Naval Research Laboratory
Stennis Space Center, MS 39529-5004

NRL/MR/7182--94-7554

Southeast Texas Shelf Environment Off Port Isabel, Texas for the AA2 Exercise

Bruce R. Gomes
James K. Fulford
George P. Cloy

Acoustic Simulation and Tactics Branch
Acoustics Division

March 21, 1995

Approved for public release; distribution is unlimited.

REPORT DOCUMENTATION PAGE

Form Approved
OBM No. 0704-0188

1. AGENCY USE ONLY *(Leave blank)*	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	March 21, 1995	Final

4. TITLE AND SUBTITLE

Southeast Texas Shelf Environment Off Port Isabel, Texas for the AA2 Exercise

5. FUNDING NUMBERS

Job Order No. 571563404
Program Element No. 0603254N
Project No.
Task No. H1292
Accession No. DN153426

6. AUTHOR(S)

Bruce R. Gomes, James K. Fulford, and George P. Cloy*

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)

Naval Research Laboratory
Center for Environmental Acoustics
Stennis Space Center, MS 39529-5004

8. PERFORMING ORGANIZATION REPORT NUMBER

NRL/MR/7182--94-7554

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)

Naval Air Warfare Center
Aircraft Division
Warminster, PA 18974

10. SPONSORING/MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES

*Formerly of the Naval Research Laboratory, Stennis Space Center, MS

12a. DISTRIBUTION/AVAILABILITY STATEMENT

Approved for public release; distribution unlimited

12b. DISTRIBUTION CODE

13. ABSTRACT *(Maximum 200 words)*

During the fall of 1993, the Airborne Active Adjunct and Advanced Active Sonobuoy Experiment (AA2) was conducted off Port Isabel, Texas. The shelf in this area is dominated by a 9-m layer of clay with interlayered silts, and sands. Along most of the east-west track there is a strong subbottom reflector at an average of 5 m below the seafloor. Its disappearance coincides with higher clay content. North-south track records indicate the presence of clay sediments with substrata displaying evidence of slumping, faulting, and expressions of ancestral-delta relict-sands. Geoacoustic models are derived from exercise measurements.

Oceanographic variability is due to wind induced circulation and interaction of shelf water with Caribbean Subtropical Water. A mixed layer down to 30–40 m is present with oscillations in the thermocline. Values for stability in the thermocline are used to compute a Brunt-Vaisala frequency of 0.0045 to 0.0057 Hz for internal waves. Geostrophic current velocities indicate a southwesterly 6-cm/s density driven current at the surface. Wind driven currents of 10 cm/s alternately reduce or reinforce this geostrophic flow.

14. SUBJECT TERMS

environmental/acoustic data, oceanography

15. NUMBER OF PAGES

99

16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
Unclassified	Unclassified	Unclassified	SAR

CONTENTS

SOUTHEAST TEXAS SHELF ENVIRONMENT OFF PORT ISABEL, TEXAS FOR THE AA2 EXERCISE

1.0 INTRODUCTION

The Airborne Active Adjunct (AAA) and the Advanced Active Sonobuoy (AAS) (AA2) exercise was an at-sea test of critical active source technologies being developed by the AAA and AAS programs. This document describes the environmental data collected on this test.

1.1 Background

The exercise was conducted on the edge of the continental shelf off of Port Isabel, Texas (Fig. 1). The vessel *NAWC-38*, designated as RV-1 was moored in approximately 180 m of water. It logged shipboard observations of weather conditions and collected Conductivity-Temperature-Depth (CTD) and water-current profile data. *R/V GYRE*, designated as RV-2 was used to tow an acoustic repeater along an east-west track and a north-south track. The majority of these repeater runs (R/V-2) were on the shelf along the east-west track in water depths between 40 and 200 m. RV-2 logged shipboard observations of weather conditions, and collected Expendable-Bathythermograph (XBT) casts, CTD casts, 3.5 kHz subbottom profiles, 105 kHz side-scan sonar images and bottom sediment samples. All of the environmental data collected by RV-2 other than weather and the XBT casts were collected after 1800 h Central Daylight Time, when acoustic experiments were finished for that day. RV-3, the *Acoustic Pioneer*, logged shipboard observations of weather conditions. All data was converted to Zulu (GMT) times for consistency.

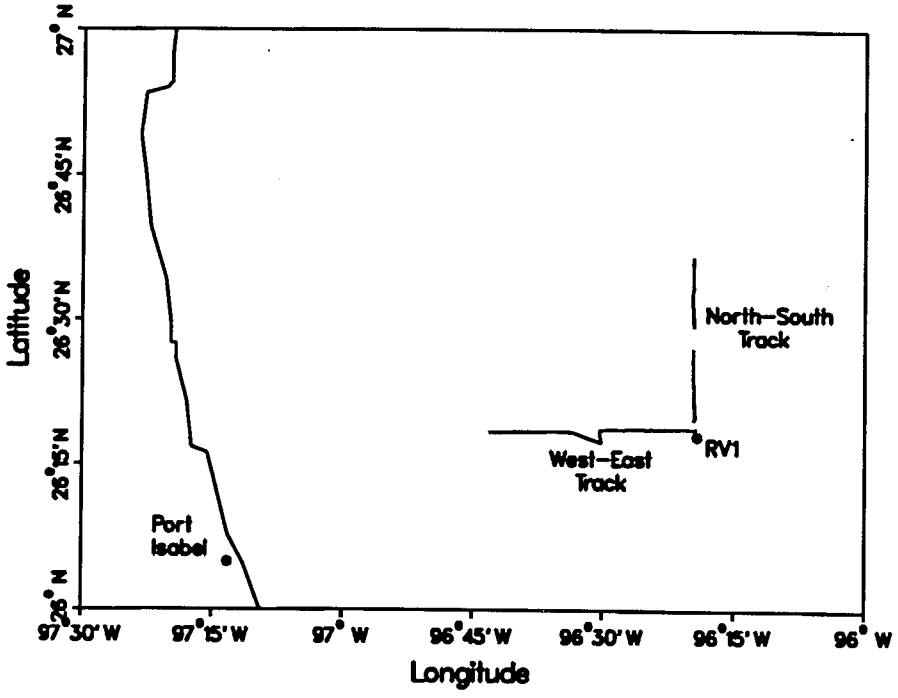


Fig. 1 Location of AA2 test.

Bathymetric data were digitized and corrected for sound speed and vessel draft. Complete analyses of sediments in combination with 3.5 kHz subbottom profiles, side-scan-sonar records, and historical core and seismic data were used to revise the geoacoustic models presented in the test plan. All water column profile data were edited and merged with salinities to produce sound speeds. All data are in EXCEL files and can be provided in Macintosh format or as ASCII files on DOS disks upon request.

2.0 BATHYMETRY, GEOLOGY, AND GEOACOUSTICS

The test site lies amid the ancient Rio Grande shelf-margin delta. The area is characterized by a thick section of Cenozoic clastics overlying Mesozoic rocks (Foote et al. 1983). The thickness of the combined Cenozoic and Mesozoic sections is estimated to be as much as 8 km. Acoustically, the most vital geology of the region is the Holocene and Pleistocene formations. Most of the southern coast of Texas is dominated by a thin (on the order of 9 m) layer of clay with fissilly interlayered silts and sands (Berryhill et al. 1987). The only significant abundances of sand are in the near shore/inner shelf (the barrier islands of which Padre island is an example), and the ancestral deltas (Mazzullo and Withers 1984) where reworked sands dominate portions of the surface giving rise to hard bottoms (Sutter and Berryhill 1985). The shape and distributions of the surficial sand areas suggest that they may have been barrier islands during the early Holocene period. The Holocene is underlain by Pleistocene Epoch, Wisconsin age sand with thicknesses varying from 50 to 200 m (Berryhill et al. 1987). Morphologically the area is dominated by slumps in water depths exceeding 90 m. The slumping is thought to have originated during the rapid deposition of sediments in the Pleistocene and early Holocene. The slumping can be divided into three regions associated with physiographic provinces. The first region lying in water depths from 60 to 100 m is characterized by a chaotic bottom and covered by recent sediments. The second region from 100 to 200 m is the surficial slide area, while the deeper water region is a series of large overlapping slumps.

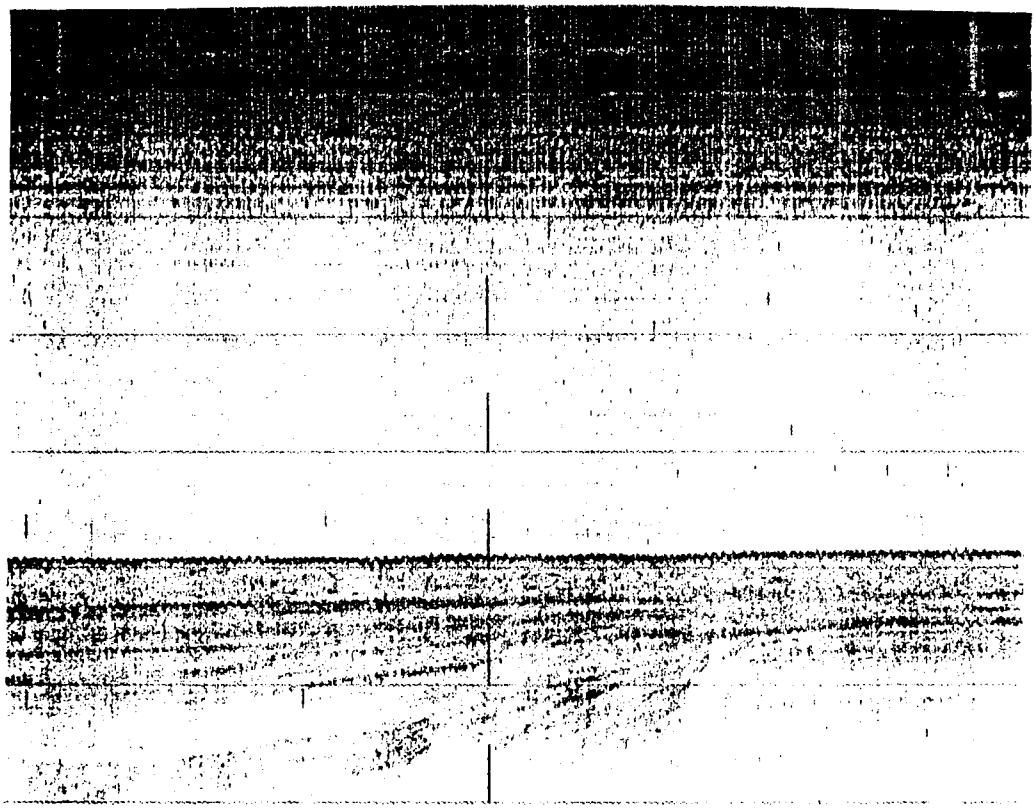
Environmental data collection for geology and geophysics is composed of 3.5 kHz subbottom profiling, side-scan-sonar images, and Shipek sediment samples. The side-scan-sonar used is an EG&G model 960 Seafloor Mapping System (SMS) which generates plan view images of the seafloor, analogous to aerial photographs of land areas. During the test, tonal changes on the side-scan-sonar record were used as indicators of changes in sediment size. These changes were used in conjunction with intensity and depth of penetration seen on the 3.5-kHz record to select sediment sample sites. Additional off-axis tracks along 120° and 160° bearings were run to collect side scan, 3.5 kHz subbottom and grab-sample data to fill in the available information on the environment around RV-1. All of these data were used in combination to piece together a description of the seabed surface and subbottom in the exercise area and is presented in the following sections.

2.1 Subbottom 3.5 kHz Profiles

The 3.5 kHz subbottom profiler produces strip chart records of water depth and subbottom layers based on an assumed sound speed of 1500 m/s (Fig. 2). The records were digitized including as many sublayers as possible, to give users an indication of the type of subbottom along the tracks. In some instances, the layers were so numerous and closely spaced that only the most prominent could be digitized with any degree of accuracy. Corrections for true sound speed in the water and vessel draft were applied to the digitized values. The depths to subbottom layers were then corrected for sound speed in the sediment. Information on the records indicating the depth of signal penetration is useful for estimating the bottom composition and sediment size/type as extrapolated from bottom samples collected at discrete locations. Generally speaking, the greater the penetration, the softer and finer the sediments. For some sections, the 3.5-kHz record displayed definite

boundaries on the penetration of the signal. These were digitized for correlation to sediment samples and side-scan-sonar records. Along much of the north-south tracks, the penetration was so great that there was no discrete penetration boundary to digitize.

(a)



(b)

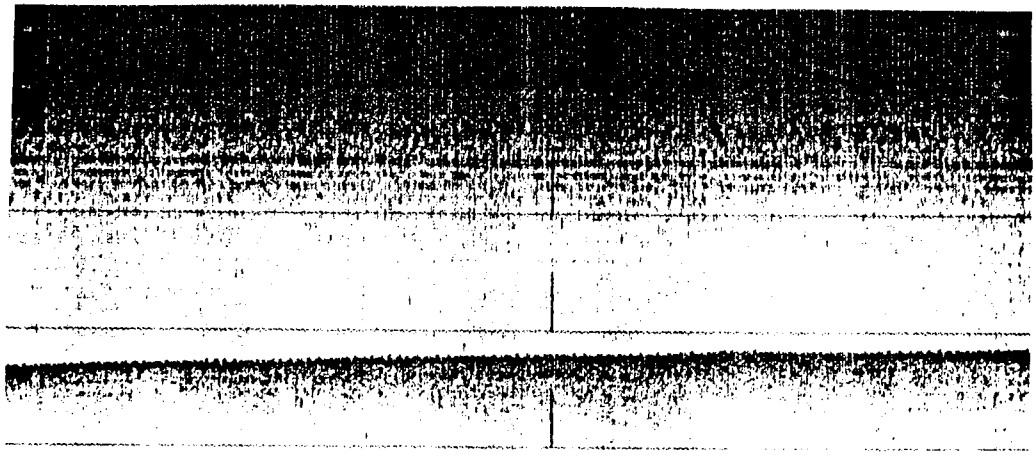


Fig. 2 Example of 3.5-kHz record showing substrata along the (a) north-south cross-slope track and the (b) east-west down/up-slope track.

Fig. 3 through 6 are plots of corrected depth versus range in nautical miles along the east-west track, the north-south track, and off-axis tracks. The range was computed using plane trigonometry on the difference in latitude and longitude in minutes with the cosine of the midlatitude conversion applied to the difference in longitude to convert to nautical miles. The seafloor in the shelf region (Fig. 3) is gently sloping, relatively smooth with bathymetry contours that run approximately north-south with shallow water to the west. Roughness is exaggerated by the scale of the plots in an effort to delineate any substrata. In Fig. 3, the subbottom profiles along the east-west track display shallow substrata indicative of high impedance sublayers overlaid with lower impedance sediments. Along most of the track there appears to be a strong subbottom reflector that averages 5 m below the sea floor. This reflector disappears intermittently in the region between 4 and 8 mi in range from RV-1 and coincides with higher propagation loss experienced during the acoustic phases of the test. In Fig. 4, the north-south track records indicate the presence of softer sediments based on deep signal penetration showing both a shallow substrata and numerous deeper layers. The deeper layers display evidence of slumping and possible faulting a that may be subsurface expressions of the relict sands of an ancestral delta. The gap in data along the middle of this track is a result of mismatch in 3.5-kHz tracks where this section was offset one-half mile to the east where water depths are some 20 to 50 m greater. Records to the west and northwest indicate a higher impedance surface layer with little substrata evident on these records. The off-axis tracks seen in Fig. 5 and 6 show the transition from this higher impedance surface layer to the softer sediments as one approaches the shelf-edge and continues to the east and southeast of the RV-1 position. Depths of the bottom and subbottom layers are provided in Appendices A, B, and C.

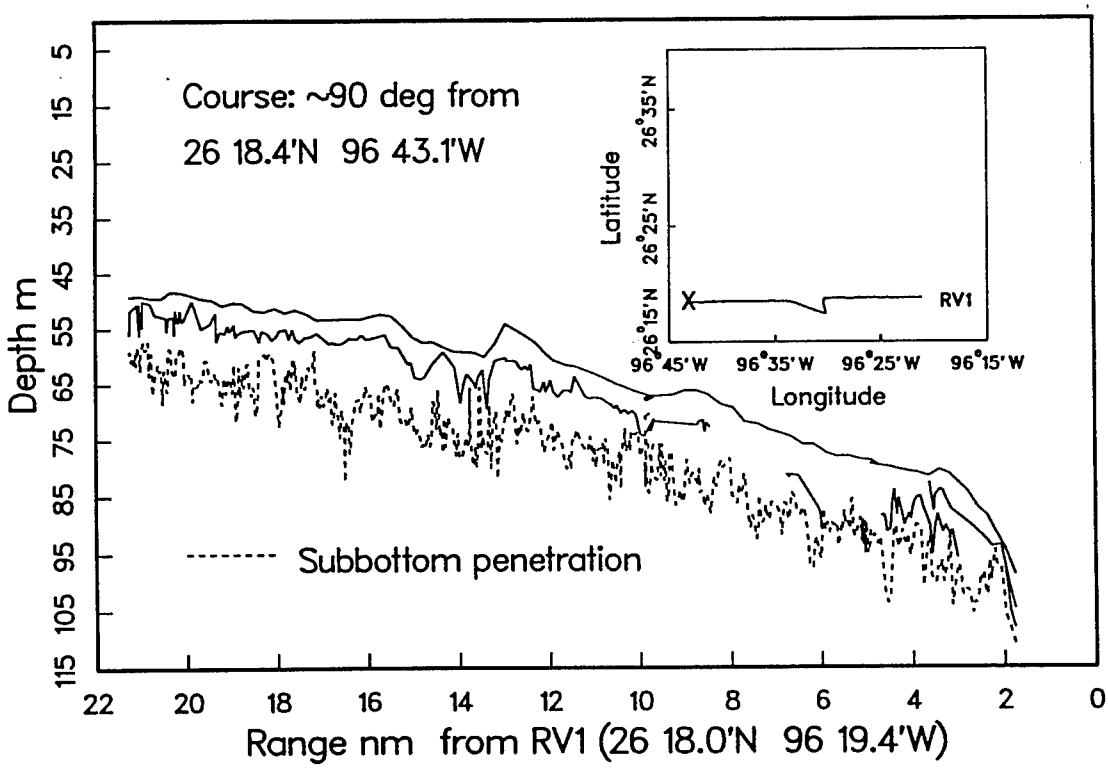


Fig. 3 Corrected bathymetry plots for the along-slope east-west track. The range is distance from the *NAWC-38* boat.

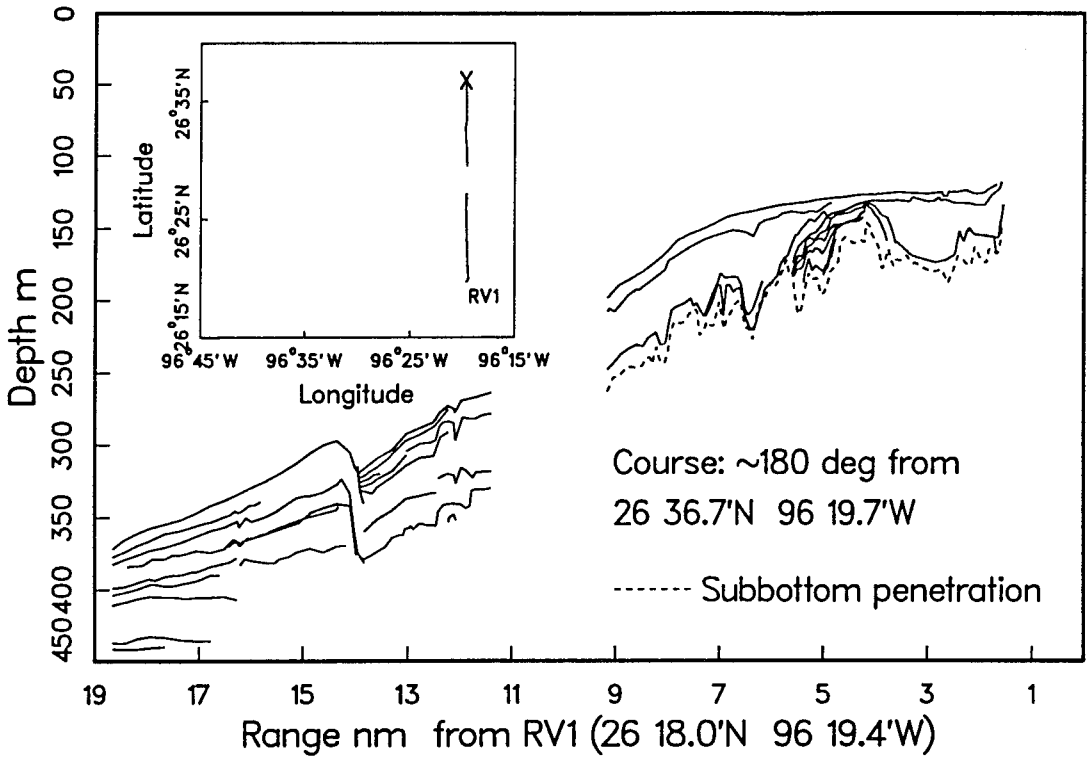


Fig. 4 Corrected bathymetry plots for the cross-slope south-north track. The range is distance from the *NAWC-38* boat.

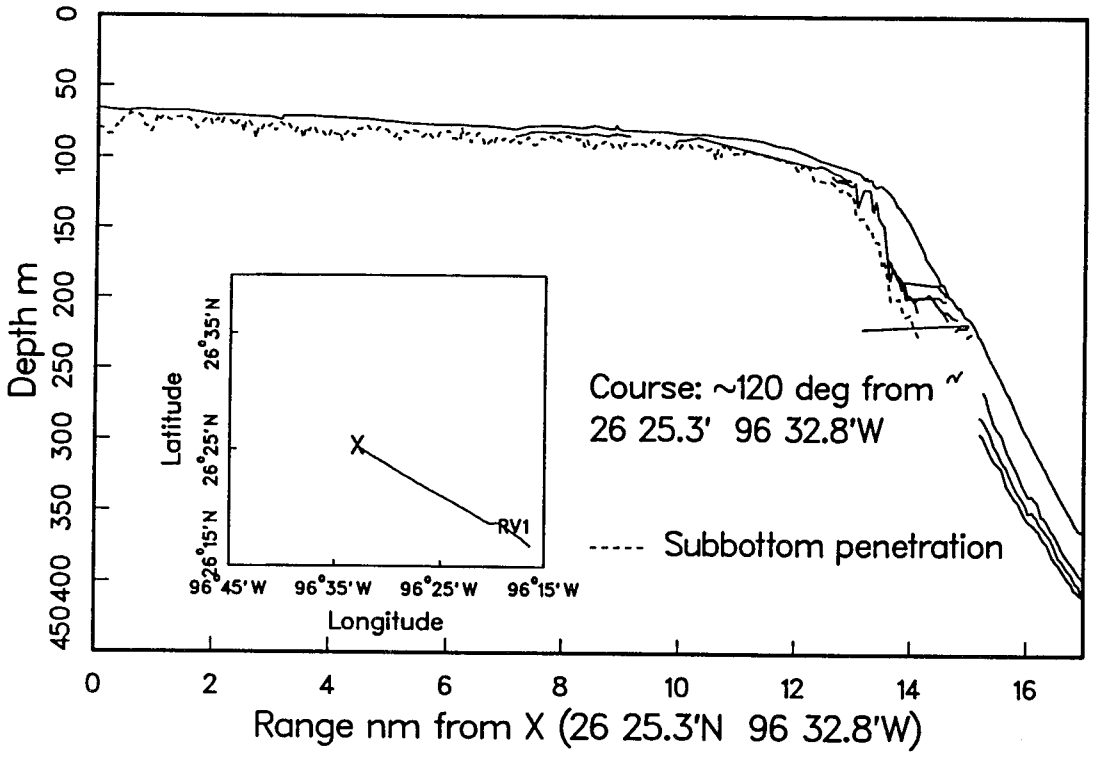


Fig. 5 Corrected bathymetry plots for the off-axis 120° track. The range is distance from the *NAWC-38* boat.

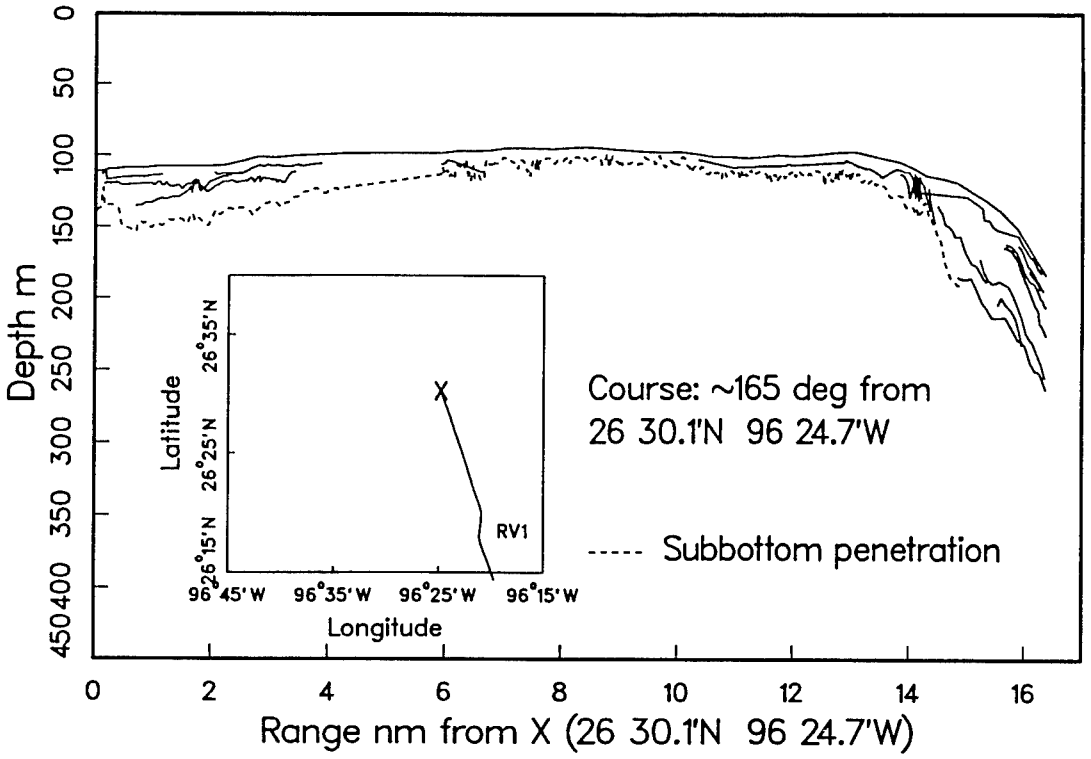


Fig. 6 Corrected bathymetry plots for the off-axis 160° track. The range is distance from the *NAWC-38* boat.

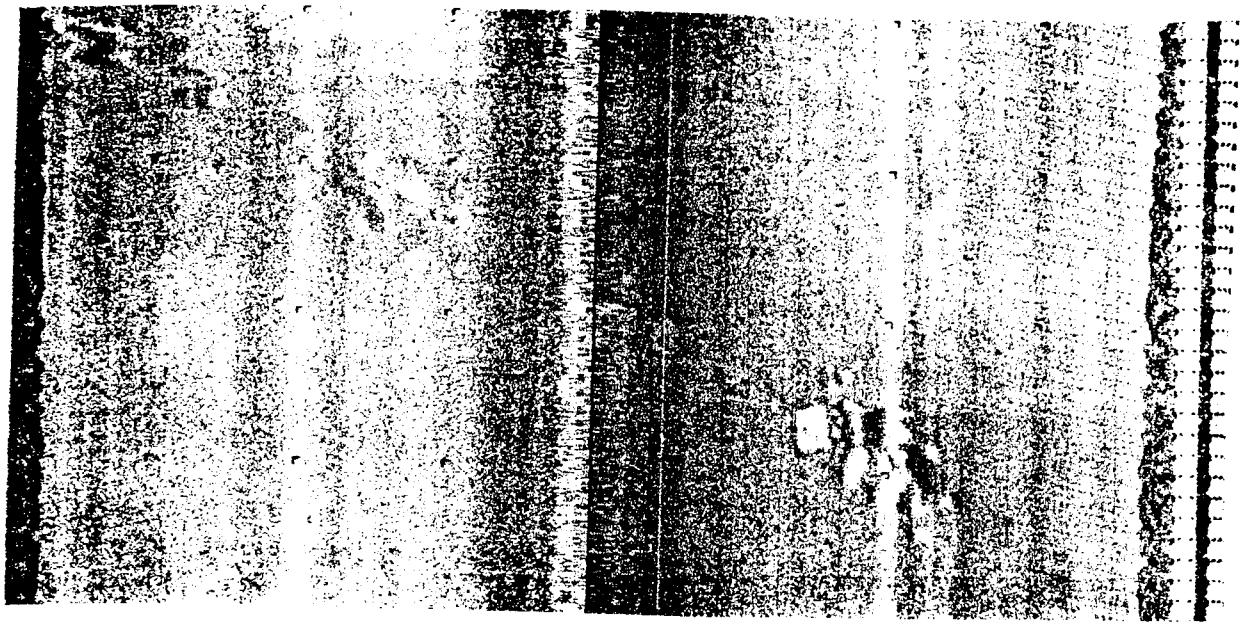
2.2 Bottom Sediments and Clutter

Side-scan-sonar records were used for sediment classification and clutter identification. The specifications of the EG&G side scan are given in Table 1. The graphic records are on electrosensitive chart rolls 20 cm wide with a solid line down the center of the map representing the tow-fish track. The map data are slant range and speed corrected such that true horizontal distance from the tow-fish track to any seafloor feature can be directly measured. For the 100-m per side range used on this test, the scale factor is 1 to 1000; therefore, 1 mm measured on the record is 1 m of actual distance. Scale markers spaced at 25 m are superimposed on the record to facilitate measurements. The record is annotated every 15 minutes with time which in conjunction with the record of cable-out, height above the bottom, and vessel position can be used to ascertain positions of bottom features. Fig. 7a is an example of the side-scan-sonar record taken from the off-axis 120°T track showing a region of protruding features on the bottom approximately 4 nmi from RV-1. Fig. 7b is taken from two sections on the east-west track showing intensity changes indicative a change in sediment type or size. The lighter top section in Fig. 7b is about 5 nmi from RV-1 along this track while the darker lower section is about 2 nmi from RV-1 and represents coarser sediments obtained in grab samples.

Table 1. EG&G side-scan specifications

Towfish	Model 272
Max. water depth	600 m
Tow speed	2-12.7 knots
Max. resolution	0.25 m
Frequency	105 kHz
Beamwidth	1.2° horizontal, 50° vertical

(a)



(b)

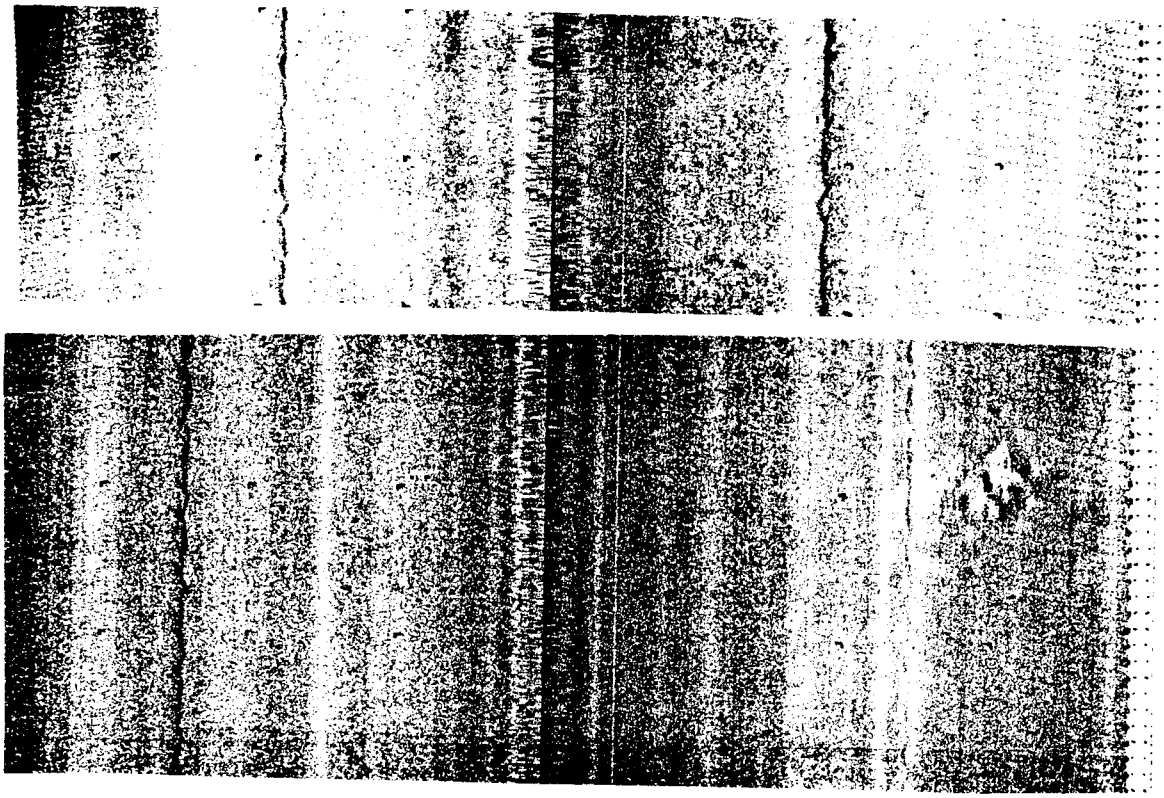


Fig. 7 (a) Side-scan-sonar record from 120°T off-axis track (b) several pieces from 1- and 5- nmi ranges along the east-west track.

A total of 33 grab samples were collected using a Shipek sediment sampler, which is reasonably resistant to sediment washout. The samples were analyzed for sediment size and composition for use in geoacoustic descriptions of the region. The south-north track sediments were comprised of predominantly clay while those along the east-west track were much coarser, containing a large percentage of sand with numerous broken shells. There are several small areas along this track that are finer in texture, containing a larger proportion of clay. Fig. 8 is a Shepard diagram showing the distribution of sediment size by percent of sand, silt, and clay. Above this plot is a listing of applicable parameters used in compiling geoacoustic models for the test area. Sediment sound speed at the water-sediment interface (0.0-m depth) is determined by multiplying the applicable in situ bottom water sound speed (Vw) times the relative sediment sound speed (Vo). Sediment sound speed at the depths in column one of Tables 2-7 are obtained from the equation of Hamilton (1980) for compression wave velocity. Sound attenuation in decibels per meter, at a given frequency and depth, is equal to the attenuation constant for the applicable depth times the frequency in kilohertz.

