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UNITED STATES

RockPile
ENERGY SERVICES

WE ARE COMMITTED TO

Our people

Our partners

Our community

"PEOPLE with a PASSION for PERFECTION"

Environmental Responsibility

- RockPile Energy Services is dedicated to the environment by implementing the following controls to reduce our carbon footprint:
  - Innovative Proppant Delivery System – Reducing Silica Dust & Noise
  - State of the art Chemical Management System – Disposal, Spill & Prevention
  - Spill protection and containment solutions for entire well pad
  - Thermal King unit drastically reduces tractor idle times by >80%
  - RockPile is utilizing dry guar, which is eliminating ~70% of the bulk weight transportation costs and mineral oil based slurry guar

Lean Innovations

Common Sand Systems

The common practice for sand delivery.

- Trucks idling while weighting to unload.
- Sand is pneumatically transferred into larger sand containers.
- Sand is pneumatically transferred from Container to belt.
- Belt drops sand into blender.

Photo credit: NIOSH

Silica dust clouds from delivery trucks loading into sand movers.

Photo credit: NIOSH

Silica dust by worker conducting sand transfer operations. Photo shows sand mover and transfer system.

Photo credit: NIOSH

Silica dust cloud by worker delivering sand from sand mover to transfer belt.

Centers for Disease Control and Prevention
CDC 24/7: Saving Lives. Protecting People.™

May 2012

"NIOSH recently collected 116 air samples at 11 different hydraulic fracturing sites in five different states (AR, CO, ND, PA and TX) to evaluate worker exposure to crystalline silica. At each of the 11 sites, full-shift personal-breathing-zone (PBZ) exposures to respirable crystalline silica consistently exceeded relevant occupational health criteria (e.g., the Occupational Safety and Health Administration (OSHA) Permissible Exposure Limit (PEL), NIOSH Recommended Exposure Limit (REL), and the American Conference of Governmental Industrial Hygienist's (ACGIH) Threshold Limit Value (TLV®)). At these sites, 54 (47%) of the 116 samples collected exceeded the calculated OSHA PELs; 92 of 116 (79%) exceeded the NIOSH REL and ACGIH TLV. The magnitude of the exposures is particularly important; 36 of the 116 (31%) samples exceeded the NIOSH REL by a factor of 10 or more. The significance of these findings is that even if workers are properly using half-mask air-purifying respirators, they would not be sufficiently protected because half-mask air-purifying respirators have a maximum use concentration of 10 times the occupational health exposure limit."

"…47% of sites exceeded the calculated OSHA PELs…79% of sites exceeded the NIOSH REL"

"particularly important; 31% of the samples exceed the REL by a factor of 10"

Source:
http://blogs.cdc.gov/niosh-science-blog/2012/05/silica-fracking/ Page 3 of 11CDC - NIOSH Science Blog – Worker Exposure to Crystalline Silica During Hydraulic Fracturing

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May 2012

"Dust emitted from "thief" hatches (open ports on the top of the sand movers used to allow access into the bin

Dust ejected and pulsed through side fill ports on the sand movers during refilling operations

Dust generated by on-site vehicle traffic, including sand trucks and crew trucks, by the release of air brakes on sand trucks, and by winds

Dust released from the transfer belt under the sand movers

Dust created as sand drops into, or is agitated in, the blender hopper and on transfer belts

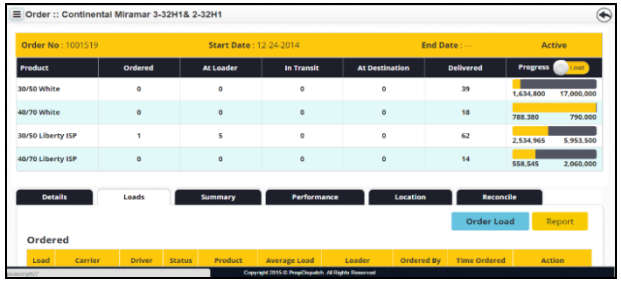
Dust released from operations of transfer belts between the sand mover and the blender Dust released from the top of the dragon's tail (end of the sand transfer belt) on sand movers"

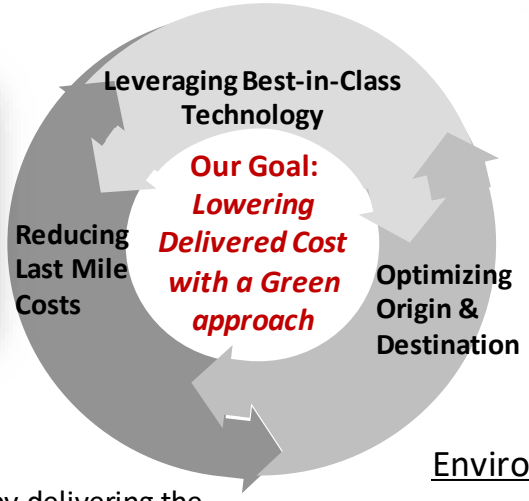
Top leading causes of excessive crystalline silica exposure to frac site personnel

