

BarNet Jade - Find recent Australian legal decisions, judgments, case summaries for legal professionals (Judgments And Decisions Enhanced)

jade.io/article/651850

FEDERAL COURT OF AUSTRALIA

Lucas Earthmovers Pty Limited v Anglogold Ashanti Australia Limited [2019] FCA 1049

File number: SAD 354 of 2015

Judge: **WHITE J**

Date of judgment: 5 July 2019

Catchwords:

CONTRACTS – Applicant contracted with the Respondents to construct an access road to a remote mine site – various matters led to the incurring of additional costs and to construction delays – claim for damages for breach of contract - claim for payment of the time-related costs incurred by the Applicant in respect of additional work – claim for other consequences of the additional time taken and the additional work – claim for payment of variations.

Held: claim for the time-related costs fails but other aspects of the breach of contract claim succeed in part.

CONSUMER LAW – claims of misleading or deceptive conduct contrary to s 18 of the Australian Consumer Law – claim that in entering into the contract the Applicant relied on four representations made by the Respondents which were misleading or deceptive – claim that if the representations had not been made the Applicant would not have entered into the contract at all or, alternatively, would have entered into a contract on schedule of rates terms which assigned the risk and cost of additional work and delay to the Respondents – Applicant did not prove that the representations were made or that they were misleading or deceptive – Applicant did not prove that it relied on the pleaded representations in entering into the contract – Applicant did not establish loss by reason of the alleged misleading or deceptive conduct.

Held: contraventions of s 18 of the ACL not made out.

Legislation:

Australian Consumer Law ss 18, 236

Competition and Consumer Act 2010 (Cth)
Sch 2

Evidence Act 1995 (Cth), ss 69, 81

Trade Practices Act 1974 (Cth) s 82

Cases cited:

Australian Broadcasting Commission v Australasian Performing Right Association Ltd [1973] HCA 36; (1973) 129 CLR 99

Australian Competition and Consumer Commission v Emerald Ocean Pty Ltd [2002] FCA 740

Australian Development Corporation Pty Ltd v White Constructions (ACT) Pty Ltd (1996) 12 BCL 317

BMD Major Projects Pty Ltd v Victorian Urban Development Authority [2007] VSC 409

Butcher v Lachlan Elder Realty Pty Ltd [2004] HCA 60; (2004) 218 CLR 592

Campbell v Backoffice Investments Pty Ltd [2009] HCA 25; (2009) 238 CLR 304

Codelfa Construction Pty Ltd v State Rail Authority of New South Wales [1982] HCA 24; (1982) 149 CLR 337

Dante De Grazia t/as Sydney Building Services v Solomon [2010] NSWSC 322

Dasreef Pty Ltd v Hawchar [2011] HCA 21; (2011) 243 CLR 588

Henville v Walker [2001] HCA 52; (2001) 206 CLR 459

Hevi Lift (PNG) Ltd v Etherington [2005] NSWCA 42

I&L Securities Pty Ltd v HTW Valuers (Brisbane) Pty Ltd [2002] HCA 41; (2002) 210 CLR 109

Jango v Northern Territory of Australia (No 4) [2004] FCA 1539

Jennings Construction Ltd v QH & M Birt Pty Ltd (1986) 8 NSWLR 18

Mackay v Dick (1881) 6 App. Cas. 251

Makita (Australia) Pty Ltd v Sprowles [2001] NSWCA 305; (2001) 52 NSWLR 218

Masters v Cameron [1954] HCA 72; (1954) 91 CLR 353

Mount Bruce Mining Pty Ltd v Wright
Prospecting Pty Ltd [2015] HCA 37; (2015)
256 CLR 104

Opat Decorating Service (Aust) Pty Ltd v
Hansen Yuncken (SA) Pty Ltd (1994) 11
BCL 360

Peninsula Balmain Pty Ltd v Abigroup
Contractors Pty Ltd [2002] NSWCA 211

Perini Corporation v Commonwealth of
Australia [1969] 2 NSW 530

Reiffel v ACN 075 839 226 Ltd [2003] FCA
194; (2003) 132 FCR 437

Secured Income Real Estate (Australia)
Ltd v St Martins Investments Pty Ltd [1979]
HCA 51; (1979) 144 CLR 596

Seven Network Ltd v News Ltd (No 14)
[2006] FCA 500

Stone v Chappel [2017] SASCF 72;
(2017) 128 SASR 165

Sydneywide Distributors Pty Ltd v Red Bull
Australia Pty Ltd [2002] FCAFC 157;
(2002) 234 FCR 549

Walton Construction Pty Ltd v Illawarra
Hotel Co Pty Ltd [2011] NSWSC 534

Wardley Australia Ltd v The State of
Western Australia [1992] HCA 55; (1992)
175 CLR 514

Wilkie v Gordian Runoff Ltd [2005] HCA
17; (2005) 221 CLR 522

WMC Resources Ltd v Leighton
Contractors Pty Ltd [1999] WASCA 10;
(1999) 20 WAR 489

Wormald Engineering Pty Ltd v Resources
Conservations Co International (1988) 8
BCL 158

Date of hearing: 4-8, 12-15, 18, 19, 21, 26 and 27 June
2018

Date of last submissions:	4 July 2018
Registry:	South Australia
Division:	General Division
National Practice Area:	Commercial and Corporations
Sub-area:	Commercial Contracts, Banking, Finance and Insurance
Category:	Catchwords
Number of paragraphs:	864
Counsel for the Applicant:	Mr P O'Sullivan QC with Mr N Floreani
Solicitor for the Applicant:	Kain Lawyers
Counsel for the First and Second Respondents:	Ms P Cahill SC with Mr J Quang-Sing
Solicitor for the First and Second Respondents:	Allens
Counsel for the Third Respondent:	The Third Respondent did not participate in the trial

ORDERS

SAD 354 of 2015

BETWEEN: LUCAS EARTHMOVERS PTY LIMITED (ACN 008 122 530)

Applicant

AND: ANGLOGOLD ASHANTI AUSTRALIA LIMITED (ACN 008 737 424)

First Respondent

INDEPENDENCE GROUP NL (ACN 092 786 304)

Second Respondent

KNIGHT PIÉSOLD PTY LIMITED (ACN 001 040 419)

Third Respondent

JUDGE: WHITE J

DATE OF ORDER: 5 JULY 2019

THE COURT ORDERS THAT:

1. The matter be adjourned to a date to be fixed for the hearing of submissions with respect to interest, costs and the entry of judgment.

Note: Entry of orders is dealt with in Rule 39.32 of the *Federal Court Rules 2011*.

REASONS FOR JUDGMENT

WHITE J:

Introduction	[1]
The parties	[9]
The witnesses	[17]
The Lucas Tender of 31 January 2011	[23]
Post Tender negotiations	[39]
Issue of the Notice of Award for the Contract	[59]
The Contract	[63]
The performance of the works	[82]
The baseline program and critical delay	[135]
<i>The Recreated Program</i>	[137]
<i>Other construction programs</i>	[148]
<i>Consideration of the Programs</i>	[157]
The breach of contract claims - general	[162]
<i>Identifying the documents constituting the Contract</i>	[181]
The claim for time-related costs in respect of the Additional Works	[202]
<i>Clause 29 - variations</i>	[203]
<i>Were the Additional Works a variation?</i>	[209]

<i>The mixing and blending</i>	[215]
<i>The requirement to comply with the Technical Specification</i>	[220]
<i>Laying the additional layer of sub-base</i>	[224]
<i>The risk with respect to the quantities of material</i>	[230]
<i>Are time-related costs payable in respect of variations?</i>	[240]
<i>The Contract provisions</i>	[242]
<i>AGA's submission</i>	[251]
<i>Lucas' submission</i>	[255]
<i>Consideration</i>	[257]
<i>Does cl 18.8 of the Contract preclude Lucas' claim?</i>	[274]
<i>The Stop Work Order</i>	[304]
<i>The Ponton Creek bridge pile design work</i>	[321]
<i>The provision of the drawings</i>	[327]
<i>The period of the delay caused by the late confirmation of the pile design</i>	[356]
<i>Other submissions of AGA concerning the bridge pile design</i>	[367]
<i>Consideration</i>	[372]
<i>Conclusion on the bridge pile design issue</i>	[379]
<i>Is Lucas claiming delay costs or variation costs?</i>	[380]
<i>Mr King's methodology</i>	[393]

<i>Other causes of delay in the completion of the Works</i>	[401]
<i>The tightness of the Construction Program</i>	[403]
<i>Late mobilisation to site</i>	[411]
<i>The initial resourcing of plant was inadequate</i>	[414]
<i>Change in the construction methodology</i>	[420]
<i>Difficulties in labour resourcing</i>	[422]
<i>Reduced productivity</i>	[427]
<i>Conclusion on entitlement to time-related costs in respect of the Additional works</i>	[429]
The extension of time claims	[431]
<i>Inclement weather</i>	[438]
<i>The repair of the Kurnalpi-Pinjin road Ponton Creek crossing</i>	[452]
<i>The Stop Work Order</i>	[465]
<i>Diversion of graders to other uses</i>	[466]
<i>Delay in confirmation of the bridge pile design</i>	[467]
<i>The Additional Works</i>	[469]
<i>The time bar defence</i>	[490]
The Consequential Claims	[510]
<i>Additional water haulage</i>	[511]
<i>Additional labour costs</i>	[527]

<i>The liquidated damages</i>	[537]
The Other Variations Claims	[545]
<i>The mark-up of 39% for Preliminaries</i>	[547]
<i>Culvert fill quantities</i>	[558]
<i>Increase in the borrow pit footprint</i>	[595]
<i>The hydrostatic filter mattress and concrete fill for the Ponton Creek bridge</i>	[621]
<i>The Chainage 159 to 169 soft spots</i>	[646]
<i>The Chainage 109 to 110 organic material soft spots</i>	[667]
<i>The organic material/soft spots in the sub-grade at Chainages 151 to 159</i>	[687]
<i>AGA's defences of lack of proper notice</i>	[702]
<i>Summary of the Other Variations Claims</i>	[703]
The breach of implied terms claims	[704]
Summary on the breach of contract claims	[717]
<i>The claim for time-related costs</i>	[718]
<i>Consequential claims</i>	[718]
<i>The Other Variations Claims</i>	[718]
<i>The breach of implied terms claim</i>	[718]
The claim of misleading or deceptive conduct	[719]
<i>The First Representation</i>	[722]

<i>The Second Representation</i>	[727]
<i>The Third Representation</i>	[732]
<i>The Fourth Representation</i>	[737]
<i>An overall representation</i>	[741]
<i>Was the First Representation made?</i>	[745]
<i>Was the Second Representation made?</i>	[772]
<i>Was the Third Representation made?</i>	[781]
<i>Was the Fourth Representation made?</i>	[795]
<i>Was the overall representation made?</i>	[803]
Reliance and causation	[804]
<i>Relevant principles</i>	[805]
<i>No evidence from Vivienne Lucas</i>	[812]
<i>A pleading difficulty</i>	[820]
<i>Further evaluation</i>	[826]
<i>The warranties and acknowledgements</i>	[844]
<i>Conclusion on reliance and causation</i>	[851]
Has Lucas established any loss or damage?	[852]
Summary and conclusion	[861]