Sediment size/composition	Velocity ratio Vo	Density	Attenuation
SHELLY SAND	1.080	1.650	0.35
SAND	1.145	1.772	0.35
CLAYEY SAND	1.050	1.600	0.10
SANDY CLAY	1.020	1.596	0.20
SILTY CLAY	1.014	1.550	0.10
CLAY	0.980	1.451	0.06

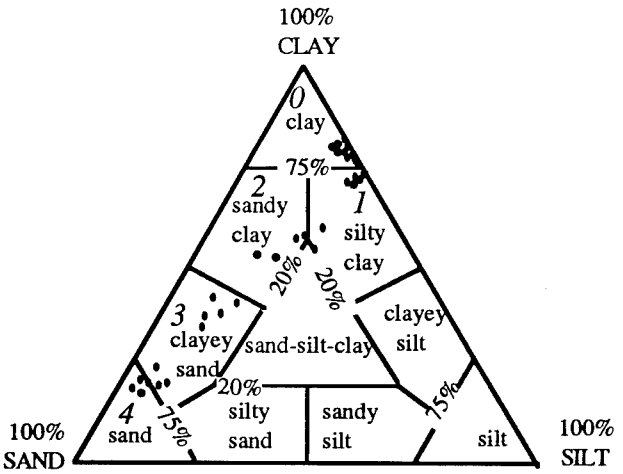
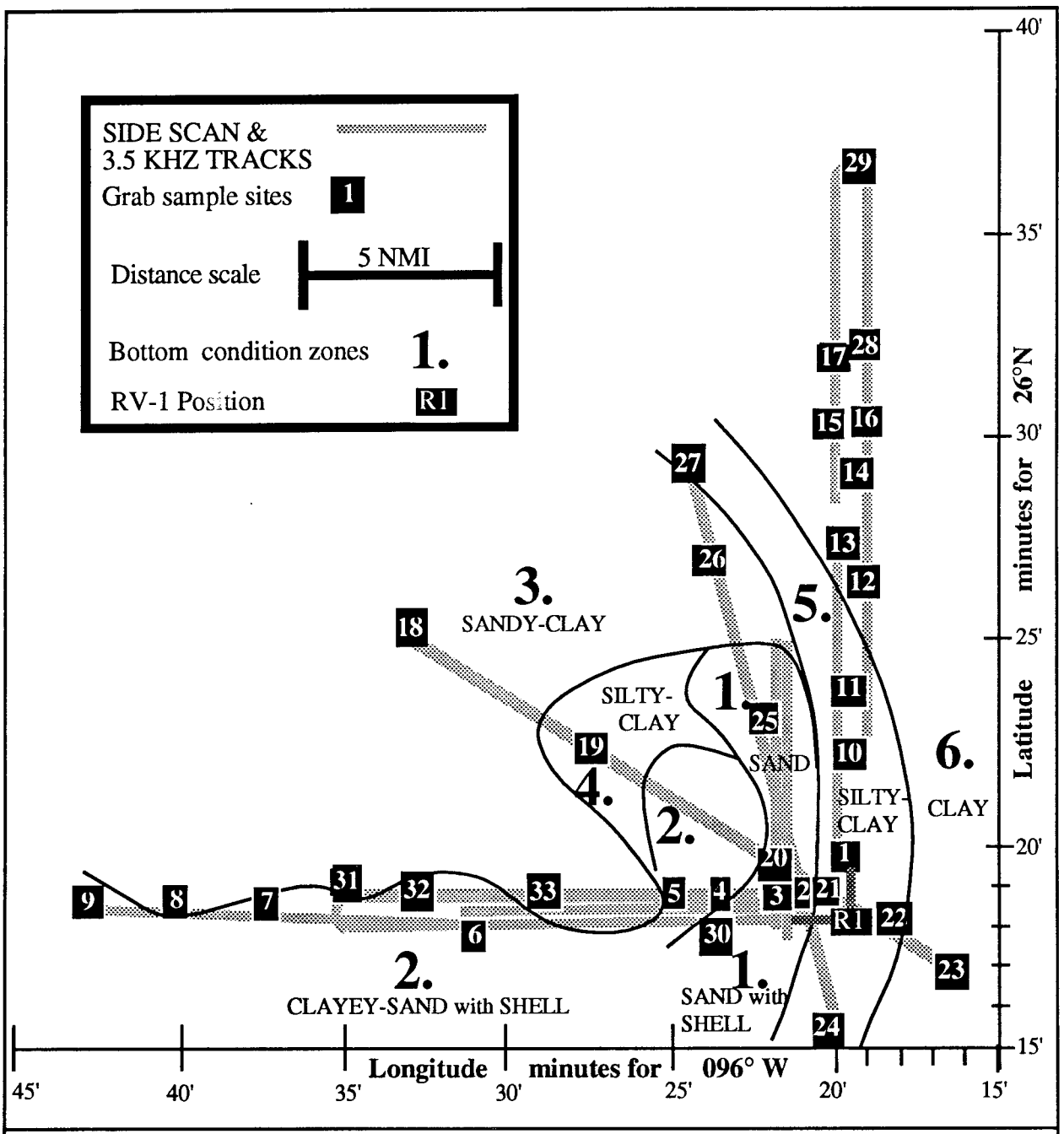


Fig. 8 Shepard diagram with sediment samples plotted and geoacoustic parameters.

Fig. 9 is a plot of side-scan-sonar and 3.5-kHz tracks, and grab sample locations. Grab samples 5 and 31 are the only ones along this track not containing a noticeable amount of shell while samples 8 and 33 had only a trace of small pieces. These sections of the side-scan-sonar record were also lighter indicating a weaker backscattering strength. Samples 31 and 32 taken at about 13 nmi out along the northern side of the east-west track are on opposite sides of a fairly strong change in record tone. At this location there was a definitive line where the side-scan-sonar record changed to a much lighter tone indicating a rapid change in sediment type. This change was confirmed by the grab samples. Appendix D gives the grab-sample positions and sediment-size analysis (Kekko et al. 1994).



Bottom condition zone descriptions

ZONE 1.
medium side scan, numerous dark patches, sand, may have a lot of shell, little 3.5 kHz penetration

ZONE 3.
medium side scan indicating sandy-clay, little 3.5 kHz penetration

ZONE 2.
medium side scan return, numerous shallow depressions, clayey-sand with shell, little 3.5 kHz penetration

ZONES 4., 5. &6.
lighter side scan: clay or silty-clay, > 60 meters 3.5 kHz penetration, significant subsurface structure

Fig. 9 Bottom conditions along side-scan-sonar, 3.5-kHz, and grab-sample tracks.

2.3 Geoacoustic Environment

Because higher frequency acoustic energy will not penetrate the sediment to any great degree, the surficial sediment layer becomes more dominant in bottom loss. In the case of this test, it is questionable whether the substrata seen on the 3.5-kHz records at depths of 60 m below the seafloor will impact on multipath returns for anything other than the broadband sources. The increasing spreading loss in increasing water depths in combination with high-loss clay sediments along the north-south cross-slope track, is a likely cause for high propagation-loss and low range-capability on this track. Similarly, the change from sand sediments with shell to clayey-sand and sandy-clay at approximately 5-mi from RV-1, should result in noticeable differences in propagation because the shell makes a very good reflector while the finer sediments are more lossey.

Geoacoustically the area has been divided into six zones delineated in Fig. 9. The geoacoustic properties of the six zones are provided in Tables 2 through 7. The geoacoustic parameters and zones boundaries reflect a melding together of surficial sediment analysis from grabs, side-scan-sonar delineations, layer thickness from the 3.5-kHz profiles, and short cores from nearby regions reported in the literature. Each of the six zones share the Wisconsin age sand as acoustic basement. Zones 1 and 2 have surficial layer down to 5 to 10 m consisting of a Holocene sand with a homogeneous layer of Wisconsin age sand down to a depth of 100-m. Zones 3-5 are intermediate layers where the percentage of surficial sand or silt is between 25 and 50 percent. The Holocene is selected to 15 m thick in zone 3, with a 100 m layer of Wisconsin age sand beneath it. The silty clay surficial sediments in zone 4 are expected to be thinner than those of zone 5 based on 3.5-kHz records and expected sediment sequences found on the shore side of relic deltaic/barrier island sand regions. Zone 6 is characteristic of south Texas coast outside of deltaic regions, it consists of a fine-grained mud of thickness 20 m overlying a 100 m of Holocene and Wisconsin age silt and sand. Geoacoustic models were used to compute bottom loss versus grazing angle. Tables of these values along with plots are provided in Appendix F.

Table 2. Geoacoustic parameters for zone 1, using a water velocity of 1531 m/s for 55-m mean water depth.

Depth(m)	Speed (m/s)	Velocity Ratio Vo	Attenuation (dB/m-kHz)	Density (g/cm^{-3})
0	1653.5	1.08	0.35	1.65
4.95	1659.7	1.08	0.35	1.65
5	1759.2	1.145	0.35	1.7
19.95	1777.8	1.145	0.35	1.7
20	1777.8	1.145	0.31	1.82
35	1796.2	1.145	0.31	1.82
49.95	1814.4	1.145	0.31	1.82
50	1814.4	1.145	0.28	1.83
75	1844.2	1.145	0.28	1.83
99.95	1873.6	1.145	0.28	1.83
100	1873.6	1.145	0.23	1.84

Table 3. Geoacoustic parameters for zone 2, using a water velocity of 1531 m/s for 55-m mean water depth.

Depth(m)	Speed (m/s)	Velocity Ratio Vo	Attenuation (dB/m-kHz)	Density (g/cm^{-3})
0	1607.5	1.05	0.2	1.6
4.95	1613.8	1.05	0.2	1.6
5	1659.7	1.08	0.35	1.65
9.95	1665.9	1.08	0.35	1.65
10	1765.5	1.145	0.33	1.77
24.95	1784.0	1.145	0.33	1.77
25	1784.0	1.145	0.31	1.8
40	1802.3	1.145	0.31	1.8
54.95	1820.4	1.145	0.31	1.8
55	1820.4	1.145	0.28	1.81
80	1850.1	1.145	0.28	1.81
104.95	1879.3	1.145	0.28	1.81
105	1879.3	1.145	0.23	1.83

Table 4. Geoacoustic parameters for zone 3, using a water velocity of 1525 m/s for 85-m mean water depth.

Depth(m)	Speed (m/s)	Velocity Ratio Vo	Attenuation (dB/m-kHz)	Density (g/cm^{-3})
0	1555.5	1.02	0.2	1.6
4.95	1561.7	1.02	0.2	1.6
5	1607.5	1.05	0.2	1.6
9.95	1613.7	1.05	0.2	1.6
10	1659.5	1.08	0.35	1.65
14.95	1665.6	1.08	0.35	1.65
15	1764.8	1.145	0.35	1.7
24.95	1777.1	1.145	0.35	1.7
25	1777.1	1.145	0.33	1.8
40	1795.4	1.145	0.33	1.8
54.95	1813.5	1.145	0.33	1.8
55	1813.5	1.145	0.28	1.81
80	1843.3	1.145	0.28	1.81
104.95	1872.5	1.145	0.28	1.81
105	1872.5	1.145	0.23	1.83

Table 5. Geoacoustic parameters for zone 4, using a water velocity of 1527 m/s for 75-m mean water depth.

Depth(m)	Speed (m/s)	Velocity Ratio Vo	Attenuation (dB/m-kHz)	Density (g/cm^{-3})
0	1548.4	1.014	0.15	1.55
2.45	1551.5	1.014	0.15	1.55
2.5	1682.8	1.1	0.35	1.65
4.95	1685.9	1.1	0.35	1.65
5	1754.7	1.145	0.35	1.65
15	1767.1	1.145	0.35	1.65
24.95	1779.4	1.145	0.35	1.65
25	1779.4	1.145	0.33	1.77
40	1797.7	1.145	0.33	1.77
54.95	1815.8	1.145	0.33	1.77
55	1815.8	1.145	0.28	1.81
80	1845.6	1.145	0.28	1.81
104.95	1874.8	1.145	0.28	1.81
105	1874.8	1.145	0.23	1.83

Table 6. Geoacoustic parameters for zone 5, using a water velocity of 1511 m/s for 200-m mean water depth.

Depth(m)	Speed (m/s)	Velocity Ratio Vo	Attenuation (dB/m-kHz)	Density (g/cm^{-3})
0	1532.2	1.014	0.1	1.55
5	1538.4	1.014	0.1	1.55
9.95	1544.6	1.014	0.1	1.55
10	1674.6	1.1	0.35	1.65
20	1686.9	1.1	0.35	1.7
30	1699.2	1.1	0.33	1.77
40	1711.4	1.1	0.33	1.77
49.95	1723.5	1.1	0.33	1.77
50	1791.5	1.145	0.31	1.8
54.95	1797.5	1.145	0.31	1.8
55	1797.5	1.145	0.28	1.81
80	1827.2	1.145	0.28	1.81
104.95	1856.4	1.145	0.28	1.81
105	1856.4	1.145	0.23	1.83

Table 7. Geoacoustic parameters for zone 6, using a water velocity of 1504 m/s for 300-m mean water depth.

Depth(m)	Speed (m/s)	Velocity Ratio Vo	Attenuation (dB/m-kHz)	Density (g/cm^{-3})
0	1473.9	0.98	0.06	1.45
10	1486.4	0.98	0.06	1.45
19.95	1498.7	0.98	0.06	1.45
20	1549.9	1.014	0.1	1.55
29.95	1562.2	1.014	0.1	1.55
30	1691.5	1.1	0.35	1.65
39.95	1703.7	1.1	0.35	1.65
40	1703.7	1.1	0.33	1.77
44.95	1709.7	1.1	0.33	1.77
45	1777.4	1.145	0.31	1.8
54.95	1789.5	1.145	0.31	1.8
55	1789.5	1.145	0.28	1.81
80	1819.2	1.145	0.28	1.81
104.95	1848.4	1.145	0.28	1.81
105	1848.4	1.145	0.23	1.83

3.0 OCEANOGRAPHY

3.1 Water Masses and Water Column Structure

The oceanography of the east Texas shelf area can be divided into two geographic regimes: the area along the continental slope and outer shelf and the basinal environment. In shelf/slope environments, many of the currents and water column characteristics can be attributed to wind-driven circulation. Wind-stress effects can result from both local forcing and remote forcing hundreds of miles away. These wind stress mechanisms assume a major role in causing variability.

The basinal environment of the Gulf of Mexico is primarily controlled by the Loop Current, which enters the Gulf of Mexico through the Yucatan Channel and extends northerly and easterly in a wide loop introducing high salinity water (greater than 36.3 ppt) before exiting the gulf via the Florida Strait. Loop Current water, formed at the surface in the Caribbean Sea, sinks beneath and mixes with less dense gulf waters as it is carried northwards forming the Caribbean Subtropical Underwater water mass with a distinctive salinity maximum at depths between 100 and 300 m (Fig. 10). The distribution at depths where maximum salinity occurs is related to the flow regime in the gulf. This pattern includes the loop-like flow thus termed the Loop Current plus some clockwise motion over the central-western Gulf. Surface waters in the western gulf are typically warm and high in salinity (36.5 ppt) because of high evaporation rates. These high salinities in combination with mixing tend to reduce or completely mask the Caribbean Subtropical Underwater water mass salinity maxima in this region.

While spatial variability of the surface waters is dominated by summer heating, shallower water depths on the shelf result in a relatively rapid response to local air-sea heat energy exchange processes. Wave mixing and convective overturning can quickly homogenize the water column from top to bottom. Near the coast, salinities decrease because of runoff from rivers; however, the surface layer beyond 40 km is relatively isohaline during the fall. Temperature data suggest a dominant annual cycle at all depths

over the inner shelf and through approximately the upper 80 m over the outer shelf. In the near-bottom layers over the outer shelf, temperature variations appear to occur over much shorter time scales and they are most likely associated with vertical motions in the top of the permanent thermocline, which could be a result of internal waves or meteorological forcing (Smith 1980). Thus, significant variations in temperature may occur over time scales of several hours to several days.

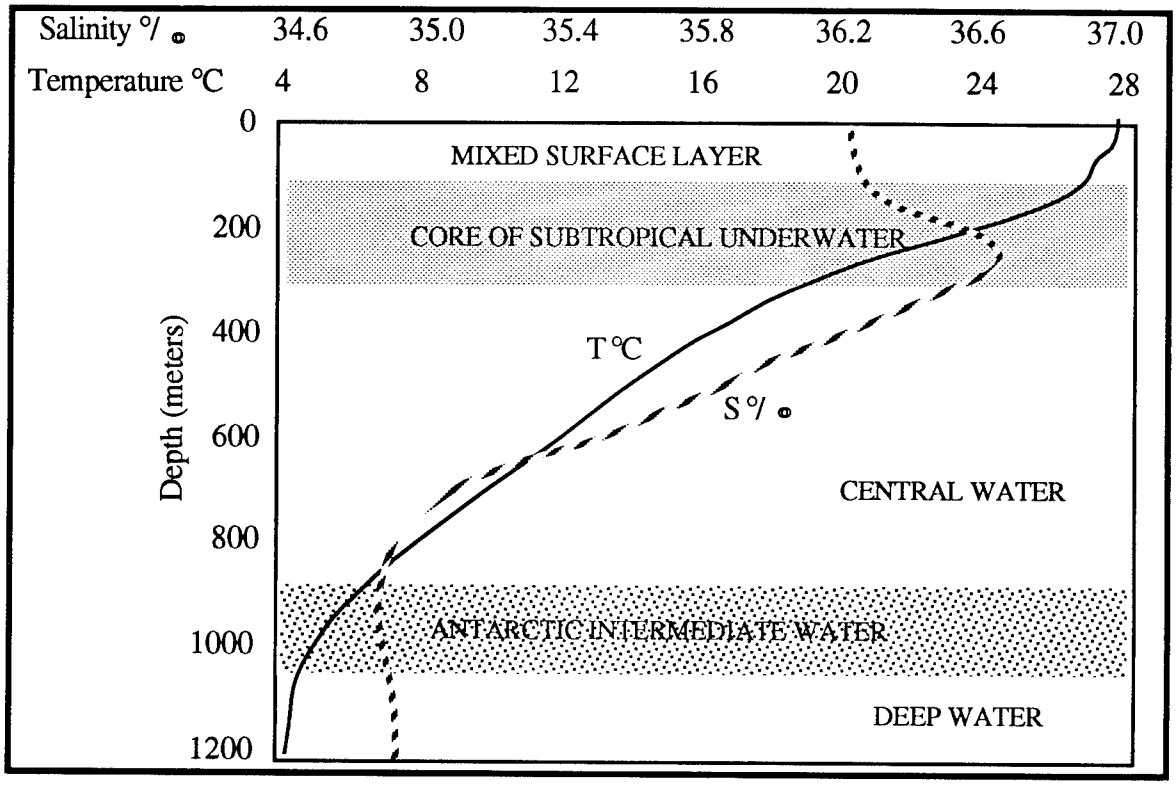


Fig. 10 Characteristic water masses and temperature and salinity profiles for basinal Gulf of Mexico environment after Nowlin (1971).

The oceanographic environmental data collected aboard RV-2 consisted of expendable bathythermograph (XBT) profiles, conductivity-depth-temperature (CTD) profiles, sea-surface "bucket" temperatures, and sea-surface temperature and salinity logged at 5-min intervals by the RV-2 SAIL system. The XBTs used were Sippican T4 and T10 probes, while the CTD was a SeaBird SBE-19. Specifications for the XBTs and Seabird CTD are given in tables 8 and 9, respectively. XBT and CTD measurements were taken along the east-west and north-south test tracks, as well as at several off-axis positions, to characterize any oceanographic variability present within the area. A total of 40 XBT casts and 7 CTD casts were collected by RV-2. Fifty-five CTD observations were collected by RV-1 while anchored. The casts were collected utilizing an Ocean Sensors S4 current meter that is augmented with CTD sensors. Both the downcast and upcast data were recorded. The positions of cast data collected by both vessels are shown in Fig. 11. Dates that casts were collected are summarized in Table 11. All profiles were corrected for near surface temperature using bucket temperatures, edited for spikes, interpolated to 1 m depths and decimated to selected standard depths for analysis and display. The near surface XBT and CTD temperatures are unreliable because of differences in ambient atmospheric and oceanographic conditions, surface wave conditions, and response times of the instruments.

Overplots of temperature profiles collected by RV-1 and RV-2 are shown in Fig. 12. The RV-1 profiles are from one location taken at approximately 4-hr intervals, while the RV-2 profiles are from numerous locations around the test area. Because the temperature spread on the stationary RV-1 profiles is comparable to the spread on the non-stationary RV-2 profiles, it appears that most of the variability in the test area is temporal in nature. The temperature profiles exhibit fluctuations on the order of 1 °C over the entire water column within a 6-hr period or shorter. At times the temperature varies between successive casts by as much as 2 °C at the bottom of the water column.

Both sets of profiles were entered into a cluster analysis routine developed by Audet and Vega (1974) to produce a representative model profile. The routine selects a profile based on surface value, layer depth, value and gradient, below layer gradient, and subsurface minimum and maximum. The profile selected is supplemented with mean values below its maximum depth. The mean temperature profiles for RV-1 and 2 are listed in Table 11 along with the spread at the selected depths. As is evident from this table, the standard deviation is low at all depths with less than 0.5 °C standard deviation over the entire water column, and the profiles from each vessel are very close to being identical (Fig. 13). As shown in Fig. 13, each of the profiles displays a mixed-layer depth of approximately 40 m followed by a strong thermocline that extends to the seafloor, which is in general agreement with historical temperature data showing layer depths of 30 to 60 m present above a permanent thermocline extending to approximately 100-200 m.

Table 8. XBT Specifications

Depth Resolution: 60 cm
System Accuracy: 0.2°C
Resolution: 0.1°C
Range: -2.0°C - 38 °C

Table 9. Seabird 19 CTD Specifications

Depth	Range:0-3,400 dBar Resolution:0.015% fs
Conductivity	Range:0-70 mS/cm
	Resolution:0.0004 mS/cm
	Accuracy: ± 0.003 mS/cm
Temperature	Range: -5 - 35 °C
	Resolution:0.004 °C
	Accuracy: ± 0.0003 °C
Memory:	1024 K Bytes

Table 10. S4 current meter Specifications

Speed	Range:0-350 cm/s
	Resolution: 0.2 cm/s
Direction	Range:0-360° Resolution:0.5°
Depth	Range:0-6,000 dBar Resolution:0.1% fs
Conductivity	Range:1-70 mS/cm
	Resolution: 0.1 mS/cm
	Accuracy: ± 0.2 mS/cm
Temperature	Range: -5 - 45 °C
	Resolution:0.05 °C
	Accuracy: ± 0.2 °C

Fig. 14 is a composite plot of the CTD-derived-salinity profiles measured during the test. The increase in salinity at depth indicates the presence of the Caribbean Subtropical Underwater water mass, characterized by a salinity maximum near 100 m. Salinity from the surface to 30 m was in the range of 35.4 to 35.7 psu. Below the mixed layer, it increased to a salinity maximum of approximately 36.4 psu at 100-m depth. The salinity increase has a small effect on sound speed profile shape because the decreasing temperatures in the thermocline are the dominant parameter for sound speed. The salinity maximum does strengthen the density gradient of the pycnocline at these depths, which will reinforce any internal oscillations.

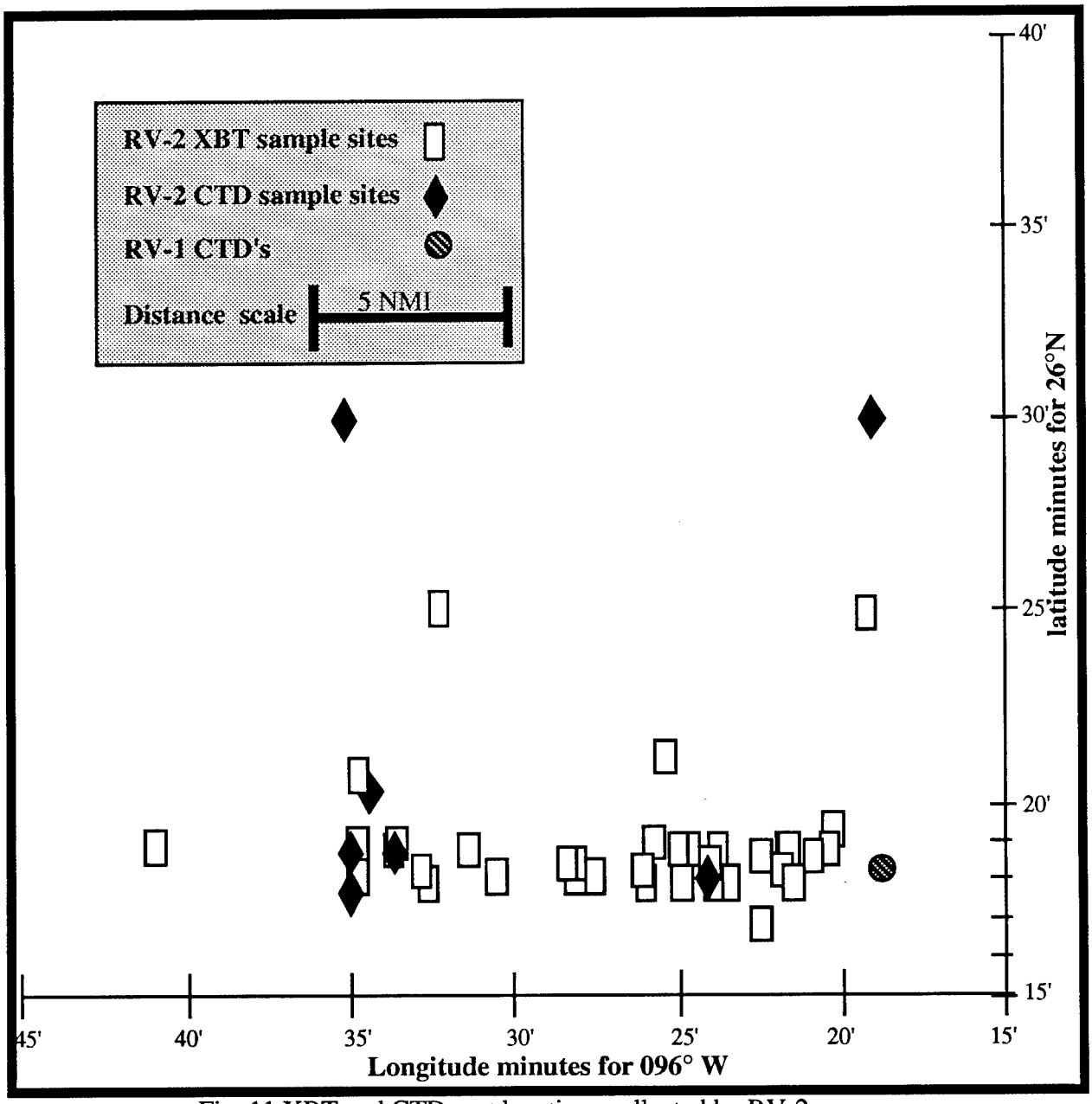


Fig. 11 XBT and CTD cast locations collected by RV-2.

In order to examine the spread in profiles seen in Fig. 12 and 14, a vertical temperature contour plot of depth versus time was produced for RV-1. The contour routine produced both 6 hr and 4 hr grids for the period of 25 September to 7 October (Julian days 268-280). Although the CTD casts from RV-1 were collected at approximately 4-hr intervals, the depth-time grid contained holes because of missing data. After the program was set to interpolate from profiles further away in time, the holes were removed without noticeable smoothing of the data. The same procedure was performed on the data from RV-2 as if the vessel were stationary based on the previous assumption that spatial variability was small. Because of some longer data gaps, the contours could not be produced for the 4-hr grid without introducing significant smoothing. The data for RV-2 also had to be extended with an exponential fit, when it came from the more shallow regions of the test area. This

resulted in some artificial contour jumps on Julian days 269 and 272. Fig. 15 and 16 are the 6 hr contour plots for RV-1 and RV-2 respectively.

Table 11. Dates of XBT and CTD casts

GMT Date 1993	RV-2 XBT Cast #	RV-2 CTD Cast #	RV-1 CTD Cast #
23 Sept			CTD 1
24 Sept			CTD 2-3
25 Sept	XBT 1-5	CTD 1 - 2	CTD 4-7
26 Sept	XBT 6-11		CTD 8-12
27 Sept	XBT 12-14		CTD 13-16
28 Sept	XBT 15-18		CTD 17-21
29 Sept	XBT 19-25	CTD 3	CTD 22-26
30 Sept	XBT 26-27		CTD 27-31
1 Oct			CTD 32-35
2 Oct	XBT 28-29		CTD 36-39
3 Oct	XBT 30 -32		CTD 40-44
4 Oct	XBT 33-34	CTD 4	CTD 45-49
5 Oct	XBT 35-36		CTD 50-54
6 Oct	XBT 37-38	CTD 5,6,7	CTD 55
7 Oct	XBT 39-40		

RV-1 RV-2

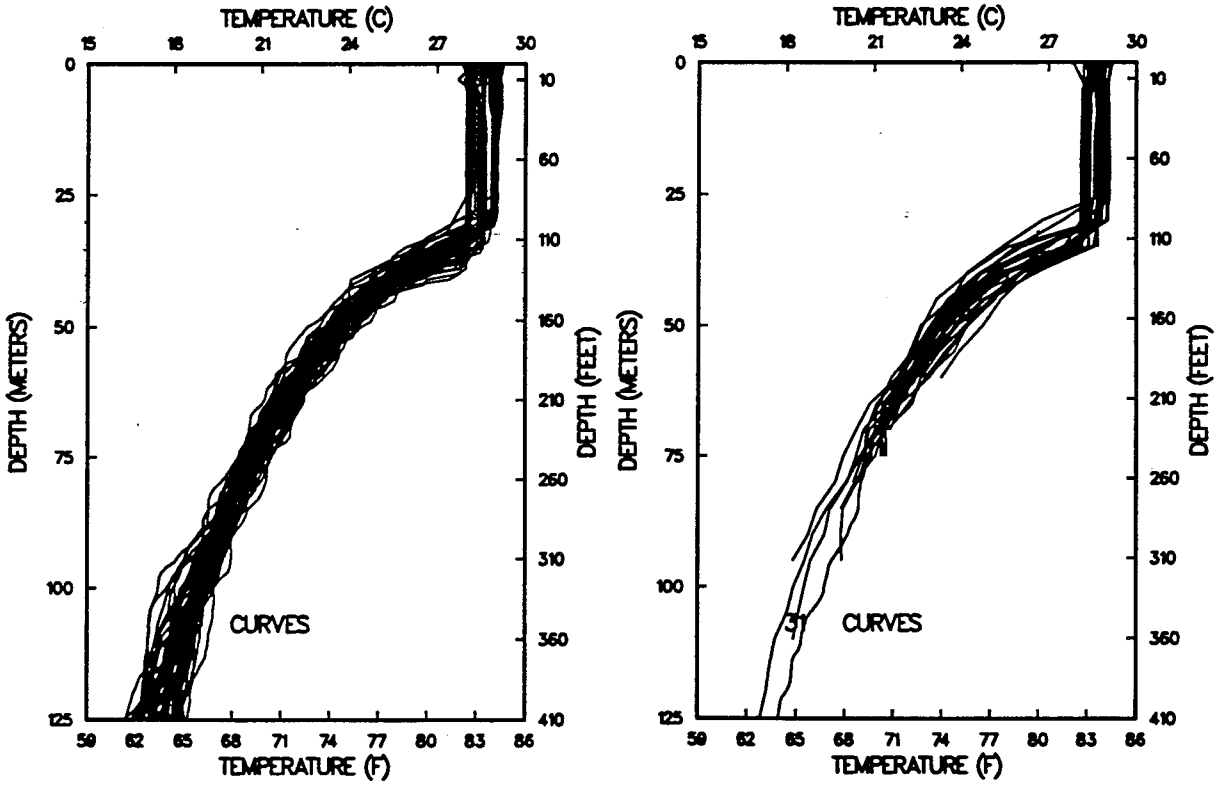


Fig. 12 RV-1 and RV-2 temperature profiles taken during September and October 1993.

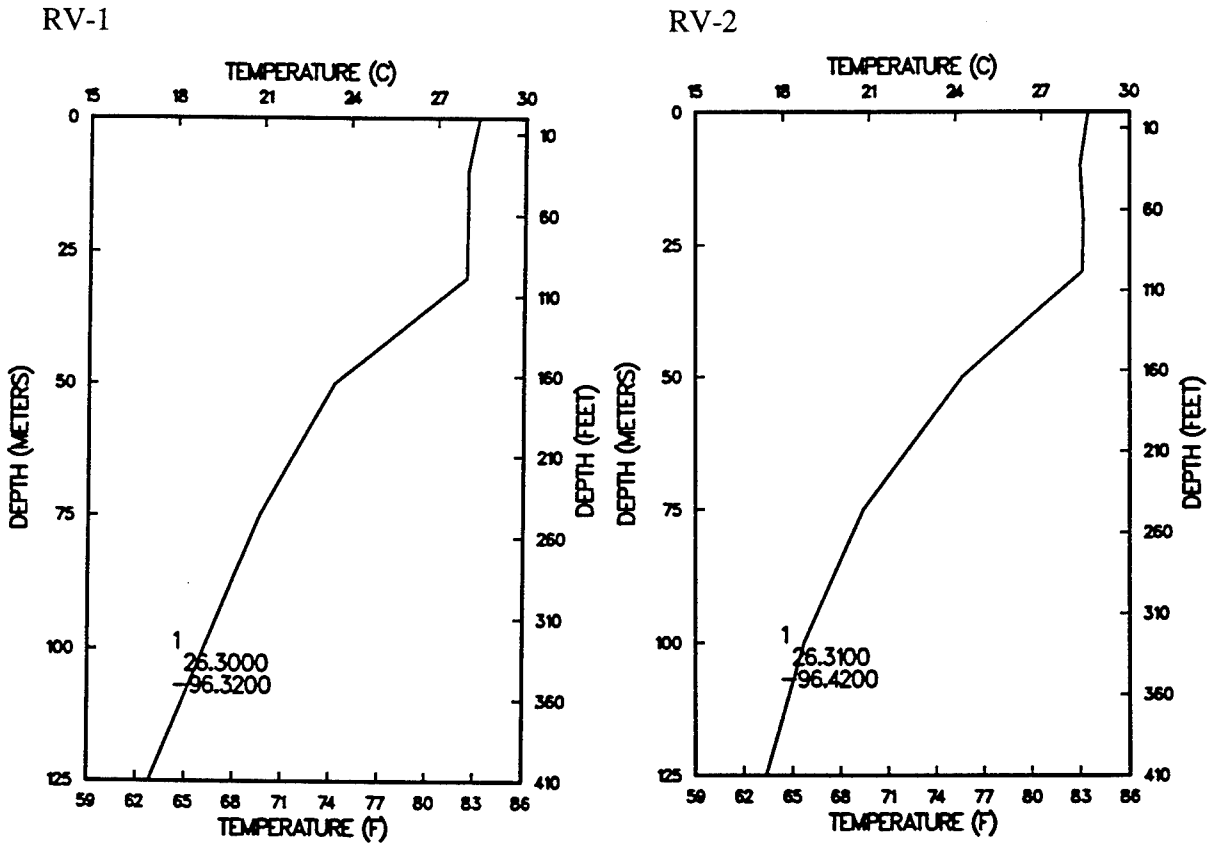


Fig. 13 RSVP derived typical temperature profiles for RV-1 and RV-2 data sets.

