]* with a UCS of less than 7 MPa is calculated on the basis of Dr Pell's opinion being that this material formed 36% of the volume of the underlying material, which is 294,209 m³. Therefore, the volume of underlying material *[extracted]* with a UCS of less than 7 MPa is 105,915 m³. This volume of underlying material will be valued in accordance with item 2.0 of the Schedule of Rates, which is \$23.72/m³.
 - c) 5% of the volume of underlying material with a UCS of more than 7 MPa is calculated on the basis of Dr Pell's opinion as 5% of 64% of the underlying material, which is 294,209 m³. 5% of the volume of underlying material with a UCS of more than 7 MPa is 9,415 m³ that is to be valued in accordance with item 2.0 of the Schedule of Rates, which is \$23.72/m³.

⁶ Table 7, Page 31 of Coffey report entitled; "Geophysical study of *[location omitted]*, Darwin – Interpretative Report" dated 20 December 2013.

⁷ Pells Consulting report entitled; "*[title omitted]*" dated 7 January 2014.

- d) the remaining 95% of the underlying material with a UCS of more than 7 MPa is calculated as 95% of 65% of 294,209 m³. Accordingly, 95% of the underlying material with a UCS of more than 7 MPa is 178,879 m³. This volume of underlying material is to be valued in accordance with item 5.0 of the Schedule of Rates, which is \$10,500/hour.

158) In other words;

- a) The value of the *[extracted]* overlying material is \$2,980,441.72.
- b) The value of the *[extracted]* underlying material with a UCS of less than 7 MPa is \$2,512,308.80.
- c) The value of the *[extracted]* 5% of the underlying material with a UCS of more than 7 MPa⁸ is \$223,323.80.
- d) The value of the *[extracted]* 95% of the underlying material with a UCS of more than 7 MPa is 174,496 m³ multiplied by the number of hours *[extracting]* this material at the rate of \$10,500/hour.

159) This leaves only the item at paragraph (157)d) to be valued. In order to determine how many hours the applicant is entitled to be paid on the basis of Item 5.0 of the Schedule of Rates, I will determine the period of time that the applicant took to *[excavate]* overlying materials and underlying materials with a UCS of less than 7 MPa. By subtracting that period from the number of days between 1 May and 25 October 2013, the balance of hours will be the time that the applicant took to *[excavate]* materials with an overlying UCS of more than 7 MPa, the time taken to replace consumables, the time taken to repair break-downs and the time it spent on standby.

160) The applicant asserts that it anticipated *[excavation]* at the rate of 55,000 m³/week. That means that the applicant would have completed all work under the Contract in 12.45 weeks.

161) The Contract envisaged that the work would be carried out over a 26 week period.

162) The respondent has not provided any useful information on this point.

163) I am not persuaded by the statements of *[the applicant's representatives]* in relation to their allegedly anticipated production rate after reviewing the Principal Supplied Documents at the time of tender because that means that the applicant would have finished the work under the Contract in less than one half of the time available under the Contract.

⁸ The applicant must *[excavate]* 5% of the underlying material with a UCS of more than 7 MPa at the rate of \$23.72/m³. Refer to above paragraph (97)b) and Part 5 of the Contract.