Introduction

1. On 10 May 2011, the Applicant (Lucas) entered into a contract (the Contract) with the First and Second Respondents to construct an access road of some 223.5 km to a mine site located approximately 330 km northeast of Kalgoorlie in Western Australia. Lucas achieved practical completion of the works on 9 April 2012.
2. The parties contemplated that the material to be used in the construction of both the sub-base and the wearing course of the road would be obtained from areas along the road alignment. They recognised that the material in some areas would not be suitable for this purpose and would have to be sourced from borrow pits at other locations along the alignment. In fact, much of the material along the road alignment did not meet specification and, during the course of the work, the manner in which significant portions of the road was constructed was changed. Lucas had to haul greater amounts of material from borrow pits and for much greater distances than had been contemplated. It referred to this work and its incidents as the “Additional Works”. Those works resulted in construction delays and additional costs.
3. Lucas obtained variations under the Contract with respect to some of the additional work involved. The First and Second Respondents paid Lucas for the direct costs incurred in relation to the additional haulage and the placement of the material on the road. However, they did not make any payment with respect to the additional time-related costs incurred by Lucas. These included onsite overheads such as the provision of management, supervision, facilities, accommodation and equipment during the longer period which it took to complete the works. These kinds of costs formed part of the “Preliminaries” in the Schedule of Remuneration to the Contract. Lucas claims to be entitled to \$3,170,871.87 in respect of these costs.
4. In addition, Lucas claims to be entitled under the Contract to payments totalling \$1,959,487.70 for other consequences of the time taken to complete the Contract. I will refer to these as the “Consequential Claims”.
5. Lucas makes a third claim for payment under the Contract, namely, payment with respect to seven variations to its work for which it has not been paid (the Other Variations Claims). The amount of the Other Variations Claims is \$1,830,680.29.
6. In relation to the time-related costs and Consequential Claims, Lucas makes an alternative claim under the Australian Consumer Law (ACL) contained in Sch 2 to the *Competition and Consumer Act 2010 (Cth)*. It seeks recovery under s 236 of the ACL on the basis that those costs were incurred by reason of the Respondents’ misleading or deceptive conduct in contravention of s 18 of the ACL. Lucas says that it relied on four representations made by the Respondents or by others on their behalf which it alleges were misleading or deceptive.
7. Lucas’ Amended Statement of Claim (ASC) also included a claim in negligence against the Respondents. However, Lucas did not pursue that claim, and it need not be mentioned further.
8. For the reasons which follow, I consider that Lucas’ s 18 claim wholly fails as does its claim for the time-related costs associated with the Additional Works. Lucas does, however, establish some of the remaining breach of contract claims and is entitled to judgment, before interest, in the sum of \$1,038,050.97.

The parties

9. Lucas is an Adelaide-based firm engaged, principally, in the business of earthmoving, civil contracting and road construction. Its preference is for work in the contract price range of \$10-\$50 million, but it does undertake both larger and smaller jobs.
10. Lucas was established by David Lucas. At the times relevant to these proceedings, David and his wife Vivienne were its directors and their son, Ben Lucas, its General Manager.
11. Before November 2010, the First Respondent, AngloGold Ashanti Australia Limited (Anglo), and the Second Respondent, Independence Group NL, established an unincorporated joint venture called the "Tropicana JV" to undertake a gold mining project at a site situated some 330 km northeast from Kalgoorlie called the Tropicana Gold Project (the Tropicana Project). Anglo had a 70% interest in the Tropicana Project and Independence Group the remaining 30%. Anglo was the manager of the project. As it is generally not necessary for the purposes of this judgment to distinguish between Anglo and Independence Group, I will refer to them collectively as "AGA".
12. AGA recognised that it would be necessary to construct an access road to the mine site, including building a bridge over Ponton Creek.
13. On or around 22 September 2009, AGA entered into a consultancy agreement with the Third Respondent, Knight Piésold Pty Ltd, pursuant to which Knight Piésold was, amongst other things, to prepare a "bankable feasibility study" for the access road. The work to be performed by Knight Piésold included a site investigation of the proposed road, a geotechnical investigation, a geotechnical survey of its proposed route, and the preparation of the feasibility study. Knight Piésold carried out that work.
14. On 19 April 2011, AGA entered into a formal contract with Lycopodium Minerals Pty Ltd (Lycopodium) pursuant to which Lycopodium provided engineering, procurement and construction management services in relation to the Tropicana Project (the EPCM Contract). Although the formal contract was made on 19 April 2011, Lycopodium had been providing services to AGA for some time before that date, pursuant to earlier contracts. The terms of the EPCM Contract provided for Lycopodium to be AGA's agent with respect to aspects of the work associated with the construction of the access road.
15. Earlier, on or around 20 January 2011, Lycopodium had entered into a written consultancy agreement with Knight Piésold pursuant to which the latter was to provide services which included the final design of the access road, the final design of the Ponton Creek bridge, participation in the tender process for the contract for the construction of the access road, preparation of construction drawings, and construction quality control and field engineering. In addition, Lycopodium subcontracted certain work under the EPCM Contract to Knight Piésold, including road design, construction supervision, the identification and testing of "borrow material" and certain geotechnical works.
16. When Lucas commenced the proceedings, it also sought relief against Knight Piésold. However, Lucas compromised that claim and Knight Piésold did not take any part in the trial.

The witnesses

17. Lucas led evidence from eight lay witnesses and three expert witnesses. The lay witnesses were:

- Mr David Lucas, one of its two directors;
- Mr Ben Lucas, its General Manager;
- Mr Nicholas Matthews, its Construction Manager;
- Mr Ian Hentschke, one of its Project Managers;
- Mr Christopher Maiolo, its Site Engineer;
- Mr John Doyle, who was its employed Legal Counsel and later Commercial and Legal Manager;
- Mr Bruce Bate, a Senior Estimating Engineer with Macmahon Contractors Pty Ltd, which had also tendered for the access road contract; and
- Mr William Payne, an Engineering Surveyor who, in 2011, had been employed by AGA.

18. AGA led evidence from five lay witnesses and three expert witnesses. The lay witnesses were:

- Mr Massoud Massoudi, the Senior Vice President, Capital Projects, of Anglo;
- Mr Paul Stuchbury, a Project Engineer employed by Lycopodium;
- Mr Mark Walker, a Senior Project Manager employed by Lycopodium;
- Ms Marzena Rudowski, the Senior Contracts Engineer of Lycopodium; and
- Mr Robert Sceresini, a Project Manager employed by Knight Piésold.

19. Although AGA had said in its opening submissions on the first day of the trial that it also intended to call Mr Bruno Ruggiero as a witness, it later informed the Court that it would not be doing so. Mr Ruggiero had been Lycopodium's Project Director for the works and the Contract Representative nominated by AGA under the Contract. In some periods, Mr Ruggiero delegated aspects of his responsibilities as Company Representative to others including Mr Bradley McGregor, Mr Stuchbury and Mr Walker. At AGA's request, Mr Ruggiero was released from the obligation to comply with the subpoena served on him.

20. The evidence in chief of all the non-expert witnesses was contained in affidavits. All were subjected to cross examination. I consider that all gave their evidence honestly and were attempting to assist the Court. The fact that the matters in issue had occurred some six or seven years previously meant that the memories of some of the witnesses about matters were less than complete. I also thought that some of the witnesses had an appreciation of where the interests of the parties calling them lay, and some were to an extent defensive or self-justificatory. Nevertheless, as I have said, I thought that for the most part, the witnesses were doing their best to assist the Court. There was no suggestion that any witness should be disbelieved on grounds of honesty. In fact, issues of credibility did not loom large in the trial.

21. I will refer to the expert witnesses later.

22. In the next five sections of these reasons, I make findings of fact in order to provide the setting for the identification and resolution of the issues in the trial. Most of the matters which I record were non-contentious.

The Lucas Tender of 31 January 2011

23. On 23 December 2010, Lycopodium provided a Request for Tender (the RFT) to a number of contractors, including Lucas. The RFT included:

- (a) the Conditions of Tender;
- (b) the proposed General Conditions of Contract;
- (c) the Scope of Work (which included the Technical Specification);
- (d) template Schedules of Remuneration to be completed by tenderers;
- (e) Construction Schedules; and
- (f) some geotechnical reports.

24. The RFT contemplated that pricing would be provided by tenderers on:

- (a) a schedule of rates basis for performance of direct works; and
- (b) a lump sum basis for Preliminaries.

Pricing Schedule 5 contained the template of the schedule of rates for the works.

25. The Scope of Work indicated that the works included the construction of a road with an overall width (on average) of 10 m and a 7 m wide running surface. That surface was to comprise a 150 mm sub-base and a 150 mm gravel wearing course. Side drains (often referred to as V-drains) were also to be excavated. The profile of the contemplated road can be depicted diagrammatically as follows:

26. The road was to be 223.5 km in length running in a generally southwest to northeast direction. The parties used the term “chainage” to refer to intervals in the road, with each chainage being equivalent to 1 km. The datum point for the identification of the chainages was the proposed Main Camp for the Tropicana Project, located about 9.5 km from the mine site itself, at the north-eastern end of the road. One section of road of about 214 km in length ran from the Tropicana Main Camp (Chainage 0) in the northeast to Pinjin Station in the southwest (Chainage 214). The other section of 9.5 km ran from the Tropicana Main Camp (Chainage 0) to the mine site (Chainage -9.5).

27. The Scope of Work contemplated that suitable material would be used and compacted to form the sub-grade. It stated that in many areas the in situ material could be used as fill, that is, to form the sub-grade but also indicated that some fill may have to be hauled to the required locations. The Scope of Work contemplated that the contractor would obtain the material for the sub-base from the V-drains adjacent to the road or from borrow pits and that it would obtain the material for the wearing course from borrow pits. In each case, the borrow pits were to be designated by AGA’s representative.