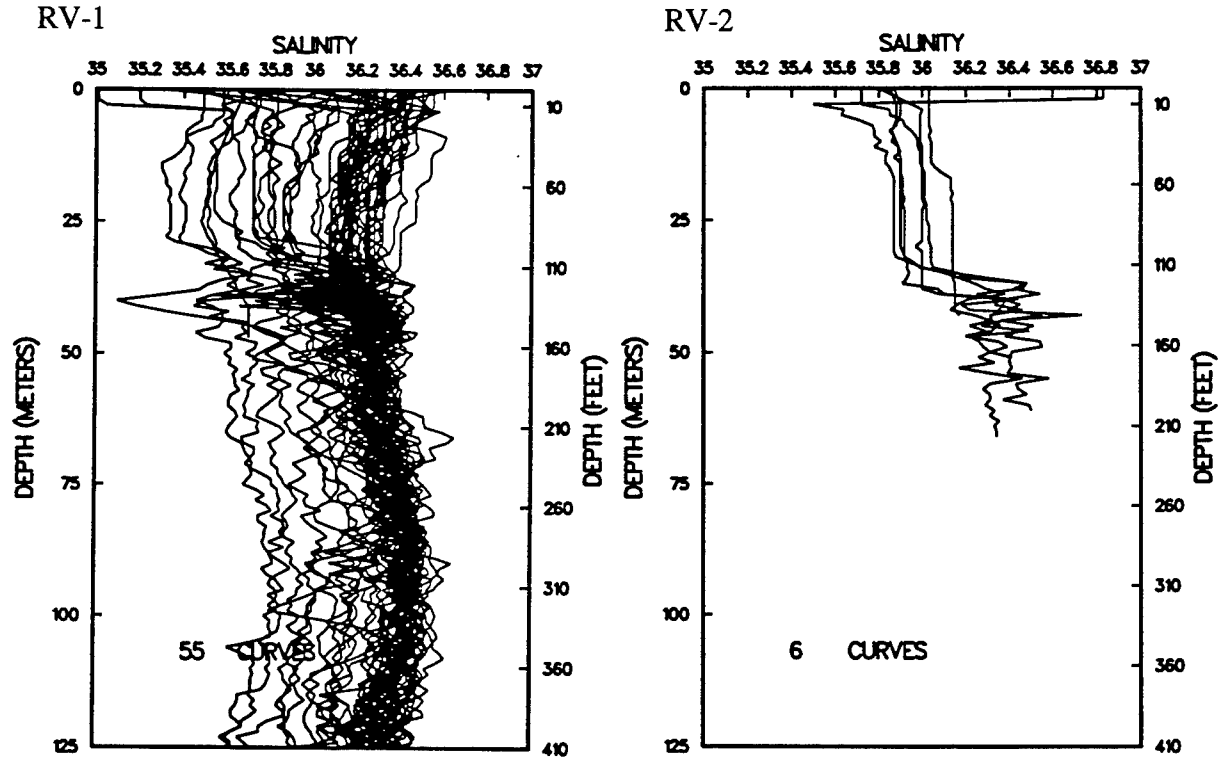


Fig. 14 RV-1 and RV-2 salinity profiles taken during September and October 1993.

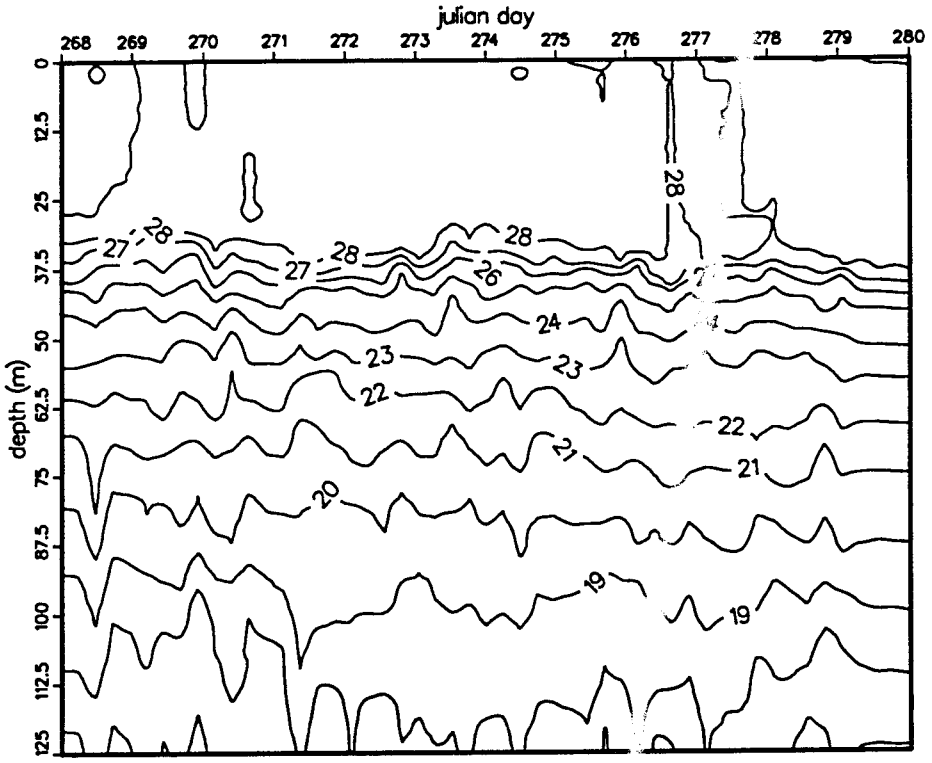


Fig. 15 Temperature contours for RV-1 CTD data collected between 25 September and 7 October 1993.

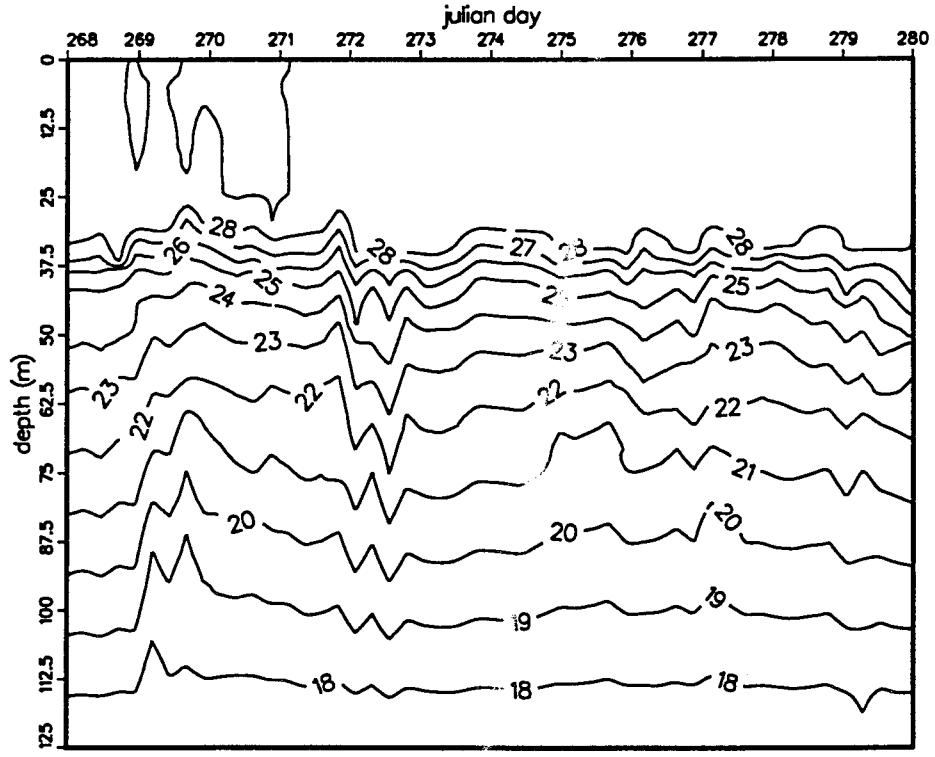


Fig. 16 Temperature contours for RV-1 CTD and XBT data collected between 25 September and 7 October 1993.

These two plots (Fig. 15 and 16), indicate that the spread in the profiles is due to a long term deepening of the mixed-layer and isotherms in the thermocline, a slight cooling of the mixed-layer as the autumn season progresses, and internal oscillations in the water column. Other than the profile extension artifacts in Fig. 16, the general downward trend in temperature contours and the mixed-layer depth is comparable in both data sets. The effects on the temperature field from heavy seas encountered from 27 to 28 September 1993 do not appear to be very substantial other than a deepening of the mixed-layer on Julian days 270-273 (27-30 September). Aside from the agreement in the overall trends; the smaller scale oscillations seen in both plots do not match.

The depth data from the 24 °C isotherm were spectrally analyzed to examine the low frequency energetics. While there is evidence of energy at the semidiurnal (12 hr), diurnal (24 hr) and inertial (27 hr) periods, no one peak stands out (Fig.17) in this low frequency region of the output. Because of the 4-hr CTD sample interval, the smallest period that can be resolved without aliasing is 12 hr. This means that the data are under sampled for resolving any period under 12 hr. Using linear wave theory and some simple estimates, we can make some calculations to see if oscillations with a 4 hr period could reasonably be expected to match at the ranges of separation between RV-1 and RV-2. In linear waves, the internal-wave speed for a shallow-water wave is equal to the surface wave speed times the square-root of the ratio of density difference to the sum of layer density. A water depth of 150 m gives a surface wave speed of about 38 m/s and an internal wave speed of approximately 1 m/s. A period of 4- to 6 hr or 14400- to 21600 s for this wave speed would result in a wave length of 14.4- to 21.6 km. This means that if the oscillations were due to a low frequency, 4- to 6 hr long period mechanism, one would expect a better agreement such that the isotherms would rise and fall in unison over the small extent (10 nmi) of most of the profile data. This indicates that the oscillations seen in Fig. 15 and 16 might be due to some higher frequency mechanism such as internal waves.

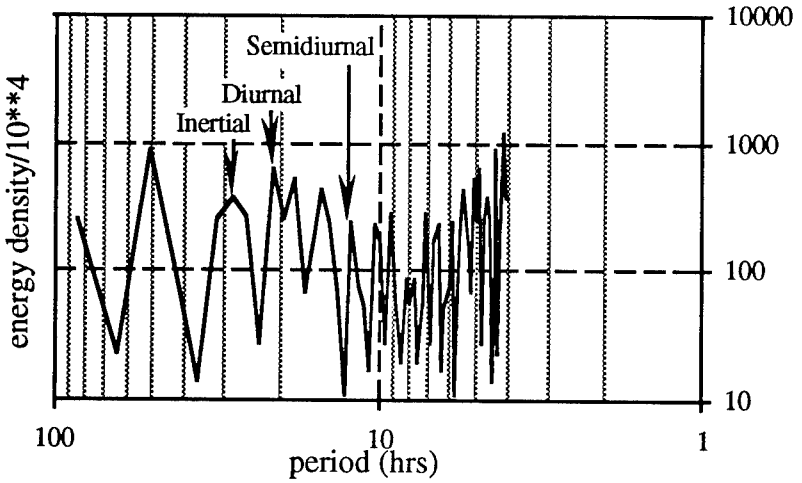


Fig. 17 Energy spectra for 24 °C isotherm from RV-1 CTD casts on 25 September to 7 October 1993.

Other evidence that tends to confirm the presence of higher frequency oscillations is the difference in the mixed-layer depth between downcast and upcast for each CTD collected by RV-1. Fig. 18 is a plot of this difference in which each cast has an arrow associated with it; the difference in mixed-layer depth is represented by the length of the arrow and the direction of change between downcast and upcast coinciding with the direction of the arrow. A cast with no change in depth of the mixed-layer is represented by a circle. The time difference is approximately 10 min between downcast at the mixed-layer

depth and upcast returning to the mixed-layer depth. If the change in layer depth were only due to a hysterisis effect where water pulled along with the instrument in combination with sensor response causes a delay between downcast and upcast, then it should always be in the same direction. But in Fig. 18, the change is quite variable in direction as well as magnitude.

The evidence indicates that internal waves are active; however, their period cannot be determined from the data available. An upper bound can be estimated to be about 5 hr. This would result in a wave length of 10 nmi which would result in uniform direction for RV-1 and RV-2 at separation distances of 5 nmi or less. A lower bound to the period for internal waves is given by the Brunt-Vaisala (or buoyancy) frequency (N). The buoyancy frequency is equal to the square root of the stability multiplied by the acceleration of gravity. The calculated stability is determined from the density gradient divided by the mean density. Values for N in the thermocline are 0.0045 to 0.0057 Hertz or approximately a 3 to 3.7 min period. A shallow-water internal wave with a 3 min period would have a wave length of 0.1 nmi. Because of these bounds, it means that for a 0.1 to 10 nmi separation between RV-1 and RV-2, there could be from 1 to 100 internal waves between the vessels for the 3-min period and up to one-half internal wave for the 5 hour period. Based on the observed nonuniform variation at ranges of 5 to 10 nmi, the internal wave period is most likely closer to the 3 to 4 min dictated by the Brunt-Vaisala frequency.

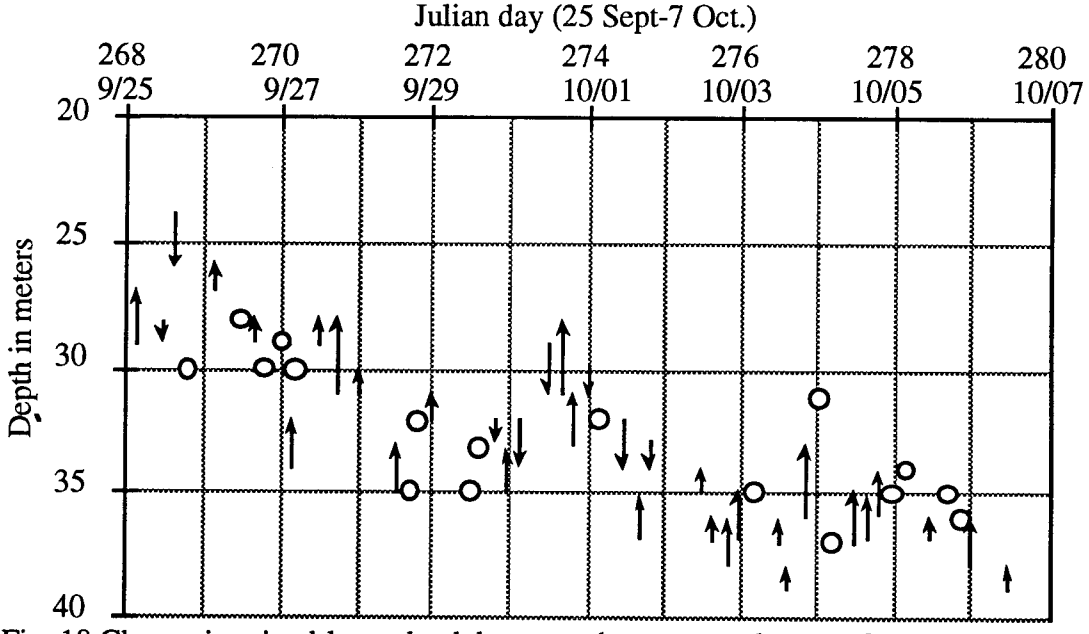


Fig. 18 Change in mixed-layer depth between downcast and upcast for RV-1 CTD data.

In Fig. 19, the mixed-layer depth is plotted for both RV-1 in a solid line and RV-2 in a dashed line. The symbols along each line mark the actual times of the cast. This Fig. was included to give the reader an indication of how much difference in the layer depth existed between the two vessels. It is apparent that profiles must be judiciously selected when processing acoustic data.

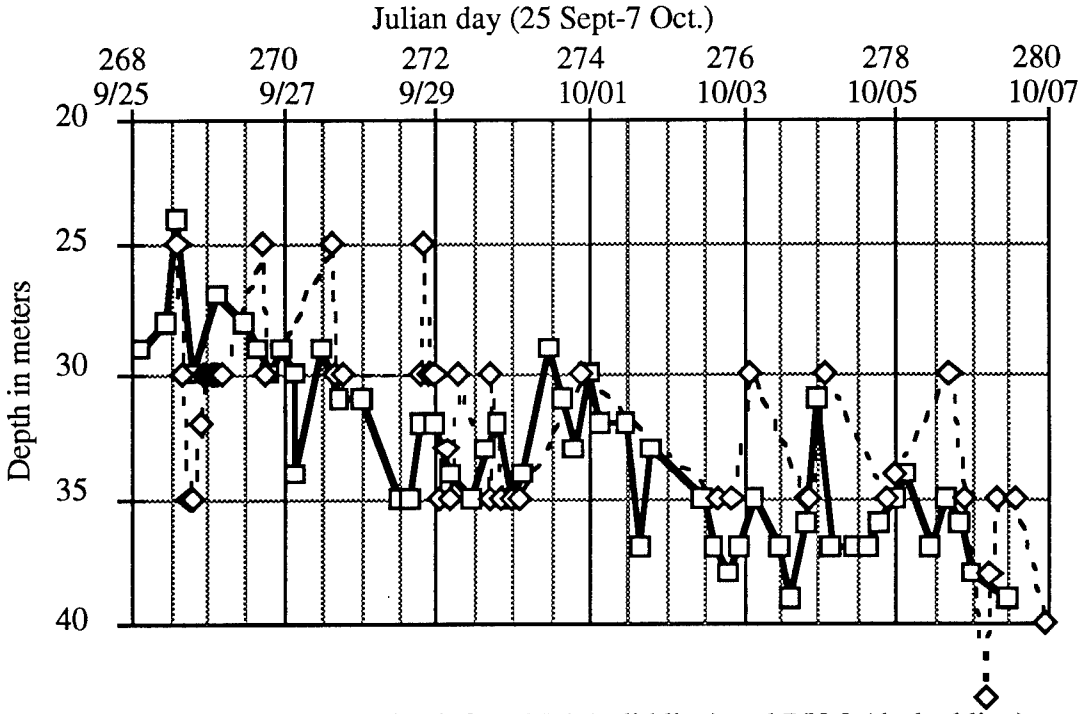


Fig. 19 Mixed-layer depth for RV-1 (solid line) and RV-2 (dashed line).

3.2 Sound Speed Characterization

The XBT temperature field was combined with the CTD salinity field to calculate the sound speed profiles using the equation of Wilson (1960). The profiles exhibit an isovelocity sonic layer corresponding to the mixed layer seen in the temperature profiles. This mixed layer cools slightly during the duration of the test and deepens from approximately 25 to 40 m. Below this depth, a sharp negative sound speed gradient is present, which will tend to channel energy into the bottom. Sound speeds in the near surface mixed layer represent the residual effects of summer warming combined with an increase in mixing due to the seasonal change in windspeeds. Variability due to the oscillations does not significantly alter mean sound speed gradients and propagation will remain highly bottom interactive; however, source and receiver location may be sensitive to the mixed-layer depth, as well as small scale perturbations in the thermocline. Another possible effect of the oscillations is a significant increase in transmission loss. Based on the work of Zhou and Zhang (1991), the presence of internal oscillations can cause as much as a 25-dB variation in transmission loss at ranges of 15 nmi due to mode coupling where energy is shifted into higher modes with higher attenuation rates.

A characteristic of the sound speed profiles evident in Fig. 20, is the apparent clustering of profiles into three groups, each with a distinct mixed-layer sound speed and depth. In actuality, there is no correlation between the mixed-layer groups and the apparent three mixed-layer-depth groups. The mixed-layer depths do transition fairly evenly from shallow to deep as is evident in Fig. 19. The heavy seas on 27 and 28 September, and the slightly larger waves with higher winds reported by RV-2 on 2 and 3 October most likely caused increased mixing resulting in faster cooling and the accompanying separation seen in the mixed layer. Because the mixed-layer depth is more significant for data processing, each profile was placed into one of three mixed-layer-depth bins as a quick way to select profiles. A typical profile was selected from each bin using the cluster analysis routines of Audet and Vega (1974). The typical profile for each bin is presented in Table 12. All profile data for the AA2 test are listed in Appendix E.

Table 12. Typical profiles for each mixed-layer depth province.

	mixed-layer < 33 m			mixed-layer 33-37 m			mixed-layer > 37 m		
Depth m	Temp ℃	Salinity PSU	Speed m/s	Temp ℃	Salinity PSU	Speed m/s	Temp ℃	Salinity PSU	Speed m/s
0	29.05	35.49	1544.37	28.38	36.93	1544.50	27.99	36.33	1543.02
5	29.12	35.48	1544.59	28.38	36.17	1543.77	28.00	36.32	1543.11
10	29.12	35.41	1544.60	28.43	36.13	1543.91	27.99	36.30	1543.15
15	29.07	35.30	1544.46	28.43	36.13	1544.00	27.99	36.25	1543.18
20	29.02	35.34	1544.48	28.43	36.18	1544.13	27.99	36.20	1543.21
25	29.02	35.34	1544.57	28.48	36.16	1544.30	27.99	36.18	1543.27
30	28.09	35.51	1542.85	28.48	36.23	1544.46	27.99	36.18	1543.36
35	27.43	35.61	1541.61	27.89	36.36	1543.42	27.98	36.17	1543.41
40	26.16	35.46	1538.69	24.88	36.31	1536.67	27.74	36.14	1542.94
45	24.68	35.56	1535.44	24.08	36.31	1534.85	25.08	36.31	1537.22
50	23.59	35.59	1532.93	23.43	36.30	1533.34	24.21	36.28	1535.21
55	22.95	35.64	1531.48	22.86	36.26	1531.96	23.25	36.28	1532.96
60	22.38	35.61	1530.10	22.18	36.26	1530.33	22.69	36.31	1531.68
65	21.87	35.60	1528.86	21.75	36.28	1529.33	22.20	36.34	1530.56
70	21.45	35.71	1527.98	21.25	36.37	1528.22	21.79	36.37	1529.62
75	21.07	35.68	1527.03	20.91	36.39	1527.43	21.27	36.42	1528.41
80	20.67	35.81	1526.20	20.36	36.42	1526.08	20.84	36.45	1527.40
85	20.11	35.78	1524.74	19.91	36.38	1524.90	20.35	36.44	1526.16
90	19.48	35.82	1523.14	19.35	36.38	1523.44	19.72	36.42	1524.51
95	19.19	35.87	1522.48	18.75	36.47	1521.95	19.39	36.47	1523.74
100	18.83	35.78	1521.44	18.61	36.41	1521.56	19.18	36.46	1523.23
125	17.06	35.61	1516.51	17.26	36.29	1517.92	16.99	36.27	1517.10

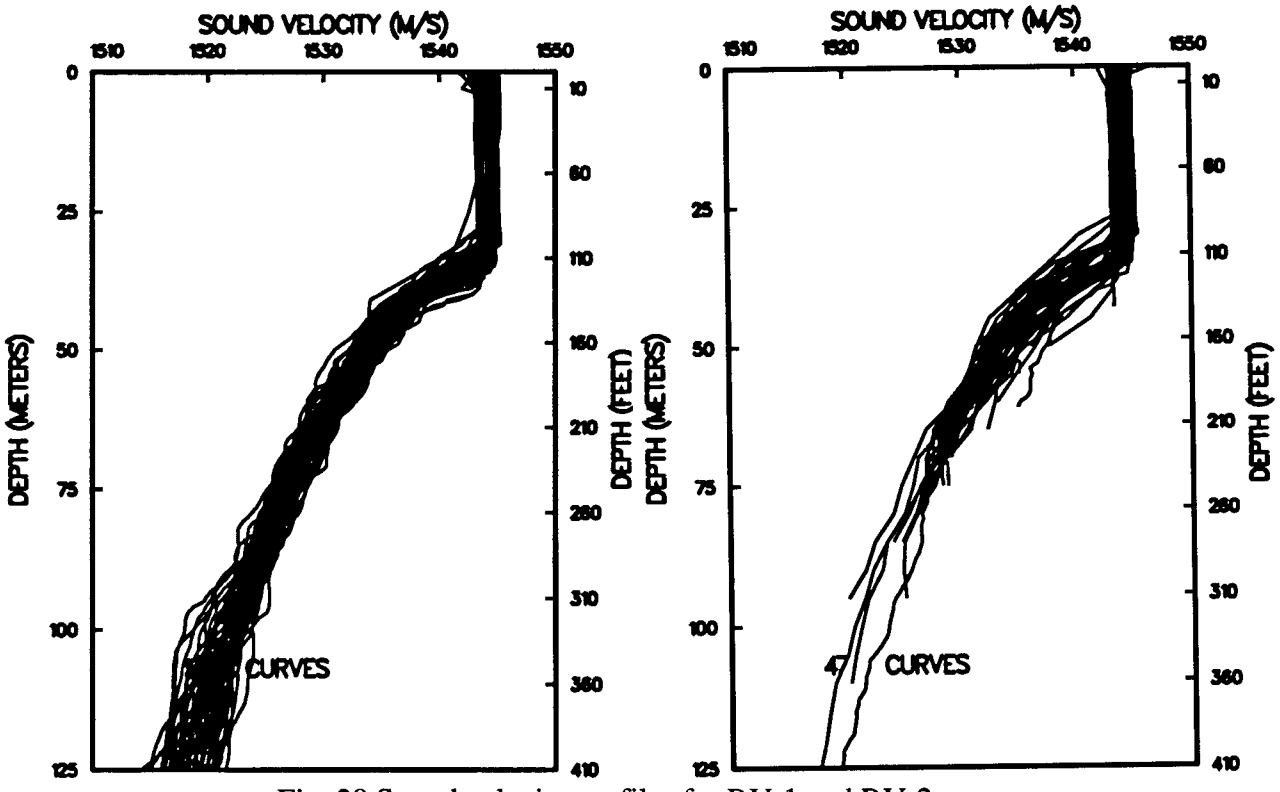


Fig. 20 Sound velocity profiles for RV-1 and RV-2.

3.3 Currents

The test area, located at the boundary of the two geographic regimes has the potential for oceanographic variability due to wind-stress-induced circulation, geostrophic circulation due to density variations from the interaction of shelf water, and Caribbean Subtropical water, and internal waves that can interact with the shelf to produce well-mixed subsurface layers. The introduction of Caribbean Subtropical water in combination with wind-stress variation (curl) induced pressure gradients results in a general clockwise circulation in the western gulf (Fig. 21) which is known to be persistent throughout the year (Sturges and Blaha 1975). Fair-weather current flow in the central Texas shelf area is influenced by this large scale circulation off the Texas-Louisiana coast. Driven by prevailing winds, circulation consists of an inner-shelf segment in which flow at all levels moves to the west and south and an outer-shelf segment of easterly and northerly flow around the western gulf clockwise gyre. Also seen in Fig. 21 is another, smaller high dynamic-height cell located over the test area that would give rise to its own clockwise circulation (onshore flow to the south of the cell, a northwards flow along the coast to the west of the cell and a southerly flow to the east of this cell) with strong current shears at its southern boundary where it abuts the western gulf clockwise gyre. Surface currents from drift-bottle studies (Temple and Martin 1979) confirm the southerly flow along the Texas coast and the westerly flow near the test area (Fig. 22), but they show low net drift speeds (4.6 cm/s). Current meter data from August at locations just north of the test area and southeast of Corpus Christi (Snedden et al. 1988), show speeds on the order of 10-20 cm/s near the surface and 5-10 cm/s at depths of 140 m.

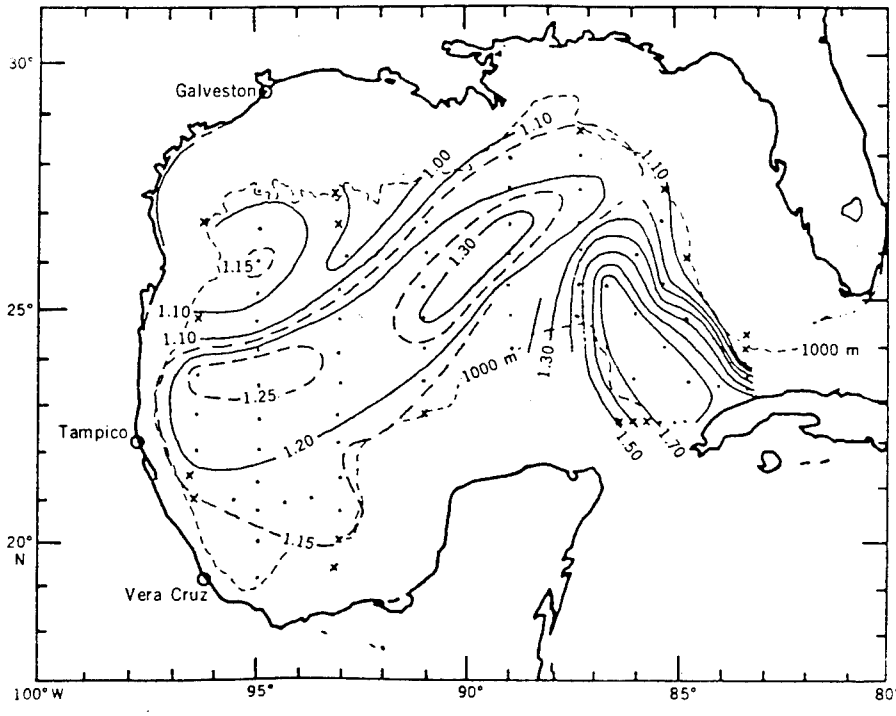


Fig. 21 Sea surface topography relative to the 1000-dbar surface showing large western gulf gyre and smaller clockwise gyre over the test area (Sturges and Blaha 1975).

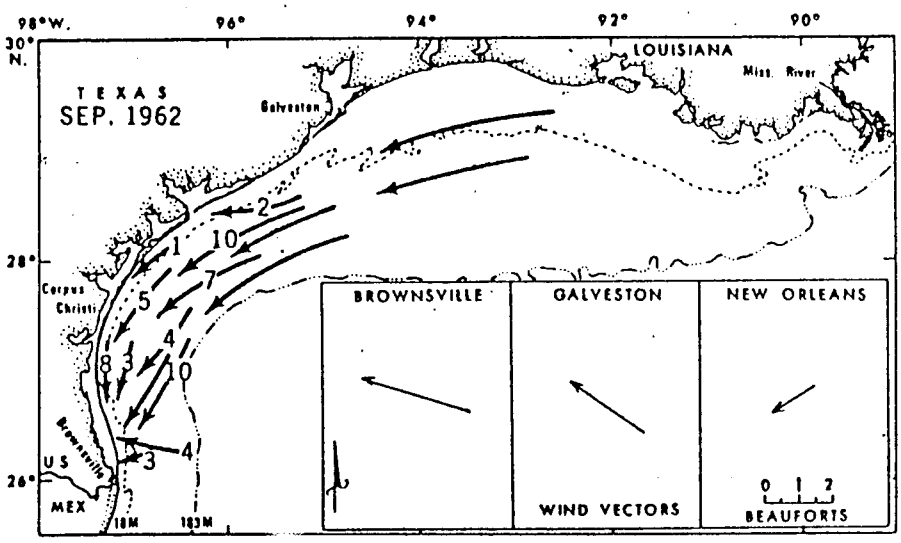


Fig. 22 Surface circulation deduced from drift bottles released in the Gulf (speeds in km/day, arrows indicate direction of flow (Temple and Martin 1979).

A satellite derived oceanographic feature analysis for September 21, 1993 received from NOAA did not show any large eddies, indicating that on a large scale, the environment is benign. This was confirmed by satellite data channel 4 infrared sea-surface temperature images processed after the test. The images confirm the relatively homogeneous nature of the test area and the slight cooling of the surface layer from 29 °C to 27-28 °C between 26 September and 7 October 1993. Currents were measured with the Ocean Sensors S4 current meter while taking CTD profiles. Fig. 23, a plot of the current profiles taken on October 1 at 1430 local time is representative of all the current data analyzed. In this Fig., the Y axis is depth, the current speed is represented by the length of each vector along the profile and the direction relates to a different set of axis values where east-west is along the X axis and north-south is along the Y axis. Because of the high current speeds at all depths and the direction shift between downcasts and upcasts, it is most probable that the current meter data is contaminated with induced velocities due to ship mooring motions, and downcast and upcast speeds. Whenever the current meter is not precisely in a vertical orientation, any vertical motion can induce significant velocities in the X-Y plane of the S4 electromagnetic meter. Calculations of geostrophic velocities based on density differences in the water column indicate a density driven current at the surface, of 6 cm/s to the southwest relative to a level of no motion at the bottom. The computed wind-drift current resulting from a 12 kt (6 m/s) wind (the mean windspeed measured during the test) is plotted in Fig. 24. The speeds are comparable to those in the literature. Whenever winds were out of the southeast to southwest directions, the induced wind-driven current would tend to oppose the density driven current resulting in smaller northeasterly current magnitudes. When winds were out of more northerly directions, as they were on 27-30 September and again on 4 October, southwesterly flow magnitudes would be reinforced.

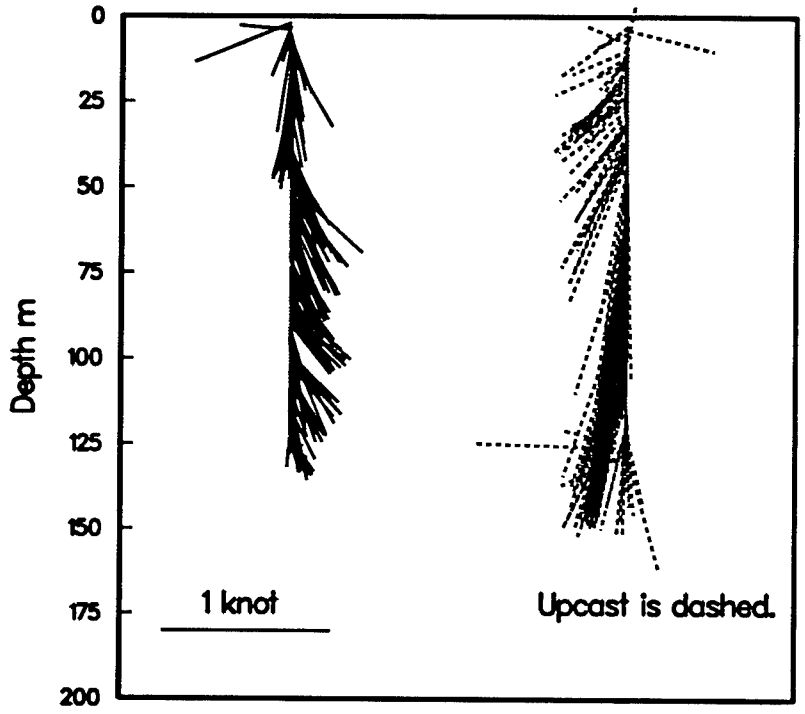


Fig. 23 Representative S4 current meter data for downcast and upcast. The X and Y axes represent the east-west and north-south directions for the current speed profile vectors.

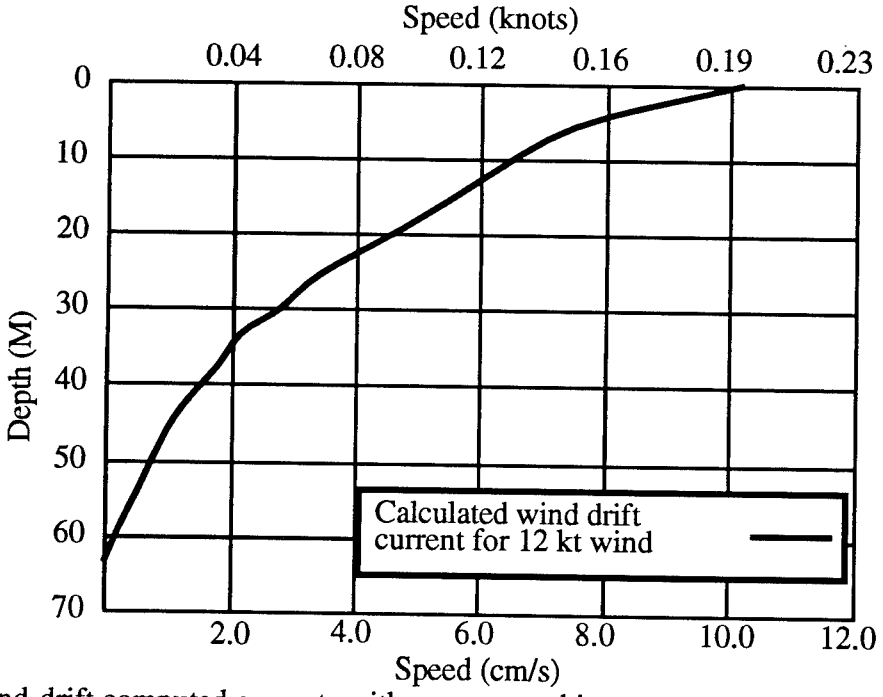


Fig. 24 Wind-drift computed currents with no geostrophic components added.