- 164) Accordingly, I have calculated the production rates for overlying and underlying material with a UCS of less than 7 MPa implied by the Contract as follows:
- a) In accordance with the Contract, the applicant contracted to carry out the *[extraction]* of 685,000 m³ of materials during the periods 1 August to 31 October 2012 that is a period of 91 days and 1 May to 31 July 2012 that is a further period of 91 days.
 - b) In other words, the applicant committed to perform the work at an average rate of production of 3,763 m³/day or 26,346 m³/week. That production rate is derived by dividing the total volume of material to be *[extracted]* by the contract period, which is 685,000 m³/182 days.
- 165) During the period 1 May to 25 October 2013;
- a) The volume of overlying material *[extracted]* was; 125,651 m³;
 - b) The volume of underlying material with a UCS of less than 7MPa was; 105,915 m³;
 - c) The volume of 5% of the underlying material with a UCS of more than 7 MPa⁹ is; 9,415m³.
 - d) The total volume of the above 3 items is; 240,981 m³.
 - e) The remaining 178,879 m³ was 95% of the material with a UCS of more than 7 MPa.
- 166) During the period 1 May to 25 October 2013, which is a period of 177 days, the applicant *[extracted]* 240,961 m³ of overlying and underlying materials as described in above sub-paragraph (a), (b) & (c). Based on the rate of production implied by the Contract, which is 3,763 m³ per day, that *[extraction]* would have taken 64 days to complete.
- 167) Of the 177 day period between 2 May and 25 October 2013, the applicant *[extracted]* 95% of the material with a UCS of more than 7 MPa and was on standby and was carrying out repairs for 113 days (being 177 days - 64 days).
- 168) The explanatory notes in Part 5 that precede the Schedule of Rates state;

“Dayworks

The rate for dayworks is set out in item 5.0 for the [extraction plant] spread excludes consumables such as cutter teeth. Cutter teeth will be paid to the Contractor at cost upon sufficient documentary evidence being

⁹ The applicant must *[excavate]* 5% of the underlying material with a UCS of more than 7 MPa at the rate of \$23.72/m³. Refer to above paragraph (97)b) and Part 5 of the Contract.

provided by the Contractor to the Principal.

- 169) The use of the phrase; “*such as*”, means “*for example*” but does not limit the consumables for which the applicant can claim reimbursement only to cutter teeth. Accordingly, I construe the term to mean that the respondent will reimburse the applicant’s cost of all consumables used while it was [*removing*] underlying material with a UCS of more than 7 MPa. I do not, however, accept that the replacement and or repair of gearboxes, clutches and motors are included in the classification of consumables.
- 170) Of the 113 days, the applicant is only entitled to claim payment for the time it actually spent [*excavating*] and the time required to change teeth and other consumables.
- 171) The applicant is not, however, entitled to claim payment for the time that it was required to carry out repairs to [*its extraction plant*] or the time that it was being reimbursed on a standby basis.
- 172) Accordingly, I have determined the number of hours spent [*excavating*] underlying material with a UCS of more than 7 MPa as follows;
- a) I have referred to the Daily Log Sheets for the [*extraction plant*] provided in the sworn statement of [*AB*] of the applicant. The Daily Log Sheets record the total number of hours that the [*extraction plant*] carried out [*excavation*] work during the period 1 May to 25 October 2013, the total number of hours where it was on standby and the total number of hours spent repairing the [*extraction plant*] after breaking down for various reasons.
 - b) I have referred to Appendix 3 of the Johan Pronk report¹⁰ that sets out standby times and time spent repairing the [*applicant’s extraction plant*];
 - c) I have summarised the information provided by [*AB*] and Johan Pronk referred to in the above sub-paragraphs (a) and (b) at Appendix 1 of this determination and used that information in the analysis set out in the following paragraph.
 - d) The [*extraction plant*] worked 1998 hours from 1 May 2013 to 25 October 2013, which was a period of 177 days. During that period there was 1 standby day certified by the respondent. The applicant has not provided me with any other submissions as to the number of standby days during the period 1 May to 25 October 2013.
 - e) In other words, the [*extraction plant*] worked an average of 1998 hours over (177-1 days), which is 155.5 days or 11.35 hours per day.

¹⁰ Report from [*name omitted*] by Johan Pronk entitled; “[*location omitted*]”

- 173) Accordingly, the value of the [excavation] of 95% of material with a UCS of more than 7 MPa is calculated as follows 11.35 hours/day x \$10,500/hour x 113 days = \$13,469,471.59 excl. GST.

