

# EraSet, a smarter solution for well integrity in CCUS wells

## An OPC-free and CO<sub>2</sub> resistant cement system

### Applications

- Conventional primary and remedial cementing operations in CO<sub>2</sub> and H<sub>2</sub>S environments
- Ideally suited to carbon capture, utilization and storage wells (CCUS)

### Features and Benefits

- Ensures superior resistance to attacks from CO<sub>2</sub>, H<sub>2</sub>S, magnesium, and sulfate
- Reduces carbon footprint with a sustainable, OPC-free formulation
- Customizable solution to meet specific well conditions
- Uses sustainable aluminosilicates from industrial by-products; no fly ash needed
- Offers safer mixing and handling via an alternative alkaline activator
- Advanced retarder chemistry provides adjustable thickening times up to 180°F
- Matches OPC slurry performance—thickening time, strength, viscosity
- Compatible with standard oilfield cementing and lab equipment

Conventional ordinary portland cement (OPC) faces significant challenges in carbon capture, utilization, and storage (CCUS) wells, as well as CO<sub>2</sub>/H<sub>2</sub>S producing environments. In such conditions, cement degradation can affect well integrity. It is important to use a cement system specifically engineered to withstand CO<sub>2</sub> attack and perform in the toughest conditions.

### An alternative for the future

EraSet™ from Baker Hughes is an OPC-free cement system engineered for long-term durability in high CO<sub>2</sub> and high H<sub>2</sub>S environments. Table 1 and Figure 1 demonstrate the effectiveness of EraSet compared to conventional OPC.

At Baker Hughes, we understand that the one-size-fits-all does not work in cementing. That's why EraSet offers unlimited design flexibility, ensuring your well gets the right slurry mix for each specific well application.

### Designed to support sustainable operations

EraSet has a reduced carbon footprint compared to OPC, which is known for its high CO<sub>2</sub> emissions.

Also, by utilizing advanced pumping equipment such as the Hummingbird™ all-electric cement unit, we support sustainable operations and ensure a high-quality cement job every time.

EraSet cement slurries are part of the Baker Hughes Set for Life™ family of

cement systems, which are designed to isolate and protect the targeted zone for the life of the well.

### Safety and handling

Refer to system component material safety data sheets (MSDS) for handling, transport, environmental information, and first aid.

### Typical properties

Temperature range	Up to 180°F (82°C)
Typical density	Up to 15.8ppg (1798 kg/m <sup>3</sup> )

### 4M acetic acid % weight loss

	2 weeks	4 weeks
<b>EraSet</b>	6.11	7
<b>Conventional</b>	18.38	33.7

**Table 1:** Comparison of EraSet vs. conventional example design after curing in acetic acid as an analogue to H<sub>2</sub>O/CO<sub>2</sub> generated carbonic acid. 190°F and ambient pressure and ambient.

