

In an Infill Thinking exclusive, we caught up with the team behind an interesting new well-site innovation in the frac supply chain.

[Calder Hendrickson](#) and [Kyle Dahlgren](#) are members of the AquaSmart Oil & Gas (“ASOG”) brain-trust behind the new PropCoater™ units. You may have seen this innovative new Friction Reducer (FR) system on LinkedIn recently [here](#).

Calder is ASOG’s CEO and Kyle is their new Director of Business Development. Kyle is formerly a Devon completions engineer of more than 8 years. We think their new idea has some good adoption potential after learning more about it.

Last week, ASOG hosted a Permian field demo of its PropCoater™, which was well attended, attracting reps from 7 different E&Ps and 1 well-site sand storage company. Rice Investment Group is an investor in the company, listing ASOG’s proppant coating technology as one of their portfolio companies [here](#). We also learned that ASOG has secured long term agreements to support both the FR and unit builds on their new patented technology.



Here are our key takeaways from our conversation with the company's management team.

What Is It & How Does It Work?

- These units are mobile sand coating systems – a new system that sits on the wellsite and accepts proppant feeds from either sand boxes or sand silos, applies on-the-fly custom dosages of dry FR and delivers coated proppant into the frac blender
- The system has a hopper with three screws feeding into their coating system – it feeds just like a blender and then proppant rides a belt out of their coating system into the frac blender
- They can coat any mesh size proppant, resin, or ceramic, with FR coatings
- They can also coat dry or wet sand
- They can adapt to any water quality
- The company's initial focus will be FR coating dry sand for zipper fracs
- Current max output for their system of 500 tph
 - note this gets them in range for simul-fracs if the simul setup is for a single stream diverting to two well bores (some simul jobs are setting up dual blenders, which would require multiple PropCoater™ units, but if it the fluid is going into one blender and splitting out to two wellheads, then one PropCoater™ unit could handle the job)
- The trailer mounted system will occupy a small space between the sand storage system and the blender
 - note these units are footprint neutral, adding the equivalent of one semi truck to the location but eliminating one liquids tank

- Aqua Smart's team will operate on site to refill and manage the chemistry and application
- We asked if this adds a critical path to frac job, and we were told no. The company is creating bypass setups so they will not be a critical path or source of frac NPT if their system goes down – in that case, other FR on location could be used because frac jobs will still utilize FR solution during pad and flush ops and since that will be on location, crews could kick on an alternate FR with no pumping downtime – this is something we think early adopters will really appreciate as it greatly de-risks adoption

What's The Value Proposition?

- The key value proposition in our view is faster fracs, getting more stages per frac crew day, frac efficiency increases, and shorter time to first oil – this is because ASOG believes their superior approach to FR application creates functionally different / better fluid behavior that will allow customers to treat at lower pressures or increase their barrels pumped per minute by as much as 5-20%, shortening frac times.
- By applying FR directly to the sand instead of treating water, AquaSmart argues customers will achieve a “mass damping effect” – every grain will now go downhole with FR, not just mixing down there, so the sand and FR move much easier as one single fluid system, accelerating pumping rates (putting FR directly on the heaviest mass particle in the system reduces less efficient traditional FR application, where the pumps then have to fight against the vibrations of the molecules and proppant/pipe interactions within the system trying to get them to flow in one direction)

- The system also promises to be cost-neutral to pre-existing slickwater FR economics, so customers won't need to add costs – they'll just use this coating application instead of the liquid FR solutions they used before, but now they'll be able to frac more stages per day and get first oil sooner... seems like an easy ask!
- As Kyle puts it “this technology falls in the indirect cost savings bucket – by using this product, customers will create savings in the form of better well / frac economics. Even though adopting it won't change their chemical costs, their overall AFE should decrease through less pumping time and less time on location. Essentially, customers get better FR with same cost, creating better margins through pressure reductions that allow frac crews to shorten stage times and complete wells at faster rates.”
 - As an aside, we think frac crews will love this too (since time influences their profitability, and the coating lowers the proppant's erosive effects on equipment) even though it's being marketed to E&Ps as discussed in the next section
- This system also allows real-time chemistry customization directly on the wellsite

What's The Commercial Model?

- AquaSmart plans to bill these new units as a service based on the cost of FR – just like other chemistry it'll be bid in cost per gallon
- Initially the company will focus on getting buy-in from a handful of key sophisticated operators who think open mindedly about new technology at the wellsite

- The company has a long history in coated proppants and relationships with multiple operators already, but they prior to this new system, they only coated sand at mines or terminals and not on the wellsite

How Long Until They Hit The Field And How Many?

- The first unit is rolling out to a customer's well-site in a matter of weeks
- The second unit is under construction and will be arriving in the Permian in about four weeks
- The company is optimistic about market penetration and believes this will quickly become the "new slickwater" across the Lower 48 – while they didn't tell us exactly how many units they have on order, the company is preparing itself for rapid growth.