4.0 METEOROLOGY: SHIPBOARD OBSERVATIONS

During the summer months, the climate in the exercise area is determined primarily by the influence of the Bermuda-Azores high pressure system (35°N, 35°W). In the September and October time frame of the test, the weakening of this high-pressure system brings the area under the influence of the northeasterly tradewinds. Inclement weather is produced by the occurrence of either extratropical or tropical cyclones. Extratropical cyclones are normally caused by the movement of cold fronts through the area (normally in an easterly direction).

Shipboard observations of air pressure, wind-speed and direction, and wave height were logged every 4 hrs on RV-1 and RV-2. Fig. 25-32 are plots of the tabulated logs from both vessels. The observations from RV-1 appear to agree with those of RV-2. It should be recognized when using wave-height data that estimates of wave height tend to approximate the significant wave-height, which is the average of the highest one-third of the observed waves. It is evident that the high sea states experienced on 27 and 28 September were not locally driven but resulted from distant events because windspeeds recorded for these dates were not significantly higher than during the rest of the exercise. At this time of the year, stronger winds tend to come out of the north or northeast in the northern part of the gulf. If they blow for sufficient duration, the fetch distance between the northern gulf and the test area allows reasonably large seas to develop.

5.0 ACKNOWLEDGMENTS

This test, designated "AAA/AAS Experiment AA2", sponsored by Program Executive Office, Air ASW, Assault and Special Mission Programs, PMA-264, was conducted under the direction of the Naval Air Warfare Center. The tasking support provided by Mr. Earl Benson (Program Manager) of the Program Executive Office, Air ASW, Assault and Special Mission Programs, PMA-264 under program element 63254N is greatly appreciated. The authors thank Mr. Tony Brescia of the Naval Air Warfare Center for his assistance throughout all phases of this test.

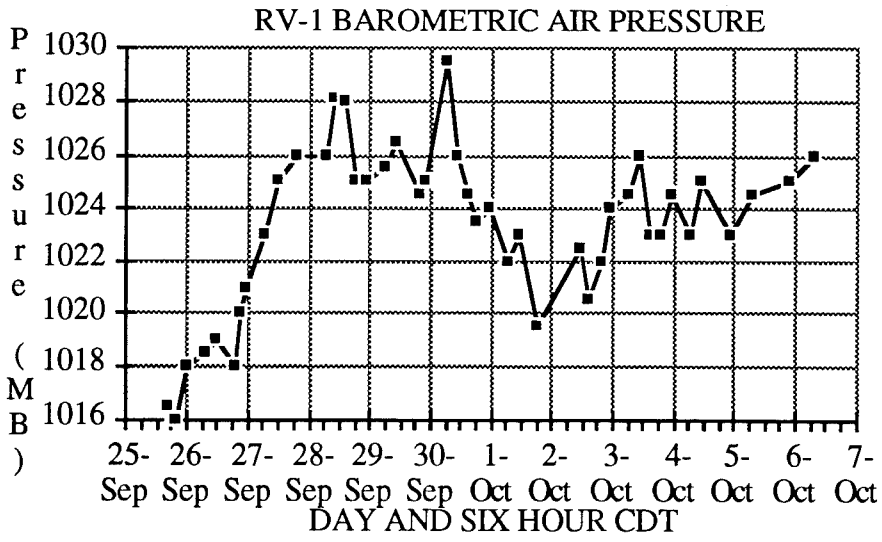


Fig. 25 Barometric pressure measured on RV-1

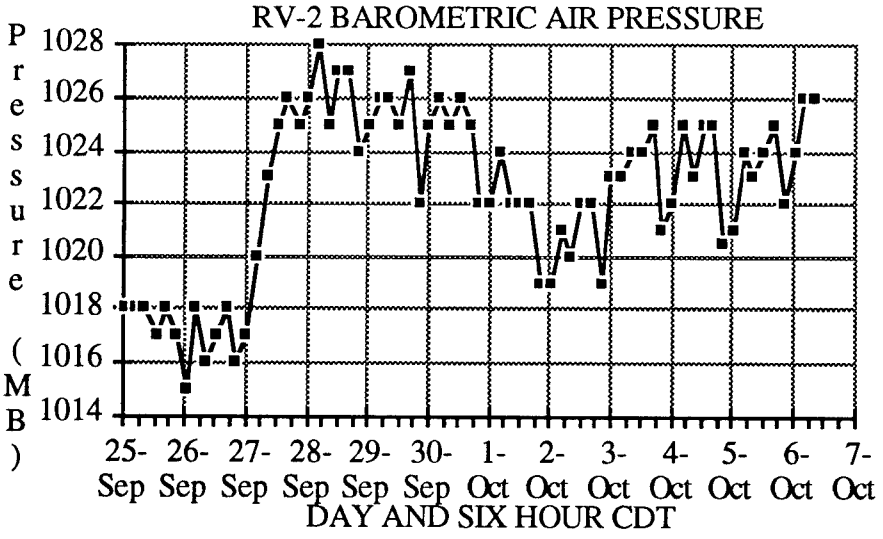


Fig. 26 Barometric pressure measured on RV-2

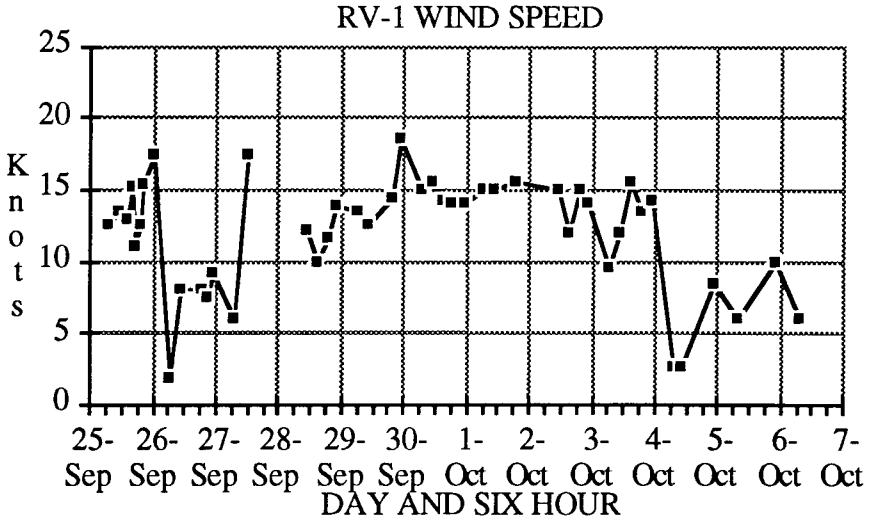


Fig. 27 Wind speed from bridge observations on RV-1

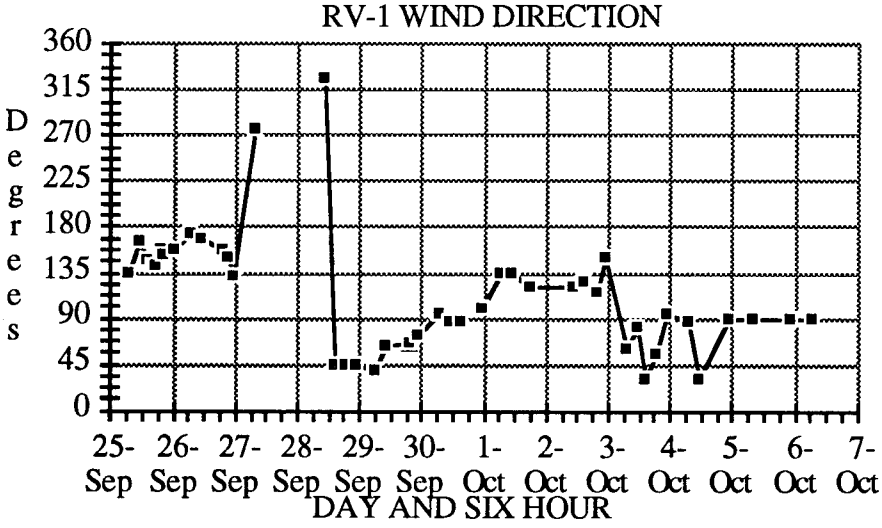


Fig. 28 Wind direction from bridge observations on RV-1

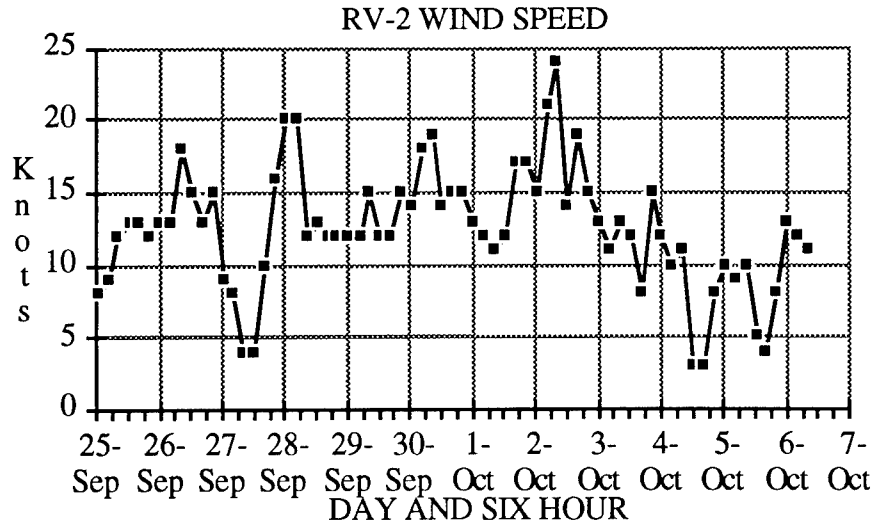


Fig. 29 Wind speed from bridge observations on RV-2

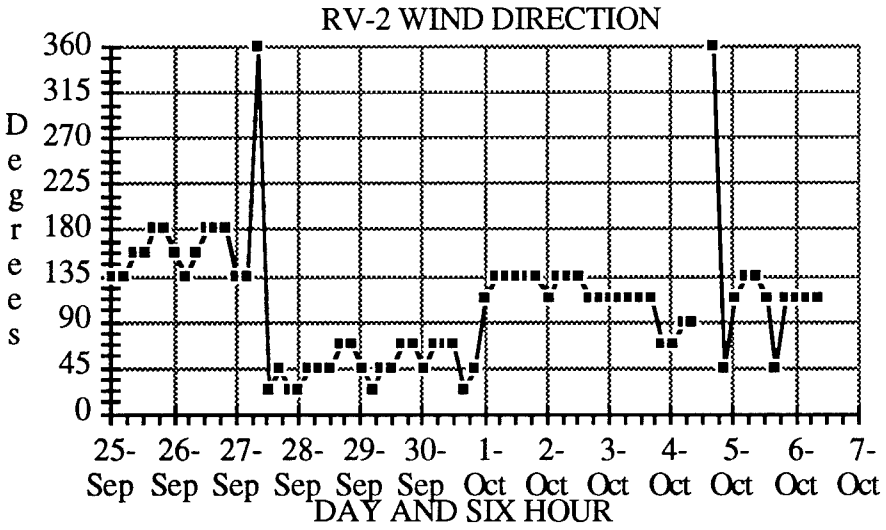


Fig. 30 Wind direction from bridge observations on RV-2

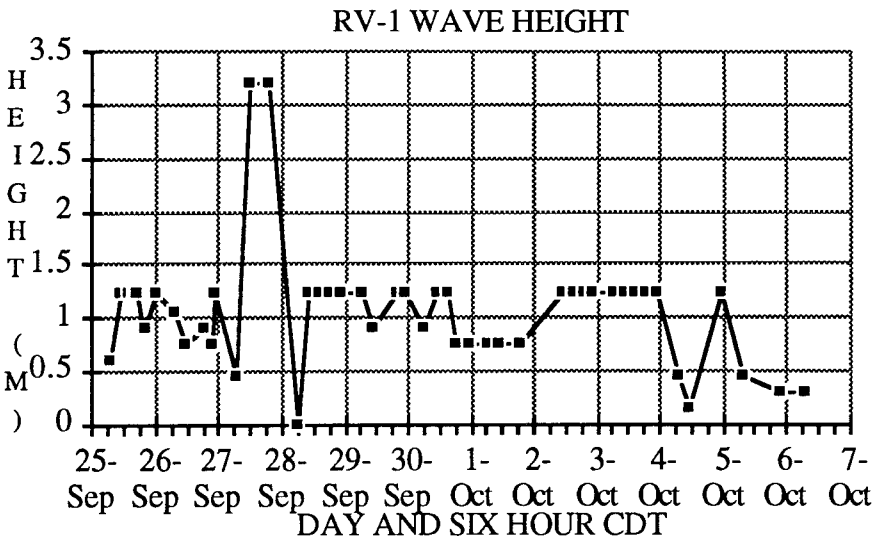


Fig. 31 Wave heights from bridge observations on RV-1

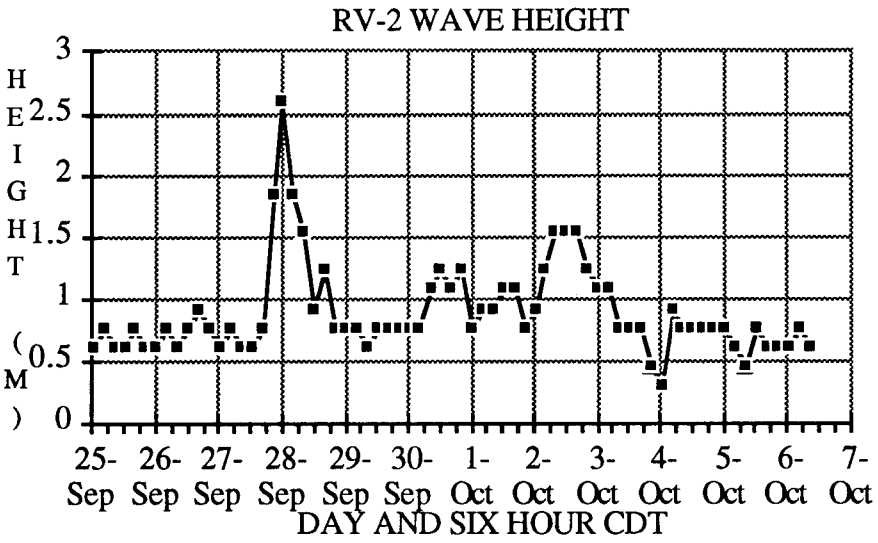


Fig. 32 Wave heights from bridge observations on RV-2.

6.0 REFERENCES

Audet, J. J. and G. G. Vega (1974). "AESD Sound-Speed Profile Retrieval System (RSVP)," Acoustic Environmental Support Detachment, Office of Naval Research, Arlington, VA., AESD Technical Note TN-74-03, 43 p.

Berryhill, H. L., J. R. Sutter, and N. S. Hardin (1987). "Late Quartenary Facies and Structure, Northern Gulf of Mexico: Interpretation from Seismic Data," American Association of Petroleum Geologists Studies in Geology 23, Tulsa Oklahoma.

Foote, R.Q., R.G.Martin, and R.B. Powers (1983). "Oil and Gas Potential of the Maritime Boundary Region in the Central Gulf of Mexico," *Bulletin of the American Association of Petroleum Geologists* 67(7):1319-1334.

Hamilton, E.L. (1980). "Geoacoustic Modeling of the Seafloor," *Journal of the Acoustical Society of America* 68(5):1313-1340.

Kekko,B., E. Kelly, C. Ross, R. Rogers, G. Metzler, J. Bowman (1994). "Results of Laboratory Analyses for Thirty-Five Grabs Collected in the Gulf of Mexico During the September/October 1993 R/V Gyre NRL Cruise: Sediment Size Distribution, Calcium Carbonate," Naval Oceanographic Office, Stennis Space Center, MS, 39529-5001, Marine Geological Laboratory Report No. 766, February.

Mazzullo, J. and K.D. Withers (1984). "Sources, Distribution, and Mixing of Late Pleistocene and Holocene Sands on the South Texas Continental Shelf," *Journal of Sedimentary Petrology* 54(4):1319-1334.

Nowlin, W. D. (1971). "Water Masses and General Circulation of the Gulf of Mexico," *Oceanology International* pp. 28-33.

Smith, N.P. (1980). "On the Hydrography of Shelf Waters Off the Central Texas Gulf Coast," *Journal of Physical Oceanography* 10:806-813.

Snedden, J. W., D. Nummedal, and A.F. Amos (1988). "Storm- and Fair-Weather Combined Flow on the Central Texas Continental Shelf," *Journal of Sedimentary Petrology* 58(4):580-595.

Sturges, W. and J. P. Blaha (1975). A Western Boundary Current in the Gulf of Mexico," *Science* 192:367-369.

Sutter, J. H., and H. L. Berryhill (1985). "Late Quarternary Shelf-Margin Deltas, Northwest Gulf of Mexico," *Bulletin of the American Association of Petroleum Geologists* 69(11):77-91.

Temple, R. F. and J. A. Martin (1979). "Surface Circulation in the Northwestern Gulf of Mexico as Deduced from Drift Bottles,"U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, NOAA Technical Report NMFS SSRF-730, 13 pp.

Wilson, W. D. (1960). "Equation for the Speed of Sound in Sea Water," *Journal of the Acoustical Society of America* 32(10):1357.

Zhou, J. and X. Zhang (1991). "Resonant Interactions of Sound Wave with Internal Solitons in the Coastal Zone," *Journal of the Acoustical Society of America* 90(4):2042-2054.

Appendix A: North-South Track Bathymetry

Lat °	Lat min	Lon °	Lon min	Rng nmi RV1	Zone	Depth m	Sub #1 m	Sub #2 m	Sub #3 m
26	36.48	-96	19.68	18.50	6	367.5	375.0		
26	36.24	-96	19.68	18.25	6	362.2	370.7		
26	36.00	-96	19.68	18.00	6	358.2	366.9		
26	35.76	-96	19.68	17.75	6	355.6	362.9		
26	35.52	-96	19.68	17.50	6	353.2	360.2		
26	35.28	-96	19.68	17.25	6	350.1	358.1		
26	34.98	-96	19.62	17.00	6	346.1	355.3		
26	34.74	-96	19.68	16.75	6	341.4	352.9		
26	34.50	-96	19.62	16.50	6	338.1	349.3		
26	34.26	-96	19.68	16.25	6	333.9	346.5		
26	34.02	-96	19.68	16.00	6	329.4	341.5		
26	33.78	-96	19.68	15.75	6	325.4			
26	33.48	-96	19.62	15.50	6	320.7			
26	33.24	-96	19.68	15.25	6	315.4			
26	33.00	-96	19.74	15.00	6	309.3			
26	32.76	-96	19.74	14.75	6	303.2			
26	32.52	-96	19.74	14.50	6	298.8			
26	32.28	-96	19.74	14.25	6	299.9			
26	31.98	-96	19.74	14.00	6	315.3			
26	31.74	-96	19.74	13.75	6	314.1	319.3		
26	31.50	-96	19.68	13.50	6	307.5	313.0		
26	31.26	-96	19.68	13.25	6	301.7	304.9		
26	31.02	-96	19.62	13.00	6	292.0	296.5		
26	30.78	-96	19.62	12.75	6	288.0	292.6		
26	30.48	-96	19.62	12.50	6	283.9	287.2		
26	30.24	-96	19.62	12.25	6	273.4			
26	29.52	-96	19.56	11.50	6	264.8			
26	29.28	-96	19.56	11.25	6	259.4			
26	28.98	-96	19.56	11.00	6	252.1			
26	28.74	-96	19.62	10.75	6	244.9			
26	28.50	-96	19.62	10.50	6	237.6			
26	28.26	-96	19.62	10.25	6	230.4			
26	28.02	-96	19.62	10.00	6	223.1			
26	27.78	-96	19.62	9.75	6	215.9			
26	27.48	-96	19.62	9.50	6	208.7			
26	27.24	-96	19.62	9.25	6	201.4			
26	27.00	-96	19.68	9.00	6	192.5	207.2	242.2	
26	26.76	-96	19.62	8.75	6	186.2	196.7	234.0	
26	26.52	-96	19.68	8.50	6	180.8	191.6	231.8	
26	26.22	-96	19.68	8.25	6	174.1	184.6	223.0	
26	25.98	-96	19.68	8.00	6	165.9	174.1	220.7	
26	25.74	-96	19.68	7.75	6	157.4	167.3	203.4	

Appendix A (cont): North-South Track Bathymetry

Lat °	Lat min	Lon °	Lon min	Rng nmi RV1	Zone	Depth m	Sub #1 m	Sub #2 m	Sub #3 m
26	25.50	-96	19.68	7.50	5	153.2	161.8	204.1	
26	25.26	-96	19.68	7.25	5	149.4	157.4	209.8	
26	25.02	-96	19.62	7.00	5	145.1	154.3	190.1	
26	24.72	-96	19.68	6.75	5	141.6	151.7	193.8	
26	24.48	-96	19.62	6.50	5	139.5	153.1	211.9	
26	24.24	-96	19.62	6.25	5	137.8	147.8	208.9	
26	24.00	-96	19.62	6.00	5	135.7	143.8	187.7	
26	23.76	-96	19.62	5.75	5	134.2	139.9	170.9	
26	23.52	-96	19.62	5.50	5	133.1	139.5	154.6	
26	23.22	-96	19.62	5.25	5	131.8	138.5	144.4	184.7
26	22.98	-96	19.62	5.00	5	130.3	135.9	138.9	195.3
26	22.74	-96	19.62	4.75	5	129.3		139.3	175.4
26	22.50	-96	19.56	4.50	5	128.3		136.2	158.7
26	22.26	-96	19.56	4.25	5	127.3		132.6	159.1
26	22.02	-96	19.56	4.00	5	127.1		131.3	158.6
26	21.78	-96	19.56	3.75	5	126.1		131.3	164.7
26	21.48	-96	19.56	3.50	5	125.5		131.1	172.1
26	21.24	-96	19.56	3.25	5	126.1		129.3	174.4
26	21.00	-96	19.56	3.00	5	126.5		131.7	179.0
26	20.76	-96	19.50	2.75	5	125.4		130.9	179.0
26	20.52	-96	19.50	2.50	5	125.2		132.6	178.6
26	20.28	-96	19.50	2.25	5	124.1		132.8	174.8
26	19.98	-96	19.44	2.00	5	126.1		134.0	170.2

Appendix B: East-West Track Bathymetry

Lat °	Lat min	Lon °	Lon min	Rng nmi RV1	Zone	Depth m	Sub #1 m	Sub #2 m
26	18.42	-96	43.08	21.25	2	49.2		
26	18.42	-96	42.84	21.00	2	49.1	53.5	
26	18.42	-96	42.54	20.75	2	49.4	51.3	
26	18.42	-96	42.24	20.50	2	49.2	52.8	
26	18.42	-96	42.00	20.25	2	48.3	54.8	
26	18.42	-96	41.70	20.00	2	48.7	52.5	
26	18.48	-96	41.40	19.75	2	49.3	52.8	
26	18.48	-96	41.16	19.50	2	49.7	54.2	
26	18.48	-96	40.86	19.25	3	50.6	55.6	
26	18.48	-96	40.62	19.00	3	50.4	55.2	
26	18.48	-96	40.32	18.75	3	50.4	55.4	
26	18.48	-96	40.02	18.50	3	51.7	55.2	
26	18.48	-96	39.78	18.25	3	51.8	55.6	
26	18.48	-96	39.48	18.00	3	51.4	56.2	
26	18.48	-96	39.18	17.75	3	52.0	56.1	
26	18.48	-96	38.94	17.50	2	51.8	57.4	
26	18.48	-96	38.64	17.25	2	52.7	56.4	
26	18.48	-96	38.34	17.00	2	53.4	56.5	
26	18.48	-96	38.10	16.75	2	53.3	57.4	
26	18.48	-96	37.80	16.50	2	53.2	57.4	
26	18.48	-96	37.50	16.25	2	53.3	56.8	
26	18.48	-96	37.26	16.00	2	53.0	56.9	
26	18.48	-96	36.96	15.75	2	52.5	56.4	
26	18.48	-96	36.66	15.50	2	52.7	57.8	
26	18.48	-96	36.42	15.25	2	54.3	59.3	
26	18.48	-96	36.12	15.00	2	56.5	62.4	
26	18.48	-96	35.82	14.75	2	57.5	63.8	
26	18.54	-96	35.58	14.50	2	57.6	60.8	
26	18.54	-96	35.28	14.25	2	58.6	60.1	
26	18.48	-96	34.98	14.00	2	59.1	66.3	
26	18.48	-96	34.74	13.75	2	59.3	63.8	
26	18.48	-96	34.44	13.50	2	59.8	62.9	
26	18.48	-96	34.20	13.25	2	58.4	62.4	
26	18.48	-96	33.90	13.00	2	54.8	60.4	
26	18.48	-96	33.60	12.75	2	55.2	60.8	
26	18.42	-96	33.36	12.50	2	56.4	62.0	
26	18.30	-96	33.06	12.25	2	57.9	66.1	
26	18.24	-96	32.76	12.00	2	60.0	65.2	
26	18.12	-96	32.52	11.75	2	61.2	67.0	
26	18.00	-96	32.22	11.50	2	61.7	66.5	
26	17.94	-96	31.98	11.25	2	62.3	66.5	
26	17.82	-96	31.68	11.00	2	63.1	67.5	
26	17.76	-96	31.38	10.75	2	64.0	68.1	
26	17.64	-96	31.08	10.50	2	65.0	69.0	

Appendix B (cont): East-West Track Bathymetry

Lat °	Lat min	Lon °	Lon min	Rng nmi RV1	Zone	Depth m	Sub #1 m	Sub #2 m
26	17.58	-96	30.84	10.25	2	65.8	70.4	
26	17.52	-96	30.54	10.00	2	66.6	73.2	
26	17.40	-96	30.24	9.75	2	67.3	72.5	
26	18.72	-96	30.00	9.50	3	67.2	71.9	
26	18.72	-96	29.70	9.25	3	67.0	72.1	
26	18.78	-96	29.40	9.00	3	66.3	72.3	
26	18.72	-96	29.10	8.75	3	66.3	72.5	
26	18.78	-96	28.86	8.50	3	67.0		
26	18.78	-96	28.56	8.25	3	68.5		
26	18.72	-96	28.26	8.00	3	69.3		
26	18.72	-96	28.02	7.75	3	71.3		
26	18.72	-96	27.72	7.50	3	72.2		
26	18.72	-96	27.42	7.25	3	73.0		
26	18.78	-96	27.18	7.00	3	73.7		
26	18.78	-96	26.88	6.75	3	74.4	81.5	
26	18.78	-96	26.58	6.50	3	75.5	81.8	
26	18.78	-96	26.34	6.25	3	76.0	84.9	
26	18.78	-96	26.04	6.00	3	76.9		
26	18.78	-96	25.74	5.75	3	77.9		
26	18.78	-96	25.50	5.50	3	78.1		
26	18.78	-96	25.20	5.25	3	78.5		
26	18.72	-96	24.90	5.00	2	78.8		
26	18.78	-96	24.66	4.75	2	79.7		
26	18.78	-96	24.36	4.50	2	80.1		91.0
26	18.72	-96	24.06	4.25	2	80.6		87.4
26	18.78	-96	23.76	4.00	2	81.0		87.5
26	18.78	-96	23.52	3.75	2	81.4		87.5
26	18.72	-96	23.22	3.50	1	81.0	85.0	90.2
26	18.72	-96	22.92	3.25	1	81.1	85.9	90.7
26	18.78	-96	22.62	3.00	1	82.8	88.4	
26	18.78	-96	22.38	2.75	1	84.9	90.0	
26	18.78	-96	22.08	2.50	1	87.6	91.8	
26	18.78	-96	21.78	2.25	1	90.3	93.9	
26	18.78	-96	21.48	2.00	1	94.0	96.3	
26	18.78	-96	21.18	1.75	1	99.1		
26	18.78	-96	20.82	1.50	1	102.6		
26	18.78	-96	20.52	1.25	1	106.1		
26	18.72	-96	20.16	1.00	1	109.8		
26	18.72	-96	19.50	0.75	5	122.8		

Appendix C: Off Axis and Clutter Track Bathymetry

120° Off-Axis Track Bathymetry

Lat °	Lat min	Lon °	Lon min	Rng nmi RV2	zone	Depth m	Sub #1 m	Sub #2 m
26	25.25	-96	32.78	0.00	3	65.7		
26	25.13	-96	32.54	0.25	3	67.2		
26	25.01	-96	32.29	0.50	3	67.9		
26	24.85	-96	32.08	0.75	3	66.8		
26	24.72	-96	31.84	1.00	3	67.6		
26	24.57	-96	31.61	1.25	3	67.6		
26	24.46	-96	31.37	1.50	3	67.5		
26	24.31	-96	31.13	1.75	3	68.8		
26	24.22	-96	30.87	2.00	3	70.7		
26	24.07	-96	30.64	2.25	3	70.6		
26	23.95	-96	30.40	2.50	3	71.1		
26	23.83	-96	30.15	2.75	3	71.7		
26	23.68	-96	29.93	3.00	3	72.5		
26	23.54	-96	29.70	3.25	4	71.2		
26	23.41	-96	29.47	3.50	4	71.3		
26	23.27	-96	29.23	3.75	4	71.5		
26	23.15	-96	28.99	4.00	4	72.1		
26	23.00	-96	28.76	4.25	4	72.5		
26	22.87	-96	28.52	4.50	4	73.0		
26	22.75	-96	28.28	4.75	4	73.8		
26	22.62	-96	28.03	5.00	4	74.8		
26	22.50	-96	27.79	5.25	4	75.9		
26	22.37	-96	27.55	5.50	4	76.5		
26	22.23	-96	27.32	5.75	4	77.1		
26	22.10	-96	27.08	6.00	2	77.3		
26	21.99	-96	26.83	6.25	2	77.3		
26	21.86	-96	26.59	6.50	2	78.0		
26	21.73	-96	26.36	6.75	2	78.4		
26	21.61	-96	26.11	7.00	2	79.5		
26	21.48	-96	25.87	7.25	2	79.2	84.2	
26	21.37	-96	25.62	7.50	2	78.0	81.9	
26	21.25	-96	25.37	7.75	2	77.6	82.4	
26	21.12	-96	25.13	8.00	2	78.0	82.1	
26	21.01	-96	24.89	8.25	2	78.9	83.5	
26	20.90	-96	24.63	8.50	2	77.5	83.1	
26	20.77	-96	24.39	8.75	2	79.4	84.6	
26	20.65	-96	24.15	9.00	2	80.6	83.9	
26	20.55	-96	23.89	9.25	2	80.9		
26	20.41	-96	23.66	9.50	2	81.6		
26	20.28	-96	23.42	9.75	2	81.7		
26	20.15	-96	23.18	10.00	1	83.1	87.3	
26	20.05	-96	22.92	10.25	1	83.3	85.9	

Appendix C (cont): 120° Off-Axis Track Bathymetry

Lat °	Lat min	Lon °	Lon min	Rng nmi RV2	zone	Depth m	Sub #1 m	Sub #2 m
26	19.93	-96	22.68	10.50	1	83.8	87.9	
26	19.80	-96	22.43	10.75	1	85.2	90.5	
26	19.16	-96	21.24	12.00	1	94.3	103.2	
26	19.03	-96	21.00	12.25	1	98.6	105.7	
26	18.89	-96	20.77	12.50	1	102.6	106.8	
26	18.79	-96	20.51	12.75	5	105.7	111.9	116.4
26	18.70	-96	20.24	13.00	5	109.1		117.6
26	18.70	-96	19.93	13.25	5	115.3		122.2
26	18.73	-96	19.58	13.50	5	120.6		
26	18.67	-96	19.30	13.75	5	134.2		186.4
26	18.54	-96	19.06	14.00	5	150.1		188.5
26	18.41	-96	18.82	14.25	5	172.6		189.8
26	18.28	-96	18.59	14.50	5	189.7		193.8
26	18.13	-96	18.36	14.75	5	204.3		
26	17.98	-96	18.14	15.00	5	214.7		
26	17.82	-96	17.92	15.25	6	233.7		266.7
26	17.68	-96	17.68	15.50	6	253.8		292.8
26	17.55	-96	17.44	15.75	6	274.7		315.4
26	17.41	-96	17.21	16.00	6	296.2		337.3
26	17.23	-96	17.00	16.25	6	314.9		352.6
26	17.07	-96	16.79	16.50	6	334.2		366.9
26	16.91	-96	16.57	16.75	6	352.0		384.3

Appendix C (cont): 165° Off-Axis Track Bathymetry

Lat °	Lat min	Lon °	Lon min	Rng nmi RV2	Zone	Depth m	Sub #1 m	Sub #2 m
26	30.06	-96	24.75	0.00	3	111.3		
26	29.88	-96	24.65	0.25	3	109.9	116.9	119.9
26	29.64	-96	24.56	0.50	3	109.0	115.6	120.9
26	29.40	-96	24.46	0.75	3	108.9	115.1	120.3
26	29.15	-96	24.37	1.00	3	108.2	114.1	121.1
26	28.91	-96	24.26	1.25	3	107.7		121.0
26	28.68	-96	24.16	1.50	3	107.7		123.2
26	28.44	-96	24.08	1.75	3	107.7		117.9
26	28.21	-96	23.98	2.00	3	107.7		118.1
26	27.97	-96	23.88	2.25	3	106.8	112.8	115.1
26	27.73	-96	23.82	2.50	3	104.3	112.8	
26	27.50	-96	23.71	2.75	3	101.6	108.1	
26	27.26	-96	23.63	3.00	3	101.5	107.4	
26	27.02	-96	23.55	3.25	3	101.0	108.0	
26	26.78	-96	23.47	3.50	3	100.2	107.2	
26	26.55	-96	23.36	3.75	1	99.7	106.3	
26	26.31	-96	23.27	4.00	1	99.4		
26	26.08	-96	23.18	4.25	1	98.7		
26	25.84	-96	23.09	4.50	1	98.6		
26	25.60	-96	23.00	4.75	1	98.6		
26	25.37	-96	22.90	5.00	1	98.6		
26	25.13	-96	22.81	5.25	1	98.5		
26	24.89	-96	22.72	5.50	1	98.5		
26	24.66	-96	22.63	5.75	1	98.5		
26	24.42	-96	22.54	6.00	1	98.0		
26	24.19	-96	22.44	6.25	1	97.1		
26	23.95	-96	22.35	6.50	1	97.0		
26	23.71	-96	22.27	6.75	1	96.7		
26	23.47	-96	22.20	7.00	1	95.3		
26	23.23	-96	22.11	7.25	1	95.0		
26	23.00	-96	22.02	7.50	1	95.2		
26	22.76	-96	21.93	7.75	1	95.6		
26	22.52	-96	21.86	8.00	1	95.3		
26	22.28	-96	21.77	8.25	1	94.7		
26	22.04	-96	21.68	8.50	1	94.6		
26	21.80	-96	21.59	8.75	1	95.3		
26	21.57	-96	21.49	9.00	1	96.2		
26	21.34	-96	21.40	9.25	1	96.9		
26	21.10	-96	21.30	9.50	1	97.6		
26	20.87	-96	21.19	9.75	1	97.9		
26	20.63	-96	21.11	10.00	1	97.7		
26	20.39	-96	21.02	10.25	1	98.6		
26	20.15	-96	20.95	10.50	1	100.2	104.3	
26	19.90	-96	20.92	10.75	1	100.9	106.7	
26	19.63	-96	20.93	11.00	1	101.3	108.4	

