

## AUSTRALIAN SECURITIES EXCHANGE ANNOUNCEMENT

17 September 2015

### EDENCRETE™ - US UPDATE

#### HIGHLY ENCOURAGING EARLY STRENGTH RESULTS FROM SECOND GDOT FIELD TRIAL OF EDENCRETE™ ON I-20

Perth-based Eden Energy Limited (ASX: EDE) is pleased to announce the early strength results from the recent Georgia Department of Transport (GDOT) field trial of EdenCrete™ enriched concrete on the Interstate Highway I-20 in Augusta, Georgia.

#### Early Strength Results from Independent Laboratory

At the request of GDOT, the concrete mix used in the second field trial to which EdenCrete™ was added, was tested both with, and without, the addition of a 24-hour chemical accelerant (CaCl). Accelerants reduce the time required for the concrete to harden, which is important in enabling GDOT to re-open, for public use, earlier than if the accelerant were not added, the section of highway that is being repaired. The independent laboratory that conducted the tests is a GDOT-approved laboratory in Augusta, Georgia.

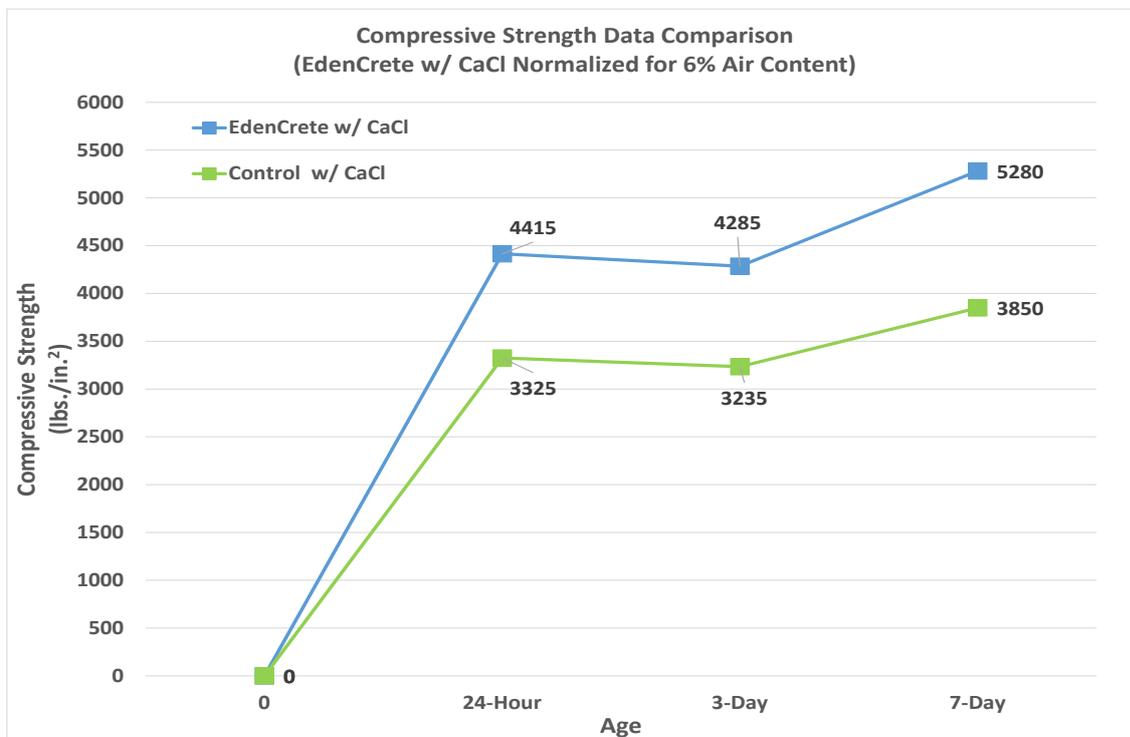
The early strength results of EdenCrete™ concrete where the accelerant was used, showed that EdenCrete™ concrete exceeded the compressive strength of the control mixture (with the accelerant but without EdenCrete™) by the following:

- At 24 Hours - 32.8%
- At 3 Days - 32.5%
- At 7 Days - 37.1%.

Where no accelerant was added, the EdenCrete™ concrete exceeded the compressive strength of the control concrete mixture by 30.3% at 3 days (with little variation before that).