28. Pricing Schedule 5 contained information concerning the source of the material to be used in the construction of the road. It indicated that some 240,750 m³ (which amounted to 75%) of the material to be used to form the sub-base was expected to be derived from the material in situ in the road alignment together with material excavated from the V-drains (involving haulage up to 2 km), and that the remaining 80,250 m³ (which amounted to 25%) was expected to be obtained from borrow pits (for which haulage distances using 2 km increments up to 28 km were given).
29. The RFT contemplated that there would be 11 culvert sites along the road alignment at which precast concrete drainage pipes and headwalls were to be used. A precast concrete pile bridge was to be constructed over Ponton Creek at Chainage 181.
30. Lycopodium sought tenders with respect to the provision of “all supervision, labour, temporary accommodation, temporary works, [e]quipment and materials necessary to perform the supply and construction of civil infrastructure earthworks for the Site Access Road ... in accordance with the Technical Specification, Drawings and all other documents forming part of the Contract ...”. After 23 December 2010, Lycopodium issued several addenda to the prospective tenderers, including Lucas.
31. The second representation on which Lucas relies for its misleading or deceptive conduct cause of action is alleged to have been conveyed by documents in the RFT.
32. Ben Lucas and Mr Matthews participated in a site visit over the period 10-12 January 2011 as a preliminary to the submission by Lucas of its tender. The others who participated in the visit included Mr Massoudi (Anglo) (first day only), Mr Payne and Mr Tucker (Anglo), Mr Walker (Lycopodium), Mr Sceresini and Mr McKean (Knight Piésold), as well as representatives of the other contractors who had been invited to tender.
33. The site visit commenced with a briefing in Kalgoorlie. The group then travelled in convoy along, or near, the proposed road alignment, stopping from time to time at places at which particular features were pointed out. This included a stop at at least one borrow pit. The site visit concluded with a debriefing in Kalgoorlie.
34. The first representation on which Lucas relies for its misleading or deceptive conduct claim is alleged to have been made during this site visit.
35. Lucas submitted its tender on 31 January 2011. Its tendered price on a schedule of rates basis for the whole of the works was \$46,510,922.28.

36. Lucas stated that its tender was subject to a number of qualifications and assumptions. In particular, it said that it had not made allowance for a number of matters, including:

- Treatment of unsuitable Subgrade material including the excavation, replacement, importing of material, backfill or compaction of the same within rates, m³ to apply
- ...
- Geotechnical Testing
- No allowance for processing, crushing or screening of subbase or wearing course materials: it is assumed that this material is suitable once placed on road
- ...
- Liquidated damages to the contract
- ...
- Importing or exporting of fill or spoil materials from off site (ie off the alignment of the road and over and above the distances as per the schedule)
- ...

37. Under the heading “General Assumptions”, the Tender stated:

- Subbase and cut as general fill to be done as one operation
- Materials in situ as subbase can be treated and compacted in place
- ...
- Material from excavations and borrow pits meets the specification for the fill and pavement materials as per the Schedule of Rates
- ...
- Geotechnical testing will be provided on timely basis

38. Lucas attached significance in the trial to the stated assumption that “[m]aterial from excavations and borrow pits meets the specification for the fill and pavement materials as per the Schedule of Rates”.

Post Tender negotiations

39. Ms Rudowski, from Lycopodium, sought clarification of a number of matters in the tender of Lucas. She did so by issuing a series of Tender Clarification Notices (TCNs) to which Lucas responded in writing. Lycopodium issued a total of 12 TCNs. Some of these addressed the qualifications and assumptions contained in Lucas' Tender. With respect to some items, there was an exchange of communications before the item was regarded as closed. The matters which were the subject of the TCNs and the respective parties' responses were recorded in a document entitled "Tender Non-conformances and Clarification Schedule" (TCS). The TCS was in the nature of a running sheet and was revised six times, with Lucas providing Revision 5 as an attachment to its tender clarification submission dated 11 March 2011 and Revision 6 being issued by Lycopodium on 14 March 2011. It was common ground that the TCS 6 contained a summary of the matters about which the parties had sought clarification, their respective responses, and the agreement which they had reached with respect to those matters.

40. The tenders which AGA received on 31 January 2011 exceeded its own budget of \$35 million for the construction of the access road. It embarked upon a negotiation with Lucas and another tenderer concerning their tenders. Lycopodium invited Lucas to participate in a tender review meeting on 11 February 2011. The agenda for the meeting stated its purpose as follows:

Whilst tenders have been short listed, it is noted that the tenders submitted are significantly higher than the Company's budget. This presents the Company with two options, (1) conduct meaningful negotiations with the short listed tenderers where both parties openly contribute ideas towards performing the work in a more cost effective way or (2) failing this, re-tender the work.

Therefore, the tender review meetings have been arranged with the shortlisted tenderers to explore option 1.

41. Five persons from Lucas attended the tender review meeting in Perth on 11 February 2011 (TRM 1). These were David and Ben Lucas, Messrs Matthews and Hentschke and a Mr Wade Matthews. Messrs Massoudi and Payne attended for AGA, Messrs Sceresini and McKean for Knight Piésold and Messrs Giura, Walker, McGregor and Belford together with Ms Rudowski for Lycopodium. At TRM 1, the Lucas personnel suggested, amongst other things, that an alternative methodology could be adopted, namely, watering and proof-rolling the in situ material to form the sub-grade and then using the material excavated from the V-drains to form the sub-base. It contemplated that these two operations would "essentially be undertaken as one". That is to say, the alternative methodology contemplated as a first step the compaction of the in situ material coming from the cut and fill along the road alignment so as to form the sub-grade and, a second step, the excavation of the V-drains and the pushing of that material onto the road to form the sub-base as one operation. The road would then be capped with wearing course material taken from borrow pits. One of the slides in the PowerPoint presentation by Lucas at TRM 1 indicated its expectation that it would source approximately 300,000 m³ of the materials required for the sub-grade and sub-base from in situ materials.

42. Lucas also indicated at TRM 1 that it may be willing to change from a tender on a schedule of rates basis to a lump sum price.

43. Ms Rudowski prepared and circulated minutes of TRM 1. In relation to the alternative proposal, the minutes record:

- Lucas to submit an alternative proposal for performing the work in a more cost effective way, for Company review and consideration.
- Lucas advised that the alternative proposal will take into the consideration the following options:
 - Ø Pugmill & screen used for wearing course
 - Ø Water minimisation
 - Ø Mobilisation costs
 - Ø Use soil stabilisers and dry forming of the roadway
 - Ø Management & Supervision requirements
 - Ø Moisture content
 - Ø Sub base material location
 - Ø Wearing course thickness
 - Ø Alternative material and size for culverts, and alternative end treatments
 - Ø Construction of a “Fit for Purpose” road

- The alternative proposal is to state relevant scope of work or specification clauses and itemise savings respectively.
- Topsoil stripping and re-spreading to be deleted from the scope of work, subject to final confirmation from AGA.
- Lucas was advised that the following specifications cannot be changed:
 - Ø Wearing course
 - Ø Road surface material
 - Ø The parameters of the moisture content to be advised by [Mr Sceresini].

44. In relation to the construction programme, the minutes recorded:

- Lucas to amend its programme with the award date of 25/02/2011 and advise any impact if the award is delayed.
- Lucas to submit a revised proposed construction programme in line with the alternative proposal.

45. The minutes also record that Lucas confirmed that its unit rates in the Schedule of Rates included only direct costs, with all indirect costs included in the Preliminaries pricing schedule.

46. Apart from some evidence by Ben Lucas, there was no suggestion that the minutes of TRM 1 did not record accurately the matters to which they referred and, in particular, that Lucas had been told that the specifications for the “wearing course” and “road surface material” could not be changed. However, Mr Massoudi acknowledged in his cross-examination that these were references to the same thing.
47. On 17 February 2011, Lucas provided a revised Tender (dated 16 February 2011) to Lycopodium. The revised tender included Lucas’ responses to TCNs 2 and 3. Lucas’ revised tender price on a schedule of rates basis for the whole of the works was \$36,528,324.72.
48. By an email from Ms Rudowski to Lucas of 25 February 2011, AGA requested a second meeting with Lucas. The parties referred to this email as TCN 6. The email indicated that the first matter which AGA wished to discuss at the meeting was:

Any further potential savings to the submitted tender price, which may be achieved through the following:

- Revised quantities and haulage distances for borrow materials, as per the attached revised Schedule of Remuneration ...
- Potential to lump sum contract.
- Relaxation of Liquidated Damages.
- Any other potential savings proposed by the Tenderer for Company consideration.

49. The email proposed a target mobilisation date of 15 March 2011, commencement of the works on 15 April 2011 and Practical Completion on 21 November 2011. The revised Schedule of Remuneration which Ms Rudowski attached to the email, still contemplated that 240,750 m³ of sub-base material would be obtained in situ or from the V-drains and hauled distances up to 2 km, but contemplated that the remaining 80,250 m³ may have to be hauled up to 6 km, identified in 1 km increments. In relation to wearing course material, the revised Schedule contemplated it being hauled up to 13 km, again using 1 km increments. This differed from Pricing Schedule 5 in the RFT which had contemplated that the remaining 80,250 m³ may have to be hauled distances up to 28 km, and had provided for pricing on 2 km increments.

50. Item 8 in Ms Rudowski’s email was as follows:

Further to the geotechnical testing clarification (item 12 of the [TCS]), the Company reiterate comments made at [TRM 1] whereby Lucas were informed that Company will supply a QA/QC/Supervising Engineer and a QA/QC Soil Technician. Given the logistics of the Project and Lucas’ proposed methodology to work on two opposing construction fronts (in terms of them progressing away from the laboratory/office facilities) the turnaround times for test results shall also be dependent on when/where testing is required and the time taken to travel to and from each test location. In other words turnaround times may vary from time to time and Lucas shall make provision for this in accordance with the Specification.

51. This Item is significant because the arrangements for geotechnical testing to which Ms Rudowski referred tended to confirm AGA’s requirement that the road to be built should conform with the technical specification.

52. The second tender review meeting (TRM 2) was held in Perth on 28 February 2011. On this occasion, the attendees were Messrs Massoudi and Payne from AGA, Messrs Ruggiero and Walker and Ms Rudowski from Lycopodium, Mr Sceresini from Knight Piésold and Messrs David Lucas, Ben Lucas, John Doyle and Paul Turder from Lucas.
53. The minutes of the meeting prepared by Ms Rudowski record that Ben Lucas indicated that Lucas would offer a lump sum price of \$34,999,999 based on nine conditions. These included that the haulage distances were based on those reflected in the Schedule of Remuneration issued in TCN 6 with variances in haulage distances to be subject to variation orders under the Contract. This reflected a statement made by Mr Massoudi in the meeting to the effect that “if more haulage [is] required it [will] be treated as a variation”. Three of the conditions related to practical completion as follows:

- Practical Completion to be 30 November 2011.
- Liquidated damages to apply to the sub-base from the date of practical completion (i.e. 30 November 2011).
- Liquidated damages to apply to the wearing course 6 weeks from the date of practical completion.

54. The minutes also record that Lucas was to submit its lump sum offer officially with all the stated conditions, including the revised Schedule of Remuneration and cashflow.
55. I am satisfied that the lump sum price of \$34,999,999 was agreed at TRM 2. There were various accounts in the evidence as to how and between whom that agreement was reached. Not much turns on it but I am satisfied that the price was settled on between Mr Massoudi and David Lucas, outside the formal meeting. It is possible that others were also present at the time but Mr Massoudi and David Lucas were the principal actors involved.
56. In the same discussion in which David Lucas and Mr Massoudi settled on the price of \$34,999,999, David Lucas told Mr Massoudi “you can’t make a silk purse out of a sow’s ear” and “we’ll use the best materials available, but we’ve got what we’ve got”. Mr Massoudi could not remember these words being used but accepted that it was possible that David Lucas had made these statements. In particular, Mr Massoudi accepted that the context of the discussion had been that the material with which to build the road had to be sourced from the road alignment itself and from the borrow pits. I accept the evidence of David Lucas about his statements to Mr Massoudi.
57. On 1 March 2011, Ben Lucas sent to Ms Rudowski confirmation of Lucas’ offer with respect to the access road contract of a lump sum of \$34,999,999, stating that it was subject to 16 conditions. Those conditions which are pertinent for present purposes are the proposed target mobilisation date of 15 March 2011 with Lucas taking possession of the site from that date, a work commencement date of 15 April 2011, and terms with respect to the Date of Practical Completion matching those indicated above. Lucas’ 13th condition related to the haulage distances:

The Lump sum price will apply subject to the haulage distances for subbase and wearing course being as per Schedule TGP-001 Sched of Rem 110224.xls as received from you on 25th February 2011. The Contractor and AGA will work together to ensure so far as practical that these are not exceeded however any increase in these shall constitute a variation.

