Sediment Acoustic-speed Measurement System (SAMS)

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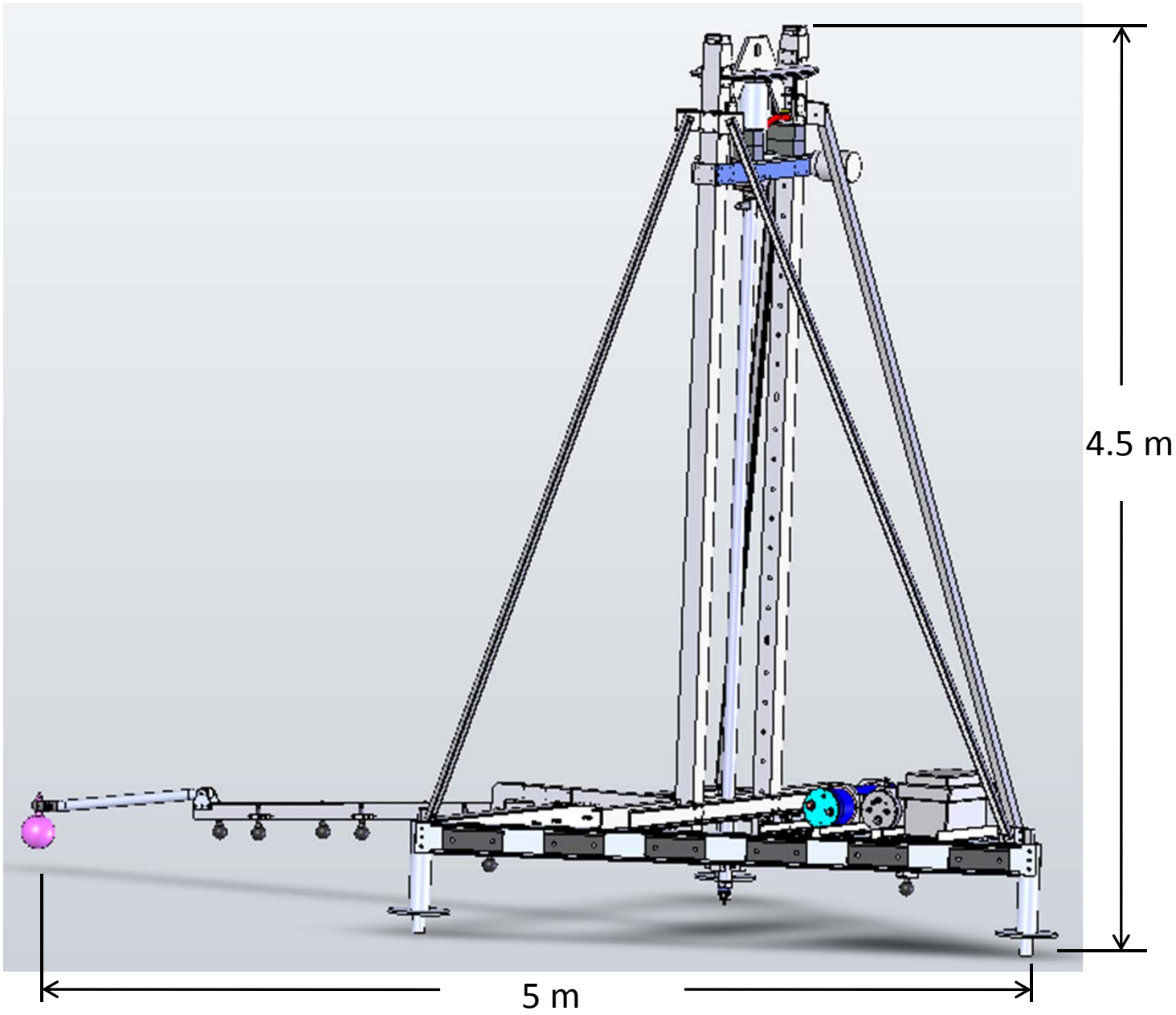
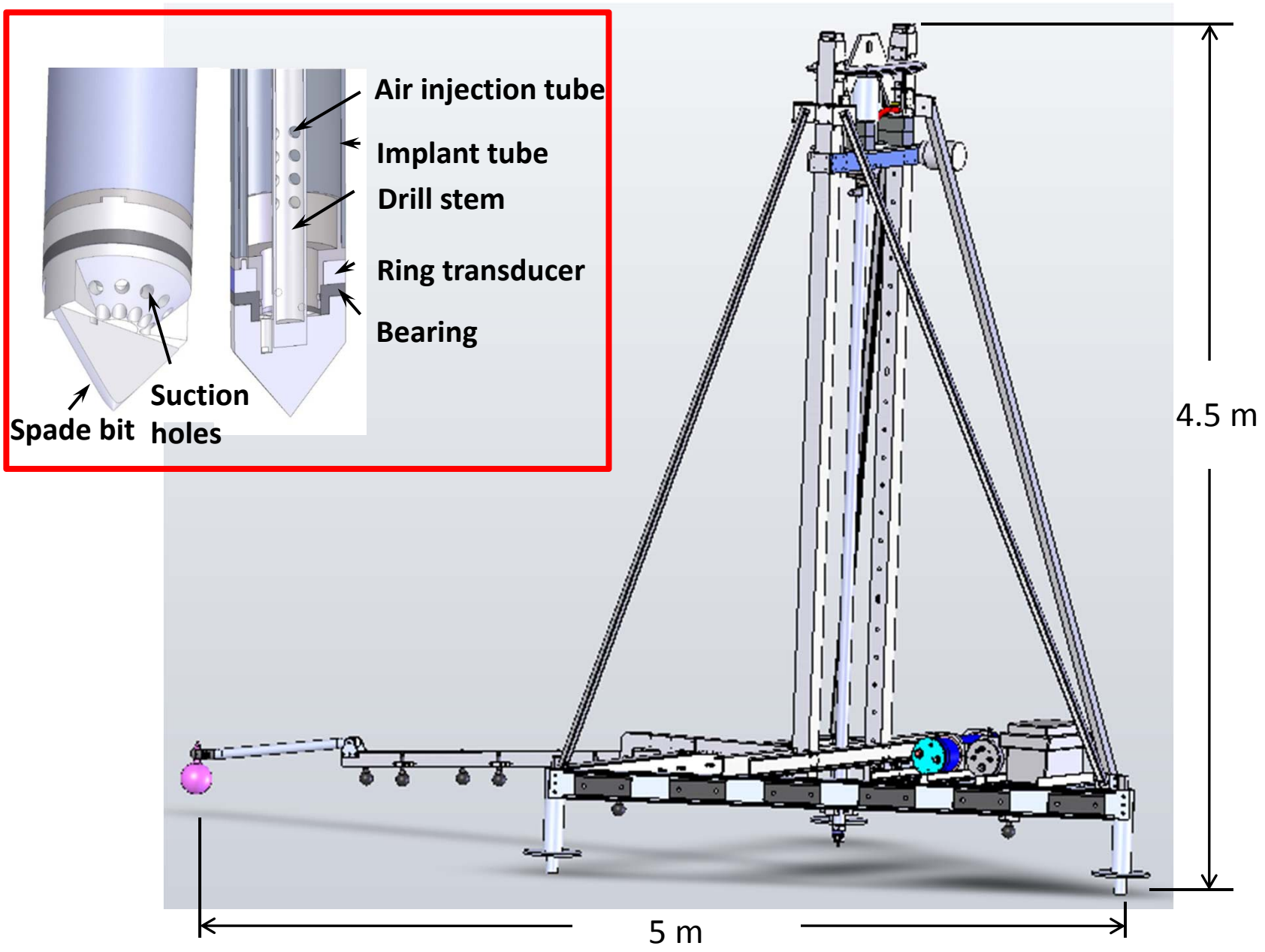
APL-UW