These results confirm the benefit of EdenCrete™ if used with, or without, the accelerant. Significantly increased early strength, as occurred when the accelerant is added, has not previously been a benefit that EdenCrete™ has been shown to deliver.

Further tests are to be undertaken at 28 days and also at 56 days. Abrasion testing (ASTM C779) in Colorado at 56 days of age of test cylinders will also take place.



The GDOT specifications require Class 24-Hour Accelerated concrete to have a 24-hour and 3-day compressive strength greater than, or equal to, 2500 and 3800 psi, respectively. The Class 24-Hour Accelerated concrete made with EdenCrete™ met and exceeded the 24-hour and 3-day strength requirements by 77% and 13%, respectively.

The results to date, (which have been normalised to adjust for the variations between the various delivered batches in the amount of contained air in the concrete, which impacts its compressive strength), identify a trend of increased compressive strength achieved by the Class 24-Hour Accelerated EdenCrete™ over that of the Class 24-Hour Accelerated Control mixture without added EdenCrete™. This magnitude in strength difference between the two is not expected to continue to grow at the same rate, and may level off by 28 and 56 days.

### EdenCrete™ I-20 Field Trials

As previously announced (ASX: 27 August 2015), on 26 August 2015 a second field trial of EdenCrete™ enriched concrete was undertaken on I-20 in Augusta. This trial involved the pouring of an additional replacement concrete slab on I-20 abutting the first EdenCrete™ enriched slab poured in the first field trial on 11 August 2015. The concrete used in the slab included EdenCrete™.

The next day, an abutting section of I-20 was relaced using the same concrete mix but with no added EdenCrete™, giving a basis for comparison of the benefits EdenCrete™ delivers.

Samples of all the concrete from the trials on both days were made on the job-site by an independent, GDOT approved, laboratory in Augusta, Georgia, which is conducting the independent comparative compressive strength testing. To date only the results from compressive strength testing up to 7-days of age have been received.

Concurrent tests are also being undertaken by GDOT, using test cylinders, cast by the independent laboratory.

After normalizing the EdenCrete™ strength data for the varied air content of the control mixture, the 24-hour, 3-day, and 7-day strength measured by GDOT shows EdenCrete™ to have exceeded the

For personal use only

compressive strength of the control mixture by 40.5% at 24 hours, 25.1% at 3 days, and 26.3% at 7 days. The strengths measured by the independent laboratory show a similar trend of increased compressive strength, but with a 32.8% gain at 24-hour, and an increase in 32.5 and 37.1% at 3-day and 7-day, respectively.

While this relatively small variation exists between the strength results measured by the GDOT and the independent laboratories, the greatly improved trend is the same for data from both laboratories.

The longer term performance results from both the EdenCrete™ enriched slabs from the two field trials and the two control slabs will be monitored and assessed by GDOT against the results from the laboratory tests.

Whilst neither the timetable of this process nor the outcome are certain, Eden is nevertheless further encouraged by the results to date and the possible performance and commercial benefits that the use of EdenCrete™ could potentially deliver to GDOT on its future highway (and other infrastructure) maintenance and construction programmes.

### **Georgia Infrastructure Market**

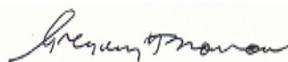
In addition to thousands of miles of concrete roads and highways, Georgia has in excess of 15,000 concrete bridges (ranging from small to large), a recent audit of which indicated that over 4,000 were not suitable for repair and need to be replaced over the next 20 years, at an estimated annual cost in excess of \$300 million per year.

If this process in Georgia results in an approval by GDOT of the use of EdenCrete™ in concrete for its infrastructure is obtained, it is considered likely to accelerate the process of obtaining similar approvals by the Departments of Transport in other US states, with Eden's longer term objective being the opening up of the national infrastructure market.

These on-going developments with GDOT represent further encouraging progress towards Eden eventually achieving its longer-term goal of broad penetration of EdenCrete™ into the huge US infrastructure market.

### **BACKGROUND**

*EdenCrete™ is Eden's 100% owned, proprietary carbon-strengthened concrete additive, one of the primary target markets for which is improving the performance of concrete used in the construction and maintenance of concrete roads, bridges and other infrastructure. Additionally, it has potential for use in a range of other applications including high-rise building construction, marine and coastal applications, water storage and pipelines, and pre-fabricated concrete structures and products.*



**Gregory H. Solomon**  
Executive Chairman