
Delta E GHG Reduction Trial

Basis of Preparation Document
November 2023



Differential Energy™

TITAN® BULK EXPLOSIVES

Incitec Pivot Limited

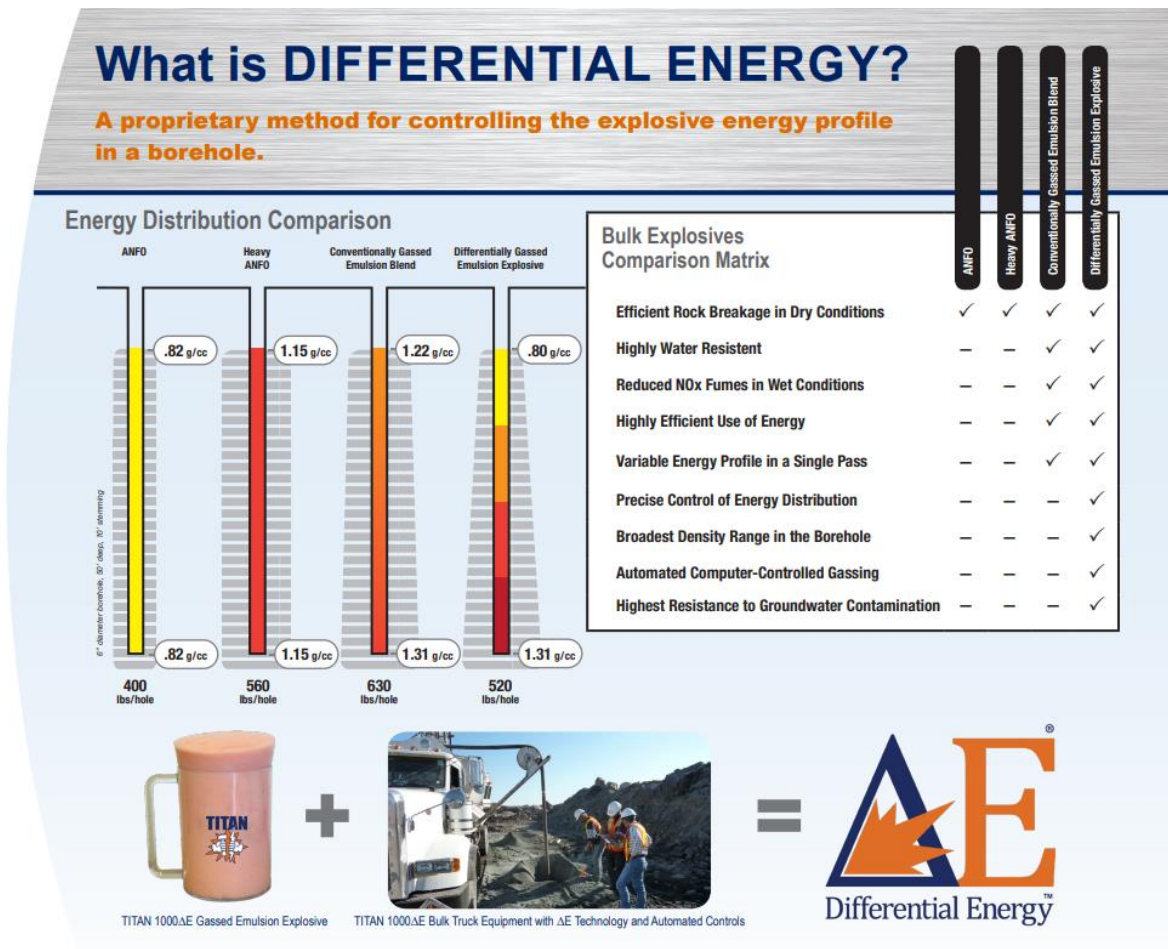
Contents

1. Introduction	2
2. Percentage reduction in GHG due to precise placement of energy via DeltaE.	3
3. Ensuring performance was maintained using DeltaE.	4
4. Conclusion.....	4
5. Limited Assurance Statement	5

1. Introduction

Dyno Nobel's Delta E™ is a proprietary method for controlling the explosive energy profile in a borehole. It is a novel explosives method that facilitates precise placement of energy, which can lead to reductions in energy use, oxides of nitrogen (NOx) and GHG emissions associated with blasting. It does this through allowing the density of explosives to be varied within a single borehole, meaning the energy can be matched to the varying geology in each hole. The system enables users to send the blasting load plans and instructions directly to the loading equipment and captures accurate blast information that can be used for reporting.

Delta E™ has been used in blasting applications in the US and Indonesia for many years and has been very successful in replacing large volumes of less efficient conventional explosives. We are continuing the roll-out in our global markets, including Australia and Latin America, where significant progress was made during 2022. The use of Delta E™ continues to result in reduced NOx emissions, reduced energy use and GHG, less dust, noise and ground vibration and increased productivity while reducing overall cost for our mining customers.



In order to verify the claims regarding the GHG reductions associated with the use of Delta E, an 12-month trial of the product was conducted at a mine site in Australia from January to December 2022. This allowed sufficient time to collect data to calculate the % GHG reduction against the baseline product. After the trial Delta E was implemented at the site.