58. Further TCNs and responses to TCNs followed.

Issue of the Notice of Award for the Contract

59. On 14 March 2011, Lycopodium issued a Notice of Award for the Contract. Although the notice described itself as a Notice of Award of the Contract, it was limited to a value of \$5 million. This was the only Notice of Award issued in respect of the Contract. Its content had some significance in the trial. It provided (relevantly):

Dear Sir

**TROPICANA GOLD PROJECT CONTRACT NUMBER: TPG-001
SITE ACCESS ROAD CONTRACT**

NOTICE OF AWARD OF CONTRACT

[AGA] ('Company'), as agent and manager for the participants in the Tropicana unincorporated joint venture, issues this Notice of Award and awards the Contract to [Lucas] (the 'Contractor').

The Company further advises that it has appointed [Lycopodium] as its Company Representative to fulfil the functions of the Company Representative under the Contract.

This Notice of Award is limited to the Contractor's pre-mobilisation, mobilisation and early work activities to a value not exceeding \$5,000,000. A Notice of Award for the total Contract Price will be issued in due course.

A prerequisite to the validity of this Notice of Award is for the Contractor to sign, date and return the letter formally acknowledging acceptance including the conditions stated below.

The Parties agree that the Contract will be prepared and executed based on the terms of [the] RFT document, all addenda issued during the tender period and the following documentation:

- a) Tender submission dated 31 January 2011.
- b) Clarification Notices 1 to 11.
- c) Tender Review Meeting 1 held on 11 February 2011.
- d) Tender Review Meeting 2 held on 28 February 2011.
- e) Contractor's tender clarification submission, dated as follows:
 - i) 4 February 2011
 - ii) 16 February 2011
 - iii) 18 February 2011
 - iv) 22 February 2011
 - v) 23 February 2011 (e-mail)
 - vi) 1 March 2011
 - vii) 3 March 2011 (e-mail)
 - viii) 4 March 2011
 - ix) 7 March 2011
 - x) 8 March 2011 (e-mail)
 - xi) 10 March 2011
 - xii) 14 March 2011

The Parties agree to enter into the Contract within 28 days after the Contractor receives this Notice of Award, unless the parties agree otherwise.

1.0 PROGRAMME

The Contractor has confirmed the Construction Programme as follows:

Description	Start Date	Finish Date
Contract Award	10 March 2011	
Mobilisation	20 March 2011	
Work Commencement Date	20 April 2011	
Practical Completion		30 November 2011

2.0 ACCEPTANCE

The Contractor is required to confirm acceptance of the terms of this Notice of Award by signing in full in the space provided below and dating and initialling the Notice of Award, and by returning a copy of all pages by facsimile to [Lycopodium], attention to Ms Marzena Rudowski ...

...

**CONTRACTOR'S ACKNOWLEDGEMENT AND ACCEPTANCE OF
NOTICE OF AWARD**

FOR

TROPICANA GOLD PROJECT

CONTRACT NUMBER: TPG-001

SITE ACCESS ROAD CONTRACT

Acceptance: We accept this Notice of Award without exception.

Signature: [Signed Ben Lucas] Date: [16 March 2011]

Name: Ben Lucas

Title: General Manager

Company: Lucas Earthmovers Pty Ltd.

60. Before Ben Lucas signed the Notice of Award, someone at Lucas (I find that it was Mr Doyle) struck out the dates of the tender clarification submissions in (e)(xi) and (xii). In relation to the former, Mr Doyle entered the date 11 March 2011. Mr Doyle also changed the dates for the Contract Award, Mobilisation, Work Commencement Date and Practical Completion to 14 March 2011, 25 March 2011, 25 April 2011 and 10 December 2011 respectively. Ben Lucas initialled each of these alterations. The signed Notice was then returned to Lycopodium.
61. On 15 March 2011, Ms Rudowski sent an email to Mr Ben Lucas, the substance of which was as follows:

We agree to the following to be stated in the Contract.

Practical Completion Date: 30 November 2011.

Liquidated Damages for completion of sub-base will apply from 7 December 2011 (1 week grace period from Practical Completion Date).

Liquidated Damages for completion of wearing course will be as previously agreed (item 7 of the Clarification Schedule Rev 6).

Based on the above, please re-sign the Notice of Award based on the dates stipulated in the Notice of Award.

62. Mr Ben Lucas did as asked and, on this occasion, the only dates which were altered were those in (e)(xi) and (xii) (the first was changed to 11 March 2011 and the second was deleted).

The Contract

63. Vivienne Lucas executed the Contract on behalf of Lucas on 10 May 2011 and it was executed by Mr Ruggiero on behalf of Lycopodium on 13 May 2011. It provided for a total contract price of \$35,016,992.60. Schedule A1 stated expressly:

This is a lump sum Contract. The Contractor shall execute such Work under the Contract for the lump sum amounts set out herein. The Schedule of Remuneration shall be read in conjunction with and include the requirements of all the documents contained in the Contract.

All of the works and all of the Preliminaries were priced in the Contract on a lump sum basis. Perhaps because the Contract had originally been prepared on a schedule of rates basis, the derivation of the lump sum was apparent in the Contract schedules.

64. Clause 1.1 defined the term “Contract” as follows:

“**Contract**” means Notice of Award (if any), this contract, including the Key Terms Schedule, Clauses 1 to 52, the annexures, the Scope of Work, the Schedules, the Drawings and all other documents annexed or attached which are intended to form part of the contract between parties.

65. Clause 1.1 of the Scope of Work provided that “[i]n general the Works include the construction of an average 10 m wide road formation with an unsealed 7 m wide running surface consisting of 150 mm sub-base and 150 mm wearing course”.

66. Item 8 in the Key Terms Schedule identified the Date for Practical Completion as 30 November 2011.

67. Clause 8.6.2 of the Scope of Work contained the specification for the sub-base:

8.6.2 Road Sub-base Course

Road sub-base material shall consist of in situ subgrade materials or excavated materials from the Works. The sub-base material shall be free from cobbles, stumps, roots, sticks vegetable matter or other deleterious matter. The Contractor shall take the necessary measures to see that a quality material meeting the grading requirements is obtained which may require selectively choosing materials from excavations, mixing the materials as they are excavated, or mixing the materials on the road surface prior to spreading and compacting. It shall be placed to the lines and grades as indicated on the Drawings. Road sub-base material shall, in general, have a gradation as specified in Table 8.1.

Table 8.1: Road sub-base gradation limits

AS Sieve size (mm)	Percentage by mass of total aggregate passing test sieve	
	Min	Max
63.0	100	100
37.5	80	100
19.0	60	100
4.75	30	100
1.18	17	75
0.3	9	50
0.075	5	25

*Note: Permissible proportion of fines (particles less than 0.075 mm) varies depending on fines plasticity. Refer to Table 8.2.

Sub-base material plasticity indices and liquid limits as determined by AS1289 3.3.1 are specified in Table 8.2.

Table 8.2: Plasticity and liquid limits

Fines (%)	LL (%)	PI (%)
5 – 15	<35	<18
15 – 25	<35	<15

68. In substance, this specification required that the sub-base material be free from deleterious matter, meet particle grading requirements and satisfy plasticity requirements and liquid limits. Pertinently for present purposes, the specification contemplated that, in order to meet the grading requirements, Lucas may have to choose material selectively from the excavations, or mix them on the road surface before spreading and compacting.

69. In relation to the wearing course, cl 8.6.3 of the Scope of Work provided:

8.6.3 Road Wearing Course

The wearing course shall consist of durable, selected laterite/gravel or other suitable material approved by the Company Representative. The Contractor shall obtain the material from designated borrow areas, near the Works. The wearing course shall be free from cobbles, stumps, roots, sticks, vegetable matter and other deleterious matter. It shall be placed to the lines and grades as indicated on the Drawings. Wearing course material shall, in general, have a gradation as specified in Table 8.3.

Table 8.3: Wearing Course Gradation Limits

AS test sieve	Percentage by mass of total aggregate passing test sieve
---------------	----------------------------------------------------------

100	
100	
85	
72	
60	
40	
21	

In addition, the wearing course material should have a plasticity index of between 0 and 10% and a liquid limit of between 0 and 25%, as determined by AS1289 3.3.1.

70. This specification contemplated that Lucas would obtain the wearing course from designated borrow pits, that the wearing course material would be free from deleterious matter and would meet the grading, plasticity and liquid requirements.
71. The words “in general” in the last sentence of each of [8.6.2] and [8.6.3] did not appear in the Scope of Work issued with the RFT. They were added as part of a relaxation of the Specification.
72. As noted earlier, the parties contemplated that Knight Piésold would undertake regular geotechnical testing of the materials used in the road construction.
73. The Contract contained a number of schedules. Schedule A was entitled “Schedule of Remuneration” and comprised Schs A1 to A9 (but there was no Sch A5). Some of Schs A1 to A9 had their own sub-schedules.
74. Schedule A1 identified the Contract as a lump sum contract and indicated that the contract price of \$35,016,992.60 was comprised as follows:

Description	Value
Preliminaries	11,869,998.06
Lump Sum Works – Construction Water	4,195,175.41
Lump Sum Works – Site Access Road	18,951,819.13
TOTAL CONTRACT PRICE (\$)	35,016,992.60

75. Schedule A2 had the heading “Lump Sum Prices” and showed the derivation of the lump sum of \$18,951,819.13 for the site access road.
76. Schedule A3 had the heading “Preliminaries” and showed the derivation of the sum of \$11,869,998.06 for Preliminaries in the overall lump sum amount.

77. Schedule A6 provided for the rates at which variations would be paid. It contained within it another schedule, Sch 5, identifying the rates for variations of particular kinds.
78. Clause 18.1 of the Contract required Lucas to commence and execute the Works in accordance with the construction program contained in Sch D until such time as the “Initial Work Programme” was approved and, thereafter, in accordance with that program. Sch D showed the sequence and time allowed for each activity in the Works.
79. Mr Matthews said that Lucas had prepared and submitted a baseline program to be the “Initial Work Programme”, but it had been lost. Accordingly, he and Mr Hentschke had, in 2013, “recreated” that program. In cross-examination, Mr Matthews acknowledged that there were differences between the “recreated” program and that in Sch D to the Contract.
80. This gave rise to some differences between the parties as to the appropriate baseline program or programs to be used in ascertaining delays and Lucas’ entitlement to an extension of time. I will refer to this later.
81. It will be necessary to return to other provisions in the Contract in due course.

