

POSITIVE EFFECTS OF SILICA ADDITIVE IN CAST PENTOLITE AND TNT EXPLOSIVES

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Close-in high pressure shock wave parameters (obtained from the detonation of 8 lb spherical, cast Pentolite/Silica and TNT/Silica charges) were improved over those procures from the detonation of cast explosives utilizing straight Pentolite and TNT mixtures. Percentages of 5, 7 and 10 per cent of Silica by weight of explosive were employed in these mixtures. Shock wave separation from the fireball debris varied with the percentage of Silica. Best results from either explosive were employed in these tests. Pressure-time readings were obtained from about 800 to 10 psi. Laser-light photography covered o period of time from fireball/shock wave separation out to a shock wave position at about 50 psi.