Appendix C (cont): 165° Off-Axis Track Bathymetry

Lat °	Lat min	Lon °	Lon min	Rng nmi RV2	Zone	Depth m	Sub #1 m	Sub #2 m
26	18.82	-96	21.01	11.75	1	100.0	107.3	
26	18.55	-96	21.05	12.00	1	100.6	106.8	
26	18.28	-96	21.09	12.25	1	100.0	106.3	
26	18.01	-96	21.13	12.50	1	99.0	105.7	
26	17.77	-96	21.07	12.75	1	98.1	105.2	
26	17.52	-96	21.02	13.00	5	97.7	105.0	
26	17.29	-96	20.93	13.25	5	99.4	109.2	
26	17.05	-96	20.83	13.50	5	101.8	114.6	
26	16.81	-96	20.74	13.75	5	103.9	109.8	
26	16.58	-96	20.62	14.00	5	107.7	112.1	
26	16.36	-96	20.50	14.25	5	113.1		126.0
26	16.12	-96	20.41	14.50	5	115.6		127.0
26	15.88	-96	20.31	14.75	5	118.1		128.0
26	15.65	-96	20.21	15.00	5	123.3		129.2
26	15.41	-96	20.11	15.25	5	129.5		136.4
26	15.17	-96	20.02	15.50	5	136.5		151.3
26	14.94	-96	19.93	15.75	5	145.7		154.5
26	14.70	-96	19.84	16.00	5	159.2		164.4
26	14.47	-96	19.73	16.25	5	175.8		180.2

Appendix D: Sediment Grab Sample Locations and Descriptions

Grab No.	Lat °	Lat min	Lon °	Lon min	Depth m	Gravel %	Sand %	Silt %	Clay %	MGL
1	26	19.61	-96	19.70	109	0.00	3.07	23.14	73.79	clay
2	26	18.76	-96	21.16	90	1.57	69.09	9.07	20.27	sand
3	26	18.77	-96	22.61	75	8.76	67.26	6.27	17.71	sand
4	26	18.69	-96	23.37	73	11.33	60.17	8.82	19.68	sand
5	26	18.74	-96	24.85	72	0.00	45.87	15.42	38.71	clayey sand
6	26	17.58	-96	30.93	58	0.86	54.82	10.63	33.69	clayey sand
7	26	18.50	-96	37.44	45	0.39	55.30	12.00	32.31	clayey sand
8	26	18.45	-96	40.03	44	0.00	19.84	19.93	60.24	clay
9	26	18.44	-96	42.75	41	0.25	39.56	15.33	44.87	sandy clay
10	26	22.02	-96	19.61	120	0.00	8.41	24.28	67.31	clay
11	26	23.69	-96	19.54	129	0.00	1.28	25.11	73.62	silty clay
12	26	26.37	-96	19.34	204	0.00	0.99	19.85	79.16	clay
13	26	27.13	-96	19.63	188	0.00	0.15	20.43	79.42	clay
14	26	28.92	-96	19.36	264	0.00	0.47	20.28	79.25	clay
15	26	30.21	-96	19.62	262	0.00	1.66	18.30	80.04	clay
16	26	30.81	-96	19.41	303	0.00	0.16	16.23	83.62	clay
17	26	31.85	-96	19.76	307	0.00	0.18	16.55	83.27	clay
18	26	25.26	-96	32.78	61	0.00	23.20	18.60	58.20	clay
19	26	22.23	-96	27.28	71	0.74	13.92	23.17	62.17	clay
20	26	19.33	-96	21.61	83	2.64	68.49	7.68	21.18	sand
21	26	18.74	-96	20.39	101	0.00	7.92	24.75	67.33	clay
22	26	18.02	-96	18.20	204	0.00	0.49	23.74	75.76	clay
23	26	16.73	-96	16.41	352	0.00	0.83	20.36	78.81	clay
24	26	15.30	-96	20.15	122	0.00	0.69	25.86	73.46	silty clay
25	26	22.91	-96	21.99	86	0.00	80.67	5.90	13.44	sand
26	26	26.88	-96	23.53	92	0.17	32.51	17.96	49.36	sandy clay
27	26	29.31	-96	24.44	101	0.19	19.47	24.58	55.77	clay
28	26	32.06	-96	19.33	335	0.00	0.87	17.23	81.90	clay
29	26	36.63	-96	19.34	373	0.00	0.58	16.86	82.56	clay
30	26	17.94	-96	24.02	73	11.43	65.58	5.97	17.01	sand
31	26	18.88	-96	34.45	52	0.00	48.21	13.07	38.71	clayey sand
32	26	18.91	-96	33.85	48	6.20	74.80	4.46	14.54	sand
33	26	18.89	-96	29.85	68	0.22	29.45	17.44	52.89	sandy clay

Appendix E: CTD and XBT Tabulations

The tabulations that follow are available on disk as tab delimitted ASCII files and can be read format free. All latitudes are positive indicating north and longitudes are negative indicating west in conformance with Navy-standard databases. The XBTs have been merged with CTD salinity to produce sound speed profiles. The format for all the following tabulations is as follows:

LINE 1: **L**at(degrees.decimal deg) **L**on (degrees.decimal deg) **Y**rMoDay **H**ourMinSec
LINE 2: **N**umber of points **M**ixed layer bin **C**ast depth **B**athymetry
LINE 3: **C**ruise **V**essel **C**ast number / type (D/U signifies down/up cast)
LINES 4-END: **D**epth (m) **T**emperature (°C) **S**alinity (psu) **S**ound-speed (m/s)

26.19	-96.57	930923	113000
10	1	48	180
AA2	R/V-1	D1 CTD	
0.	28.48	35.68	1543.37
5.	28.54	35.63	1543.53
10.	28.58	35.58	1543.64
15.	28.58	35.54	1543.68
20.	28.32	35.51	1543.18
25.	28.02	35.48	1542.58
30.	27.53	35.54	1541.67
35.	26.29	35.61	1539.06
40.	24.43	35.68	1534.90
45.	23.97	35.70	1533.90

26.19	-96.57	930923	113000
10	1	47	180
AA2	R/V-1	U1 CTD	
0.	28.43	35.65	1543.23
5.	28.56	35.55	1543.48
10.	28.58	35.53	1543.59
15.	28.56	35.53	1543.63
20.	28.31	35.54	1543.19
25.	27.95	35.60	1542.56
30.	27.48	35.73	1541.76
35.	25.65	35.74	1537.74
40.	24.06	35.74	1534.08
45.	23.97	35.77	1533.97

26.31	-96.32	930924	181000
22	1	132	180
AA2	R/V-1	D2 CTD	
0.	29.05	35.49	1544.37
5.	29.12	35.48	1544.59
10.	29.12	35.41	1544.60
15.	29.07	35.30	1544.46
20.	29.02	35.34	1544.48
25.	29.02	35.34	1544.57
30.	28.09	35.51	1542.85
35.	27.43	35.61	1541.61
40.	26.16	35.46	1538.69
45.	24.68	35.56	1535.44
50.	23.59	35.59	1532.93
55.	22.95	35.64	1531.48
60.	22.38	35.61	1530.10
65.	21.87	35.60	1528.86
70.	21.45	35.71	1527.98
75.	21.07	35.68	1527.03
80.	20.67	35.81	1526.20
85.	20.11	35.78	1524.74
90.	19.48	35.82	1523.14
95.	19.19	35.87	1522.48
100.	18.83	35.78	1521.44
125.	17.06	35.61	1516.51

26.31	-96.32	930924	181000
22	1	132	180
AA2	R/V-1	U2 CTD	
0.	29.11	35.39	1544.39
5.	29.15	35.38	1544.55
10.	29.12	35.39	1544.58
15.	29.06	35.34	1544.48
20.	29.03	35.36	1544.53
25.	29.02	35.34	1544.57
30.	28.84	35.47	1544.41
35.	27.54	35.70	1541.94
40.	25.66	35.80	1537.92
45.	24.25	35.74	1534.62
50.	23.33	35.75	1532.47
55.	22.83	35.75	1531.31
60.	22.25	35.74	1529.91
65.	21.65	35.78	1528.50
70.	21.32	35.82	1527.77
75.	20.98	35.84	1526.98
80.	20.59	35.87	1526.06
85.	20.04	35.85	1524.63
90.	19.47	35.90	1523.21
95.	19.22	35.86	1522.55
100.	18.86	35.85	1521.61
125.	17.04	35.67	1516.53

26.31	-96.32	930924	231500
22	1	129	180
AA2	R/V-1	D3 CTD	
0.	29.16	35.01	1544.09
5.	29.21	35.58	1544.89
10.	29.18	35.42	1544.74
15.	29.06	35.41	1544.56
20.	29.06	35.38	1544.61
25.	29.02	35.41	1544.64
30.	28.79	35.46	1544.29
35.	27.26	35.72	1541.35
40.	26.10	35.50	1538.59
45.	24.15	35.67	1534.30
50.	23.52	35.69	1532.87
55.	23.09	35.67	1531.87
60.	22.27	35.68	1529.90
65.	21.57	35.75	1528.26
70.	20.74	35.71	1526.11
75.	20.49	35.81	1525.64
80.	20.06	35.85	1524.60
85.	19.65	35.86	1523.58
90.	19.22	35.87	1522.48
95.	18.69	35.83	1521.02
100.	18.32	35.86	1520.08
125.	16.54	35.64	1514.99

26.31	-96.32	930924	231500
22	1	128	180
AA2	R/V-1	U3 CTD	
0.	29.15	35.05	1544.11
5.	29.21	35.40	1544.70
10.	29.17	35.43	1544.73
15.	29.07	35.39	1544.56
20.	29.02	35.43	1544.58
25.	29.02	35.41	1544.64
30.	27.94	35.77	1542.81
35.	27.31	35.80	1541.55
40.	26.23	35.82	1539.24
45.	24.17	35.82	1534.51
50.	23.56	35.78	1533.07
55.	23.05	35.79	1531.90
60.	22.40	35.77	1530.33
65.	21.67	35.78	1528.55
70.	20.83	35.85	1526.51
75.	20.47	35.79	1525.56
80.	20.11	35.92	1524.82
85.	19.63	35.93	1523.60
90.	19.21	35.91	1522.50
95.	18.65	35.91	1521.00
100.	18.30	35.90	1520.07
125.	16.51	35.64	1514.90

26.31	-96.32	930925	33000
22	1	129	180
AA2	R/V-1	D4 CTD	
0.	29.16	35.58	1544.70
5.	29.21	35.58	1544.89
10.	29.18	35.42	1544.74
15.	29.06	35.41	1544.56
20.	29.06	35.38	1544.61
25.	29.02	35.41	1544.64
30.	28.79	35.46	1544.29
35.	27.26	35.72	1541.35
40.	26.10	35.50	1538.59
45.	24.15	35.67	1534.30
50.	23.52	35.69	1532.87
55.	23.09	35.67	1531.87
60.	22.27	35.68	1529.90
65.	21.57	35.75	1528.26
70.	20.74	35.71	1526.11
75.	20.49	35.81	1525.64
80.	20.06	35.85	1524.60
85.	19.65	35.86	1523.58
90.	19.22	35.87	1522.48
95.	18.69	35.83	1521.02
100.	18.32	35.86	1520.08
125.	16.54	35.64	1514.99

26.31	-96.32	930925	33000
22	1	129	180
AA2	R/V-1	U4 CTD	
0.	29.15	35.05	1544.11
5.	29.21	35.40	1544.70
10.	29.17	35.43	1544.73
15.	29.07	35.39	1544.56
20.	29.02	35.43	1544.58
25.	29.02	35.41	1544.64
30.	27.94	35.77	1542.81
35.	27.31	35.80	1541.55
40.	26.23	35.82	1539.24
45.	24.17	35.82	1534.51
50.	23.56	35.78	1533.07
55.	23.05	35.79	1531.90
60.	22.40	35.77	1530.33
65.	21.67	35.78	1528.55
70.	20.83	35.85	1526.51
75.	20.47	35.79	1525.56
80.	20.11	35.92	1524.82
85.	19.63	35.93	1523.60
90.	19.21	35.91	1522.50
95.	18.65	35.91	1521.00
100.	18.30	35.90	1520.07
125.	16.51	35.64	1514.90

26.31	-96.32	930925	112000
22	1	128	180
AA2	R/V-1	D5 CTD	
0.	29.09	35.20	1544.15
5.	29.02	35.62	1544.53
10.	29.05	35.52	1544.57
15.	29.07	35.51	1544.69
20.	29.06	35.52	1544.76
25.	29.07	35.51	1544.85
30.	28.84	35.55	1544.49
35.	26.71	35.72	1540.13
40.	25.45	35.85	1537.49
45.	24.76	35.72	1535.81
50.	23.84	35.78	1533.75
55.	22.94	35.84	1531.69
60.	22.41	35.78	1530.37
65.	21.80	35.87	1528.99
70.	21.47	35.81	1528.15
75.	21.27	35.87	1527.78
80.	21.14	35.88	1527.53
85.	20.54	35.87	1526.01
90.	20.04	35.90	1524.77
95.	19.66	35.93	1523.85
100.	19.13	35.94	1522.47
125.	17.78	35.92	1519.01

26.31	-96.32	930925	112000
22	1	128	180
AA2	R/V-1	U5 CTD	
0.	28.18	35.55	1542.59
5.	29.02	35.55	1544.46
10.	29.05	35.53	1544.58
15.	29.06	35.52	1544.68
20.	29.05	35.52	1544.74
25.	29.05	35.52	1544.82
30.	28.90	35.58	1544.65
35.	26.60	35.91	1540.09
40.	25.35	35.92	1537.33
45.	24.77	35.86	1535.99
50.	23.83	35.89	1533.85
55.	22.74	35.89	1531.24
60.	22.13	35.89	1529.78
65.	21.70	35.89	1528.76
70.	21.41	35.90	1528.10
75.	21.24	35.92	1527.76
80.	21.15	35.95	1527.64
85.	20.45	35.94	1525.85
90.	19.95	35.98	1524.62
95.	19.56	35.96	1523.61
100.	19.08	35.96	1522.36
125.	17.74	35.89	1518.85

26.31	-96.32	930925	150000
22	1	128	180
AA2	R/V-1	D6 CTD	
0.	28.89	35.84	1544.41
5.	29.02	35.62	1544.53
10.	29.02	35.61	1544.61
15.	29.02	35.55	1544.62
20.	29.02	35.54	1544.70
25.	28.89	35.58	1544.55
30.	27.66	35.76	1542.19
35.	26.39	35.86	1539.56
40.	25.27	35.84	1537.06
45.	24.42	35.92	1535.22
50.	23.57	35.95	1533.29
55.	22.71	35.85	1531.12
60.	21.80	35.85	1528.89
65.	21.36	35.90	1527.88
70.	21.12	35.97	1527.42
75.	20.52	35.89	1525.81
80.	19.94	36.04	1524.50
85.	19.45	36.07	1523.27
90.	19.19	35.99	1522.53
95.	18.84	36.01	1521.66
100.	18.43	35.97	1520.53
125.	16.25	35.72	1514.21

26.31	-96.32	930925	150000
22	1	128	180
AA2	R/V-1	U6 CTD	
0.	29.02	35.56	1544.39
5.	29.02	35.60	1544.51
10.	29.02	35.61	1544.61
15.	29.02	35.56	1544.64
20.	29.02	35.57	1544.73
25.	29.02	35.54	1544.78
30.	27.71	35.88	1542.43
35.	26.27	36.00	1539.45
40.	24.94	35.99	1536.45
45.	24.37	35.95	1535.14
50.	23.52	36.00	1533.22
55.	22.54	35.96	1530.82
60.	21.76	35.93	1528.88
65.	21.30	35.99	1527.83
70.	21.02	36.04	1527.23
75.	20.40	36.02	1525.64
80.	19.83	36.08	1524.25
85.	19.48	36.06	1523.34
90.	19.13	36.02	1522.40
95.	18.82	36.04	1521.64
100.	18.34	36.03	1520.34
125.	16.15	35.73	1513.91

26.31	-96.32	930925	191500
22	1	128	180
AA2	R/V-1	D7 CTD	
0.	29.12	35.75	1544.80
5.	29.12	35.70	1544.83
10.	29.07	35.65	1544.75
15.	29.02	35.68	1544.76
20.	29.02	35.61	1544.77
25.	28.99	35.63	1544.81
30.	28.93	35.65	1544.79
35.	26.87	35.87	1540.65
40.	24.95	35.92	1536.40
45.	23.88	35.94	1533.95
50.	23.38	36.05	1532.93
55.	22.66	35.98	1531.14
60.	22.12	35.93	1529.80
65.	21.54	36.04	1528.51
70.	20.81	36.03	1526.67
75.	20.20	36.06	1525.15
80.	19.56	36.01	1523.42
85.	19.19	36.14	1522.63
90.	18.81	36.01	1521.49
95.	18.29	36.02	1520.11
100.	17.82	35.98	1518.78
125.	16.75	35.93	1515.97

26.31	-96.32	930925	191500
22	1	128	180
AA2	R/V-1	U7 CTD	
0.	28.47	36.08	1543.78
5.	29.16	35.59	1544.79
10.	29.12	35.61	1544.82
15.	29.02	35.64	1544.72
20.	29.01	35.61	1544.75
25.	28.97	35.65	1544.79
30.	28.94	35.65	1544.81
35.	27.09	35.95	1541.23
40.	25.07	36.08	1536.86
45.	23.89	35.97	1534.01
50.	23.41	36.05	1533.01
55.	22.67	36.05	1531.25
60.	22.12	36.01	1529.89
65.	21.58	36.05	1528.63
70.	20.77	36.07	1526.61
75.	20.21	36.09	1525.21
80.	19.48	36.10	1523.31
85.	19.19	36.14	1522.63
90.	18.73	36.07	1521.34
95.	18.23	36.06	1519.98
100.	17.77	36.01	1518.67
125.	16.79	35.91	1516.07

26.31	-96.32	930926	34000
22	1	128	180
AA2	R/V-1	D8 CTD	
0.	28.92	35.73	1544.36
5.	28.96	35.73	1544.52
10.	28.97	35.73	1544.63
15.	28.97	35.72	1544.70
20.	28.97	35.72	1544.78
25.	28.97	35.72	1544.87
30.	27.56	36.06	1542.30
35.	26.32	36.09	1539.66
40.	25.34	35.85	1537.23
45.	23.97	35.97	1534.20
50.	23.36	36.03	1532.86
55.	22.88	36.09	1531.82
60.	22.23	36.06	1530.23
65.	21.72	36.07	1529.02
70.	21.30	36.13	1528.07
75.	20.55	36.15	1526.19
80.	20.03	36.17	1524.90
85.	19.76	36.24	1524.32
90.	19.55	36.10	1523.66
95.	18.70	36.15	1521.43
100.	18.65	36.18	1521.41
125.	17.32	36.07	1517.84

26.31	-96.32	930926	34000
22	1	128	180
AA2	R/V-1	U8 CTD	
0.	29.22	35.68	1544.93
5.	28.96	35.73	1544.52
10.	28.97	35.72	1544.62
15.	28.95	35.73	1544.67
20.	28.96	35.73	1544.77
25.	28.96	35.73	1544.86
30.	27.62	36.11	1542.48
35.	26.37	36.19	1539.88
40.	25.16	36.17	1537.17
45.	23.81	36.06	1533.91
50.	23.23	36.13	1532.65
55.	22.70	36.13	1531.42
60.	21.98	36.13	1529.67
65.	21.54	36.17	1528.66
70.	21.14	36.19	1527.72
75.	20.43	36.25	1525.99
80.	20.02	36.19	1524.89
85.	19.68	36.30	1524.17
90.	19.30	36.20	1523.09
95.	18.70	36.14	1521.42
100.	18.57	36.20	1521.20
125.	17.31	36.08	1517.82

26.31	-96.32	930926	113000
22	1	130	180
AA2	R/V-1	D9 CTD	
0.	28.32	35.45	1542.78
5.	28.97	35.80	1544.62
10.	28.97	35.77	1544.67
15.	28.97	35.72	1544.70
20.	28.97	35.72	1544.78
25.	28.97	35.72	1544.87
30.	28.45	35.81	1543.95
35.	26.76	36.04	1540.59
40.	25.84	36.02	1538.57
45.	24.57	35.85	1535.50
50.	23.63	35.99	1533.48
55.	22.97	36.01	1531.95
60.	22.43	36.07	1530.75
65.	22.03	36.00	1529.73
70.	21.28	36.03	1527.91
75.	20.34	36.16	1525.64
80.	20.05	36.16	1524.94
85.	19.52	36.19	1523.60
90.	19.32	36.20	1523.14
95.	18.82	36.03	1521.63
100.	18.34	36.10	1520.43
125.	16.95	35.98	1516.63

26.31	-96.32	930926	113000
22	1	129	180
AA2	R/V-1	U9 CTD	
0.	28.97	35.72	1544.45
5.	28.97	35.72	1544.53
10.	28.97	35.72	1544.62
15.	28.97	35.72	1544.70
20.	28.97	35.72	1544.78
25.	28.96	35.73	1544.86
30.	28.24	35.98	1543.68
35.	26.64	36.14	1540.43
40.	25.66	36.09	1538.24
45.	24.36	36.05	1535.23
50.	23.38	36.07	1532.96
55.	22.78	36.13	1531.62
60.	22.36	36.10	1530.61
65.	21.77	36.14	1529.23
70.	21.13	36.10	1527.59
75.	20.30	36.20	1525.58
80.	20.03	36.19	1524.92
85.	19.51	36.20	1523.59
90.	19.31	36.21	1523.13
95.	18.82	36.22	1521.85
100.	18.32	36.15	1520.43
125.	16.98	36.03	1516.78

26.31	-96.32	930926	153000
22	1	128	180
AA2	R/V-1	D10 CTD	
0.	28.96	35.83	1544.55
5.	28.95	35.82	1544.60
10.	28.93	35.82	1544.64
15.	28.94	35.80	1544.72
20.	28.94	35.74	1544.74
25.	28.93	35.75	1544.82
30.	28.60	35.87	1544.33
35.	26.17	36.11	1539.34
40.	25.21	36.14	1537.25
45.	24.17	35.96	1534.67
50.	23.39	35.89	1532.78
55.	22.31	36.12	1530.42
60.	22.00	36.14	1529.73
65.	21.52	36.14	1528.58
70.	20.95	36.12	1527.14
75.	20.38	36.27	1525.88
80.	20.24	36.24	1525.55
85.	19.94	36.24	1524.82
90.	19.49	36.08	1523.47
95.	19.12	36.23	1522.70
100.	18.40	36.17	1520.68
125.	17.14	36.06	1517.29

26.31	-96.32	930926	153000
22	1	128	180
AA2	R/V-1	U10 CTD	
0.	28.97	35.73	1544.46
5.	28.97	35.76	1544.58
10.	28.97	35.79	1544.69
15.	28.95	35.79	1544.73
20.	28.95	35.76	1544.79
25.	28.92	35.76	1544.81
30.	28.47	35.99	1544.18
35.	26.02	36.20	1539.10
40.	25.12	36.24	1537.15
45.	23.98	36.12	1534.39
50.	23.02	36.15	1532.16
55.	22.26	36.18	1530.36
60.	22.00	36.17	1529.77
65.	21.49	36.22	1528.59
70.	20.93	36.22	1527.20
75.	20.38	36.28	1525.89
80.	20.23	36.25	1525.53
85.	19.98	36.29	1524.98
90.	19.41	36.21	1523.41
95.	18.92	36.33	1522.26
100.	18.32	36.20	1520.49
125.	17.19	36.10	1517.49

26.31	-96.32	930926	193300
22	1	128	180
AA2	R/V-1	D11 CTD	
0.	29.28	35.65	1545.03
5.	29.12	36.06	1545.21
10.	29.06	36.00	1545.11
15.	28.97	35.93	1544.93
20.	28.97	35.86	1544.93
25.	28.94	35.88	1544.98
30.	28.89	35.84	1544.91
35.	27.26	35.98	1541.63
40.	24.92	36.13	1536.56
45.	23.79	36.06	1533.86
50.	23.12	36.15	1532.40
55.	22.50	36.22	1531.02
60.	22.03	36.19	1529.87
65.	21.42	36.19	1528.38
70.	20.58	36.22	1526.27
75.	20.39	36.25	1525.88
80.	20.17	36.29	1525.42
85.	19.62	36.17	1523.86
90.	18.87	36.23	1521.92
95.	18.34	36.21	1520.48
100.	17.74	36.13	1518.73
125.	16.75	36.05	1516.12

26.31	-96.32	930926	193300
22	1	128	180
AA2	R/V-1	U11 CTD	
0.	29.18	35.02	1544.14
5.	29.11	35.75	1544.86
10.	29.02	35.82	1544.83
15.	28.96	35.81	1544.78
20.	28.97	35.80	1544.87
25.	28.94	35.81	1544.90
30.	28.90	35.84	1544.93
35.	26.87	36.23	1541.04
40.	24.73	36.26	1536.26
45.	23.71	36.19	1533.82
50.	22.93	36.23	1532.02
55.	22.34	36.17	1530.55
60.	21.77	36.20	1529.21
65.	21.12	36.23	1527.64
70.	20.46	36.24	1525.98
75.	20.29	36.33	1525.71
80.	19.95	36.32	1524.85
85.	19.40	36.31	1523.41
90.	18.75	36.29	1521.65
95.	18.31	36.23	1520.41
100.	17.67	36.18	1518.59
125.	16.70	36.10	1516.03

26.31	-96.32	930926	233000
22	1	128	180
AA2	R/V-1	D12 CTD	
0.	29.14	36.08	1545.19
5.	29.11	36.11	1545.25
10.	29.12	36.02	1545.25
15.	28.97	35.95	1544.95
20.	28.92	35.89	1544.86
25.	28.92	35.89	1544.94
30.	28.78	35.92	1544.76
35.	25.91	36.13	1538.77
40.	24.94	36.19	1536.67
45.	24.26	36.17	1535.12
50.	23.34	36.16	1532.96
55.	22.57	36.24	1531.21
60.	22.12	36.25	1530.17
65.	21.73	36.19	1529.18
70.	20.92	36.23	1527.19
75.	20.26	36.28	1525.57
80.	19.93	36.31	1524.79
85.	19.59	36.32	1523.95
90.	18.80	36.31	1521.82
95.	18.03	36.19	1519.56
100.	17.45	36.21	1517.98
125.	16.77	36.13	1516.27

26.31	-96.32	930926	233000
22	1	128	180
AA2	R/V-1	U12 CTD	
0.	29.07	35.92	1544.88
5.	29.07	35.86	1544.89
10.	29.05	35.83	1544.90
15.	28.96	35.86	1544.83
20.	28.92	35.85	1544.82
25.	28.91	35.83	1544.86
30.	28.83	35.87	1544.82
35.	25.73	36.21	1538.45
40.	24.40	36.24	1535.45
45.	23.83	36.25	1534.18
50.	22.96	36.21	1532.07
55.	22.50	36.26	1531.06
60.	22.03	36.24	1529.93
65.	21.62	36.24	1528.95
70.	20.83	36.32	1527.06
75.	20.27	36.35	1525.67
80.	19.93	36.34	1524.82
85.	19.69	36.35	1524.26
90.	18.83	36.31	1521.90
95.	17.90	36.23	1519.23
100.	17.41	36.22	1517.87
125.	16.75	36.14	1516.23

26.31	-96.32	930927	33000
22	1	127	180
AA2	R/V-1	D13 CTD	
0.	28.84	36.08	1544.56
5.	28.87	35.96	1544.58
10.	28.92	35.90	1544.71
15.	28.89	35.92	1544.75
20.	28.87	35.92	1544.79
25.	28.84	35.88	1544.77
30.	28.75	35.90	1544.68
35.	27.56	36.29	1542.63
40.	26.08	36.21	1539.33
45.	24.51	36.21	1535.76
50.	23.68	36.18	1533.81
55.	22.82	36.25	1531.85
60.	22.46	36.22	1531.00
65.	21.86	36.17	1529.49
70.	21.09	36.26	1527.67
75.	20.47	36.33	1526.19
80.	20.22	36.41	1525.69
85.	19.94	36.40	1525.00
90.	19.11	36.32	1522.70
95.	18.49	36.25	1520.95
100.	18.02	36.32	1519.77
125.	17.19	36.19	1517.60

26.31	-96.32	930927	33000
22	1	127	180
AA2	R/V-1	U13 CTD	
0.	27.99	35.29	1541.90
5.	28.87	35.87	1544.48
10.	28.87	35.86	1544.56
15.	28.87	35.86	1544.64
20.	28.86	35.86	1544.70
25.	28.82	35.89	1544.73
30.	28.82	35.87	1544.80
35.	27.45	36.34	1542.44
40.	25.97	36.34	1539.22
45.	24.40	36.27	1535.57
50.	23.49	36.29	1533.47
55.	22.73	36.30	1531.69
60.	22.34	36.32	1530.81
65.	21.82	36.30	1529.54
70.	21.04	36.38	1527.68
75.	20.50	36.36	1526.30
80.	20.22	36.41	1525.69
85.	19.97	36.47	1525.17
90.	19.15	36.37	1522.87
95.	18.39	36.40	1520.84
100.	18.02	36.32	1519.77
125.	17.14	36.23	1517.50

26.31	-96.32	930927	33000
22	2	127	180
AA2	R/V-1	D14 CTD	
0.	28.88	35.84	1544.39
5.	28.87	35.80	1544.41
10.	28.87	35.80	1544.49
15.	28.87	35.81	1544.59
20.	28.86	35.80	1544.64
25.	28.87	35.79	1544.73
30.	28.82	35.83	1544.75
35.	28.41	35.71	1543.84
40.	26.84	35.10	1539.82
45.	24.80	35.75	1535.94
50.	23.98	35.75	1534.06
55.	23.08	36.04	1532.26
60.	22.59	36.14	1531.23
65.	22.23	35.93	1530.16
70.	21.35	36.08	1528.15
75.	20.89	36.12	1527.07
80.	20.38	36.28	1525.97
85.	20.22	36.25	1525.59
90.	19.77	35.97	1524.12
95.	19.18	36.04	1522.65
100.	18.46	35.93	1520.57
125.	17.24	35.89	1517.38

26.31	-96.32	930927	33000
22	1	127	180
AA2	R/V-1	U14 CTD	
0.	28.87	36.04	1544.58
5.	28.87	35.83	1544.44
10.	28.87	35.85	1544.55
15.	28.87	35.85	1544.63
20.	28.86	35.80	1544.64
25.	28.82	35.83	1544.67
30.	28.81	35.84	1544.74
35.	27.32	36.36	1542.18
40.	25.14	36.27	1537.23
45.	24.23	36.22	1535.11
50.	23.30	36.25	1532.96
55.	22.74	36.27	1531.68
60.	22.44	36.28	1531.02
65.	22.08	36.28	1530.18
70.	21.16	36.31	1527.92
75.	20.64	36.31	1526.62
80.	20.26	36.38	1525.76
85.	20.02	36.42	1525.24
90.	19.30	36.38	1523.30
95.	18.68	36.37	1521.63
100.	18.04	36.30	1519.80
125.	17.19	36.19	1517.60

26.31	-96.32	930927	114700
22	1	125	180
AA2	R/V-1	D15 CTD	
0.	28.67	35.64	1543.73
5.	28.77	35.72	1544.11
10.	28.87	35.81	1544.50
15.	28.97	35.93	1544.93
20.	28.97	35.87	1544.95
25.	28.97	35.86	1545.02
30.	28.78	35.92	1544.76
35.	26.82	36.12	1540.81
40.	25.58	36.13	1538.10
45.	23.88	36.08	1534.11
50.	22.55	36.14	1530.97
55.	21.88	36.20	1529.41
60.	21.78	36.22	1529.26
65.	21.72	36.22	1529.19
70.	21.10	36.23	1527.67
75.	20.65	36.28	1526.61
80.	20.51	36.33	1526.38
85.	20.19	36.35	1525.62
90.	19.67	36.30	1524.23
95.	18.94	36.30	1522.28
100.	18.71	36.30	1521.72
125.	17.58	36.22	1518.78

26.31	-96.32	930927	114700
21	1	124	180
AA2	R/V-1	U15 CTD	
0.	28.77	35.31	1543.59
5.	28.77	35.56	1543.94
10.	28.91	35.71	1544.48
15.	28.97	35.86	1544.85
20.	28.97	35.86	1544.93
25.	28.92	35.89	1544.94
30.	28.60	36.00	1544.47
35.	26.61	36.19	1540.42
40.	25.33	36.21	1537.61
45.	23.88	36.18	1534.22
50.	22.81	36.17	1531.66
55.	22.00	36.24	1529.77
60.	21.77	36.23	1529.25
65.	21.58	36.23	1528.84
70.	20.71	36.26	1526.67
75.	20.59	36.28	1526.45
80.	20.42	36.30	1526.10
85.	20.16	36.36	1525.55
90.	19.75	36.29	1524.44
95.	19.17	36.34	1522.97
100.	18.80	36.31	1521.98

26.31	-96.32	930927	170000
21	1	107	180
AA2	R/V-1	D16 CTD	
0.	28.79	35.83	1544.19
5.	28.82	35.83	1544.34
10.	28.88	35.79	1544.50
15.	28.97	35.79	1544.78
20.	29.02	35.82	1545.00
25.	29.02	35.82	1545.08
30.	29.00	35.82	1545.12
35.	27.61	36.19	1542.63
40.	25.73	36.09	1538.40
45.	24.59	36.05	1535.77
50.	23.63	36.02	1533.51
55.	23.05	36.07	1532.22
60.	22.38	36.11	1530.67
65.	21.53	36.15	1528.62
70.	20.67	36.10	1526.37
75.	20.54	36.26	1526.30
80.	19.76	36.30	1524.31
85.	19.19	36.19	1522.69
90.	19.00	36.31	1522.38
95.	18.36	36.20	1520.52
100.	17.96	36.18	1519.43

26.31	-96.32	930927	170000
21	1	107	180
AA2	R/V-1	U16 CTD	
0.	28.03	35.72	1542.45
5.	28.87	35.70	1544.30
10.	28.92	35.76	1544.56
15.	28.97	35.78	1544.77
20.	29.07	35.78	1545.06
25.	29.07	35.81	1545.17
30.	28.81	35.93	1544.84
35.	27.44	36.19	1542.26
40.	25.70	36.19	1538.44
45.	24.61	36.19	1535.98
50.	23.54	36.14	1533.43
55.	22.85	36.15	1531.81
60.	22.28	36.24	1530.56
65.	21.42	36.25	1528.44
70.	20.61	36.18	1526.31
75.	20.40	36.32	1525.99
80.	19.70	36.31	1524.16
85.	19.11	36.25	1522.54
90.	18.97	36.31	1522.30
95.	18.28	36.23	1520.33
100.	17.90	36.22	1519.30

