



### PROGRESS IN 2002

Completed 21 drops with instrumented cylinder

- January, Cocodrie, LA, hemi nose (11)
- May, Corpus Christi, TX, hemi (1), blunt (5), and chamfered (4) noses

Reduced data for trajectory, velocity and pitch  
Have begun assessment of IMPACT28

### OBSERVATIONS

#### Observations in water column – Randomness?

Variations of the vertical velocity of the mine with pitch angle are presented in figures 8, 9, and 10. Lines with circles represent the movement of the mine from release point until the initial contact with the mudline. Thin lines only describe the continuing movements from that point on, i.e. until it comes to rest embedded in the sediment. The data is grouped according to the nose type and combine results from Cocodrie and Corpus Christi locations. (Note: Weight in air increased from 2,242 lbs in Cocodrie to 2,365 in Corpus Christi, whereas the center of mass was moved forward by about an inch).

Apparent periodicity in the fluctuations of the vertical velocity with the pitch angle are of interest. The range of these variations shows dependency on the type of the nose, as well as other parameters of the mine and release conditions. The size and location of the “terminal loops” suggest that for a given mine configuration a characteristic and periodic state is reached when the effects of the initial conditions are no longer significant. It appears that the terminal velocity is rather a periodic function together with the terminal orientation (pitch) of the mine during the free fall.

### DIFFERING TRAJECTORIES FOR NEAR-IDENTICAL RELEASE CONDITIONS

Fig.1

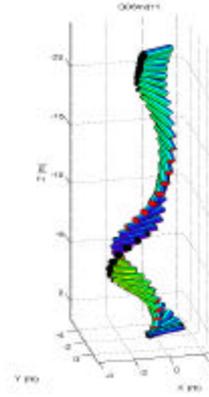
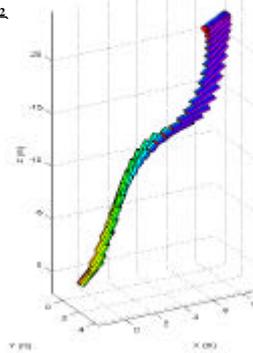


Fig.2



### COMPARISON OF HEIGHT PROUD PREDICTIONS USING SHEAR STRENGTH DATA FROM VANE TESTS ON CORES AND FROM STING

Fig.5

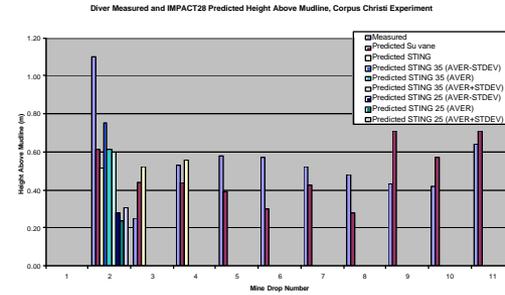
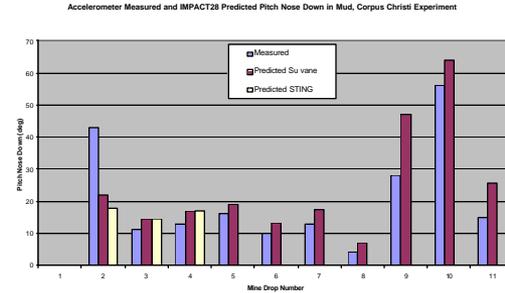


Fig.6



### COCODRIE, 2002, CORPUS CHRISTI, 2002

Fig.8 ALL DROPS WITH HEMISPHERICAL NOSE

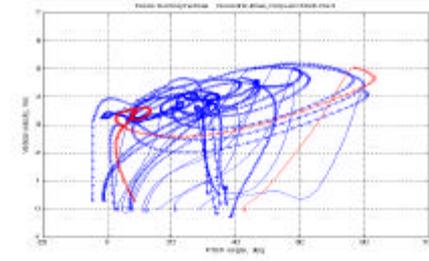


Fig.9 ALL DROPS WITH BLUNT NOSE

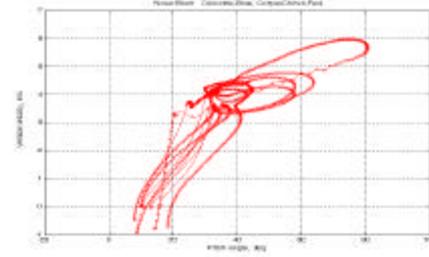
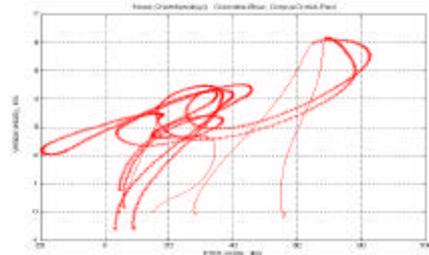


Fig.10 ALL DROPS WITH CHAMFERED (UP) NOSE



### HEIGHT AND VOLUME PROUD DATA, COCODRIE AND CORPUS CHRISTI COMBINED, 21 DROPS

Fig.3

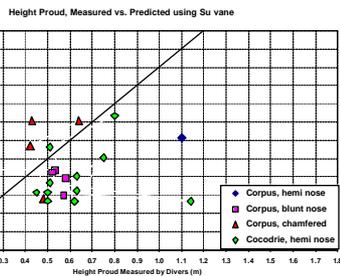


Fig.4

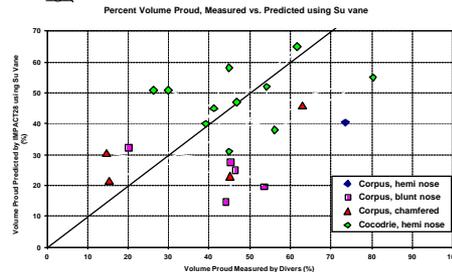


Fig.7