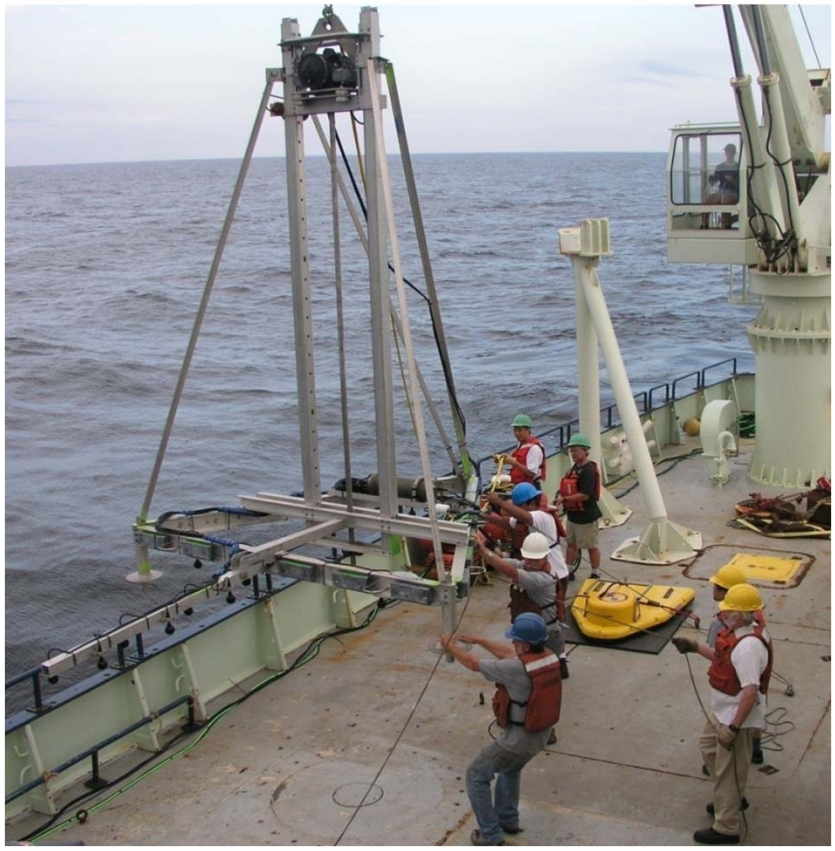
Seabed Characterization Workshop
April 5 – 6, Austin, TX