PREVIOUS ADJUDICATION APPLICATION REFERENCED 34.10.01

- 174) The applicant has previously made an adjudication dispute relating to this Contract referenced 34.13.01. Specifically, in that claim the applicant made the following claims:

- “38. The remaining issues in dispute relate to the validity of the 3 claims contained within the Payment Claim*
- a. Claim 1 – a variation claim in relation to an alleged direction by the Superintendent on 29th October 2012 for an amount of \$8,265,600.00 plus GST*
- b. Claim 2 – in the alternative to claim 1, standby costs in relation to delays to start of [works] schedule for an amount of \$5,987,100.00 plus GST*
- c. Claim 3 – latent conditions for an amount of \$3,943,262.00 plus GST” [for work carried out between 2 October and 30 November 2012]*

- 175) In that application the adjudicator determined:

- “55. I have considered all the information provided by both parties and I am satisfied that after reading the Contract that the letter dated 29th October 2012 from the Superintendent constituted a direction under clause 28 which then varied the WUC under clause 36.1. I am satisfied that the applicant is entitled to recover its costs for compliance with this variation.*
- 56. The delay period claimed is from 1st December 2012 to 25th February 2013 which is 87 days.*
- 57. The Standby Rate is \$4,200 per hour multiplied by the compensable hours for the delay period. I therefore determine that the standby costs for variation to be \$8,265,600 excluding GST.*
- 58. Claim 2 – This is in the alternative to Claim 1 above. As I have determined a value for Claim 1 my determination for Claim 2 is Nil.*
- 59. Claim 3 – Additional costs for the geotechnical conditions experienced. This claim relates to alleged costs to [perform the*

works] between 2nd October 2012 and 30th November 2012.

60. *The Contract states that “the rate for [works] in the Schedule of Rates is limited to material with a maximum UCS of 7MPa” – however the contract does not specify a rate for [removal] of material with a UCS of greater than 7MPa.*
61. *The applicant submitted a “Notice of Latent Condition” dated 9th November 2012 which stated that the underlying material encountered may have UCS strength greater than 7MPa and the proportion of quartzite may be higher than 5% of the [extracted] volume.*
62. *I have reviewed all the expert reports provided within the documentation and have concluded that the applicant has not yet demonstrated that latent conditions exist or the extent of additional geotechnical conditions not envisaged at time of tender.*
63. *In the adjudication application at p54 paragraph (w) the applicant states that the “quantum of quartz and quartzite in the material to be [removed] has not been able to be ascertained with any degree of accuracy”.*
64. *The applicant engaged Coffey to undertake various sampling and testing programs. In its 20 February 2013 report Coffey could not provide an opinion on the quantity of the hard material from the samples and information obtained to date. Coffey are undertaking further geophysical investigations which they recommended before a conclusion could be reached on the volume of hard material.*
65. *In the applicant’s expert report produced by Johan Pronk, paragraph 6.1.5 states “both sampling methods that have been utilised do not give conclusive evidence of the volume of hard materials in excess of 7MPa (UCS) already [removed]”.*
66. *I am not convinced that the appropriate geotechnical investigations have been concluded to enable an accurate assessment to be reached of what allowances for hard material should have been made by the applicant based on the information available at time of tender.*
67. *In addition, I am also not convinced that the extent of hard material or indeed the type of material actually [removed] has been fully assessed. No conclusive argument has been presented*

to demonstrate the actual quantities of additional hard material [extracted].

68. *The statements referred to above from the applicants own expert reports do not convince me that sufficient tests of the [extracted] material have been completed to properly conclude the extent of any latent conditions.*

69. *Without this information to hand I do not consider that any reasonable assessment of the actual cost implications can be concluded.*

70. *The cost build for the latent condition claim also appears to be very simplistic and doesn't appear to take account of other factors which may reduce production including downtime and equipment repairs, inclement weather and the ability or otherwise to employ appropriately qualified supervision and labour.*

71. *The applicant's argument is based on an assumption that the reduction in the rate at which the works were performed] must be directly related to the existence of material harder than what had been assumed at tender.*

72. *I do not consider that the applicant has demonstrated to any degree of accuracy the type and quantity of material encountered and how this material differed from what a competent Contractor at the time of tender should have included.*

73. *Without this detailed information I do not consider that any attempt can be made to reasonably assess the potential costs of any latent conditions encountered during the [works].*

74. *For the reasons stated above I determine the value for the additional costs for the geotechnical conditions experienced to be Nil.*

176) Neither the determination relating to Claim 1 or Claim 2 under the previous application are relevant to this payment claim and this determination this not in any way displace or affect the determination made under adjudication application referenced 34.13.01.

