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QMR SERVICES & PRODUCTS

Laboratory Services:

(most services available at mine site or manufacturing facility with a suitable work area)

1. Measurement of emulsion composition including salt content, water content and fuel+emulsifier content
2. Emulsion droplet size and crystallization
3. Manufacture of emulsion up to 3kg (no limit for mine site/manufacturing facility*)
4. Manufacture of sensitized products up to 1 kg (no limit for mine site/manufacturing facility*)
5. Viscosity as a function of temperature studies
6. Gassing as a function of temperature studies
7. Emulsion stability (temperature cycling and shearing)
8. Prill/emulsion compatibility
9. Fuel/emulsion compatibility
10. Prill Fuel Oil Absorption
11. Prill total AN content
12. Prill friability
13. Prill stability (temperature cycling)
14. Prill water content
15. Prill size distribution
16. ANFO Fuel Content
17. Water Gel Water Content
18. Thermal conductivity and thermal stability of products
19. Density (bulk and in hole)
20. Nonel stability due to contact with diesel
21. Physical testing of Nonel resistance to abrasion and bending.

*mine site is responsible for disposal of products

Reactivity Services:

1. Sulphide assay
2. Reactivity risk assessment based on sample pH, carbonate content and the presence of sulphide.
3. Testing as per the AEISG code with modifications including: ensure correct sampling using rotary dividers/riffle splitters, elimination of heater block induced effects on sample temperature response and availability of time lapse video and monitoring of NOx during testing.

Loading/Detonation Monitoring Services

1. VOD of up to all holes via EMP (subject to different delay timing for each hole)
2. Measurement of actual delay timing of holes via EMP
3. Detonation pressure measurement
4. Detonation temperature measurement
5. Dynamic pressure measurement
6. In hole density measurement
7. Prill/emulsion ratio (truck calibration)

Products:

1. Bulk Explosive Analyser: Measures the water and salt content of emulsion, the prill/emulsion ratio of mixed products, ANFO fuel content and water gel water content.
2. In Hole Density Sensor: Measures density of the product in the blast hole
3. Dynamic Pressure Sensor: Measures the pressure induced in the product from detonation of adjacent blast holes
4. Temperature Scanner: Measures the temperature of a blast hole at 0.5 or 1m intervals and transmits measurements to a receiver up to 5 km away. Receiver reports a history of temperature measurements and projected temperatures for a future time period.