This report is the Basis of Preparation document to accompany the data for a Limited Assurance engagement of the results of the trial.

It describes the trial, the data collected, and the assumptions made in calculating the tonnes of CO₂equivalent (tCO₂e) reduction against the product that would have been used, and was used in the previous 12-month baseline period, which was T5060, a standard ANFO.

2. Percentage reduction in GHG due to precise placement of energy via DeltaE.

As described in the introduction, DeltaE technology allows the density of explosives to be varied within a single blast hole, meaning the energy can be matched to the varying geology in each hole. In addition, the system enables users to send the blasting load plans and instructions directly to the loading equipment and captures accurate blast information that can be used for reporting.

The reduction in the total product used during the trial due to Delta E technology has been obtained through:

1. Recording how much DeltaE was actually loaded into blast holes during the trial period across 1 January 2022 – 30 December 2022.
2. Calculating the amount of standard product that would have been loaded into each blast hole had the switch to DeltaE not been made utilising the DeltaE tonnages and adjusting for changes in product density based on technical specifications.
3. The emissions associated with the combustion of each product was calculated utilising the 2022 National Greenhouse Accounts Factors and NGER Determination for emission and carbon content factors associated with each product's composition.
4. The percentage reduction calculated between the two products.

The GHG emissions produced during the trial period are shown in Table 1 below.

ANFO is a component in the T5060 product used in the baseline period and typically consists of 94% ammonium nitrate (AN) by weight and 6% diesel fuel oil by weight. It was found however, that at this particular site the standard percentage of diesel was not used, with lower amounts used throughout the baseline measurement period. This resulted in lower than expected GHG emissions in the baseline period and a lower than expected reduction in GHG emissions.

Table 1: GHG emissions produced during the duration of the trial.

Product	Tonnes of CO ₂ e produced
Baseline Product	873
ΔE	810

3. Ensuring performance was maintained using DeltaE.

Although not part of the assurance, data collected by the customer indicated that there was no loss of performance following the switch to DeltaE. During the trial the customer measured data indicating improvements to the dig rates. This demonstrates the blasting performance and operational efficiencies were improved via the use of DeltaE technology during the trial period.

4. Conclusion

The emissions for Delta E were 810tCO₂e and would have been 873tCO₂e had T5060 continued to be used. This is a reduction of 63tCO₂e which has been subject to Limited Assurance (see Appendix 1). This is a reduction of 7%. This was due to a much lower than expected percentage of diesel being used to fuel ANFO. If the standard percentage of diesel had been used in the 12-month baseline period, the reduction in GHG emissions from the use of Delta E, compared to the baseline product, T5060, would have been 25%.

5. Limited Assurance Statement



Deloitte Touche Tohmatsu
ABN 74 490 121 060

Quay Quarter Tower
50 Bridge Street
Sydney NSW 2000

Sydney NSW 2000 Australia

Tel: +61 2 9322 7000
Fax: +61 2 9322 7001
www.deloitte.com.au

Independent Limited Assurance Report to the Directors Incitec Pivot Limited

Conclusion

We have undertaken a limited assurance engagement on Incitec Pivot Limited's (IPL) greenhouse gas (GHG) emissions reduction statement associated with the use of Differential Energy™ technology compared to the Titan[®] 5060 (T5060) product that would have been used at an IPL customer's copper and gold mine site in Australia for the period 1 January 2022 to 31 December 2022, which has been prepared in the form of a case study and included in the following reports:

Report	Case Study	Page Reference
IPL Sustainability Report 2023 for the period 1 October 2022 to 30 September 2023	DeltaE improving our customers' safety and greenhouse gas emissions	38
IPL Climate Change Report 2023 for the period 1 October 2022 to 30 September 2023	Greenhouse Gas Reduction Assurance on DeltaE customer trial	30

Based on the procedures performed and the evidence obtained, nothing has come to our attention that causes us to believe that the below GHG emissions reduction statement, included in the IPL Sustainability Report 2023 for the period 1 October 2022 to 30 September 2023 on page 38 and the IPL Climate Change Report 2023 for the period 1 October 2022 to 30 September 2023 on page 30 (the 'Subject Matter Information'), is not fairly stated, in all material respects, in accordance with IPL's Basis of Preparation (the 'Reporting Criteria'), for the period 1 January 2022 to 31 December 2022.

GHG Emissions reduction statement:

The emissions for Delta E were 810 tCO₂-e and would have been 873 tCO₂-e had T5060 continued to be used. This is a reduction of 63 tCO₂-e which has been subject to Limited Assurance.

Basis for Conclusion

We conducted our limited assurance engagement in accordance with Australian Standard on Assurance Engagements ASAE 3000 Assurance Engagements Other than Audits or Reviews of Historical Financial Information ("ASAE 3000"), issued by the Australian Auditing and Assurance Standards Board.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusion.