The performance of the works

82. Lucas commenced work in the performance of the Contract in April 2011.
83. Initially, Lucas had proposed establishing its Work Camp at about the midway point of the access road and working with two work fronts: one moving to the north-east and the other moving to the south-west. However, when mobilising, Lucas changed its approach as it realised that until the road had been at least partially constructed, it could not move equipment to the site of the proposed Main Camp. It established its Work Camp instead at Ponton Creek (about one-third of the way along the proposed road alignment) and worked with a single work front, that is, moving to the north-east.
84. One of Lucas’ first activities was carrying out repairs to two crossings over Ponton Creek on the Kurnalpi-Pinjin road. The repairs were necessary in order that it could obtain access to the site (the crossings not being within the footprint of its Scope of Work). The repairs were carried out between 19 and 24 April 2011. They gave rise to one of Lucas’ claims in the proceedings.
85. Apart from the Ponton Creek crossings repair works, all of Lucas’ activities until 3 May 2011 were directed towards mobilisation. Those mobilisation activities also continued for some time after 3 May 2011.
86. Between 3 May 2011 and 10 May 2011, Lucas’ work activity on the road was, with one presently immaterial exception, directed to clearing and grubbing part of the road alignment. On 11 May 2011, Lucas commenced working on the sub-grade. Although Lucas carried out a few hours of work on the sub-base on 16 May 2011, it did not commence work in earnest on the sub-base until 29 May 2011.
87. On 16 May 2011, issues arose concerning the compliance with the technical specification of the material which Lucas intended to use, or had used, for the sub-base.

88. On 16 May 2011, Knight Piésold issued a Particle Size Distribution (PSD) report which showed that the PSD curve for material excavated from cut areas (including V-drains) from Chainages 174 to 179 did not comply with the specification for sub-base material contained in cl 8.6.2 in the Scope of Work. On the same day, Mr Hentschke sent Technical Query (TQ#16) to Lycopodium. He attached a copy of the Knight Piésold PSD report and said:

Tender Schedule 4, items 9-15, indicated that approximately 240,000 m³ of sub-base material (75%) would be available “from cut areas (including v-drains) along right of way, haul from 0km up to and including 2km to fill the areas along right of way, moisture condition & compact as sub-base”, and the balance of sub-base material, approximately 80,000 m³ would come from borrow pits en route.

From initial testing carried out by KP over the first 5kms of v drain material, the PSD Curve for this material does not meet the specified grading for sub-base, namely the material is too fine.

...

We require advice from Lycopodium as to whether or not, the out of grade sub-base material, will be approved for use, provided the specified compaction can be achieved.

89. Knight Piésold responded to TQ#16 on or about 24 May 2011. It did so verbally to Lucas personnel and then confirmed the position in a report to Lycopodium on the same day. Knight Piésold noted that it was expected that a significant portion of the material extracted from the V-drains along the road alignment would not require “modification” before being used for the sub-base. However, it remarked that, in those areas in which the V-drains contained lesser quality material, that material would be combined with more suitable material from other locations as and when required. In relation to Chainages 174 to 179 (in which the material from the V-drains had been found to be non-compliant), Knight Piésold recommended that some trial sections be established using different blends of material (some from the V-drains and some from borrow pits). The Knight Piésold letter said:

The results from the trial areas will give an indication of what will be required to achieve a sub-base material, it will also give an indication of the amount of material that will be required from each borrow to achieve this.

90. On 24 May 2011, Mr McGregor from Lycopodium provided Mr Hentschke with a copy of Knight Piésold’s recommendation, describing it as the response to TQ#16.
91. Mr Hentschke said, and I accept, that he understood when he received this letter that it indicated that Lycopodium required some mixing of the material intended for the formation of the sub-base if the material excavated from the cut areas and V-drains was non-compliant with the Technical Specifications, and that that was so even if it involved increased costs.
92. On 30 May 2011, Mr Hentschke asked Mr Haworth at Lycopodium to issue a site instruction for “the blending work required on subbase construction between Chainages 178-175”.

93. Mr McGregor from Lycopodium responded on 24 June 2011 with Site Instruction LE-005 (SI-LE-005). Mr McGregor's covering email said:

Please find attached the site instruction that relates to the blending of the sub-base material with the borrow pit material.

Could you please sign and return on receipt.

94. Mr Hentschke did sign and return SI-LE-005 to Lycopodium on 25 June 2011. I indicate now that I do not attach any significance to the evidence of Mr Hentschke that in hindsight he should not have signed the document.

95. Both the terms of SI-LE-005 and Mr Hentschke's signature assumed some significance in relation to Lucas' claim. Accordingly, I set out the terms of SI-LE-005. It is evident that it made use of a template form for site instructions. The italicised passages indicate those parts of the form which were added to the template by either Mr McGregor or Mr Hentschke.

To: *Lucas Earthmovers (Contractor)*

This instruction is issued under category (a) below.

(a) **Attend to the following matters in relation to your Contract/Works**

(the completion date and contract price are not altered as a result of this instruction)

(b) Submit a quotation by 24/6/11 for carrying out the following work

(c) Carry out the following work on a time and material basis and submit your claim

(d) Carry out the following work at your Contract Schedule of Rates

(e) Carry out the following work at your quoted price; S.I. No. _____

FULL DESCRIPTION OF WORK TO BE PERFORMED

Recommendation to mix materials from borrow pit with in situ material from the drains.

Lucas Earthmovers are hereby requested to mix materials from the nominated borrow pits and the in situ material excavated from the drainage channels to construct the sub-base layer as per the attached Knight Piesold site instruction.

Please note the following:

1. *The operation of mixing and blending is at the Contractors expense as per the attached extract from the Site Access Road scope of works.*

2. *In the Contract schedule of remuneration, in the lump sum section, there are nominated line items 10-15 that allows for 80,250m³ of imported material from borrow pits to be used in the construction of the sub-base layer.*

Note 1 The site instruction number is to be quoted on all related time, material and plant hire sheets, and on all invoices. Only one claim can be made under each site instruction number.

Note 2 For time and material work (category c) the Contractor must have timesheets signed daily by Lycopodium Minerals and is required to submit weekly summaries for individual SIs for Lycopodium Mineral's approval.

Note 3 Total final costs must be submitted within 7 days of completion of the work included herein.

Signed By: [*Mr Hentschke*] Signed By: [*Mr McGregor*]

for and on behalf of: [*Lucas*] for and on behalf of [*Lycopodium*]

Title: *Project Manager* Title: *Project Engineer*

Date: *25/6/11* Date: *22/6/11*

(The Emphasis by underlining and bolding of subpara (a) were added to the template form)

Mr Hentschke added in his handwriting "VO#5" at the top of SI-LE-005 but it is not clear whether he did that before sending it back to Mr McGregor.

96. As can be seen, by SI-LE-005 Mr McGregor requested Lucas to *mix* materials from the nominated borrow pits with the material excavated from the V-drains to construct the sub-base layer, in the manner suggested by Knight Piésold on 24 May 2011. He also emphasised, by the underlining of subpara (a) and by the first note, that the costs of mixing and blending the material were to be borne by Lucas. It is apparent that Mr McGregor considered that this was appropriate given that the Contract Schedule of Remuneration contemplated that some 80,250 m³ of imported material from borrow pits would be used in the construction of the sub-base layer.
97. In his evidence, Mr Hentschke said that the content of subpara (b) of the instruction had created some doubt in his mind as to whether the instruction was of the subpara (a) type. However, I consider that, read as a whole, it is apparent that SI-LE-005 was issued under subpara (a), and that Mr McGregor's underlining and bolding of that subparagraph made that plain.
98. AGA attached significance to the acceptance by Lucas, indicated by Mr Hentschke's signature, that the mixing and blending operation required by SI-LE-005 was to be carried out at Lucas' expense.
99. The issues arising from the circumstance that the V-drain material did not comply with the Technical Specification for sub-base material in cl 8.6.2 of the Scope of Work continued after 25 June 2011, resulting in Lycopodium issuing further site instructions as well as giving verbal directions. Ultimately, the material in the V-drains along about 80% of the length of the access road did not meet the specification. In addition, some of the material sourced from borrow pits for the wearing course proved to be unsuitable.

100. On 30 August 2011, Lycopodium issued SI-LE-016 concerning the road between Chainages 160 and 164.5. This site instruction stated (relevantly):

Test results for material sourced from the borrow pit at Chainage 163 [have] failed the material specification for both wearing course and sub-base grading as its clay content exceeds the maximum limits.

This material has been placed as a 225mm layer along the alignment between Chainages 160.0 and 164.5.

The Contractor is hereby instructed to scarify the top of the wearing course between these chainages and place 75mm of material, sourced from the borrow pits at Chainage 170 or 145, as a capping layer.

Material from the borrow pit at Chainage 170 shall be exhausted prior to utilising material from the borrow pit at Chainage 145.

101. Mr Matthews said, and I accept, that Lucas had laid the 225 mm of wearing course because of a verbal instruction from Lycopodium personnel. That instruction had been given when it was found that the wearing course initially laid was too slippery, having a high clay content. It is not clear when Lucas laid the additional wearing course.

102. Lucas signed and returned SI-LE-016 on 31 August 2011.

103. On 9 September 2011, Lycopodium issued two Site Instructions, SI-LE-020 and SI-LE-021, both dated 8 September 2011. SI-LE-020 provided (relevantly):

Wearing Course Material Chainage 152.0 to 160.0

Due to a shortage of suitable wearing course material, the Contractor is hereby instructed to place material won from Borrow Pit 159 as a 225mm layer between Chainage 152+000 and 160+000. This is to consist of a 150mm layer above the General Fill plus a 75mm depth of “tyning” into the layer below.

This material has a higher plasticity and therefore it is to be capped with 125mm of material from Borrow Pit 146, consisting of a 75mm layer above the ‘base wearing course’ plus a 50mm depth of “tyning” into the layer below. This material is to suitably compacted to wearing course specification.

104. SI-LE-021 provided (relevantly):

Wearing Course Material Chainage 133.0 to 152.0

Material from Borrow Pit at Chainage 140 is likely to return high clay content and will therefore not be suitable to be used as wearing course layer.

Therefore the Contractor is hereby instructed to place this material as a 225mm layer consisting of [a] 150mm layer above the General Fill plus a 75mm depth of “tyning” into the layer below. This layer is to be capped with 125mm of material from Borrow Pit at Chainage 146, consisting of a 75mm layer above the ‘base wearing course’ plus a 50mm depth of “tyning” into the layer below. This material is to be suitably compacted to wearing course specification.

Following a review of material quantities, and taking into account current site activities, this Instruction is relevant to the chainages listed below and the material from Borrow Pit 140 and 146 is to be utilised in the following manner.