177) I note that Claim 3 of adjudication application referenced 34.13.01 was a claim for latent conditions for work carried out between 2 October and 30 November 2012. The claim for latent conditions the subject of this adjudication application relates to work carried out between the period 1 May and 25 October 2013. The claims are, therefore, completely un-related other than that they both arose in

relation to the same Contract.

- 178) Claim 3 under the previous application, therefore, is not relevant to this payment claim and this determination does not in any way displace or affect the determination made under adjudication application referenced 34.13.01.

THE DETAILS OF THE DETERMINATION

- 179) Pursuant to s 34(1)(a) of the CCA, I have made this determination on the basis of the application and its attachments and the response and its attachments.
- 180) In accordance with the applicant's request that only a certain part of the payment dispute be determined¹¹, I have only determined the part of the payment dispute that relates to the valuation of *[excavation]* work carried out during the period 1 May to 30 October 2013.
- 181) To the extent that a payment dispute may have arisen in relation to other items where the respondent's certified amount was less than that claimed by the applicant, I have taken the applicant's request to mean that it accepted the determination made by the respondent, which is set out in the payment certificate issued and the Contract and dated 7 November 2013.
- 182) Pursuant to s 33(1)(b), I have determined that:
- a) the value of completed work as at 25 October 2013 is; \$46,534,207.84 excl. GST;
 - b) the respondent must pay to the applicant the sum of \$ \$11,104,376.64 excl. GST or \$12,214,814.31 incl. GST on or before 18 March 2014 or 7 days after the issue of the determination, whichever is the latter to occur in time;
 - c) the calculation of the amount that the respondent must pay the applicant is set out in **Appendix 1** of this determination. That calculation is based on the applicant's submission that the respondent has previously certified \$35,429,831.20 excl. GST.
 - d) in accordance with clause 35(1)(b) of the CCA, I determine that interest is payable on the amount the respondent must pay to the applicant at the rate of 8% per annum from 2 December 2013.
- 183) Pursuant to section 36(1) of the CCA, each party shall bear its own costs in relation to this adjudication.
- 184) Pursuant to section 46(5) of the CCA, the costs of the adjudication shall be shared equally by both parties.

¹¹ The applicant has made the parts of the payment dispute that are the subject of the application clear at paragraphs 1.4(a) and (c) of its application submissions.

185) The costs of the adjudication amount to 226 hours @ \$305.00 plus GST, which is; \$75,823.00 incl. GST.

186) I will issue separate Tax Invoices to each party accordingly.

CONFIDENTIAL INFORMATION

187) The parties have not indicated which parts of the information provided to me with their submissions are to be treated as confidential.

188) If either party considers any part of their submissions confidential or any part of this determination as confidential, I request that they notify me accordingly within 2 working days of receipt of this determination.

Signed:.....