4.5 m
5 m

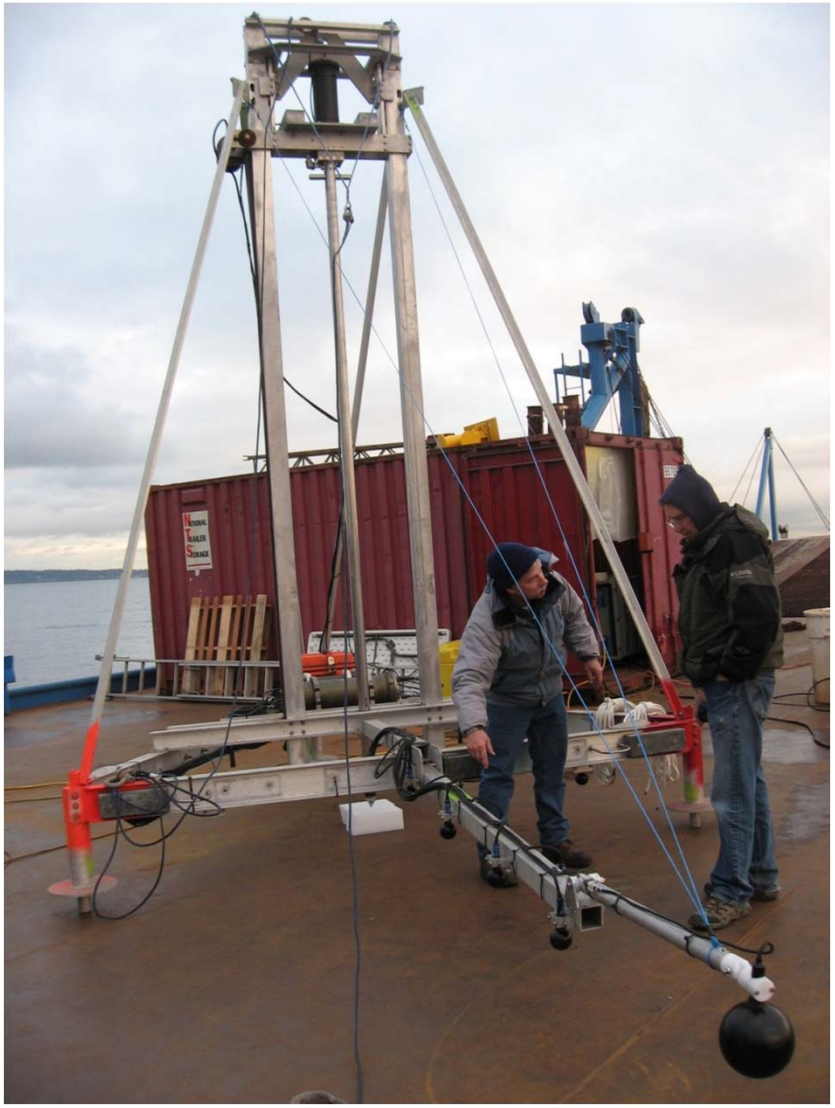

Air injection tube
Implant tube
Drill stem
Ring transducer
Bearing
Spade bit
Suction holes
4.5 m
5 m

Dimensions	Vertical: 4.5 m Horizontal: 5 m (including extension arm)
System working depth	100 m
Maximum sediment penetration	3 m
Acoustics	
Sources	Total 10 sources: 1 low-frequency source (ITC1007); 9 mid- to high-frequency sources (ITC1032)
Receiver	ITC5510 (customized ring transducer)
Frequency coverage	700 Hz – 10 kHz & 1.5 – 35 kHz
Deployment	
Ship requirement	Crane or A-frame, 20’ clearance; 12’x12’ deck size for the frame, 5’x12’ for big air compressor; dynamic positioning
No of personnel required	4 – 5
Time for deployment	0.5 – 1 hour
Time for acoustic transmission	2 – 3 hours