- Ch. 151 to 152 150mm + 75mm (“tyned”) material from Borrow Pit 140, capped with 75mm (+ 50mm tyned”) material from Borrow Pit 146,
- Ch. 146 to 147 150mm + 75mm (“tyned”) material from Borrow Pit 140, capped with 75mm + 50mm (“tyned”) material from Borrow Pit 146
- Ch. 133 to 145 150mm + 75mm (“tyned”) material from Borrow Pit 140, capped with 75mm + 50mm (“tyned”) material from Borrow Pit 146

105. As can be seen, each of SI-LE-16, SI-LE-20 and SI –LE-21 required Lucas to adopt a method of road construction which differed from that required by the Contract. Lucas did not sign either SI-LE-20 or SI-LE-21. It did, however, comply with the instructions contained in each of these site instructions.

106. Each of the site instructions issued on 30 August and 8 September 2011 indicated that it was under category (a) in the template for site instructions, and stated that it did not have the effect of altering the contract price or completion date.

107. On 16 September 2011, Lucas introduced a night shift for the haulage of material from borrow pits to the location on the road alignment at which it was to be spread and compacted. One of Lucas’ claims in the proceedings concerned the additional cost of performing work at night.

108. In [47] of the ASC, Lucas alleges that Mr Stuchbury from Lycopodium issued a verbal direction on 11 October 2011 and/or 27 October 2011 that:

(a) in respect of the 70 km of access road then constructed by Lucas between Chainages 106 and 178, it add a further 75 mm layer of sub-base material from borrow pits to the existing 150 mm thick sub-base layer formed from the material excavated from cut areas (including V-drains) along the right of way. This would increase the thickness of the sub-base layer from 150 mm to 225 mm, so that the road would have a profile depicted as follows:

(b) in respect of the balance of the access road not then constructed, it source material from borrow pits to construct a single 250 mm thick wearing course layer where the material excavated from cut areas (including the V-drains) along the right of way was not suitable for use in constructing the sub-base.

109. However, Lucas did not lead evidence to support the allegation that a direction to this effect had been given on 11 October 2011 although there was evidence of a non-specific kind about verbal instructions given by Lycopodium personnel.
110. Nevertheless, by October 2011, it was apparent that the material in the V-drains along the sections of the road still to be constructed which would be suitable for use as the sub-base would be much less than the amounts indicated in Sch 4 to Sch A2 in the Contract (which showed the derivation of the lump sum price for the road construction activity). This led to discussions between the parties. Eventually, agreement was reached that the method of road construction should be modified.
111. The construction methodology was discussed at a meeting on 27 October 2011 between Ben Lucas, Mr Matthews and Mr Doyle from Lucas and Messrs Stuchbury, Ruggiero and Walker from Lycopodium. Three options were identified:
- (a) Option 1 – In those areas in which material from the right of way including the V-drains was suitable as sub-base material without blending, the pavement design was to remain as a 150 mm sub-base and 150 mm wearing course as per the technical specification in the Contract;
 - (b) Option 2 – In those areas in which the material from the right of way including the V-drains was not suitable as sub-base material without blending, the pavement design would be altered to consist of a 250 mm wearing course only (ie, no sub-base would be constructed); and
 - (c) Option 3 – In those partially completed areas at which the level of material was already up to the 150 mm sub-base level, testing would be conducted and appropriate directions would be issued by Lycopodium on a case-by-case basis.
112. In a second meeting on 2 November 2011, it was agreed that Options 1 and 2 would be applied between Chainages -9.5 to 0, Chainages 0 to 60 and Chainages 190 to 214. A decision as to the areas to which Option 3 would be applied was deferred pending the receipt of test information.
113. Subsequently, Mr Matthews (Lucas) and Mr Stuchbury (Lycopodium) conferred and reached agreement as to the locations at which the different methodologies were to be applied.
114. In effect, in relation to those sections of the road still to be constructed in which the material in the V-drains was not suitable as sub-base without blending, Lucas was to place a single 250 mm layer of wearing course using material obtained from borrow pits, instead of the two separate layers of 150 mm sub-base and 150 mm wearing course.
115. On 8 December 2011, Lucas submitted a request for a variation pursuant to cl 29.2 of the Contract in respect of Site Instructions LE-016, LE-020 and LE-021 on the basis that its compliance with those instructions had involved it hauling material for distances exceeding those contained in Sch 4 to Sch 2 in the Contract. It claimed a total amount of \$41,418 (exclusive of GST). None of this amount comprised time-related costs.

116. Another meeting occurred between Ben and David Lucas, and Messrs Matthews, Maiolo and Doyle from Lucas with Mr Massoudi (AGA) and Messrs Stuchbury, Walker, George and Beveridge (Lycopodium) on 19 December 2011. At this meeting, the Lucas representatives presented a written request for a variation order (VO#42) reflecting the difference between the volumes of in situ and borrow pit material contained in Sch 4 to Sch 2 in the Contract and the actual and anticipated volume needed to construct the road, in addition to amounts for the increased haulage distances involved. It claimed payment of these amounts at rates said to have been specified in Items 40-43 of the Schedule of Rates attached to its Tender of 31 January 2011, but which appear to be those specified in Items 9-38 in that Schedule. In addition, Lucas claimed \$4,297,671.93 (plus GST) by way of Preliminaries. Lucas withdrew this request during the meeting on 19 December as part of the discussions directed to the resolution of the issues.

117. In a letter bearing the date 22 December 2011 addressed to Mr Stuchbury, Mr Matthews recorded the agreement reached at this meeting as (relevantly):

1. ...
2. All in situ materials from side drains as per line items 40 & 41 will be paid as a lump sum. These items will be paid at a pro rata rate against the total km of these items of work that have been completed at the date of the claim or forecast for the estimated claim.
3. In areas where the in situ sub base material from side drains does not meet specification payment will be made for an additional 75mm of sub base imported from borrow pits as required.
4. Extra payment for material will be made for the additional volumes to sheet areas that were considered dangerous in wet conditions (approximately Chainage 166 to 160 at nominally 150mm in lieu of 75mm).
5. From Chainage 60 to Chainage -9.5 an assessment of the road alignment will be made by [Knight Piésold] and either 150mm or 250mm of wearing course will be installed from borrow pits. In the case where 150mm of wearing course is installed there will be no requirement for extra material. In the instance of 250mm of material laid. Lucas will be paid for only 75mm of imported material for savings made installing in one layer.
6. The above methodology as mentioned in point 5 [can] be ignored if Lucas continue with the 2 layer construction of 75mm imported material (paid against line item 42 of the progress claim schedules) mixed into the non conforming in situ material and capped with 150mm of wearing course.
7. Payment will be made in the next progress claim for all insitu side drain material that was deducted from previous claims.

118. It was not suggested that Mr Matthews' letter was inaccurate in its recording of the matters agreed. In particular, when Lycopodium responded (at the prompting of Lucas) on 16 July 2012 to the Lucas letter of 22 December, it did not suggest that Mr Matthews had misstated the position.

119. It seemed to be common ground that the road-making after 19 December 2011 was carried out in accordance with the revised methodology.

120. By Contract Variations 8 and 9 (CV-8 and CV-9) issued on 8 March and 17 April 2012 respectively, Lycopodium allowed Lucas variation claims of \$1,580,272.24 and \$49,605.83 respectively. This was a total of \$1,629,878.07.

121. The substantive parts of CV-8 and 9 were as follows:

CV-8

THE CONTRACT SHALL BE VARIED TO THE EXTENT SET OUT BELOW:

Item	Description	Value
1	Adjustments to Remuneration Schedule 4 Items 10.0 to 15.0. Win from borrow, load, haul from 0km up to and including 6km, place, spread, moisture condition and compact as sub base	\$808,386.12
2	New items added to Remuneration Schedule 4 Item 15A to 15H. Win from borrow, load, haul from 6km up to and including 14km, place, spread, moisture condition and compact as sub base	\$836,955.04
3	Adjustments to Remuneration Schedule 4 Items 16 to 28.0. Win from borrow, load, haul from 0km up to and including 13km, place, spread, moisture condition and compact as wearing course	\$(527,921.01)
4	New items added to Remuneration Schedule 4 Item 28A to 28G. Win from borrow, load, haul from 13km up to and including 20km, place, spread, moisture condition and compact as wearing course	\$340,436.76
5	Adjustments to Remuneration Schedule 4 Items 51 to 60.0. Win from borrow, load, haul from 0km up to and including 10km, place, spread, moisture condition and compact as wearing course	\$122,415.33

Refer to the attached spreadsheet for specific details on each line item

	TOTAL:	\$1,580,272.24
Original Contract Price		\$35,016,992.60
Previous Contract Variation (No.001 to 006 (incl))		\$168,448.75

Amount of this Variation		\$1,580,272.24
Varied Contract Price		\$36,765,713.59
CV-9		
THE CONTRACT SHALL BE VARIED TO THE EXTENT SET OUT BELOW:		
Item	Description	Value
1	New items added to Remuneration Schedule 4 Item 15A to 15H. Win from borrow, load, haul from 6km up to and including 14km, place, spread, moisture condition and compact as sub base	\$(2,421.12)
2	Adjustments to Remuneration Schedule 4 Items 16 to 28.0. Win from borrow, load, haul from 0km up to and including 13km, place, spread, moisture condition and compact as wearing course	\$28,707.37
3	Adjustments to Remuneration Schedule 4 Items 51 to 60.0. Win from borrow, load, haul from 0km up to and including 10km, place, spread, moisture condition and compact as wearing course	\$23,319.58
Refer to the attached spreadsheet for specific details on each line item		
	TOTAL	\$49,605.83
Original Contract Price		\$35,016,992.60
Previous Contract Variation (No.001 to 008 (incl))		\$1,748,720.99
Amount of this Variation		\$49,605.83
Varied Contract Price		\$36,815,319.42

122. As is apparent, CV-8 and CV-9 operated to amend the Contract itself, by amending the content of Sch 4 to Sch A2. The effect of CV-8 was to:

- (a) increase by \$808,386.12 the amount to which Lucas was entitled for winning, hauling, spreading, conditioning and compacting sub-base material from borrow pits located up to 6 km from the location on the road at which it was to be used;
- (b) introduce into Sch 4 to Sch A2 an entitlement in Lucas to be remunerated for winning etc sub-base material from borrow pits located between 6 km and 14 km from the places at which it was to be used and to indicate the entitlement of Lucas to \$836,955.04 for that work;
- (c) reduce by \$527,921.01 the amount to which Lucas had been entitled under the Contract as executed (\$6,056,904) for winning etc wearing course material from borrow pits up to 13 km from the place it was to be used;
- (d) introduce into Sch 4 to Sch A2 a new entitlement of Lucas, namely, an entitlement to be paid for winning etc wearing course material from borrow pits located between 13 km and 20 km from the place it was to be used and to fix the entitlement of Lucas for that work at \$340,436.76; and
- (e) with respect to the work on the 9 km section of the road between the Tropicana Main Camp and the mine site, to increase by \$122,415.33 the amount to which Lucas was entitled for winning etc wearing course material from borrow pits located up to 10 km from the locations on the road at which it was to be used.