Source:

http://blogs.cdc.gov/niosh-science-blog/2012/05/silica-fracking/ Page 3 of 11CDC - NIOSH Science Blog – Worker Exposure to Crystalline Silica During Hydraulic Fracturing

Lean Proppant Delivery Solution





Logistic and Field Improvements

- Reduces operator total ownership costs by delivering the proppant in 5-15 minutes instead of 60-90 minutes
- Wellsite footprint is smaller
- When paired with RockPile's proppant tracing technology solution, we believe we have a Best in Class package to offer to reduce Last Mile Costs
- Employing a "Total Cost" view, our team considers 'Last Mile' implications on the front end of the sand sourcing process

Environmental & Safety Improvements

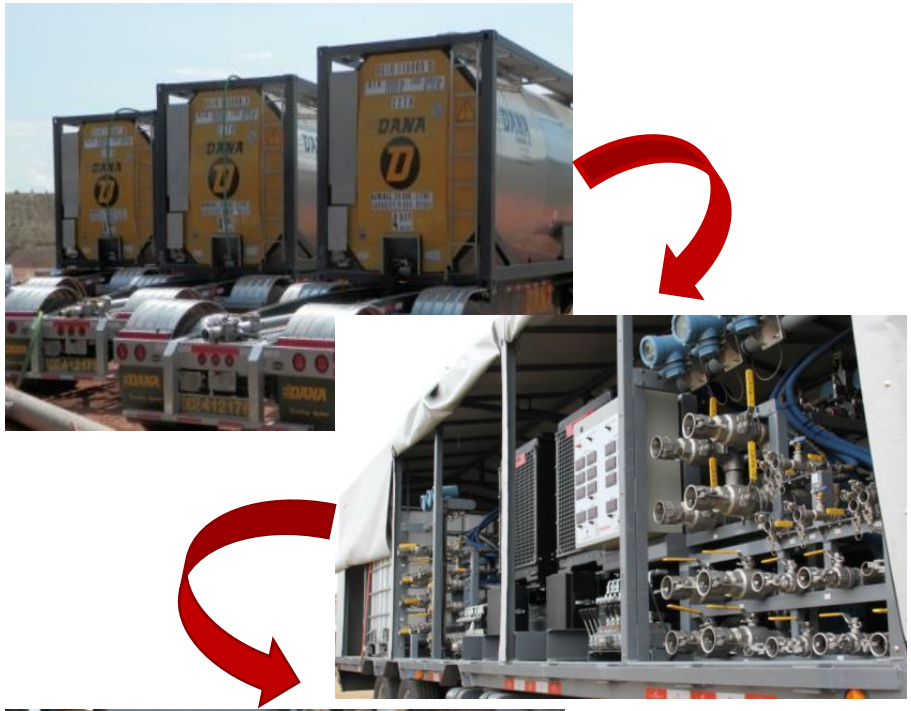
- Shrinks CO2 emissions by ~78% due to equipment idle time
- Noise created by pneumatic blowers is eliminated
- Silica dust is reduced by ~80+%
- Pinch points and mechanical failures reduced

Use Of Boxes

The use of Box Technology

- Reduces truck idle times
- Reduces traffic congestion on wellsite's
- Eliminates all pneumatic transfers of sands and the emissions from fine particles.
- Eliminates high decibel noise emissions from the pneumatic transfer.
- Reduce Employee exposure to climbing and working at heights.

Chemical Management System



- Real-Time Measurement
  - Improves pump program accuracy
  - Reduces storage, handling, and waste elimination
  - Eliminates employee chemical strapping hazards
  - Improved fluid temperature control
- Environmental Benefits
  - Reduces totes and the chemical waste inherent with their design
  - Minimal totes to be recycled and disposed
  - Reduction in spills with minimum connections required
  - Employee chemical exposure is greatly reduced
  - Reduces waste from tank bottoms

Chemical Management System

Best Practices in Chemical Management

- Reduced manual handling of chemicals
- Reduced the number of chemical containers and movement on locations
- Eliminate waste streams from residue/tank bottoms.
- Reduce manual gauging and working at heights.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HYDRAULIC
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AUGUST 31 - SEPTEMBER 2
2016