Shallow Water 06
SAMS 1.0



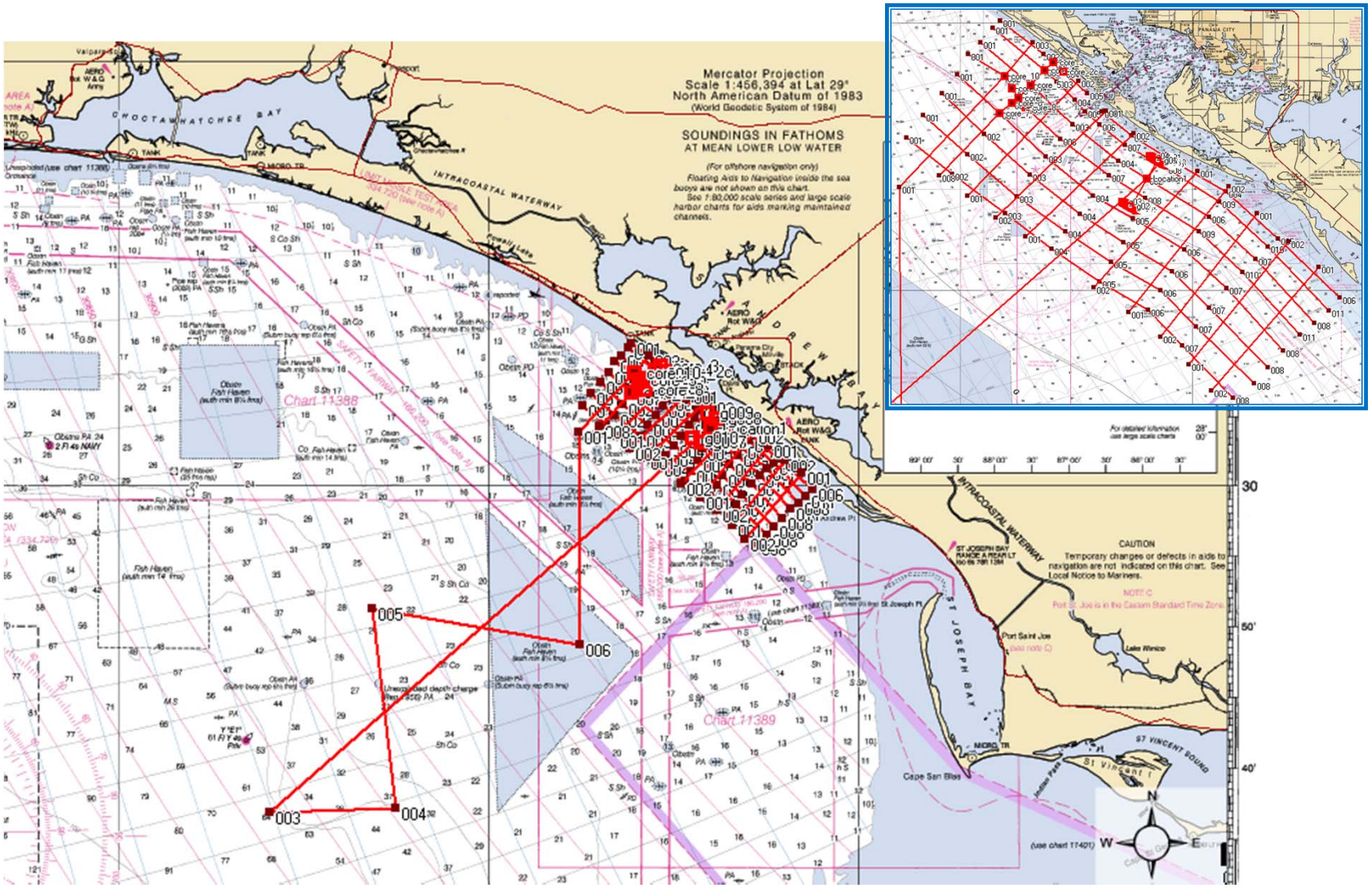
GulfEx11
SAMS 2.0



Improvements:

1. Deeper penetration (1.6 m VS 3 m)
2. Extension to low-frequency (700 Hz)
3. Sediment attenuation measurement

GulfEx11 Chirp sonar survey, vibrocores and grab samples (John Goff, April 9 – 14)



GulfEx11 backscattering experiment with supporting environmental measurements