123. CV-9 varied the position affected by CV-8 by reducing slightly the figure to which Lucas was entitled for winning, hauling and laying sub-base material from distances between 6 km and 14 km, and increasing the amounts to which it was entitled for winning, hauling and laying wearing course material.

124. It was common ground that these contract variations did not include payment of Preliminaries or other time-related costs. Mr Stuchbury confirmed that they had been calculated with reference to Lucas' direct costs only. Nor was Lucas granted an extension of time with respect to the performance of the Additional Works.

125. Lucas alleges (and AGA did not dispute) that the revisions in the road-making methodology meant that it had had to obtain a total of 163,013 m³ of sub-base material from borrow pits, more than double the quantity of 80,250 m³ contemplated by Sch 4 to Sch A2 in the Contract and by the revised Sch 5 in the Schedule of Rates issued on 25 February 2011. It alleges that this meant in turn that it had had to open up new borrow pits, to extend existing borrow pits and to haul sub-base material from borrow pits further than the maximum of 6 km referred to in the revised Schedule of Rates.

126. Lucas alleges that the additional quantities and additional haulage meant that it had had to spend time in grading and compacting the sub-base layer, resulted in an increase in the total surface area which it had had to prepare and trim, increased the work hours required to complete the works (involving the introduction of nightshifts), required the deployment of additional plant, and had delayed its works program. The extended duration of the works meant that it incurred further time-related costs.

127. These matters collectively comprise the "Additional Works" to which I referred at the commencement of these reasons.

128. An indication of the extent of the required revisions to the contemplated method of road-making is seen in the following summary:

Number of Chainages for which the in situ material and the material in the V-drains did meet the Technical Specification for the sub-base	49
Number of Chainages for which sub-base material had to be imported	176
Number of Chainages in which 225 mm of sub-base and wearing course were laid in one layer	85
Number of Chainages in which Lucas had to lay a 75 mm cap of wearing course material	42

129. Lucas had to obtain sub-base material from borrow pits located up to 14 km from the place at which it was to be laid and wearing course material from borrow pits located up to 17 km from the place at which it was to be laid.

130. Lucas did not achieve Practical Completion by 30 November 2011. Instead, Practical Completion was achieved on 9 April 2012. By letter dated 16 July 2012, Lycopodium indicated that, by reason of the grant of extensions of time of 25 days on account of inclement weather and the Christmas shutdown of 10 days, the date for Practical Completion had been extended to 4 January 2012.

131. By letter dated 8 May 2012 to Lycopodium, Lucas sought payment with respect to the revised Scope of Work incorporating the Additional Works. It asserted that the “revised contract value” was \$44,213,372.44, excluding GST and exclusive of variation orders issued to that time which remained unresolved. In addition, Lucas claimed to be entitled to the full amount of \$280,000 which AGA had retained on account of liquidated damages.

132. Lycopodium provided its substantive response to Lucas’ letter of 8 May 2012 on 16 July 2012. It rejected many of the claimed variations but indicated that AGA was prepared to make a payment in respect of some. However, the parties were unable to agree the terms upon which the payment (as “an act of goodwill”) of \$1,070,208.98 was to be made. Further correspondence ensued concerning the claims and with respect to the terms which Lycopodium sought to attach to the *ex gratia* payment. Eventually, agreement was reached that Lucas could accept the *ex gratia* payment without prejudice to its ability to bring further claims.

133. On 9 March 2013, Lycopodium issued Contract Variation 14 (CV-14) for payment of the *ex gratia* sum and Lucas claimed that amount in its April 2013 Monthly Progress Claim. It was common ground that Lucas had received the payment. The composition of the *ex gratia* payment can be inferred from Lycopodium’s response of 16 July 2012:

Description	Amount
Clearing and grubbing vegetation from borrow areas and removing to designated stock piles	\$27,801.00
Stripping top soil (300 mm depth) from borrow areas and removing to top soil stock piles	\$287,277.00
Sediment control structures – create V-drain and sediment control catchment structure	\$93,100.00
Rehabilitation of borrow areas	\$614,462.00
Clearing and grubbing vegetation from borrow areas and removing to designated stock pile on the 9.5 km section between the main camp and the Tropicana mine site	\$2,304.00
Stripping top soil (300 mm depth) from borrow areas and removing top soil stock pile on the 9.5 km section	\$22,512.98
Rehabilitation of borrow areas used for the 9.5 km section	\$22,752.00
Total	\$1,070,208.98

134. As is apparent, the *ex gratia* payment related to the work of Lucas in preparing, and later rehabilitating, borrow pit areas. It was common ground that the amounts which Lucas received pursuant to the so called *ex gratia* payment do not need to be brought into account in these proceedings.

The baseline program and critical delay

135. Much of the evidence and submissions contained references to the “baseline program” and to delays being critical or non-critical.

136. There was no difference between the parties as to the concepts of “critical path” and “critical delay”. It is accordingly convenient in this respect to adopt the definitions in the Delay and Disruption Protocol issued by the Society of Construction Law (2nd ed, 2017) at 62:

critical path

The sequence of activities through a project network from start to finish, the sum of whose durations determines the overall project duration. There may be more than one critical path depending on workflow logic. A delay to progress of any activity on the critical path will, without acceleration or re-sequencing, cause the overall project duration to be extended, and is therefore referred to as a ‘critical delay’.

The Recreated Program

137. Lucas presented its case on the effects of the delay on its ability to achieve the date for Practical Completion by reference to a baseline program prepared by Mr Hentschke and Mr Matthews in mid-2013. Mr Matthews and Mr Hentschke referred to this as the “recreated” program, as did Lucas in its submissions. Although I think that it would be more apt to describe the program as a “created” program, I will, for consistency, refer to it as the “Recreated Program”. In doing so, I am not intending to imply acceptance of the fact implicit in the use of that term.
138. Lucas instructed its programming expert, Mr King, to use the Recreated Program in providing his opinion and he did so.
139. AGA submitted that the Court ought not regard the Recreated Program as reliable and so should not base findings on it. This requires findings about the provenance and reliability of the Recreated Program.
140. Clause 18.1 of the Contract required Lucas to commence and execute the Works in accordance with the Construction Program contained in Sch D to the Contract until the Initial Work Program was approved and thereafter in accordance with the Initial Work Program.

141. In cl 1.1 of the Contract, the term “Initial Work Program” was defined to mean the draft work program submitted by Lucas pursuant to cl 14.1(a). Clause 14.1 provided:

14.1 Contractor’s Initial Work Program

(a) The Contractor must prepare a detailed program for the Works (which must be consistent with the draft Construction Programme contained in Schedule D) which sets out:

- (i) weekly hours scheduled to be worked for each activity and weekly total labour scheduled for each trade or labour category;
- (ii) major material requirements;
- (iii) periods of use of Company supplied equipment, facilities and services (if any);
- (iv) sufficient detail to demonstrate the timely acquisition of Equipment, materials and supplies; and
- (v) the efficient utilisation of labour and Equipment,

and submit it to the Company Representative for approval no later than 21 days from the Date of Contract or any later time agreed by the Company Representative.

(b) The Company Representative must, within 14 days of receipt of the Initial Work Program, accept the Initial Work Program or give the Contractor Notice that it wishes to make comments, requests or propose amendments. If the Company Representative notifies the Contractor:

- (i) of its comments, requests or amendments; or
- (ii) that in its opinion the Initial Work Program submitted does not enable the Company Representative to readily evaluate the Contractor's performance,

the Contractor must prepare an amended Initial Work Program and resubmit such amended Initial Work Program within seven days of the Company Representative’s Notice.

(c) The Contractor will resubmit the amended Initial Work Program, and any revision to it, until the Company Representative approves the amended Initial Work Program. Upon the Company Representative’s approval, the amended Initial Work Program will be the Approved Initial Work Program.

(d) The procedure under this Clause 14.1 is intended to provide the Company with information to assess the Contractor's ability to perform the Works. For the avoidance of doubt, the Contractor’s obligations under this Clause 14.1 and the Approved Initial Work Program do not relieve the Contractor nor affect its obligations to comply with the Monthly Report.

142. The Construction Program contained in Sch D to the Contract bears the Lucas stylised heading and the date 18 February 2011. I infer that Lucas provided it to Lycopodium on, or shortly after, that date. It listed, in respect of each stage of the performance of the Contract, the tasks within each stage, the number of days required for each task, the commencement and finishing dates for the performance of the work on each task and enabled the identification of tasks which had to be completed before the next task could be commenced. The Program of Works was shown in both written and graphical form. The first listed “task” was the award of the Contract, which was then expected on 25 February 2011 and the last, the completion of the work by 21 November 2011. The Program was similar to a baseline program but, because it did not show separately the critical path for the Works, was not, strictly speaking, a baseline program. I will refer to this document as the Contract Program.
143. In the affidavits containing their evidence in chief, each of Mr Matthews and Mr Hentschke deposed that Lucas had prepared a “baseline program” for the work. It had done so in March 2011 and had revised it more than once as Lucas’ approach to the performance of the work changed.
144. However, in cross-examination, after some differences between the Contract Program and the Recreated Program were pointed out, Mr Matthews conceded that the latter was a new program. He also acknowledged that the document presented by Lucas as the Recreated Program was not the baseline program on which Lucas had worked in carrying out the Contract.
145. Mr Matthews deposed that Lucas lost the baseline program on which it had settled when mobilising to the site. Accordingly, in 2013, he and Mr Hentschke engaged in the “recreation” of that program. Mr Matthews said that he considered the Recreated Program to record accurately how Lucas had intended to construct the access road before it became aware that the material along the road alignment and in the V-drains was unsuitable for use in the formation of the sub-base.
146. In his cross-examination, Mr Hentschke said that he had thought that Lucas prepared a baseline program sometime after the Notice of Award but was unable to say when. Although both Mr Matthews and Mr Hentschke described the program prepared in 2013 as recreating a baseline program prepared in 2011, Mr Hentschke was not sure whether the 2011 version had been sent to Lycopodium and, ultimately, he acknowledged that he could not even recall seeing a baseline program in 2011.
147. The evidence did not indicate expressly whether a program, satisfying the description of the Initial Works Program in cl 14.1, was ever submitted to Lycopodium, nor whether such a program was ever approved. Mr Matthews thought that a construction program prepared when mobilising to site had been submitted to Lycopodium but acknowledged that he had not been able to locate evidence that that was so when preparing his affidavit. He explained that the original construction program may have been lost by reason of the incorporation into it of later modifications with the effect that original Microsoft project version was lost.