John Tuhtan¹²

Date: 9 March 2014

¹² Registered Adjudicator Number 35

APPENDIX 1

Valuation of claim for <i>[excavation]</i> of overlying and underlying materials during the period 1/5/2013 to 25/10/2013				
Valuation of <i>[excavation]</i> work to 30 April 2013	169,500 m ³	@	\$23.72/m ³	\$4,020,540.00
Valuation of <i>[excavation]</i> of overlying material 1/5/2013 to 25/10/2013	125,651 m ³	@	\$23.72/m ³	\$2,980,441.72
Valuation of <i>[excavation]</i> of underlying material with a UCS of less than 7 MPa 1/5/2013 to 25/10/2013	505,915.21 m ³	@	\$23.72/m ³	\$2,512,308.80
Valuation of <i>[excavation]</i> of 5% of underlying material with a UCS of more than 7 MPa 1/5/2013 to 25/10/2013	9415 m ³	@	\$23.72/m ³	\$223,323.80
Valuation of <i>[excavation]</i> of 95% of underlying material with a UCS of more than 7 MPa 1/5/2013 to 25/10/2013	1451 hrs	@	\$10,500.00/hr	\$13,469,471.59
				\$23,206,085.91
				LESS
Amount certified to date by the respondent				\$14,012,590.00
				\$9,193,495.91

Determination of the amount to be paid under the determination 35.14.01				
Description	Contract price	Amount claimed	Amount certified	Determination
Contract Sum				
Mobilisation	\$4,580,000.00	\$4,580,000.00	\$4,580,000.00	\$4,580,000.00
<i>[Excavating]</i> overlying soft alluvial material and underlying phyllite material, max. UCS 7 MPa (est. based on 685,000 m³)	\$16,248,200.00	\$13,979,619.20	\$14,012,590.00	\$14,012,590.00
Demobilisation	\$706,000.00	\$353,000.00	\$353,000.00	\$353,000.00
Standby & Daywork				
Standby	\$862,050.00	\$862,050.00	\$0.00	\$0.00
	\$1,394,400.00	\$1,394,400.00	\$0.00	\$1,394,400.00
Daywork	\$42,000.00	\$42,000.00	\$0.00	\$42,000.00
Variations				
Reasonable Rate applied		\$18,971,498.40	\$0.00	\$9,193,495.91
Variation 001 - cost to comply with variations		\$4,004,400.00	\$4,004,400.00	\$4,004,400.00
Variation 002 - coffey survey part 1		\$193,200.00	\$87,665.43	\$87,665.43
Variation 003 - coffey survey part 2		\$0.00	\$105,535.00	\$105,535.00
Variation 004 - channel obstruction		\$49,700.00	\$91,700.00	\$91,700.00
standby claim no. 2		\$14,490,000.00	\$8,265,600.00	\$8,256,000.00
v3 geotechnical consultant			\$0.00	\$0.00
geotechnical conditions interim claim no. 1			\$0.00	\$0.00
geotechnical conditions interim claim no. 2			\$0.00	\$0.00
geotechnical conditions interim claim no. 3			\$0.00	\$0.00
geotechnical conditions interim claim no. 4			\$0.00	\$0.00
geotechnical conditions interim claim no. 5			\$0.00	\$0.00
geotechnical conditions interim claim no. 6			\$0.00	\$0.00
interest on adjudicated amount		\$153,061.00	\$155,800.00	\$155,800.00
adjudication fee		\$12,838.00	\$12,838.00	\$12,838.00
<i>[extraction plant]</i> spread -standby rate- sept.			\$0.00	
mobilisation of <i>[additional plant]</i>		\$0.00	\$1,236,250.00	\$1,236,250.00
<i>[Additional plant]</i> working rate		\$0.00	\$577,323.00	\$577,323.00
<i>[extraction plant]</i> spread -standby rate-sept/oct			\$100,800.00	\$100,800.00
material harder than 7 Mpa			\$0.00	\$0.00
<i>[Additional plant]</i> working rate		\$414,000.00	\$2,142,139.50	\$2,142,139.50
standby rate		\$78,660.00	\$188,271.00	\$188,271.00
Additional items (payment on account)			\$3,000,000.00	
Subtotal	\$23,832,650.00	\$59,578,426.60	\$35,913,911.93	\$46,534,207.84
Less payment on account			\$3,000,000.00	
Less payments made to date		\$35,429,831.20	\$32,432,602.82	\$35,429,831.20
TOTAL		\$24,148,595.40	\$3,481,309.11	\$11,104,376.64
TOTAL incl GST				\$12,214,814.31