26.31	-96.32	930928	0
21	1	120	180
AA2	R/V-1	D17 CTD	
0.	28.33	36.32	1543.74
5.	28.75	36.33	1544.72
10.	28.96	36.10	1545.00
15.	28.97	36.07	1545.08
20.	28.97	36.05	1545.14
25.	28.97	36.00	1545.17
30.	28.96	36.07	1545.31
35.	27.56	36.36	1542.70
40.	26.36	36.34	1540.11
45.	25.11	36.24	1537.21
50.	23.88	36.30	1534.44
55.	23.01	36.30	1532.38
60.	22.35	36.32	1530.83
65.	21.79	36.27	1529.43
70.	21.34	36.36	1528.44
75.	20.78	36.35	1527.04
80.	20.27	36.37	1525.78
85.	19.47	36.40	1523.71
90.	19.28	36.40	1523.27
95.	19.09	36.40	1522.82
100.	18.66	36.35	1521.63

26.31	-96.32	930928	0
21	1	120	180
AA2	R/V-1	U17 CTD	
0.	28.94	36.22	1544.92
5.	28.93	35.89	1544.63
10.	28.94	35.88	1544.73
15.	28.96	35.87	1544.84
20.	28.96	35.86	1544.91
25.	28.97	35.86	1545.02
30.	28.91	36.05	1545.18
35.	27.45	36.35	1542.45
40.	26.27	36.37	1539.94
45.	25.02	36.30	1537.07
50.	23.89	36.32	1534.48
55.	23.09	36.33	1532.62
60.	22.26	36.28	1530.56
65.	21.76	36.30	1529.38
70.	21.33	36.39	1528.45
75.	20.77	36.36	1527.03
80.	20.21	36.40	1525.65
85.	19.45	36.43	1523.69
90.	19.24	36.43	1523.19
95.	18.97	36.46	1522.56
100.	18.55	36.44	1521.43

26.30	-96.32	930928	113000
22	2	126	180
AA2	R/V-1	D18 CTD	
0.	28.48	36.17	1543.90
5.	28.62	36.47	1544.60
10.	28.63	36.40	1544.63
15.	28.63	36.33	1544.64
20.	28.63	36.33	1544.72
25.	28.63	36.32	1544.79
30.	28.63	36.25	1544.80
35.	28.57	36.26	1544.77
40.	26.07	36.32	1539.43
45.	23.98	36.35	1534.65
50.	23.19	36.28	1532.72
55.	22.39	36.32	1530.85
60.	21.45	36.29	1528.49
65.	20.98	36.42	1527.49
70.	20.56	36.50	1526.55
75.	20.53	36.43	1526.47
80.	20.13	36.43	1525.47
85.	20.02	36.48	1525.31
90.	19.82	36.42	1524.78
95.	19.37	36.49	1523.71
100.	19.36	36.57	1523.86
125.	18.46	36.43	1521.57

26.30	-96.32	930928	113000
22	2	126	180
AA2	R/V-1	U18 CTD	
0.	27.76	35.57	1541.70
5.	28.63	36.14	1544.27
10.	28.63	36.13	1544.34
15.	28.63	36.14	1544.43
20.	28.63	36.19	1544.57
25.	28.63	36.18	1544.64
30.	28.64	36.17	1544.74
35.	28.11	36.41	1543.95
40.	25.59	36.47	1538.50
45.	23.92	36.32	1534.47
50.	22.96	36.37	1532.26
55.	22.22	36.39	1530.50
60.	21.34	36.36	1528.28
65.	20.81	36.43	1527.05
70.	20.61	36.49	1526.67
75.	20.59	36.44	1526.64
80.	20.07	36.42	1525.30
85.	20.02	36.42	1525.24
90.	19.90	36.47	1525.06
95.	19.38	36.50	1523.75
100.	19.39	36.55	1523.92
125.	18.44	36.45	1521.54

26.30	-96.32	930928	153000
22	2	132	180
AA2	R/V-1	D19 CTD	
0.	28.11	36.23	1543.17
5.	28.58	36.16	1544.18
10.	28.58	36.16	1544.27
15.	28.59	36.12	1544.33
20.	28.58	36.08	1544.35
25.	28.58	36.08	1544.43
30.	28.58	36.09	1544.52
35.	28.58	36.09	1544.61
40.	26.23	35.73	1539.14
45.	24.28	36.26	1535.27
50.	23.86	36.21	1534.29
55.	22.79	35.97	1531.46
60.	21.47	36.32	1528.57
65.	21.14	36.25	1527.71
70.	20.79	36.33	1526.96
75.	20.22	36.30	1525.48
80.	20.00	36.36	1525.04
85.	19.57	36.40	1523.99
90.	19.59	36.46	1524.20
95.	19.46	36.42	1523.87
100.	19.25	36.38	1523.33
125.	17.39	36.27	1518.28

26.30	-96.32	930928	153000
22	2	132	180
AA2	R/V-1	U19 CTD	
0.	29.16	36.06	1545.21
5.	28.56	36.09	1544.06
10.	28.56	36.10	1544.16
15.	28.58	36.09	1544.27
20.	28.57	36.07	1544.31
25.	28.58	36.08	1544.43
30.	28.58	36.08	1544.51
35.	28.52	36.10	1544.49
40.	26.00	36.39	1539.35
45.	24.29	36.25	1535.28
50.	23.90	36.27	1534.45
55.	22.84	36.25	1531.90
60.	21.46	36.33	1528.56
65.	21.05	36.36	1527.60
70.	20.65	36.38	1526.65
75.	20.08	36.39	1525.21
80.	19.91	36.37	1524.80
85.	19.56	36.41	1523.97
90.	19.58	36.47	1524.18
95.	19.43	36.45	1523.83
100.	19.21	36.41	1523.25
125.	17.39	36.27	1518.28

26.30	-96.32	930928	193000
22	1	146	180
AA2	R/V-1	D20 CTD	
0.	28.63	36.33	1544.39
5.	28.63	36.28	1544.42
10.	28.63	36.22	1544.44
15.	28.63	36.16	1544.45
20.	28.63	36.12	1544.50
25.	28.63	36.11	1544.57
30.	28.54	36.18	1544.54
35.	27.69	36.30	1542.92
40.	25.98	36.02	1538.89
45.	24.23	36.30	1535.20
50.	23.66	36.27	1533.87
55.	22.39	36.20	1530.71
60.	21.57	36.31	1528.82
65.	21.24	36.36	1528.10
70.	20.97	36.34	1527.45
75.	20.25	36.34	1525.61
80.	19.93	36.34	1524.82
85.	19.68	36.47	1524.37
90.	19.63	36.51	1524.37
95.	19.51	36.45	1524.05
100.	19.09	36.38	1522.88
125.	17.39	36.27	1518.28

26.30	-96.32	930928	193000
22	1	146	180
AA2	R/V-1	U20 CTD	
0.	28.63	36.12	1544.16
5.	28.63	36.12	1544.24
10.	28.63	36.12	1544.33
15.	28.63	36.12	1544.41
20.	28.63	36.12	1544.50
25.	28.63	36.11	1544.57
30.	28.58	36.15	1544.59
35.	27.73	36.33	1543.04
40.	26.00	36.27	1539.21
45.	24.38	36.29	1535.54
50.	23.79	36.28	1534.19
55.	22.69	36.18	1531.45
60.	21.59	36.29	1528.85
65.	21.17	36.39	1527.95
70.	20.81	36.33	1527.01
75.	20.04	36.42	1525.13
80.	19.87	36.37	1524.69
85.	19.65	36.49	1524.31
90.	19.63	36.51	1524.37
95.	19.53	36.43	1524.08
100.	19.04	36.42	1522.79
125.	17.39	36.27	1518.28

26.30	-96.32	930928	233000
22	1	145	180
AA2	R/V-1	D21 CTD	
0.	28.67	36.40	544.55
5.	28.63	36.33	1544.47
10.	28.63	36.31	1544.53
15.	28.67	36.22	1544.60
20.	28.68	36.15	1544.63
25.	28.68	36.15	1544.72
30.	28.68	36.08	1544.72
35.	27.83	36.19	1543.11
40.	25.79	35.93	1538.36
45.	24.44	36.28	1535.68
50.	24.14	36.30	1535.06
55.	23.67	36.22	1533.92
60.	23.08	36.20	1532.53
65.	21.79	36.22	1529.37
70.	20.91	36.37	1527.33
75.	20.46	36.32	1526.15
80.	20.03	36.35	1525.11
85.	19.68	36.47	1524.37
90.	19.68	36.46	1524.44
95.	19.58	36.42	1524.20
100.	18.96	36.36	1522.49
125.	18.01	36.31	1520.14

26.30	-96.32	930928	233000
22	1	145	180
AA2	R/V-1	U21 CTD	
0.	28.04	36.56	1543.38
5.	28.68	36.08	1544.31
10.	28.64	36.11	1544.34
15.	28.63	36.12	1544.41
20.	28.67	36.09	1544.55
25.	28.67	36.09	1544.63
30.	28.63	36.11	1544.65
35.	27.27	36.41	1542.12
40.	25.71	36.30	1538.58
45.	24.44	36.35	1535.75
50.	24.12	36.37	1535.09
55.	23.70	36.30	1534.08
60.	22.93	36.33	1532.30
65.	21.67	36.31	1529.16
70.	20.86	36.37	1527.19
75.	20.32	36.39	1525.86
80.	20.01	36.39	1525.10
85.	19.71	36.44	1524.42
90.	19.68	36.46	1524.44
95.	19.51	36.47	1524.07
100.	18.93	36.45	1522.51
125.	17.97	36.35	1520.07

26.30	-96.32	930929	33000
22	2	141	180
AA2	R/V-1	D22 CTD	
0.	28.65	36.41	1544.52
5.	28.63	36.33	1544.47
10.	28.63	36.33	1544.55
15.	28.64	36.31	1544.64
20.	28.63	36.26	1544.65
25.	28.64	36.25	1544.74
30.	28.63	36.23	1544.78
35.	28.41	36.16	1544.32
40.	25.51	36.09	1537.89
45.	24.22	36.29	1535.16
50.	23.57	36.06	1533.41
55.	22.76	36.22	1531.67
60.	22.09	36.21	1530.05
65.	21.40	36.31	1528.46
70.	21.17	36.37	1528.01
75.	20.88	36.30	1527.25
80.	20.12	36.31	1525.30
85.	19.76	36.41	1524.52
90.	19.78	36.42	1524.67
95.	19.68	36.44	1524.50
100.	19.09	36.40	1522.90
125.	18.13	36.39	1520.58

26.30	-96.32	930929	113000
22	2	138	180
AA2	R/V-1	D23 CTD	
0.	28.53	36.50	1544.36
5.	28.53	36.47	1544.41
10.	28.52	36.60	1544.61
15.	28.53	36.54	1544.65
20.	28.53	36.48	1544.67
25.	28.53	36.47	1544.74
30.	28.53	36.40	1544.75
35.	28.39	36.36	1544.49
40.	26.16	36.43	1539.75
45.	25.00	36.35	1537.08
50.	24.10	36.31	1534.98
55.	23.05	36.33	1532.52
60.	22.23	36.23	1530.43
65.	21.55	36.26	1528.79
70.	21.30	36.39	1528.37
75.	21.02	36.31	1527.63
80.	20.29	36.32	1525.78
85.	20.04	36.43	1525.31
90.	19.82	36.42	1524.78
95.	19.32	36.39	1523.45
100.	18.88	36.34	1522.24
125.	16.95	36.23	1516.93

26.30	-96.32	930929	113000
22	2	137	180
AA2	R/V-1	U23 CTD	
0.	28.53	36.20	1544.04
5.	28.53	36.20	1544.12
10.	28.53	36.19	1544.19
15.	28.53	36.19	1544.27
20.	28.53	36.18	1544.35
25.	28.53	36.16	1544.41
30.	28.53	36.17	1544.50
35.	28.47	36.16	1544.45
40.	25.70	36.42	1538.69
45.	24.78	36.22	1536.41
50.	23.67	36.21	1533.82
55.	22.82	36.27	1531.88
60.	22.10	36.25	1530.12
65.	21.46	36.31	1528.62
70.	21.31	36.30	1528.30
75.	20.86	36.33	1527.23
80.	20.19	36.33	1525.52
85.	19.99	36.45	1525.20
90.	19.58	36.42	1524.12
95.	19.21	36.41	1523.17
100.	18.69	36.35	1521.72
125.	16.95	36.23	1516.93

26.30	-96.32	930929	153000
22	2	139	180
AA2	R/V-1	D24 CTD	
0.	28.51	36.42	1544.23
5.	28.52	36.41	1544.32
10.	28.48	36.44	1544.35
15.	28.50	36.35	1544.38
20.	28.50	36.31	1544.42
25.	28.52	36.20	1544.43
30.	28.51	36.20	1544.49
35.	28.04	36.07	1543.43
40.	26.21	36.18	1539.59
45.	24.43	36.17	1535.53
50.	23.48	36.12	1533.26
55.	22.41	36.14	1530.70
60.	21.70	36.18	1529.01
65.	21.42	36.26	1528.46
70.	20.79	36.23	1526.85
75.	20.19	36.29	1525.39
80.	20.13	36.33	1525.35
85.	20.02	36.42	1525.24
90.	19.88	36.42	1524.94
95.	19.34	36.36	1523.47
100.	19.13	36.32	1522.92
125.	17.24	36.17	1517.72

26.30	-96.32	930929	153000
22	2	138	180
AA2	R/V-1	U24 CTD	
0.	28.51	36.23	1544.03
5.	28.51	36.22	1544.10
10.	28.53	36.19	1544.19
15.	28.52	36.20	1544.26
20.	28.52	36.20	1544.35
25.	28.52	36.19	1544.42
30.	28.51	36.20	1544.49
35.	27.74	36.37	1543.11
40.	26.05	36.35	1539.42
45.	24.48	36.31	1535.80
50.	23.45	36.28	1533.37
55.	22.33	36.23	1530.60
60.	21.67	36.25	1529.01
65.	21.42	36.31	1528.51
70.	20.70	36.35	1526.74
75.	20.16	36.34	1525.37
80.	20.12	36.33	1525.33
85.	20.05	36.39	1525.29
90.	19.87	36.46	1524.96
95.	19.29	36.39	1523.37
100.	18.94	36.42	1522.51
125.	17.23	36.17	1517.69

26.30	-96.32	930929	193000
22	1	136	180
AA2	R/V-1	D25 CTD	
0.	28.53	36.55	1544.41
5.	28.53	36.47	1544.41
10.	28.53	36.40	1544.42
15.	28.53	36.40	1544.50
20.	28.51	36.41	1544.55
25.	28.48	36.38	1544.54
30.	28.48	36.36	1544.60
35.	27.81	35.94	1542.79
40.	24.77	36.36	1536.46
45.	24.53	36.35	1535.97
50.	23.65	36.27	1533.84
55.	22.82	36.30	1531.91
60.	22.16	36.25	1530.27
65.	21.45	36.25	1528.52
70.	20.87	36.28	1527.12
75.	20.23	36.30	1525.51
80.	19.87	36.34	1524.66
85.	19.54	36.43	1523.94
90.	19.37	36.43	1523.55
95.	18.94	36.38	1522.38
100.	18.73	36.39	1521.88
125.	17.76	36.29	1519.39

26.30	-96.32	930929	193000
22	2	136	180
AA2	R/V-1	U25 CTD	
0.	27.69	36.31	1542.35
5.	28.53	36.27	1544.19
10.	28.53	36.32	1544.33
15.	28.53	36.26	1544.35
20.	28.53	36.23	1544.40
25.	28.53	36.25	1544.51
30.	28.52	36.23	1544.55
35.	27.92	36.26	1543.38
40.	24.76	36.31	1536.39
45.	24.38	36.38	1535.64
50.	23.52	36.29	1533.55
55.	22.68	36.31	1531.57
60.	21.91	36.31	1529.70
65.	21.28	36.30	1528.14
70.	20.76	36.34	1526.89
75.	20.08	36.38	1525.20
80.	19.83	36.35	1524.56
85.	19.54	36.43	1523.94
90.	19.24	36.43	1523.19
95.	18.87	36.42	1522.23
100.	18.59	36.41	1521.51
125.	17.53	36.26	1518.68

26.30	-96.32	930929	233000
22	2	143	180
AA2	R/V-1	D26 CTD	
0.	28.21	36.40	1543.57
5.	28.39	36.17	1543.79
10.	28.43	36.20	1543.99
15.	28.43	36.17	1544.04
20.	28.43	36.18	1544.13
25.	28.43	36.19	1544.23
30.	28.48	36.26	1544.49
35.	28.48	36.29	1544.61
40.	25.94	36.31	1539.12
45.	24.31	36.39	1535.49
50.	23.53	36.30	1533.58
55.	22.78	36.23	1531.73
60.	22.10	36.25	1530.12
65.	21.67	36.33	1529.19
70.	21.21	36.33	1528.07
75.	20.83	36.36	1527.18
80.	20.14	36.37	1525.43
85.	19.75	36.35	1524.43
90.	19.33	36.43	1523.44
95.	18.63	36.40	1521.53
100.	18.61	36.40	1521.55
125.	17.41	36.25	1518.32

26.30	-96.32	930929	233000
22	2	143	180
AA2	R/V-1	U26 CTD	
0.	28.38	36.93	1544.50
5.	28.38	36.17	1543.77
10.	28.43	36.13	1543.91
15.	28.43	36.13	1544.00
20.	28.43	36.18	1544.13
25.	28.48	36.16	1544.30
30.	28.48	36.23	1544.46
35.	27.89	36.36	1543.42
40.	24.88	36.31	1536.67
45.	24.08	36.31	1534.85
50.	23.43	36.30	1533.34
55.	22.86	36.26	1531.96
60.	22.18	36.26	1530.33
65.	21.75	36.28	1529.33
70.	21.25	36.37	1528.22
75.	20.91	36.39	1527.43
80.	20.36	36.42	1526.08
85.	19.91	36.38	1524.90
90.	19.35	36.38	1523.44
95.	18.75	36.47	1521.95
100.	18.61	36.41	1521.56
125.	17.26	36.29	1517.92

26.30	-96.32	930930	33000
22	2	136	180
AA2	R/V-1	D27 CTD	
0.	27.89	36.43	1542.91
5.	28.35	36.47	1544.03
10.	28.38	36.37	1544.07
15.	28.38	36.30	1544.07
20.	28.37	36.25	1544.08
25.	28.38	36.16	1544.09
30.	28.38	36.16	1544.17
35.	28.25	36.16	1543.98
40.	26.08	36.31	1539.44
45.	25.01	36.34	1537.09
50.	24.40	36.23	1535.61
55.	23.17	36.31	1532.79
60.	22.01	36.28	1529.92
65.	21.54	36.32	1528.84
70.	21.17	36.37	1528.01
75.	21.12	36.43	1528.03
80.	20.51	36.36	1526.41
85.	19.92	36.41	1524.96
90.	19.41	36.48	1523.72
95.	19.07	36.43	1522.80
100.	18.77	36.50	1522.12
125.	17.98	36.36	1520.11

26.30	-96.32	930930	33000
22	1	136	180
AA2	R/V-1	U27 CTD	
0.	27.83	36.15	1542.48
5.	28.38	36.13	1543.72
10.	28.38	36.15	1543.83
15.	28.38	36.15	1543.91
20.	28.38	36.12	1543.96
25.	28.38	36.12	1544.05
30.	28.37	36.13	1544.12
35.	27.54	36.36	1542.66
40.	25.75	36.36	1538.74
45.	25.11	36.33	1537.31
50.	24.25	36.43	1535.47
55.	23.15	36.33	1532.77
60.	21.74	36.34	1529.30
65.	21.25	36.34	1528.10
70.	21.18	36.41	1528.08
75.	21.01	36.41	1527.72
80.	20.44	36.40	1526.27
85.	19.75	36.47	1524.57
90.	19.35	36.54	1523.63
95.	19.02	36.47	1522.71
100.	18.75	36.48	1522.04
125.	17.93	36.38	1519.99

26.30	-96.32	930930	113000
22	1	130	180
AA2	R/V-1	D28 CTD	
0.	28.28	36.29	1543.60
5.	28.28	36.25	1543.64
10.	28.28	36.24	1543.71
15.	28.28	36.22	1543.77
20.	28.29	36.17	1543.82
25.	28.28	36.17	1543.89
30.	28.05	36.21	1543.52
35.	26.51	36.26	1540.27
40.	24.72	36.26	1536.23
45.	23.78	36.20	1534.00
50.	23.34	36.35	1533.17
55.	22.84	36.23	1531.88
60.	22.09	36.28	1530.13
65.	21.14	36.26	1527.72
70.	20.81	36.41	1527.11
75.	20.48	36.39	1526.29
80.	20.25	36.36	1525.71
85.	19.68	36.40	1524.29
90.	19.49	36.49	1523.96
95.	19.49	36.47	1524.02
100.	19.01	36.46	1522.75
125.	17.97	36.35	1520.07

26.30	-96.32	930930	113000
22	1	130	180
AA2	R/V-1	U28 CTD	
0.	28.30	36.07	1543.41
5.	28.28	36.17	1543.55
10.	28.28	36.17	1543.64
15.	28.27	36.18	1543.71
20.	28.28	36.17	1543.80
25.	28.28	36.15	1543.87
30.	28.27	36.14	1543.92
35.	26.77	36.37	1540.98
40.	24.85	36.29	1536.57
45.	23.62	36.38	1533.81
50.	23.21	36.31	1532.81
55.	22.74	36.36	1531.78
60.	22.05	36.40	1530.16
65.	21.13	36.39	1527.85
70.	20.68	36.47	1526.83
75.	20.41	36.42	1526.13
80.	20.13	36.46	1525.51
85.	19.61	36.45	1524.16
90.	19.50	36.46	1523.95
95.	19.47	36.50	1524.00
100.	18.99	36.48	1522.72
125.	17.86	36.38	1519.79

26.30	-96.32	930930	153000
22	1	129	180
AA2	R/V-1	D29 CTD	
0.	28.17	36.48	1543.57
5.	28.18	36.34	1543.52
10.	28.19	36.32	1543.61
15.	28.19	36.31	1543.68
20.	28.19	36.24	1543.69
25.	28.16	36.24	1543.71
30.	27.97	36.33	1543.48
35.	26.75	36.11	1540.65
40.	25.60	36.32	1538.35
45.	24.38	36.28	1535.53
50.	23.44	36.32	1533.39
55.	22.80	36.34	1531.91
60.	22.19	36.32	1530.43
65.	21.49	36.28	1528.66
70.	20.84	36.41	1527.19
75.	20.42	36.41	1526.15
80.	19.94	36.46	1524.99
85.	19.61	36.48	1524.19
90.	19.35	36.52	1523.60
95.	18.72	36.49	1521.89
100.	18.62	36.46	1521.65
125.	17.53	36.31	1518.74

26.30	-96.32	930930	153000
22	1	129	180
AA2	R/V-1	U29 CTD	
0.	27.14	36.44	1541.29
5.	28.15	36.20	1543.31
10.	28.14	36.21	1543.38
15.	28.14	36.21	1543.46
20.	28.14	36.21	1543.55
25.	28.14	36.22	1543.64
30.	27.90	36.35	1543.35
35.	26.42	36.43	1540.26
40.	25.25	36.35	1537.58
45.	24.23	36.41	1535.32
50.	23.44	36.33	1533.40
55.	22.78	36.32	1531.83
60.	22.08	36.34	1530.17
65.	21.37	36.31	1528.38
70.	20.82	36.44	1527.17
75.	20.42	36.41	1526.15
80.	19.92	36.46	1524.94
85.	19.63	36.48	1524.25
90.	19.39	36.49	1523.68
95.	18.73	36.46	1521.88
100.	18.61	36.46	1521.62
125.	17.51	36.33	1518.71

26.30	-96.32	930930	193000
22	2	132	180
AA2	R/V-1	D30 CTD	
0.	28.18	36.02	1543.09
5.	28.19	36.32	1543.52
10.	28.19	36.28	1543.56
15.	28.14	36.21	1543.46
20.	28.09	36.25	1543.48
25.	28.09	36.25	1543.57
30.	28.09	36.24	1543.64
35.	27.08	36.32	1541.61
40.	25.48	36.07	1537.80
45.	24.33	36.36	1535.50
50.	23.75	36.42	1534.26
55.	23.22	36.36	1532.97
60.	22.44	36.36	1531.11
65.	21.85	36.33	1529.65
70.	21.05	36.52	1527.87
75.	20.30	36.42	1525.84
80.	19.99	36.45	1525.12
85.	19.93	36.50	1525.09
90.	19.75	36.49	1524.67
95.	19.45	36.50	1523.94
100.	18.94	36.52	1522.63
125.	18.16	36.38	1520.65

26.30	-96.32	930930	193000
22	1	131	180
AA2	R/V-1	U30 CTD	
0.	29.30	35.49	1544.90
5.	28.19	36.18	1543.37
10.	28.19	36.18	1543.46
15.	28.13	36.22	1543.45
20.	28.09	36.25	1543.48
25.	28.09	36.25	1543.57
30.	28.08	36.23	1543.61
35.	26.19	36.50	1539.82
40.	24.59	36.45	1536.14
45.	24.03	36.42	1534.85
50.	23.48	36.36	1533.53
55.	22.98	36.39	1532.41
60.	22.37	36.37	1530.94
65.	21.93	36.42	1529.96
70.	21.05	36.49	1527.83
75.	20.32	36.51	1526.00
80.	19.98	36.47	1525.11
85.	19.88	36.54	1525.00
90.	19.68	36.55	1524.55
95.	19.33	36.60	1523.73
100.	18.92	36.53	1522.58
125.	17.93	36.53	1520.17

26.30	-96.32	930930	233000
22	1	133	180
AA2	R/V-1	D31 CTD	
0.	28.06	36.26	1543.10
5.	28.17	36.21	1543.36
10.	28.19	36.18	1543.46
15.	28.18	36.11	1543.44
20.	28.18	36.11	1543.52
25.	28.09	36.08	1543.38
30.	28.04	36.14	1543.42
35.	27.03	36.36	1541.54
40.	25.72	36.29	1538.60
45.	24.64	36.20	1536.06
50.	23.51	36.23	1533.46
55.	22.73	36.29	1531.67
60.	22.43	36.22	1530.92
65.	21.28	36.23	1528.06
70.	21.10	36.31	1527.76
75.	20.94	36.35	1527.46
80.	20.13	36.41	1525.45
85.	19.95	36.38	1525.01
90.	19.58	36.38	1524.08
95.	19.29	36.38	1523.36
100.	19.10	36.43	1522.97
125.	17.43	36.23	1518.35

26.30	-96.32	930930	233000
22	1	133	180
AA2	R/V-1	U31 CTD	
0.	28.03	36.68	1543.48
5.	28.17	36.07	1543.21
10.	28.19	36.06	1543.33
15.	28.18	36.05	1543.38
20.	28.09	36.05	1543.27
25.	28.09	36.03	1543.33
30.	27.99	36.11	1543.28
35.	26.94	36.41	1541.40
40.	25.45	36.38	1538.07
45.	23.79	36.28	1534.11
50.	23.22	36.31	1532.83
55.	22.69	36.30	1531.58
60.	22.25	36.32	1530.58
65.	21.14	36.36	1527.84
70.	21.10	36.36	1527.82
75.	20.80	36.41	1527.16
80.	20.15	36.40	1525.49
85.	19.90	36.44	1524.94
90.	19.50	36.46	1523.95
95.	19.24	36.41	1523.25
100.	19.09	36.43	1522.94
125.	17.40	36.26	1518.30

26.30	-96.32	931001	33000
22	1	134	180
AA2	R/V-1	D32 CTD	
0.	28.09	36.23	1543.13
5.	28.09	36.18	1543.16
10.	28.09	36.16	1543.22
15.	28.09	36.11	1543.25
20.	28.09	36.11	1543.33
25.	28.14	36.16	1543.58
30.	28.09	36.17	1543.56
35.	27.08	35.91	1541.16
40.	25.48	36.34	1538.10
45.	24.28	36.20	1535.20
50.	23.36	36.18	1533.03
55.	22.40	36.21	1530.75
60.	21.49	36.31	1528.61
65.	21.22	36.34	1528.03
70.	21.11	36.33	1527.81
75.	20.68	36.40	1526.83
80.	20.17	36.35	1525.49
85.	19.83	36.34	1524.63
90.	19.45	36.41	1523.75
95.	19.30	36.39	1523.39
100.	18.99	36.37	1522.59
125.	17.75	36.30	1519.37

26.30	-96.32	931001	33000
22	1	134	180
AA2	R/V-1	U32 CTD	
0.	28.01	36.08	1542.79
5.	28.09	36.04	1543.01
10.	28.09	36.06	1543.11
15.	28.09	36.05	1543.18
20.	28.09	36.11	1543.33
25.	28.14	36.14	1543.55
30.	28.09	36.17	1543.56
35.	27.23	36.21	1541.82
40.	25.62	36.34	1538.42
45.	24.06	36.28	1534.77
50.	23.28	36.25	1532.91
55.	22.56	36.28	1531.24
60.	21.49	36.31	1528.61
65.	21.19	36.36	1527.97
70.	20.97	36.36	1527.47
75.	20.59	36.39	1526.58
80.	20.01	36.38	1525.09
85.	19.72	36.41	1524.41
90.	19.44	36.43	1523.75
95.	19.29	36.46	1523.45
100.	18.80	36.41	1522.10
125.	17.76	36.38	1519.50

26.30	-96.32	931001	113000
22	1	127	180
AA2	R/V-1	D33 CTD	
0.	28.26	36.15	1543.41
5.	28.04	36.29	1543.17
10.	28.04	36.27	1543.23
15.	28.04	36.20	1543.24
20.	28.04	36.16	1543.28
25.	28.04	36.14	1543.34
30.	28.04	36.13	1543.41
35.	27.42	36.17	1542.19
40.	25.40	36.20	1537.76
45.	24.27	36.27	1535.26
50.	23.54	36.18	1533.47
55.	22.81	36.27	1531.85
60.	22.39	36.34	1530.96
65.	21.85	36.19	1529.49
70.	21.36	36.36	1528.50
75.	21.01	36.35	1527.65
80.	20.62	36.41	1526.77
85.	20.15	36.47	1525.66
90.	20.02	36.44	1525.35
95.	19.95	36.48	1525.29
100.	19.35	36.39	1523.62
125.	18.22	36.39	1520.84

26.30	-96.32	931001	113000
22	2	126	180
AA2	R/V-1	U33 CTD	
0.	28.46	35.76	1543.41
5.	28.04	36.08	1542.94
10.	28.04	36.08	1543.02
15.	28.04	36.08	1543.11
20.	28.04	36.07	1543.18
25.	28.04	36.07	1543.26
30.	28.04	36.10	1543.38
35.	27.54	36.27	1542.56
40.	25.43	36.26	1537.90
45.	24.26	36.29	1535.26
50.	23.41	36.27	1533.26
55.	22.73	36.36	1531.75
60.	22.32	36.33	1530.77
65.	21.68	36.29	1529.17
70.	21.30	36.37	1528.35
75.	20.96	36.41	1527.59
80.	20.63	36.42	1526.80
85.	20.14	36.48	1525.64
90.	20.00	36.42	1525.27
95.	19.92	36.51	1525.24
100.	19.32	36.45	1523.60
125.	18.21	36.40	1520.82

26.31	-96.32	931001	153000
22	2	127	180
AA2	R/V-1	D34 CTD	
0.	28.04	36.29	1543.09
5.	28.04	36.29	1543.17
10.	28.04	36.22	1543.18
15.	28.04	36.15	1543.18
20.	28.04	36.14	1543.26
25.	28.04	36.08	1543.27
30.	28.04	36.07	1543.35
35.	28.03	36.08	1543.42
40.	25.99	36.30	1539.22
45.	24.51	36.24	1535.80
50.	23.66	36.20	1533.79
55.	23.10	36.23	1532.53
60.	22.06	36.15	1529.90
65.	21.36	36.32	1528.37
70.	20.81	36.32	1527.00
75.	20.60	36.39	1526.61
80.	20.20	36.32	1525.53
85.	19.93	36.42	1525.00
90.	19.96	36.47	1525.22
95.	19.26	36.33	1523.21
100.	18.81	36.47	1522.20
125.	16.95	36.23	1516.93

26.31	-96.32	931001	153000
22	2	127	180
AA2	R/V-1	U34 CTD	
0.	28.04	36.12	1542.90
5.	28.04	36.10	1542.96
10.	28.04	36.08	1543.02
15.	28.04	36.08	1543.11
20.	28.04	36.08	1543.19
25.	28.04	36.07	1543.26
30.	28.03	36.07	1543.33
35.	27.98	36.12	1543.36
40.	25.74	36.41	1538.78
45.	24.25	36.34	1535.29
50.	23.53	36.31	1533.60
55.	23.03	36.30	1532.43
60.	22.02	36.33	1530.00
65.	21.35	36.37	1528.40
70.	20.80	36.34	1527.00
75.	20.60	36.41	1526.63
80.	20.20	36.41	1525.64
85.	19.93	36.40	1524.98
90.	19.93	36.50	1525.17
95.	19.27	36.42	1523.35
100.	18.80	36.48	1522.18
125.	16.95	36.23	1516.93

26.31	-96.32	931001	193000
22	2	128	180
AA2	R/V-1	D35 CTD	
0.	28.01	36.29	1543.02
5.	28.11	36.23	1543.25
10.	28.10	36.21	1543.29
15.	28.09	36.17	1543.31
20.	28.04	36.12	1543.23
25.	28.04	36.09	1543.29
30.	28.04	36.07	1543.35
35.	27.54	36.10	1542.38
40.	25.39	36.20	1537.74
45.	24.38	36.37	1535.63
50.	23.60	36.24	1533.69
55.	22.82	36.26	1531.86
60.	21.85	36.21	1529.43
65.	21.22	36.31	1527.99
70.	20.72	36.24	1526.67
75.	20.46	36.39	1526.23
80.	20.14	36.38	1525.44
85.	19.70	36.34	1524.28
90.	19.50	36.36	1523.83
95.	19.33	36.39	1523.48
100.	18.90	36.43	1522.41
125.	17.74	36.30	1519.34

26.31	-96.32	931001	193000
22	2	128	180
AA2	R/V-1	U35 CTD	
0.	28.10	36.79	1543.75
5.	28.13	36.08	1543.14
10.	28.09	36.11	1543.16
15.	28.08	36.07	1543.18
20.	28.05	36.06	1543.19
25.	28.04	36.07	1543.26
30.	28.04	36.07	1543.35
35.	27.71	36.19	1542.85
40.	25.24	36.35	1537.55
45.	24.36	36.31	1535.52
50.	23.44	36.34	1533.41
55.	22.75	36.31	1531.75
60.	21.84	36.24	1529.44
65.	21.31	36.30	1528.21
70.	20.77	36.33	1526.91
75.	20.45	36.38	1526.19
80.	20.03	36.42	1525.19
85.	19.67	36.37	1524.23
90.	19.34	36.35	1523.38
95.	19.27	36.41	1523.34
100.	18.87	36.44	1522.33
125.	17.66	36.36	1519.18

26.31	-96.32	931002	113000
22	2	128	180
AA2	R/V-1	D36 CTD	
0.	27.91	36.23	1542.74
5.	28.01	36.31	1543.13
10.	28.04	36.29	1543.25
15.	28.04	36.22	1543.26
20.	28.04	36.19	1543.31
25.	28.04	36.14	1543.34
30.	28.04	36.14	1543.42
35.	28.03	36.15	1543.50
40.	25.52	36.31	1538.16
45.	24.21	36.35	1535.20
50.	23.90	36.27	1534.45
55.	23.29	36.29	1533.07
60.	22.39	36.30	1530.91
65.	22.00	36.38	1530.09
70.	21.42	36.26	1528.54
75.	20.80	36.39	1527.14
80.	20.39	36.44	1526.18
85.	19.91	36.44	1524.97
90.	19.51	36.41	1523.92
95.	19.11	36.45	1522.94
100.	18.79	36.49	1522.17
125.	17.64	36.40	1519.17