Other construction programs

148. A number of construction programs were in evidence. Lucas had prepared and provided to Lycopodium updated construction programs on 30 March 2011 (the 30 March Program) and another on 6 April 2011 (the 6 April Program). The four construction programs had much in common but there were also differences. The Contract Program of 18 February 2011 divided the work into three principal segments, assumed Lucas having two work camps, two work fronts, mobilising to site on 15 March 2011 and work concluding on 21 November 2011.
149. The 30 March Program was based on a Contract Award on 16 March 2011, and divided the work into five principal segments. It contemplated Lucas mobilising to site commencing on 28 March 2011 and Practical Completion on 30 November 2011.
150. The 6 April Program was based on a Contract Award of 16 March 2011, mobilisation to site commencing on 28 March 2011 and Practical Completion on 30 November 2011.
151. The Recreated Program was based on the Contract being awarded on 14 March 2011, mobilisation to site commencing on the same day, and Practical Completion on 30 November 2011.
152. Mr Andrews, the programming expert called by AGA, referred to another construction program which he had been instructed had been issued by Lucas on 7 May 2011 (the 7 May Program). The evidence did not disclose the provenance of that program. On my understanding, the program of Works in the 7 May Program matches the program in the 6 April Program. Mr Andrews considered that the program of 7 May 2011 could be described as a baseline program (although it did not contain a critical path for the Works). He also considered that, because the Contract had been executed soon after 7 May 2011, the program bearing that date reflected the parties' contracted intentions. In cross-examination, Mr Andrews accepted that the fact that the Notice of Award of the Contract occurred at an earlier date would make it appropriate to select a construction program prepared at an earlier date.
153. Although the format of the five programs had much in common, only the Recreated Program was in the form of a baseline program, that is, by showing the critical path for the completion of the Works.
154. I summarise in the following table particular elements of the five programs:

Program Item	Contract Program	30 March Program	6 April Program	7 May Program	2013 Recreated Program
Contract award	25 February	16 March	16 March	16 March	14 March
Mobilisation to site	15 March – 15 March	28 March – 11 June	28 March – 1 October	28 March – 1 October	14 March – 25 May
Construction of Main Camp commencement	25 February	20 March	28 March	28 March	14 March
Construction of Ponton Creek camp commencement	N/A	4 April	4 April	4 April	26 May
Road construction commencement	15 April	13 April	27 April	27 April	28 March
Practical Completion	21 November	30 November	30 November	30 November	30 November

155. These comparisons do not reflect all the differences between the Programs because there were changes in the location of camps, some internal re-organisations of categories of work and revisions of the period allowed for some tasks.
156. Both Mr Matthews and Mr Hentschke acknowledged that there are material differences between the Recreated Program and the Programs of 30 March and 6 April. Neither was able to explain the differences.

Consideration of the Programs

157. Neither Mr King nor Mr Andrews considered it appropriate to make use of the Contract Program, although counsel for AGA did use it as the basis for some submissions.
158. I doubt that Lucas did prepare a work program in the form of a baseline program (that is, setting out a critical path for the completion of the Works) in March or April 2011. Instead, Lucas relied on the 30 March Program and the 6 April Program, with the latter replacing the former. Lucas did provide each of these Programs to Lycopodium. The evidence did not disclose whether either had been formally approved by Lycopodium pursuant to cl 14.1 of the Contract, but it seems probable that, in a practical sense, the parties worked on the basis of the 6 April Program, at least until the inadequacy of the materials for sub-base became apparent. Mr Andrews said that the amended programs prepared by Lucas as the Works progressed were modified versions of the 7 May Program. That is a further matter making it inappropriate to use the Contract Program as the basis for the analysis.

159. On the evidence, I am not able to make a finding as to what, if any, use was made of the 7 May Program. The evidence does not disclose whether it was provided to Lycopodium.
160. I mention that there were other construction programs in evidence which had been prepared by Lucas from time to time during the course of the Works. It is not necessary to refer to them presently.
161. Mr King, the programming expert called by Lucas, was instructed to use the Recreated Program. He did so, but adjusted it to show construction of the sub-base as having commenced on 29 May 2011. Given that the Recreated Program was not a true recreation, and differed from the construction programs actually used, this fundamental basis for Lucas' claim is unreliable. As will be seen, this undermines its claim in significant respects.

The breach of contract claims - general

162. As pleaded, the amounts claimed by Lucas are of three general kinds:

- (a) the time-related costs (\$3,019,877.97 without allowance for profit; \$3,170,871.87 including allowance for profit);
- (b) Consequential Claims comprised of:
 - (i) \$1,433,390.20 for additional water transfer and haulage costs;
 - (ii) \$246,097.50 for the additional labour costs in working a night shift;
 - (iii) \$280,000 being the sum retained for liquidated damages; and
- (c) Other Variations Claims totalling \$1,830,680.29 in respect of seven items of work which Lucas claims should have been paid as variations.

163. Lucas seeks to recover the amounts in all three categories as damages for breach of contract. It seeks, in the alternative, to recover the amounts in categories (a) and (b) as damages pursuant to s 236 of the ACL, on the basis of AGA's alleged contraventions of s 18.

164. In [97] of the ASC, Lucas pleads that AGA breached the Contract by not treating several actions or events as variations to the Contract, or in not paying appropriate amounts in respect of matters which it had accepted as variations:

- (a) the performance of the Additional Works, which AGA had accepted as a variation, but for which it had not paid Preliminaries (ASC [97.2]);
- (b) the rectification works to the Ponton Creek crossings which it had carried out between 19 and 24 April 2011 (ASC [97.1]);
- (c) a Stop Work Order issued by Lycopodium on 18 February 2012 pursuant to which it had been precluded from continuing work at the south-western end of the road for six days (ASC [97.3]);
- (d) the use of its graders for miscellaneous extra work (ASC [97.4]); and
- (e) the time taken to resolve issues concerning the design of the bridge piles (ASC [97.5]).

165. Lucas pleads in [97] of the ASC that these five matters entitled it to payment of \$6,301,822.33 (this sum was reduced during the hearing).
166. Lucas did not make a claim for damages for breach of contract in respect of the direct costs it incurred in performing the Additional Works. It may have recognised that Contract Variations 8 and 9, pursuant to which it had been paid an additional \$1,629,878.07 by way of variation together with some or all of the *ex gratia* payment, satisfied its claims in that respect. Lucas claimed only an amount for Preliminaries in respect of the Additional Works. This was by far the largest of its claims.
167. Two of the breach of contract claims pleaded in [97] of the ASC need not be considered. They are the claims for the rectification work to the crossings at Ponton Creek on the Kurnalpi-Pinjin road (ASC [97.1]) and for the use of its graders (ASC [97.4]).
168. With respect to the former, Lucas acknowledged that it had been paid for that work on day work rates under Sch A7 to the Contract and that those rates had included allowance for the time-related costs which it claims in these proceedings. Accordingly, it did not at trial pursue the claim that that work constituted a variation. Lucas did, however, contend that the time taken on the rectification work on the Creek crossings entitled it to an extension of time for the date of Practical Completion, and it will be necessary to return to that claim.
169. With respect to the claim concerning the graders, Lucas pleads that directions by Lycopodium for it to use its graders for other tasks had constituted a variation for the purpose of cl 29 of the Contract. However, at trial Lucas accepted that any delays caused by the diversion of its plant to other uses had not been critical and, accordingly, it did not pursue the claim for time-related costs made in ASC [97.4], nor the claim for an extension of time.
170. Next, Lucas claims that AGA had breached the Contract by not treating each of the seven items making up the Other Variations Claims as variations, or in not paying for them appropriately.
171. The third part of Lucas' breach of contract claim is its contention that AGA breached a term implied into the Contract that it would act reasonably and in good faith in assessing extensions of time and requirements of variation, and would ensure that Lycopodium, as its agent, acted in the same manner (ASC [120]-[125]). The breaches were constituted, Lucas alleged, by AGA's failure to grant extensions of time in relation to variations which had delayed the critical path of the work. Lucas claimed that the breach of the implied terms caused it to suffer losses of \$8,277,436.78 (being the aggregate of all of its Variation Claims) (ASC [122]).
172. In the ASC, Lucas sought the time-related costs in respect of a period totalling 18.7 weeks (130.9 days), this being the length of time between the date for Practical Completion in the Contract (30 November 2011) and the date it achieved Practical Completion (9 April 2012). While Lucas maintained that period for its ACL claim, it recognised in the closing submissions that the period had to be assessed differently in its breach of contract claim.

173. For the breach of contract claim, Lucas asserted a period of accumulated delay of 121 days, made up as follows:

(a)	delay caused by the performance of the Additional Works	68 days
(b)	the time taken to resolve the bridge piles design	46 days
(c)	the effect of the Stop Work Order	7 days
Total		121 days

174. Lucas submitted that effect should be given to the reduction to 121 days by a pro rata adjustment to the figures sought in the ASC. For the time being, it is convenient to continue using the figures based on the claimed delay of 18.7 weeks.

175. Lucas quantified its claim for the time-related costs by reference to the rates for Preliminaries set out in Sch A3 to the Contract in the following manner:

Item	Description	Weeks	Lucas' revised claim
1	Management/Supervision (Indirect Labour above Leading Hand)	18.7	\$662,701.87
2	Survey Personnel and Equipment	18.7	\$286,173.09
3	Temporary Site Facilities and Associated Services/Equipment	18.7	\$111,275.45
4	Traffic Management, Barricades and Signage	16.7	\$104,970.99
5	Operate and maintain Contractor's water supply	16.7	\$136,423.61
6	Dust control measures and maintenance of the whole of the Work	6.5	\$34,563.38
7	Operate and maintain Contractor's power supply	17.7	\$302,887.60
8	Health, Safety and Environmental Management	17.7	\$217,312.53
9	Personnel Transport	17.7	\$335,310.04
10	Accommodation and Messing	9.5/11.2	\$734,151.66
11	Serviceman and service truck	16.7	\$245,101.66
Total			\$3,170,871.87

Each of these figures in this table included a profit margin of 5%.

176. The 11 items in this table are the same 11 items appearing under the "Recurring Cost" category of the Preliminaries listed in Sch A3 to the Contract.

177. The manner in which Lucas formulated its claim for the time-related costs made it plain that they are the costs which Lucas attributes to the additional time which it took to achieve Practical Completion (which Lucas alleges was caused by the matters identified earlier). This is evident in [93] of the ASC, in which, in the pleading of its misleading or deceptive conduct claim, Lucas quantifies its loss and damage in respect of these items in the sum of \$6,301,822.33 calculated “in respect of the [pleaded] delays”. In [93.1] of the ASC, Lucas says, in relation to the claim with respect to the Additional Works, that it had calculated the sum of \$4,342,334.63 by reference to the preliminary rates in Sch A3 “to account for the 18.7 weeks’ delay”. Earlier, in [50] of the ASC, Lucas alleged that the Additional Works had had a 38 day “delaying effect” and that the 38 day “delay” had affected the critical path of the Works by extending the time required for completion from 18 January 2012 to 25 February 2012.
178. AGA submitted that, in these circumstances, the claim for time-related costs in respect of the Additional Works should be regarded as a claim for delay costs, that is, a claim for the indirect costs said to have resulted from a delay in the completion of the Works as a whole. Counsel made a like submission with respect to the other occurrences which Lucas claimed it caused it to incur additional costs by way of time-related costs.
179. AGA submitted that cl 18.8 of the Contract had the effect of excluding altogether any entitlement in Lucas to recover delay costs. It is, AGA submitted, a complete answer to the claim of Lucas for the time-related costs. Lucas denied that cl 18.8 has the effect for which AGA contends.
-