Responsibilities of Directors of IPL

The Directors are responsible for:

- ensuring that the Subject Matter Information is fairly presented in accordance with the Reporting Criteria;
- confirming the measurement or evaluation of the underlying subject matter against the applicable criteria, including that all relevant matters are reflected in the Subject Matter Information;
- designing, establishing and maintaining an effective system of internal control over its operations, including, without limitation, systems designed to ensure achievement of its control objectives and its compliance with applicable laws and regulations;

Liability limited by a scheme approved under Professional Standards Legislation.

Member of Deloitte Asia Pacific Limited and the Deloitte organisation.



- d) The electronic presentation of the Subject Matter Information in the IPL Sustainability Report 2023 for the period 1 October 2022 to 30 September 2023 and the IPL Climate Change Report 2023 for the period 1 October 2022 to 30 September 2023, and our limited assurance report, on IPL's website.

Our Independence and Quality Management

We have complied with the independence and other relevant ethical requirements relating to assurance engagements and applied Auditing Standard ASQM 1 Quality Management for Firms that Perform Audits or Reviews of Financial Reports and Other Financial Information, or Other Assurance Engagements or Related Services Engagements in undertaking this assurance engagement.

Responsibilities of the assurance practitioner

Our responsibility is to express a limited assurance conclusion on IPL's Subject Matter Information as evaluated against the Reporting Criteria based on the procedures we have performed and the evidence we have obtained. ASAE 3000 requires that we plan and perform our procedures to obtain limited assurance about whether, anything has come to our attention that causes us to believe that the Subject Matter Information is not properly prepared, in all material respects, in accordance with the Reporting Criteria.

A limited assurance engagement in accordance with ASAE 3000 involves identifying areas where a material misstatement of the Subject Matter Information is likely to arise, addressing the areas identified and considering the process used to prepare the Subject Matter Information. A limited assurance engagement is substantially less in scope than a reasonable assurance engagement in relation to both the risk assessment procedures, including an understanding of internal control, and the procedures performed in response to the assessed risks.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed. Accordingly, we do not express a reasonable assurance opinion about whether the 'Subject Matter Information' has been fairly presented in all material respects in accordance with the 'Reporting Criteria'.

Our procedures included:

- Inquiries with key data and process owners and walkthroughs to obtain an understanding of IPL's approach, including any assumptions used to estimate the GHG emissions associated with the blasting activities as it relates to the use of the Differential Energy™ technology at the IPL customer's mine for the period 1 January 2022-31 December 2022 and GHG emissions that would have been released from using the T5060 technology at the IPL customer's mine in a consistent manner to which it had been used prior to the trial period for the period 1 January 2022-31 December 2022.
- The selection of items on a sample basis to test the application of key assumptions, and the appropriate use of composition data and emission factors related to both T5060 and Differential Energy™ technologies against the Reporting criteria.
- Recalculation of IPL's total GHG emissions (tCO₂-e) associated with Differential Energy™ used during the trial period as well as the emissions that would be released had the T5060 product been used in a consistent manner to which it had been used prior to the trial period, and total emissions reduction.

Our engagement did not include testing the relative efficacy of the Differential Energy™ and T5060.



Inherent limitations

Because of the inherent limitations of an assurance engagement, together with the inherent limitations of any system of internal control there is an unavoidable risk that it is possible that fraud, error, or non-compliance with laws and regulations, where there has been concealment through collusion, forgery and other illegal acts may occur and not be detected, even though the engagement is properly planned and performed in accordance with Standards on Assurance Engagements.

Emissions quantification is subject to inherent uncertainty because incomplete scientific knowledge has been used to determine emissions factors and the values needed to combine emissions due to different gases. Additionally, non-financial data may be subject to more inherent limitations than financial data, given both its nature and the methods used for determining, calculating and sampling or estimating such data.

Other Information

The Directors are responsible for the other information. The other information comprises the IPL Sustainability Report 2023 prepared for the period of 1 October 2022 to 30 September 2023 and the IPL Climate Change Report 2023 prepared for the period of 1 October 2022 to 30 September 2023, but does not include the GHG emissions reduction statement associated with the use of the Differential Energy™ disclosed in the case study the Subject Matter Information.

Our opinion on the Subject Matter Information does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our engagement, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the knowledge obtained during the engagement, or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Restricted use

The applicable criteria used for this engagement was designed for a specific purpose of assisting the Directors to report on the GHG emissions reduction from the use of the Differential Energy™ during the trial period only, as a result, the Subject Matter Information may not be suitable for another purpose.

This report has been prepared for use by the Directors for the purpose of providing assurance over the GHG emissions reduction statement associated with the use of the Differential Energy™ disclosed in the case study in the IPL Sustainability Report 2023 for the period 1 October 2022 to 30 September 2023 and the IPL Climate Change Report 2023 for the period 1 October 2022 to 30 September 2023.

We disclaim any assumption of responsibility for any reliance on this report to any person other than the Directors or for any purpose other than that for which it was prepared. Our review included web-based information that was available via web links as of the date of this assurance report. We provide no assurance over changes to the content of this web-based information after the date of this assurance report.

DELOITTE TOUCHE TOHMATSU

Chi Woo
Partner

20 November 2023