26.31	-96.32	931002	113000
22	2	128	180
AA2	R/V-1	U36 CTD	
0.	28.03	36.16	1542.92
5.	28.01	36.18	1542.99
10.	28.01	36.17	1543.06
15.	28.05	36.12	1543.17
20.	28.04	36.14	1543.26
25.	28.04	36.14	1543.34
30.	28.04	36.14	1543.42
35.	27.93	36.17	1543.30
40.	25.34	36.44	1537.89
45.	24.08	36.42	1534.97
50.	23.62	36.36	1533.87
55.	23.00	36.39	1532.46
60.	22.38	36.34	1530.93
65.	22.00	36.42	1530.14
70.	21.42	36.39	1528.69
75.	20.80	36.43	1527.19
80.	20.39	36.45	1526.20
85.	20.02	36.40	1525.22
90.	19.64	36.44	1524.31
95.	19.14	36.50	1523.08
100.	18.79	36.49	1522.17
125.	17.58	36.42	1519.02

26.31	-96.32	931002	153000
22	2	126	180
AA2	R/V-1	D37 CTD	
0.	27.88	35.96	1542.38
5.	27.99	36.33	1543.10
10.	28.00	36.25	1543.12
15.	28.02	36.18	1543.17
20.	28.03	36.15	1543.25
25.	28.01	36.16	1543.30
30.	28.00	36.14	1543.34
35.	27.97	36.15	1543.37
40.	25.59	36.39	1538.41
45.	24.47	36.39	1535.87
50.	23.94	36.41	1534.70
55.	23.14	36.31	1532.72
60.	22.42	36.35	1531.04
65.	22.10	36.37	1530.34
70.	21.44	36.30	1528.64
75.	21.02	36.41	1527.74
80.	20.43	36.40	1526.25
85.	19.90	36.50	1525.01
90.	19.48	36.36	1523.78
95.	18.82	36.48	1522.16
100.	18.74	36.53	1522.07
125.	16.89	36.28	1516.81

26.31	-96.32	931002	153000
22	2	126	180
AA2	R/V-1	U37 CTD	
0.	27.76	36.12	1542.30
5.	28.04	36.12	1542.98
10.	28.04	36.08	1543.02
15.	28.04	36.11	1543.14
20.	28.03	36.11	1543.20
25.	28.04	36.08	1543.27
30.	28.00	36.10	1543.29
35.	27.99	36.14	1543.40
40.	25.64	36.41	1538.55
45.	24.35	36.43	1535.63
50.	23.88	36.43	1534.58
55.	22.93	36.42	1532.32
60.	22.39	36.39	1531.01
65.	22.07	36.42	1530.32
70.	21.48	36.36	1528.81
75.	21.03	36.47	1527.84
80.	20.41	36.46	1526.26
85.	19.95	36.49	1525.14
90.	19.49	36.48	1523.94
95.	18.88	36.51	1522.36
100.	18.75	36.52	1522.09
125.	16.85	36.32	1516.74

26.31	-96.32	931002	193000
22	3	126	180
AA2	R/V-1	D38 CTD	
0.	28.14	36.29	1543.30
5.	28.14	36.28	1543.37
10.	28.13	36.21	1543.36
15.	28.09	36.25	1543.40
20.	28.04	36.20	1543.32
25.	28.04	36.14	1543.34
30.	28.04	36.14	1543.42
35.	28.04	36.14	1543.51
40.	26.30	36.13	1539.74
45.	24.59	36.24	1535.99
50.	23.72	36.34	1534.09
55.	23.54	36.35	1533.75
60.	22.65	36.35	1531.62
65.	22.13	36.29	1530.32
70.	21.28	36.35	1528.28
75.	20.87	36.37	1527.30
80.	20.43	36.42	1526.27
85.	20.07	36.46	1525.43
90.	19.68	36.41	1524.39
95.	19.06	36.48	1522.83
100.	18.87	36.50	1522.41
125.	17.80	36.26	1519.47

26.31	-96.32	931002	193000
22	2	126	180
AA2	R/V-1	U38 CTD	
0.	28.14	36.59	1543.62
5.	28.14	36.14	1543.22
10.	28.14	36.14	1543.30
15.	28.09	36.16	1543.30
20.	28.04	36.14	1543.26
25.	28.04	36.14	1543.34
30.	28.04	36.14	1543.42
35.	28.04	36.14	1543.51
40.	25.90	36.40	1539.13
45.	24.06	36.40	1534.90
50.	23.66	36.38	1533.99
55.	23.54	36.41	1533.82
60.	22.70	36.38	1531.78
65.	22.05	36.37	1530.21
70.	21.26	36.38	1528.26
75.	20.81	36.42	1527.20
80.	20.37	36.45	1526.14
85.	20.02	36.48	1525.31
90.	19.65	36.44	1524.34
95.	19.01	36.50	1522.72
100.	18.73	36.51	1522.02
125.	17.70	36.36	1519.30

26.31	-96.32	931002	233000
22	2	126	180
AA2	R/V-1	D39 CTD	
0.	28.04	36.26	1543.05
5.	28.09	36.37	1543.36
10.	28.09	36.32	1543.39
15.	28.09	36.26	1543.41
20.	28.09	36.24	1543.47
25.	28.09	36.18	1543.49
30.	28.05	36.14	1543.44
35.	28.04	36.17	1543.54
40.	25.38	36.12	1537.62
45.	23.55	36.31	1533.56
50.	22.95	36.27	1532.12
55.	22.39	36.39	1530.93
60.	22.11	36.38	1530.29
65.	21.75	36.32	1529.38
70.	21.21	36.38	1528.13
75.	20.96	36.37	1527.54
80.	20.29	36.37	1525.83
85.	19.52	36.39	1523.84
90.	19.22	36.45	1523.16
95.	18.95	36.43	1522.46
100.	18.75	36.47	1522.03
125.	17.27	36.34	1518.01

26.31	-96.32	931002	233000
22	2	126	180
AA2	R/V-1	U39 CTD	
0.	28.15	36.03	1543.04
5.	28.09	36.18	1543.16
10.	28.09	36.18	1543.24
15.	28.10	36.17	1543.33
20.	28.09	36.18	1543.41
25.	28.09	36.18	1543.49
30.	28.08	36.13	1543.50
35.	28.04	36.17	1543.54
40.	25.24	36.47	1537.69
45.	23.40	36.45	1533.35
50.	22.96	36.38	1532.27
55.	22.24	36.43	1530.60
60.	22.07	36.37	1530.18
65.	21.70	36.47	1529.42
70.	21.19	36.41	1528.11
75.	20.91	36.40	1527.44
80.	20.35	36.43	1526.07
85.	19.54	36.44	1523.95
90.	19.19	36.46	1523.09
95.	18.84	36.45	1522.18
100.	18.67	36.50	1521.84
125.	17.27	36.33	1518.00

26.31	-96.32	931003	33000
22	2	125	180
AA2	R/V-1	D40 CTD	
0.	28.09	36.39	1543.30
5.	28.08	36.40	1543.37
10.	28.09	36.34	1543.41
15.	28.09	36.32	1543.47
20.	28.09	36.25	1543.48
25.	28.08	36.25	1543.54
30.	28.14	36.21	1543.71
35.	28.13	36.22	1543.79
40.	25.51	36.36	1538.19
45.	24.81	36.35	1536.63
50.	23.96	36.28	1534.61
55.	23.42	36.31	1533.41
60.	22.60	36.29	1531.43
65.	22.07	36.32	1530.20
70.	21.65	36.30	1529.18
75.	20.68	36.41	1526.84
80.	20.51	36.41	1526.47
85.	20.34	36.42	1526.11
90.	19.79	36.36	1524.63
95.	18.97	36.40	1522.49
100.	18.75	36.44	1522.00
125.	18.03	36.37	1520.27

26.31	-96.32	931003	33000
22	2	125	180
AA2	R/V-1	U40 CTD	
0.	28.02	36.20	1542.94
5.	28.09	36.22	1543.20
10.	28.09	36.25	1543.32
15.	28.09	36.25	1543.40
20.	28.14	36.21	1543.55
25.	28.14	36.21	1543.63
30.	28.14	36.21	1543.71
35.	28.14	36.21	1543.80
40.	25.37	36.47	1537.99
45.	24.52	36.41	1536.01
50.	23.77	36.39	1534.27
55.	23.30	36.38	1533.19
60.	22.64	36.37	1531.62
65.	22.16	36.38	1530.50
70.	21.75	36.42	1529.58
75.	20.79	36.41	1527.14
80.	20.42	36.41	1526.23
85.	20.03	36.42	1525.27
90.	19.28	36.47	1523.35
95.	18.82	36.47	1522.15
100.	18.70	36.52	1521.95
125.	18.04	35.76	1519.57

26.30	-96.32	931003	113000
22	2	129	180
AA2	R/V-1	D41 CTD	
0.	27.98	36.45	1543.13
5.	28.04	36.43	1543.32
10.	28.04	36.43	1543.40
15.	28.04	36.36	1543.41
20.	28.04	36.29	1543.42
25.	28.04	36.28	1543.49
30.	28.04	36.28	1543.57
35.	28.04	36.28	1543.66
40.	26.56	36.09	1540.28
45.	24.98	36.39	1537.07
50.	24.03	36.30	1534.80
55.	23.59	36.40	1533.93
60.	22.88	36.30	1532.14
65.	22.28	36.43	1530.86
70.	21.74	36.44	1529.58
75.	21.10	36.44	1527.99
80.	20.67	36.46	1526.96
85.	20.08	36.46	1525.45
90.	19.38	36.42	1523.57
95.	19.24	36.47	1523.32
100.	18.92	36.46	1522.50
125.	16.70	36.28	1516.24

26.30	-96.32	931003	113000
22	2	128	180
AA2	R/V-1	U41 CTD	
0.	28.15	35.81	1542.80
5.	28.01	36.25	1543.06
10.	28.04	36.22	1543.18
15.	28.04	36.23	1543.27
20.	28.04	36.21	1543.33
25.	28.04	36.21	1543.42
30.	28.04	36.21	1543.50
35.	28.02	36.22	1543.55
40.	26.26	36.49	1540.05
45.	24.91	36.49	1537.02
50.	24.03	36.41	1534.92
55.	23.58	36.42	1533.92
60.	22.79	36.38	1532.01
65.	22.19	36.49	1530.70
70.	21.70	36.44	1529.47
75.	20.97	36.46	1527.67
80.	20.49	36.52	1526.55
85.	19.97	36.53	1525.24
90.	19.31	36.48	1523.45
95.	19.24	36.51	1523.37
100.	18.81	36.56	1522.31
125.	16.70	36.28	1516.24

26.30	-96.32	931003	153000
22	3	125	180
AA2	R/V-1	D42 CTD	
0.	27.99	36.33	1543.02
5.	28.00	36.32	1543.11
10.	27.99	36.30	1543.15
15.	27.99	36.25	1543.18
20.	27.99	36.20	1543.21
25.	27.99	36.18	1543.27
30.	27.99	36.18	1543.36
35.	27.98	36.17	1543.41
40.	27.74	36.14	1542.94
45.	25.08	36.31	1537.22
50.	24.21	36.28	1535.21
55.	23.25	36.28	1532.96
60.	22.69	36.31	1531.68
65.	22.20	36.34	1530.56
70.	21.79	36.37	1529.62
75.	21.27	36.42	1528.41
80.	20.84	36.45	1527.40
85.	20.35	36.44	1526.16
90.	19.72	36.42	1524.51
95.	19.39	36.47	1523.74
100.	19.18	36.46	1523.23
125.	16.99	36.27	1517.10

26.30	-96.32	931003	153000
22	3	125	180
AA2	R/V-1	U42 CTD	
0.	28.64	36.76	1544.87
5.	28.01	36.18	1542.99
10.	27.99	36.18	1543.03
15.	27.99	36.18	1543.11
20.	27.99	36.18	1543.19
25.	27.99	36.17	1543.26
30.	27.99	36.16	1543.34
35.	27.99	36.17	1543.43
40.	26.57	36.62	1540.89
45.	25.00	36.36	1537.09
50.	24.16	36.39	1535.21
55.	23.36	36.39	1533.35
60.	22.69	36.39	1531.77
65.	22.19	36.43	1530.63
70.	21.83	36.41	1529.77
75.	21.31	36.44	1528.54
80.	20.83	36.46	1527.38
85.	20.30	36.50	1526.10
90.	19.58	36.52	1524.24
95.	19.35	36.49	1523.65
100.	19.14	36.49	1523.15
125.	16.99	36.27	1517.10

26.30	-96.32	931003	193000
22	2	145	180
AA2	R/V-1	D43 CTD	
0.	28.14	36.44	1543.46
5.	28.14	36.38	1543.48
10.	28.04	36.36	1543.33
15.	28.04	36.35	1543.40
20.	28.03	36.29	1543.40
25.	28.01	36.30	1543.45
30.	27.99	36.26	1543.44
35.	27.99	36.22	1543.48
40.	26.69	36.06	1540.54
45.	24.72	36.41	1536.48
50.	23.91	36.32	1534.53
55.	23.18	36.34	1532.85
60.	22.64	36.34	1531.59
65.	22.39	36.36	1531.06
70.	21.81	36.27	1529.56
75.	21.08	36.40	1527.89
80.	20.54	36.36	1526.49
85.	19.85	36.41	1524.77
90.	19.61	36.44	1524.23
95.	19.08	36.42	1522.82
100.	18.65	36.43	1521.70
125.	16.99	36.28	1517.11

26.30	-96.32	931003	193000
22	2	145	180
AA2	R/V-1	U43 CTD	
0.	28.14	35.95	1542.93
5.	28.12	36.14	1543.18
10.	28.07	36.12	1543.13
15.	28.04	36.10	1543.13
20.	28.03	36.10	1543.19
25.	28.00	36.12	1543.23
30.	27.99	36.12	1543.29
35.	27.71	36.27	1542.93
40.	25.74	36.25	1538.60
45.	24.65	36.41	1536.32
50.	23.80	36.40	1534.35
55.	22.97	36.38	1532.38
60.	22.50	36.35	1531.25
65.	22.31	36.40	1530.91
70.	21.61	36.41	1529.20
75.	21.08	36.48	1527.98
80.	20.67	36.52	1527.03
85.	19.86	36.49	1524.89
90.	19.68	36.46	1524.44
95.	19.19	36.46	1523.17
100.	18.74	36.47	1522.00
125.	16.95	36.28	1516.99

26.30	-96.32	931003	233000
22	1	138	180
AA2	R/V-1	D44 CTD	
0.	27.92	35.32	1541.78
5.	28.09	36.25	1543.23
10.	28.08	36.22	1543.26
15.	28.08	36.14	1543.26
20.	28.04	36.11	1543.22
25.	28.04	36.09	1543.29
30.	28.04	36.14	1543.42
35.	27.01	36.23	1541.36
40.	25.54	36.14	1538.02
45.	24.72	36.27	1536.33
50.	23.94	36.29	1534.57
55.	23.19	36.28	1532.81
60.	22.36	36.35	1530.89
65.	21.86	36.34	1529.69
70.	21.48	36.34	1528.79
75.	20.90	36.42	1527.44
80.	20.57	36.41	1526.63
85.	20.17	36.41	1525.64
90.	19.83	36.35	1524.73
95.	19.38	36.40	1523.63
100.	19.18	36.42	1523.18
125.	17.32	36.33	1518.15

26.30	-96.32	931003	233000
22	1	138	180
AA2	R/V-1	U44 CTD	
0.	28.05	36.11	1542.91
5.	28.05	36.14	1543.03
10.	28.09	36.11	1543.16
15.	28.07	36.12	1543.22
20.	28.04	36.14	1543.26
25.	28.04	36.13	1543.33
30.	28.04	36.15	1543.43
35.	26.77	36.27	1540.87
40.	25.38	36.39	1537.92
45.	24.80	36.50	1536.77
50.	23.81	36.39	1534.37
55.	23.08	36.36	1532.63
60.	22.33	36.39	1530.86
65.	21.68	36.38	1529.27
70.	21.17	36.43	1528.08
75.	20.69	36.44	1526.91
80.	20.36	36.47	1526.14
85.	19.97	36.49	1525.19
90.	19.48	36.47	1523.91
95.	19.27	36.41	1523.34
100.	18.97	36.46	1522.64
125.	17.33	36.33	1518.18

26.30	-96.32	931004	33000
22	2	127	180
AA2	R/V-1	D45 CTD	
0.	27.91	36.61	1543.15
5.	28.01	36.31	1543.13
10.	28.04	36.29	1543.25
15.	28.04	36.25	1543.29
20.	28.04	36.21	1543.33
25.	28.04	36.22	1543.43
30.	28.06	36.25	1543.58
35.	28.09	36.26	1543.74
40.	26.78	36.01	1540.69
45.	24.93	36.37	1536.93
50.	23.50	36.32	1533.53
55.	22.87	36.23	1531.96
60.	22.28	36.41	1530.76
65.	22.05	36.46	1530.31
70.	21.43	36.42	1528.75
75.	20.94	36.44	1527.57
80.	20.57	36.49	1526.73
85.	20.12	36.50	1525.61
90.	19.75	36.43	1524.60
95.	19.63	36.51	1524.45
100.	19.38	36.48	1523.81
125.	18.12	36.39	1520.55

26.30	-96.32	931004	33000
22	2	127	180
AA2	R/V-1	U45 CTD	
0.	27.96	36.23	1542.85
5.	27.99	36.19	1542.95
10.	28.00	36.17	1543.04
15.	28.00	36.17	1543.12
20.	28.04	36.19	1543.31
25.	28.04	36.21	1543.42
30.	28.04	36.21	1543.50
35.	28.09	36.23	1543.71
40.	26.30	36.49	1540.14
45.	24.60	36.48	1536.28
50.	23.51	36.40	1533.65
55.	22.85	36.38	1532.08
60.	22.29	36.42	1530.80
65.	22.08	36.44	1530.37
70.	21.55	36.43	1529.07
75.	21.03	36.49	1527.86
80.	20.52	36.56	1526.67
85.	20.07	36.54	1525.52
90.	19.76	36.42	1524.62
95.	19.58	36.54	1524.35
100.	19.34	36.49	1523.71
125.	18.10	36.41	1520.52

26.30	-96.32	931004	113000
22	2	129	180
AA2	R/V-1	D46 CTD	
0.	28.31	36.03	1543.38
5.	27.99	36.53	1543.32
10.	27.99	36.47	1543.34
15.	27.98	36.41	1543.34
20.	27.99	36.32	1543.34
25.	27.99	36.32	1543.43
30.	28.02	36.30	1543.55
35.	28.09	36.38	1543.87
40.	25.96	36.42	1539.29
45.	24.83	36.33	1536.66
50.	23.98	36.46	1534.86
55.	23.23	36.39	1533.03
60.	22.35	36.36	1530.88
65.	22.04	36.60	1530.45
70.	21.73	36.57	1529.70
75.	20.98	36.51	1527.76
80.	20.71	36.56	1527.18
85.	20.29	36.52	1526.09
90.	19.88	36.55	1525.10
95.	19.60	36.56	1524.42
100.	19.15	36.49	1523.18
125.	17.29	36.36	1518.10

26.30	-96.32	931004	113000
22	2	128	180
AA2	R/V-1	U46 CTD	
0.	27.36	36.58	1541.92
5.	27.94	36.22	1542.88
10.	27.98	36.19	1543.01
15.	27.99	36.18	1543.11
20.	27.99	36.25	1543.27
25.	27.99	36.25	1543.35
30.	28.04	36.27	1543.56
35.	28.08	36.24	1543.70
40.	25.78	36.52	1538.99
45.	24.59	36.53	1536.31
50.	23.92	36.50	1534.76
55.	23.29	36.47	1533.27
60.	22.37	36.48	1531.07
65.	21.99	36.60	1530.32
70.	21.64	36.64	1529.55
75.	20.88	36.58	1527.57
80.	20.67	36.60	1527.12
85.	20.22	36.58	1525.97
90.	19.73	36.59	1524.73
95.	19.58	36.54	1524.35
100.	19.10	36.58	1523.14
125.	17.29	36.36	1518.10

26.30	-96.32	931004	153000
22	2	129	180
AA2	R/V-1	D47 CTD	
0.	28.31	36.03	1543.38
5.	27.99	36.53	1543.32
10.	27.99	36.47	1543.34
15.	27.98	36.41	1543.34
20.	27.99	36.32	1543.34
25.	27.99	36.32	1543.43
30.	28.02	36.30	1543.55
35.	28.09	36.38	1543.87
40.	25.96	36.42	1539.29
45.	24.83	36.33	1536.66
50.	23.98	36.46	1534.86
55.	23.23	36.39	1533.03
60.	22.35	36.36	1530.88
65.	22.04	36.60	1530.45
70.	21.73	36.57	1529.70
75.	20.98	36.51	1527.76
80.	20.71	36.56	1527.18
85.	20.29	36.52	1526.09
90.	19.88	36.55	1525.10
95.	19.60	36.56	1524.42
100.	19.15	36.49	1523.18
125.	17.29	36.36	1518.10

26.30	-96.32	931004	153000
22	2	128	180
AA2	R/V-1	U47 CTD	
0.	27.36	36.58	1541.92
5.	27.94	36.22	1542.88
10.	27.98	36.19	1543.01
15.	27.99	36.18	1543.11
20.	27.99	36.25	1543.27
25.	27.99	36.25	1543.35
30.	28.04	36.27	1543.56
35.	28.08	36.24	1543.70
40.	25.78	36.52	1538.99
45.	24.59	36.53	1536.31
50.	23.92	36.50	1534.76
55.	23.29	36.47	1533.27
60.	22.37	36.48	1531.07
65.	21.99	36.60	1530.32
70.	21.64	36.64	1529.55
75.	20.88	36.58	1527.57
80.	20.67	36.60	1527.12
85.	20.22	36.58	1525.97
90.	19.73	36.59	1524.73
95.	19.58	36.54	1524.35
100.	19.10	36.58	1523.14
125.	17.29	36.36	1518.10

26.30	-96.32	931004	193000
22	2	132	180
AA2	R/V-1	D48 CTD	
0.	28.41	35.67	1543.21
5.	28.21	36.25	1543.49
10.	28.04	36.23	1543.19
15.	28.04	36.13	1543.16
20.	28.04	36.13	1543.25
25.	28.03	36.08	1543.25
30.	28.02	36.10	1543.34
35.	28.04	36.08	1543.44
40.	26.31	36.23	1539.87
45.	24.61	36.18	1535.97
50.	23.48	36.32	1533.48
55.	22.73	36.27	1531.65
60.	22.39	36.34	1530.96
65.	22.17	36.37	1530.52
70.	21.99	36.47	1530.25
75.	20.90	36.41	1527.43
80.	20.39	36.40	1526.14
85.	19.93	36.50	1525.09
90.	19.70	36.44	1524.48
95.	19.51	36.45	1524.05
100.	18.98	36.41	1522.61
125.	17.12	36.24	1517.45

26.30	-96.32	931004	193000
22	2	132	180
AA2	R/V-1	U48 CTD	
0.	28.42	35.55	1543.10
5.	28.11	36.12	1543.14
10.	28.04	36.08	1543.02
15.	28.03	36.08	1543.09
20.	28.04	36.07	1543.18
25.	27.99	36.11	1543.20
30.	28.04	36.14	1543.42
35.	27.83	36.20	1543.12
40.	26.00	36.38	1539.34
45.	24.54	36.46	1536.11
50.	23.44	36.38	1533.45
55.	22.68	36.38	1531.65
60.	22.37	36.37	1530.94
65.	22.14	36.40	1530.47
70.	21.97	36.50	1530.24
75.	20.81	36.48	1527.27
80.	20.24	36.49	1525.84
85.	19.87	36.53	1524.96
90.	19.63	36.51	1524.37
95.	19.38	36.50	1523.75
100.	18.79	36.46	1522.13
125.	17.14	36.23	1517.50

26.31	-96.32	931004	233000
22	2	129	180
AA2	R/V-1	D49 CTD	
0.	28.24	36.42	1543.65
5.	28.24	36.42	1543.74
10.	28.21	36.37	1543.70
15.	28.04	36.35	1543.40
20.	27.99	36.32	1543.34
25.	27.99	36.32	1543.43
30.	28.02	36.30	1543.55
35.	27.91	36.23	1543.32
40.	25.61	36.27	1538.32
45.	24.37	36.29	1535.52
50.	23.24	36.31	1532.88
55.	22.59	36.30	1531.33
60.	22.33	36.40	1530.87
65.	22.06	36.42	1530.29
70.	21.39	36.41	1528.63
75.	20.84	36.45	1527.32
80.	20.22	36.45	1525.74
85.	19.75	36.49	1524.59
90.	19.65	36.49	1524.40
95.	19.14	36.44	1523.01
100.	18.71	36.37	1521.80
125.	17.25	36.24	1517.84

26.31	-96.32	931004	233000
22	2	129	180
AA2	R/V-1	U49 CTD	
0.	27.07	35.98	1540.63
5.	28.19	36.18	1543.37
10.	28.11	36.14	1543.24
15.	28.03	36.08	1543.09
20.	27.99	36.11	1543.12
25.	27.99	36.11	1543.20
30.	27.99	36.17	1543.35
35.	27.82	36.24	1543.14
40.	25.29	36.46	1537.79
45.	24.28	36.41	1535.44
50.	23.42	36.40	1533.43
55.	22.66	36.39	1531.61
60.	22.32	36.40	1530.85
65.	22.00	36.43	1530.15
70.	21.28	36.48	1528.43
75.	20.78	36.50	1527.21
80.	20.12	36.51	1525.54
85.	19.73	36.51	1524.56
90.	19.56	36.55	1524.22
95.	18.94	36.51	1522.53
100.	18.48	36.46	1521.25
125.	17.20	36.32	1517.78

26.31	-96.32	931005	33000
22	2	126	180
AA2	R/V-1	D50 CTD	
0.	28.11	36.41	1543.36
5.	28.09	36.37	1543.36
10.	28.09	36.30	1543.37
15.	28.09	36.25	1543.40
20.	28.06	36.21	1543.37
25.	28.01	36.15	1543.29
30.	27.99	36.15	1543.33
35.	27.85	36.14	1543.10
40.	25.37	36.35	1537.86
45.	24.37	36.41	1535.65
50.	23.61	36.36	1533.85
55.	23.02	36.35	1532.47
60.	22.49	36.37	1531.24
65.	22.14	36.34	1530.40
70.	21.79	36.38	1529.64
75.	21.35	36.36	1528.55
80.	20.76	36.43	1527.16
85.	19.92	36.49	1525.05
90.	19.28	36.43	1523.30
95.	18.86	36.43	1522.21
100.	18.22	36.37	1520.40
125.	17.69	36.39	1519.31

26.31	-96.32	931005	33000
22	2	126	180
AA2	R/V-1	U50 CTD	
0.	28.01	36.13	1542.85
5.	28.09	36.11	1543.08
10.	28.09	36.15	1543.21
15.	28.09	36.12	1543.26
20.	28.09	36.11	1543.33
25.	28.05	36.10	1543.32
30.	27.99	36.11	1543.28
35.	27.81	36.22	1543.10
40.	25.41	36.43	1538.04
45.	24.36	36.44	1535.66
50.	23.59	36.44	1533.89
55.	22.88	36.40	1532.17
60.	22.49	36.40	1531.28
65.	22.28	36.40	1530.83
70.	21.73	36.47	1529.58
75.	21.17	36.46	1528.20
80.	20.57	36.56	1526.81
85.	19.74	36.59	1524.68
90.	19.19	36.50	1523.14
95.	18.90	36.53	1522.44
100.	18.16	36.44	1520.32
125.	17.67	36.39	1519.25

26.31	-96.32	931005	113000
22	2	125	180
AA2	R/V-1	D51 CTD	
0.	28.04	36.47	1543.28
5.	28.04	36.43	1543.32
10.	28.04	36.43	1543.40
15.	28.04	36.41	1543.46
20.	28.08	36.33	1543.55
25.	28.09	36.25	1543.57
30.	28.08	36.25	1543.63
35.	28.07	36.24	1543.68
40.	26.35	36.22	1539.95
45.	24.60	36.38	1536.17
50.	24.05	36.38	1534.94
55.	22.99	36.38	1532.43
60.	22.59	36.31	1531.43
65.	22.22	36.38	1530.65
70.	21.87	36.36	1529.82
75.	21.33	36.40	1528.55
80.	20.94	36.40	1527.60
85.	20.46	36.45	1526.47
90.	19.85	36.42	1524.86
95.	19.19	36.47	1523.18
100.	19.02	36.46	1522.78
125.	16.60	36.28	1515.94

26.31	-96.32	931005	113000
22	2	125	180
AA2	R/V-1	U51 CTD	
0.	28.04	36.15	1542.93
5.	28.06	36.13	1543.04
10.	28.06	36.13	1543.12
15.	28.08	36.12	1543.24
20.	28.07	36.13	1543.31
25.	28.08	36.13	1543.41
30.	28.09	36.10	1543.49
35.	28.08	36.13	1543.58
40.	26.02	36.39	1539.39
45.	24.46	36.47	1535.94
50.	23.70	36.42	1534.13
55.	22.85	36.36	1532.05
60.	22.42	36.35	1531.04
65.	22.20	36.41	1530.64
70.	21.87	36.39	1529.85
75.	21.34	36.45	1528.63
80.	21.00	36.55	1527.94
85.	20.44	36.55	1526.53
90.	19.83	36.49	1524.89
95.	19.18	36.48	1523.17
100.	18.95	36.46	1522.58
125.	16.60	36.28	1515.94

26.31	-96.32	931005	153000
22	2	126	180
AA2	R/V-1	D52 CTD	
0.	27.89	36.26	1542.73
5.	28.14	36.00	1543.07
10.	28.09	35.97	1543.01
15.	28.09	35.99	1543.12
20.	28.09	36.02	1543.23
25.	28.09	36.03	1543.33
30.	28.09	36.03	1543.41
35.	28.09	35.99	1543.45
40.	26.26	36.12	1539.64
45.	24.49	36.19	1535.69
50.	23.64	36.01	1533.53
55.	22.72	36.16	1531.50
60.	22.18	36.23	1530.30
65.	21.83	36.28	1529.54
70.	21.25	36.32	1528.16
75.	20.94	36.32	1527.43
80.	20.43	36.31	1526.14
85.	20.19	36.35	1525.62
90.	19.79	36.31	1524.57
95.	19.26	36.32	1523.20
100.	18.78	36.27	1521.88
125.	16.36	36.14	1515.05

26.31	-96.32	931005	153000
22	2	126	180
AA2	R/V-1	U52 CTD	
0.	28.07	35.72	1542.53
5.	28.17	36.05	1543.19
10.	28.13	36.01	1543.14
15.	28.09	36.04	1543.17
20.	28.10	36.03	1543.27
25.	28.09	36.03	1543.33
30.	28.09	36.03	1543.41
35.	27.99	36.11	1543.37
40.	26.03	36.29	1539.30
45.	24.39	36.34	1535.62
50.	23.48	36.29	1533.45
55.	22.69	36.28	1531.56
60.	22.11	36.28	1530.18
65.	21.70	36.30	1529.23
70.	21.14	36.33	1527.89
75.	20.90	36.40	1527.42
80.	20.38	36.39	1526.10
85.	20.04	36.40	1525.27
90.	19.46	36.40	1523.77
95.	19.08	36.39	1522.78
100.	18.46	36.34	1521.05
125.	16.36	36.10	1515.00

26.31	-96.32	931005	200000
22	2	126	180
AA2	R/V-1	D53 CTD	
0.	27.82	35.37	1541.61
5.	28.33	36.20	1543.69
10.	28.22	36.17	1543.51
15.	28.14	36.18	1543.43
20.	28.14	36.14	1543.47
25.	28.09	36.15	1543.46
30.	28.10	36.10	1543.51
35.	28.09	36.10	1543.57
40.	26.41	36.12	1539.98
45.	25.54	36.28	1538.25
50.	23.99	36.25	1534.65
55.	23.25	36.25	1532.92
60.	22.40	36.30	1530.94
65.	21.67	36.29	1529.14
70.	21.03	36.40	1527.68
75.	20.55	36.47	1526.57
80.	20.33	36.36	1525.93
85.	19.88	36.43	1524.87
90.	19.41	36.39	1523.62
95.	19.00	36.39	1522.56
100.	18.28	36.32	1520.52
125.	16.86	36.21	1516.64

26.31	-96.32	931005	200000
22	2	125	180
AA2	R/V-1	U53 CTD	
0.	28.29	36.09	1543.41
5.	28.33	36.08	1543.56
10.	28.19	36.12	1543.39
15.	28.14	36.07	1543.31
20.	28.10	36.10	1543.34
25.	28.09	36.10	1543.40
30.	28.09	36.07	1543.45
35.	28.01	36.11	1543.41
40.	26.20	36.34	1539.75
45.	25.35	36.34	1537.88
50.	24.01	36.30	1534.75
55.	23.08	36.33	1532.59
60.	22.33	36.33	1530.79
65.	21.58	36.37	1529.00
70.	20.93	36.45	1527.47
75.	20.57	36.46	1526.61
80.	20.14	36.42	1525.49
85.	19.85	36.42	1524.78
90.	19.30	36.38	1523.30
95.	18.89	36.46	1522.33
100.	18.20	36.35	1520.32
125.	16.85	36.20	1516.60

26.30	-96.32	931005	233000
22	3	125	180
AA2	R/V-1	D54 CTD	
0.	28.16	36.42	1543.48
5.	28.19	36.39	1543.60
10.	28.23	36.34	1543.71
15.	28.22	36.28	1543.71
20.	28.09	36.31	1543.55
25.	28.10	36.24	1543.58
30.	28.09	36.24	1543.64
35.	28.09	36.24	1543.72
40.	25.86	36.17	1538.78
45.	24.86	36.31	1536.70
50.	24.10	36.26	1534.92
55.	23.46	36.34	1533.54
60.	22.83	36.21	1531.92
65.	22.25	36.28	1530.62
70.	21.68	36.37	1529.34
75.	21.18	36.40	1528.15
80.	20.55	36.47	1526.65
85.	20.24	36.42	1525.84
90.	19.97	36.46	1525.24
95.	19.36	36.39	1523.56
100.	18.51	36.32	1521.17
125.	17.39	36.27	1518.28

26.30	-96.32	931005	233000
22	2	125	180
AA2	R/V-1	U54 CTD	
0.	28.22	36.23	1543.41
5.	28.19	36.18	1543.37
10.	28.21	36.17	1543.49
15.	28.15	36.13	1543.40
20.	28.14	36.12	1543.45
25.	28.11	36.12	1543.47
30.	28.10	36.14	1543.55
35.	28.09	36.10	1543.57
40.	25.42	36.37	1537.99
45.	24.83	36.34	1536.67
50.	23.95	36.33	1534.64
55.	23.38	36.31	1533.31
60.	22.92	36.30	1532.24
65.	22.30	36.34	1530.81
70.	21.66	36.34	1529.25
75.	20.96	36.47	1527.66
80.	20.51	36.47	1526.54
85.	20.19	36.44	1525.73
90.	19.90	36.52	1525.12
95.	19.16	36.46	1523.09
100.	18.45	36.42	1521.12
125.	17.31	36.27	1518.05

26.30	-96.32	931006	113000
22	3	125	180
AA2	R/V-1	D55 CTD	
0.	27.94	36.53	1543.13
5.	28.04	36.50	1543.39
10.	28.07	36.41	1543.45
15.	28.07	36.40	1543.52
20.	28.09	36.38	1543.62
25.	28.08	36.28	1543.58
30.	28.08	36.24	1543.62
35.	28.05	36.27	1543.67
40.	27.66	36.20	1542.83
45.	25.24	36.37	1537.66
50.	24.28	36.38	1535.49
55.	23.30	36.32	1533.12
60.	22.64	36.32	1531.56
65.	22.16	36.36	1530.48
70.	21.39	36.42	1528.64
75.	21.03	36.51	1527.89
80.	20.45	36.45	1526.36
85.	20.10	36.52	1525.58
90.	19.77	36.64	1524.90
95.	19.43	36.53	1523.92
100.	18.93	36.47	1522.54
125.	16.82	36.27	1516.59

26.30	-96.32	931006	113000
22	3	125	180
AA2	R/V-1	U55 CTD	
0.	27.88	35.70	1542.10
5.	28.04	36.22	1543.09
10.	28.06	36.20	1543.20
15.	28.07	36.20	1543.30
20.	28.08	36.19	1543.40
25.	28.09	36.18	1543.49
30.	28.09	36.17	1543.56
35.	28.09	36.17	1543.65
40.	27.54	36.33	1542.71
45.	25.03	36.40	1537.20
50.	24.18	36.40	1535.27
55.	23.13	36.38	1532.77
60.	22.45	36.40	1531.18
65.	21.84	36.38	1529.68
70.	21.21	36.53	1528.30
75.	20.71	36.54	1527.07
80.	20.35	36.49	1526.14
85.	20.07	36.54	1525.52
90.	19.73	36.67	1524.83
95.	19.33	36.55	1523.67
100.	18.86	36.49	1522.36
125.	16.77	36.24	1516.41

26.34	-96.57	930925	180949
11	2	51	51
AA2	R/V-2	1 CTD	
0.	28.94	35.87	1544.55
5.	28.90	35.90	1544.58
10.	28.90	35.86	1544.62
15.	28.85	35.90	1544.64
20.	28.83	35.91	1544.69
25.	28.82	35.92	1544.77
30.	28.81	35.92	1544.83
35.	28.74	35.94	1544.79
40.	25.66	36.44	1538.62
45.	24.16	36.27	1534.99
50.	24.05	36.31	1534.86

26.31	-96.56	930925	213039
10	1	45	51
AA2	R/V-2	2 CTD	
0.	29.05	35.85	1544.76
5.	29.05	35.88	1544.87
10.	28.98	35.88	1544.81
15.	28.92	35.90	1544.79
20.	28.91	35.90	1544.85
25.	28.90	35.90	1544.91
30.	28.88	35.90	1544.95
35.	27.61	36.14	1542.57
40.	24.25	36.38	1535.25
45.	24.01	36.36	1534.73

26.29	-96.58	930929	23222
10	2	48	53
AA2	R/V-2	3 CTD	
0.	28.13	39.49	1546.71
5.	28.53	35.63	1543.51
10.	28.56	35.81	1543.85
15.	28.55	35.85	1543.95
20.	28.55	35.87	1544.06
25.	28.55	35.87	1544.14
30.	28.49	35.87	1544.10
35.	28.00	36.10	1543.38
40.	26.21	36.21	1539.63
45.	25.41	36.22	1537.89

26.31	-96.58	931006	42054
9	3	43	51
AA2	R/V-2	5 CTD	
0.	28.10	36.03	1542.93
5.	28.10	36.03	1543.02
10.	28.10	36.04	1543.11
15.	28.10	36.06	1543.22
20.	27.99	36.14	1543.15
25.	27.96	36.14	1543.17
30.	27.95	36.14	1543.23
35.	27.93	36.14	1543.27
40.	27.92	36.15	1543.34

26.50	-96.58	931006	54048
13	3	61	62
AA2	R/V-2	6 CTD	
0.	28.18	35.80	1542.86
5.	28.18	35.99	1543.15
10.	28.18	35.99	1543.23
15.	28.18	36.00	1543.32
20.	28.18	36.00	1543.41
25.	28.18	36.00	1543.49
30.	28.18	35.97	1543.54
35.	28.18	36.00	1543.66
40.	27.11	36.37	1541.81
45.	25.64	36.51	1538.74
50.	25.08	36.41	1537.41
55.	24.45	36.58	1536.20
60.	24.02	36.49	1535.15

26.30	-96.40	931004	231614
14	2	66	70
AA2	R/V-2	4 CTD	
0.	28.47	35.72	1543.39
5.	28.43	35.85	1543.53
10.	28.25	35.98	1543.37
15.	28.22	36.00	1543.41
20.	28.21	36.01	1543.48
25.	28.21	36.02	1543.58
30.	28.20	36.04	1543.66
35.	27.87	36.16	1543.16
40.	24.96	36.36	1536.91
45.	23.91	36.34	1534.47
50.	23.23	36.31	1532.86
55.	22.76	36.46	1531.94
60.	22.44	36.29	1531.03
65.	21.85	36.34	1529.66

26.50	-96.32	931006	72527
28	2	295	310
AA2	R/V-2	7 CTD	
0.	28.19	36.00	1543.09
5.	28.19	36.00	1543.18
10.	28.19	36.00	1543.26
15.	28.20	36.00	1543.37
20.	28.19	36.00	1543.43
25.	28.20	36.00	1543.53
30.	28.19	36.00	1543.59
35.	28.15	36.02	1543.61
40.	25.99	36.39	1539.32
45.	24.37	36.34	1535.58
50.	23.62	36.28	1533.78
55.	22.62	36.35	1531.47
60.	22.23	36.38	1530.60
65.	21.87	36.32	1529.69
70.	21.34	36.35	1528.43
75.	20.90	36.45	1527.47
80.	20.56	36.39	1526.58
85.	20.48	36.45	1526.52
90.	20.10	36.48	1525.61
95.	19.55	36.47	1524.18
100.	19.30	36.48	1523.58
125.	17.74	36.36	1519.42
150.	16.22	36.16	1515.06
175.	15.49	36.04	1513.07
200.	14.75	35.94	1511.03
225.	13.88	35.85	1508.53
250.	13.14	35.69	1506.30
275.	12.67	35.62	1505.05

26.31	-96.68	930925	143103
10	1	45	45
AA2	R/V-2	1 T10	
0.	29.00	35.89	1544.70
5.	28.60	35.90	1543.95
10.	28.61	35.86	1544.01
15.	28.61	35.90	1544.13
20.	28.59	35.91	1544.18
25.	28.52	35.92	1544.13
30.	28.05	35.92	1543.21
35.	27.13	35.94	1541.30
40.	25.52	36.44	1538.30
45.	24.61	36.27	1536.07

26.31	-96.58	930925	153335
12	1	52	52
AA2	R/V-2	2 T10	
0.	29.00	35.89	1544.70
5.	28.89	35.90	1544.56
10.	28.88	35.86	1544.58
15.	28.88	35.90	1544.70
20.	28.88	35.91	1544.80
25.	28.87	35.92	1544.87
30.	28.85	35.92	1544.91
35.	27.73	35.94	1542.62
40.	26.35	36.44	1540.19
45.	24.18	36.27	1535.04
50.	24.02	36.31	1534.79
55.	23.86	36.81	1535.04

26.34	-96.58	930925	190953
12	2	55	53
AA2	R/V-2	3 T4	
0.	29.20	35.89	1545.12
5.	29.03	35.90	1544.85
10.	29.09	35.86	1545.02
15.	29.01	35.90	1544.98
20.	28.98	35.91	1545.01
25.	28.96	35.92	1545.06
30.	28.95	35.92	1545.12
35.	28.81	35.94	1544.93
40.	25.84	36.44	1539.04
45.	24.25	36.27	1535.21
50.	24.14	36.31	1535.07
55.	23.84	36.26	1534.38

26.31	-96.56	930925	225913
11	1	50	50
AA2	R/V-2	4 T4	
0.	29.00	35.89	1544.70
5.	29.15	35.90	1545.10
10.	29.12	35.86	1545.08
15.	29.08	35.90	1545.13
20.	29.01	35.91	1545.07
25.	28.97	35.92	1545.08
30.	28.84	35.92	1544.89
35.	26.29	35.94	1539.43
40.	24.72	36.44	1536.44
45.	24.03	36.27	1534.68
50.	23.98	36.31	1534.69

26.31	-96.56	930925	235710
11	1	50	48
AA2	R/V-2	5 T4	
0.	29.00	35.89	1544.70
5.	29.10	35.90	1545.00
10.	29.09	35.86	1545.02
15.	29.07	35.90	1545.10
20.	29.03	35.91	1545.11
25.	28.99	35.92	1545.12
30.	28.86	35.92	1544.93
35.	25.98	35.94	1538.72
40.	24.85	36.44	1536.74
45.	23.99	36.27	1534.59
50.	23.84	36.31	1534.35

26.31	-96.52	930926	5625
13	1	60	60
AA2	R/V-2	6 T4	
0.	28.37	35.89	1543.36
5.	29.02	35.90	1544.83
10.	29.03	35.86	1544.89
15.	29.03	35.90	1545.02
20.	29.03	35.91	1545.11
25.	29.03	35.92	1545.21
30.	28.87	35.92	1544.95
35.	28.11	35.94	1543.44
40.	25.67	36.44	1538.65
45.	23.83	36.27	1534.20
50.	23.33	36.31	1533.10
55.	23.17	36.26	1532.74
60.	22.58	36.24	1531.32

26.31	-96.43	930926	15827
16	1	7	57
AA2	R/V-	7 T4	
0.	28.20	35.76	1542.86
5.	28.99	35.73	1544.59
10.	28.99	35.72	1544.66
15.	29.03	35.73	1544.84
20.	29.02	35.73	1544.90
25.	29.02	35.73	1544.98
30.	28.98	36.11	1545.39
35.	27.88	36.19	1543.21
40.	25.45	36.17	1537.84
45.	24.22	36.06	1534.90
50.	23.58	36.13	1533.51
55.	22.79	36.13	1531.64
60.	21.99	36.13	1529.70
65.	21.30	36.17	1528.04
70.	21.24	36.19	1527.99
75.	21.35	36.25	1528.43

26.41	-96.32	930926	40657
25	1	188	188
AA2	R/V-2	9 T4	
0.	28.30	36.00	1543.33
5.	28.93	36.00	1544.75
10.	28.94	36.00	1544.85
15.	28.92	36.00	1544.90
20.	28.92	36.00	1544.98
25.	28.92	36.00	1545.06
30.	28.78	36.00	1544.85
35.	26.58	36.02	1540.17
40.	24.74	36.39	1536.43
45.	23.71	36.34	1533.99
50.	23.11	36.28	1532.53
55.	22.57	36.35	1531.34
60.	22.13	36.38	1530.34
65.	21.61	36.32	1529.02
70.	21.23	36.35	1528.15
75.	20.56	36.45	1526.57
80.	20.04	36.39	1525.18
85.	19.38	36.45	1523.52
90.	18.89	36.48	1522.27
95.	18.62	36.47	1521.58
100.	18.25	36.48	1520.62
125.	17.12	36.36	1517.59
150.	16.31	36.16	1515.33
175.	15.41	36.04	1512.83
200.	15.03	35.94	1511.92

26.32	-96.34	930926	25650
21	1	106	106
AA2	R/V-2	8 T4	
0.	28.75	35.72	1543.99
5.	29.04	35.72	1544.68
10.	28.99	35.72	1544.66
15.	29.02	35.72	1544.81
20.	29.03	35.72	1544.91
25.	29.02	35.73	1544.98
30.	28.68	35.98	1544.62
35.	26.11	36.14	1539.24
40.	24.62	36.09	1535.81
45.	23.52	36.05	1533.19
50.	22.94	36.07	1531.87
55.	22.36	36.13	1530.56
60.	21.86	36.10	1529.33
65.	21.44	36.14	1528.37
70.	20.64	36.10	1526.29
75.	20.39	36.20	1525.82
80.	20.08	36.19	1525.06
85.	19.49	36.20	1523.53
90.	19.30	36.21	1523.10
95.	18.82	36.22	1521.85
100.	18.61	36.15	1521.26

26.31	-96.34	930926	165451
20	1	90	90
AA2	R/V-2	10 T4	
0.	29.10	35.86	1544.87
5.	29.07	35.86	1544.89
10.	29.03	35.83	1544.86
15.	29.03	35.86	1544.98
20.	29.02	35.85	1545.03
25.	28.97	35.83	1544.99
30.	26.79	35.87	1540.39
35.	25.42	36.21	1537.73
40.	24.19	36.24	1534.95
45.	23.67	36.25	1533.79
50.	22.99	36.21	1532.15
55.	22.52	36.26	1531.11
60.	21.80	36.24	1529.34
65.	20.86	36.24	1526.96
70.	20.39	36.32	1525.88
75.	19.95	36.35	1524.81
80.	19.67	36.34	1524.11
85.	19.04	36.35	1522.46
90.	18.74	36.31	1521.65
95.	18.22	36.23	1520.16

26.31	-96.41	930926	180753
16	1	75	75
AA2	R/V-2	11 T4	
0.	29.20	35.86	1545.08
5.	29.02	35.86	1544.79
10.	28.97	35.83	1544.74
15.	28.90	35.86	1544.70
20.	28.88	35.85	1544.73
25.	28.88	35.83	1544.80
30.	28.83	35.87	1544.82
35.	25.62	36.21	1538.20
40.	24.24	36.24	1535.07
45.	23.14	36.25	1532.48
50.	22.69	36.21	1531.40
55.	22.31	36.26	1530.58
60.	21.80	36.24	1529.34
65.	21.10	36.24	1527.59
70.	21.02	36.32	1527.56
75.	20.91	36.35	1527.38

26.31	-96.35	930927	153619
18	1	90	90
AA2	R/V-2	12 T4	
0.	29.10	34.35	1543.26
5.	29.00	35.89	1544.78
10.	29.01	35.88	1544.87
15.	29.00	35.87	1544.92
20.	29.04	35.86	1545.08
25.	29.07	35.86	1545.23
30.	28.32	36.05	1543.93
35.	26.94	36.35	1541.33
40.	24.70	36.37	1536.31
45.	23.98	36.30	1534.59
50.	23.34	36.32	1533.14
55.	22.51	36.33	1531.17
60.	22.26	36.28	1530.56
65.	21.76	36.30	1529.38
70.	21.31	36.39	1528.40
75.	21.05	36.36	1527.77
80.	20.35	36.40	1526.03
85.	19.87	36.43	1524.85

26.31	-96.36	930927	163016
20	1	83	83
AA2	R/V-2	13 T4	
0.	29.10	34.35	1543.26
5.	29.08	35.89	1544.95
10.	29.09	35.88	1545.04
15.	29.11	35.87	1545.16
20.	29.12	35.86	1545.25
25.	29.11	35.86	1545.31
30.	29.00	36.05	1545.37
35.	26.79	36.35	1541.00
40.	25.06	36.37	1537.16
45.	23.89	36.30	1534.38
50.	23.12	36.32	1532.60
55.	22.67	36.33	1531.57
60.	22.06	36.28	1530.05
65.	21.54	36.30	1528.81
70.	21.39	36.39	1528.61
75.	20.78	36.36	1527.05
80.	20.42	36.40	1526.22
85.	19.94	36.43	1525.04
90.	19.86	36.43	1524.90
95.	19.90	36.46	1525.13

26.28	-96.37	930927	185742
16	1	80	80
AA2	R/V-2	14 T4	
0.	29.10	34.35	1543.26
5.	29.03	35.89	1544.84
10.	29.04	35.88	1544.94
15.	29.05	35.87	1545.03
20.	29.05	35.86	1545.10
25.	29.05	35.86	1545.19
30.	29.06	36.05	1545.49
35.	27.65	36.35	1542.89
40.	25.51	36.37	1538.20
45.	24.06	36.30	1534.79
50.	23.29	36.32	1533.02
55.	22.46	36.33	1531.04
60.	21.93	36.28	1529.72
65.	21.69	36.30	1529.20
70.	21.08	36.39	1527.80
75.	20.81	36.36	1527.13

26.31	-96.37	930928	182221
16	1	80	80
AA2	R/V-2	15 T4	
0.	28.60	35.72	1543.67
5.	28.75	35.85	1544.21
10.	28.88	35.98	1544.71
15.	28.85	36.00	1544.75
20.	28.82	36.01	1544.78
25.	28.83	36.02	1544.89
30.	28.82	36.04	1544.98
35.	27.49	36.16	1542.33
40.	25.40	36.36	1537.94
45.	24.16	36.34	1535.07
50.	23.13	36.31	1532.61
55.	22.32	36.46	1530.83
60.	21.60	36.29	1528.88
65.	21.20	36.34	1527.97
70.	20.72	36.47	1526.94
75.	20.70	36.46	1526.96

26.30	-96.41	930928	195225
16	1	72	72
AA2	R/V-2	16 T4	
0.	29.00	35.72	1544.51
5.	28.76	35.85	1544.23
10.	28.85	35.98	1544.64
15.	28.83	36.00	1544.71
20.	28.82	36.01	1544.78
25.	28.81	36.02	1544.85
30.	27.50	36.04	1542.14
35.	25.87	36.16	1538.71
40.	24.74	36.36	1536.39
45.	23.66	36.34	1533.86
50.	22.62	36.31	1531.34
55.	22.24	36.46	1530.63
60.	21.84	36.29	1529.50
65.	21.41	36.34	1528.52
70.	21.41	36.47	1528.75
75.	21.43	36.46	1528.88

26.30	-96.46	930928	212951
13	1	65	65
AA2	R/V-2	17 T4	
0.	29.00	35.72	1544.51
5.	28.85	35.85	1544.42
10.	28.84	35.98	1544.62
15.	28.82	36.00	1544.68
20.	28.71	36.01	1544.55
25.	28.70	36.02	1544.62
30.	28.57	36.04	1544.45
35.	26.69	36.16	1540.57
40.	24.66	36.36	1536.20
45.	23.92	36.34	1534.49
50.	23.37	36.31	1533.20
55.	22.71	36.46	1531.82
60.	22.24	36.29	1530.52

26.30	-96.54	930928	233505
11	1	54	54
AA2	R/V-2	18 T4	
0.	28.70	36.03	1544.21
5.	28.63	36.03	1544.15
10.	28.68	36.04	1544.35
15.	28.67	36.06	1544.43
20.	28.69	36.14	1544.64
25.	28.77	36.14	1544.90
30.	28.73	36.14	1544.90
35.	27.59	36.14	1542.53
40.	26.03	36.15	1539.15
45.	25.25	36.40	1537.72
50.	24.53	36.40	1536.11

26.30	-96.58	930929	10342
11	2	55	52
AA2	R/V-2	19 T4	
0.	28.30	36.03	1543.36
5.	28.63	36.03	1544.15
10.	28.60	36.04	1544.18
15.	28.62	36.06	1544.33
20.	28.59	36.14	1544.43
25.	28.50	36.14	1544.32
30.	28.45	36.14	1544.30
35.	28.44	36.14	1544.36
40.	27.23	36.15	1541.84
45.	25.46	36.40	1538.20
50.	25.12	36.40	1537.50

26.42	-96.54	930929	41050
13	2	60	60
AA2	R/V-2	20 T4	
0.	28.60	35.95	1543.92
5.	28.63	35.99	1544.11
10.	28.61	35.99	1544.15
15.	28.65	36.00	1544.33
20.	28.68	36.00	1544.47
25.	28.68	36.00	1544.56
30.	28.69	35.97	1544.63
35.	28.62	36.00	1544.60
40.	27.01	36.37	1541.59
45.	25.84	36.51	1539.20
50.	24.34	36.41	1535.67
55.	23.26	36.58	1533.32
60.	23.12	36.49	1532.96

26.35	-96.42	930929	64500
15	1	75	75
AA2	R/V-2	21 T4	
0.	28.20	35.72	1542.81
5.	28.59	35.85	1543.87
10.	28.66	35.98	1544.24
15.	28.66	36.00	1544.35
20.	28.93	36.01	1545.01
25.	28.84	36.02	1544.92
30.	28.78	36.04	1544.89
35.	27.78	36.16	1542.97
40.	25.35	36.36	1537.82
45.	24.27	36.34	1535.34
50.	24.21	36.31	1535.24
55.	23.76	36.46	1534.41
60.	22.78	36.29	1531.88
65.	22.19	36.34	1530.53
70.	21.52	36.47	1529.04

26.30	-96.36	930929	161954
8	2	40	80
AA2	R/V-2	22 T10	
0.	28.70	35.72	1543.88
5.	28.69	35.85	1544.08
10.	28.69	35.98	1544.31
15.	28.71	36.00	1544.45
20.	28.70	36.01	1544.53
25.	28.70	36.02	1544.62
30.	28.70	36.04	1544.72
35.	28.69	36.16	1544.92

26.30	-96.40	930929	165054
16	1	75	80
AA2	R/V-2	23 T10	
0.	28.70	35.72	1543.88
5.	28.72	35.85	1544.15
10.	28.71	35.98	1544.35
15.	28.72	36.00	1544.47
20.	28.71	36.01	1544.55
25.	28.71	36.02	1544.64
30.	28.71	36.04	1544.75
35.	28.04	36.16	1543.53
40.	25.55	36.36	1538.28
45.	24.35	36.34	1535.53
50.	23.59	36.31	1533.74
55.	22.97	36.46	1532.47
60.	22.42	36.29	1530.98
65.	21.84	36.34	1529.64
70.	21.23	36.47	1528.28
75.	21.25	36.46	1528.41

26.30	-96.43	930929	202526
14	2	70	70
AA2	R/V-2	24 T10	
0.	28.80	35.72	1544.09
5.	28.79	35.85	1544.29
10.	28.80	35.98	1544.54
15.	28.80	36.00	1544.64
20.	28.75	36.01	1544.63
25.	28.73	36.02	1544.68
30.	28.72	36.04	1544.77
35.	28.52	36.16	1544.55
40.	25.18	36.36	1537.43
45.	24.07	36.34	1534.86
50.	23.49	36.31	1533.50
55.	22.92	36.46	1532.34
60.	22.39	36.29	1530.90
65.	21.82	36.34	1529.58

26.30	-96.47	930929	233102
13	2	65	65
AA2	R/V-2	25 T10	
0.	28.50	35.72	1543.46
5.	28.65	35.85	1544.00
10.	28.66	35.98	1544.24
15.	28.67	36.00	1544.37
20.	28.67	36.01	1544.46
25.	28.67	36.02	1544.56
30.	28.66	36.04	1544.64
35.	28.60	36.16	1544.72
40.	26.55	36.36	1540.56
45.	25.03	36.34	1537.14
50.	24.14	36.31	1535.07
55.	23.24	36.46	1533.14
60.	22.63	36.29	1531.51

26.30	-96.51	930930	21624
12	2	60	60
AA2	R/V-2	26 T10	
0.	28.50	36.03	1543.79
5.	28.53	36.03	1543.94
10.	28.55	36.04	1544.07
15.	28.56	36.06	1544.20
20.	28.58	36.14	1544.41
25.	28.62	36.14	1544.58
30.	28.50	36.14	1544.41
35.	28.23	36.14	1543.91
40.	26.43	36.15	1540.06
45.	25.14	36.40	1537.46
50.	23.77	36.40	1534.28
55.	23.15	36.38	1532.82

26.30	-96.43	930930	215139
14	1	70	68
AA2	R/V-2	27 T10	
0.	28.80	35.72	1544.09
5.	28.63	35.85	1543.96
10.	28.64	35.98	1544.20
15.	28.57	36.00	1544.16
20.	28.56	36.01	1544.23
25.	28.56	36.02	1544.32
30.	28.45	36.04	1544.19
35.	26.85	36.16	1540.92
40.	25.09	36.36	1537.22
45.	24.30	36.34	1535.41
50.	23.57	36.31	1533.69
55.	22.81	36.46	1532.07
60.	22.40	36.29	1530.93
65.	21.83	36.34	1529.61

26.31	-96.36	931002	160134
17	2	8	8
AA2	R/V-	28 T4	
0.	29.00	35.72	1544.51
5.	28.43	35.85	1543.53
10.	28.44	35.98	1543.77
15.	28.37	36.00	1543.73
20.	28.26	36.01	1543.59
25.	28.12	36.02	1543.38
30.	28.11	36.04	1543.47
35.	28.04	36.16	1543.53
40.	25.56	36.36	1538.31
45.	24.59	36.34	1536.10
50.	23.47	36.31	1533.45
55.	22.35	36.46	1530.91
60.	21.87	36.29	1529.57
65.	21.09	36.34	1527.68
70.	20.75	36.47	1527.02
75.	20.73	36.46	1527.03
80.	20.45	36.56	1526.49

26.31	-96.40	931002	212012
15	2	74	74
AA2	R/V-2	29 T4	
0.	28.60	35.72	1543.67
5.	28.43	35.85	1543.53
10.	28.43	35.98	1543.75
15.	28.43	36.00	1543.86
20.	28.43	36.01	1543.95
25.	28.41	36.02	1544.00
30.	28.41	36.04	1544.11
35.	28.40	36.16	1544.30
40.	26.59	36.36	1540.65
45.	24.75	36.34	1536.48
50.	23.81	36.31	1534.28
55.	23.13	36.46	1532.86
60.	22.13	36.29	1530.24
65.	21.35	36.34	1528.37
70.	21.13	36.47	1528.02

26.31	-96.42	931003	21501
15	1	70	75
AA2	R/V-2	30 T4	
0.	28.60	35.72	1543.67
5.	28.51	35.85	1543.70
10.	28.33	35.98	1543.54
15.	28.43	36.00	1543.86
20.	28.44	36.01	1543.97
25.	28.43	36.02	1544.05
30.	28.40	36.04	1544.09
35.	26.99	36.16	1541.23
40.	25.65	36.36	1538.51
45.	25.18	36.34	1537.49
50.	24.24	36.31	1535.31
55.	23.56	36.46	1533.92
60.	22.90	36.29	1532.18
65.	21.93	36.34	1529.87
70.	21.57	36.47	1529.17

26.30	-96.36	931003	194804
17	2	80	81
AA2	R/V-2	31 T10	
0.	28.80	35.72	1544.09
5.	28.46	35.85	1543.59
10.	28.47	35.98	1543.84
15.	28.36	36.00	1543.71
20.	28.33	36.01	1543.74
25.	28.32	36.02	1543.81
30.	28.29	36.04	1543.85
35.	28.16	36.16	1543.79
40.	25.25	36.36	1537.59
45.	24.11	36.34	1534.95
50.	23.44	36.31	1533.37
55.	23.11	36.46	1532.81
60.	22.46	36.29	1531.08
65.	21.64	36.34	1529.12
70.	20.84	36.47	1527.26
75.	20.62	36.46	1526.74
80.	20.29	36.56	1526.06

26.30	-96.39	931003	213406
15	2	70	75
AA2	R/V-2	32 T10	
0.	28.60	35.72	1543.67
5.	28.40	35.85	1543.47
10.	28.46	35.98	1543.82
15.	28.45	36.00	1543.90
20.	28.39	36.01	1543.87
25.	28.37	36.02	1543.92
30.	28.37	36.04	1544.02
35.	28.36	36.16	1544.21
40.	26.10	36.36	1539.54
45.	25.00	36.34	1537.07
50.	24.26	36.31	1535.36
55.	23.03	36.46	1532.62
60.	22.60	36.29	1531.43
65.	22.33	36.34	1530.89
70.	21.47	36.47	1528.91

26.30	-96.36	931004	20429
18	1	90	90
AA2	R/V-2	33 T10	
0.	27.84	35.72	1542.04
5.	28.29	35.85	1543.23
10.	28.31	35.98	1543.50
15.	28.31	36.00	1543.60
20.	28.31	36.01	1543.70
25.	28.32	36.02	1543.81
30.	28.30	36.04	1543.87
35.	27.03	36.16	1541.32
40.	25.01	36.36	1537.03
45.	23.80	36.34	1534.20
50.	23.14	36.31	1532.64
55.	22.81	36.46	1532.07
60.	22.46	36.29	1531.08
65.	21.65	36.34	1529.15
70.	21.06	36.47	1527.84
75.	20.52	36.46	1526.47
80.	20.07	36.56	1525.46
85.	19.52	36.59	1524.07

26.30	-96.40	931004	214441
15	2	70	72
AA2	R/V-2	34 T10	
0.	28.90	35.72	1544.30
5.	28.40	35.85	1543.47
10.	28.28	35.98	1543.43
15.	28.27	36.00	1543.52
20.	28.25	36.01	1543.57
25.	28.24	36.02	1543.64
30.	28.22	36.04	1543.70
35.	28.13	36.16	1543.72
40.	25.63	36.36	1538.47
45.	24.36	36.34	1535.55
50.	23.32	36.31	1533.08
55.	22.61	36.46	1531.57
60.	22.09	36.29	1530.14
65.	21.76	36.34	1529.43
70.	21.32	36.47	1528.52

26.31	-96.40	931005	173616
15	1	70	72
AA2	R/V-2	35 T10	
0.	28.60	35.72	1543.67
5.	28.19	35.85	1543.02
10.	28.16	35.98	1543.18
15.	28.15	36.00	1543.26
20.	28.14	36.01	1543.33
25.	28.14	36.02	1543.43
30.	28.13	36.04	1543.51
35.	27.53	36.16	1542.42
40.	25.41	36.36	1537.96
45.	24.46	36.34	1535.79
50.	23.76	36.31	1534.16
55.	23.15	36.46	1532.91
60.	22.42	36.29	1530.98
65.	21.93	36.34	1529.87
70.	21.37	36.47	1528.65

26.31	-96.40	931005	220557
15	2	70	75
AA2	R/V-2	36 T10	
0.	28.60	35.72	1543.67
5.	28.28	35.85	1543.21
10.	28.24	35.98	1543.35
15.	28.15	36.00	1543.26
20.	28.14	36.01	1543.33
25.	28.12	36.02	1543.38
30.	28.12	36.04	1543.49
35.	28.11	36.16	1543.68
40.	26.05	36.36	1539.43
45.	24.83	36.34	1536.67
50.	23.89	36.31	1534.47
55.	23.13	36.46	1532.86
60.	22.18	36.29	1530.37
65.	21.72	36.34	1529.33
70.	21.20	36.47	1528.21

26.31	-96.47	931006	134027
13	2	60	62
AA2	R/V-2	37 T10	
0.	28.60	35.72	1543.67
5.	28.15	35.85	1542.93
10.	28.16	35.98	1543.18
15.	28.16	36.00	1543.28
20.	28.16	36.01	1543.37
25.	28.16	36.02	1543.47
30.	28.16	36.04	1543.57
35.	28.16	36.16	1543.79
40.	26.32	36.36	1540.04
45.	25.37	36.34	1537.93
50.	24.75	36.31	1536.53
55.	23.93	36.46	1534.82
60.	23.30	36.29	1533.17

26.30	-96.55	931006	232944
11	3	50	52
AA2	R/V-2	38 T10	
0.	28.50	36.03	1543.79
5.	28.28	36.03	1543.40
10.	28.25	36.04	1543.43
15.	28.20	36.06	1543.43
20.	28.03	36.14	1543.23
25.	28.02	36.14	1543.30
30.	28.01	36.14	1543.36
35.	27.98	36.14	1543.38
40.	27.84	36.15	1543.17
45.	26.82	36.40	1541.29
50.	25.20	36.40	1537.68

26.31	-96.40	931007	141757
15	2	70	75
AA2	R/V-2	39 T10	
0.	28.50	35.72	1543.46
5.	28.16	35.85	1542.95
10.	28.16	35.98	1543.18
15.	28.16	36.00	1543.28
20.	28.16	36.01	1543.37
25.	28.16	36.02	1543.47
30.	28.16	36.04	1543.57
35.	28.04	36.16	1543.53
40.	26.09	36.36	1539.52
45.	25.10	36.34	1537.30
50.	23.86	36.31	1534.40
55.	22.88	36.46	1532.24
60.	22.28	36.29	1530.62
65.	21.91	36.34	1529.82
70.	21.11	36.47	1527.97

26.30	-96.47	931007	211020
13	2	60	62
AA2	R/V-2	40 T10	
0.	28.70	35.72	1543.88
5.	28.35	35.85	1543.36
10.	28.15	35.98	1543.15
15.	28.13	36.00	1543.22
20.	28.12	36.01	1543.29
25.	28.11	36.02	1543.36
30.	28.10	36.04	1543.44
35.	28.09	36.16	1543.64
40.	26.11	36.36	1539.56
45.	25.11	36.34	1537.32
50.	24.24	36.31	1535.31
55.	23.45	36.46	1533.65
60.	22.76	36.29	1531.83

Appendix F: Bottom Loss versus Grazing Angle

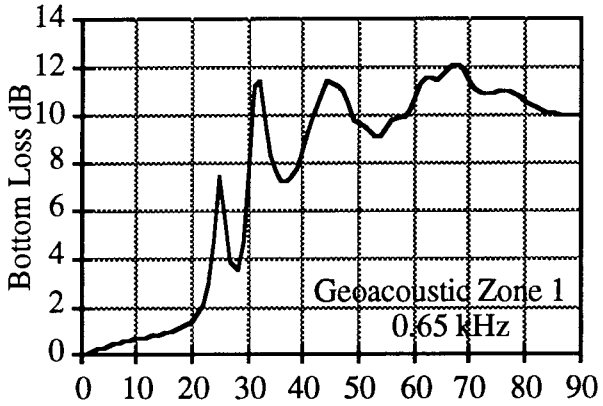
GEOACOUSTIC ZONE 1

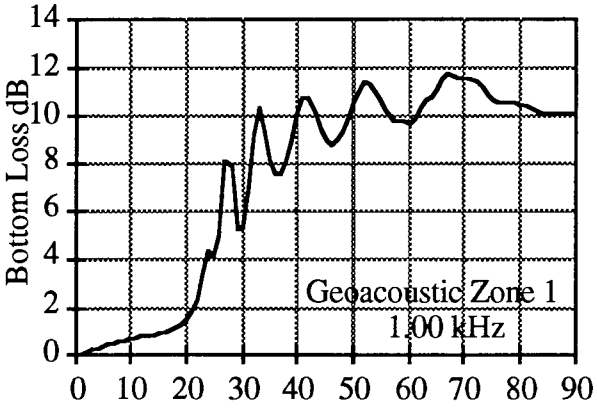
Grazing Angle	0.65 kHz	1 kHz	2.1 kHz	4.1 kHz	6.5 kHz
0.	0.01	0.01	0.01	0.01	0.01
1.	0.08	0.08	0.08	0.08	0.08
2.	0.16	0.16	0.16	0.16	0.16
3.	0.24	0.24	0.24	0.24	0.24
4.	0.32	0.32	0.32	0.32	0.32
5.	0.39	0.39	0.39	0.39	0.39
6.	0.46	0.46	0.46	0.46	0.46
7.	0.52	0.52	0.52	0.52	0.52
8.	0.58	0.58	0.58	0.58	0.58
9.	0.63	0.63	0.63	0.63	0.63
10.	0.68	0.68	0.68	0.69	0.69
11.	0.73	0.73	0.73	0.73	0.73
12.	0.77	0.78	0.78	0.78	0.78
13.	0.82	0.83	0.83	0.83	0.83
14.	0.87	0.87	0.88	0.88	0.88
15.	0.92	0.93	0.93	0.94	0.94
16.	0.98	0.99	1.00	1.00	1.00
17.	1.06	1.07	1.07	1.08	1.08
18.	1.14	1.16	1.17	1.17	1.18
19.	1.26	1.29	1.30	1.31	1.31
20.	1.43	1.47	1.50	1.51	1.51
21.	1.68	1.78	1.82	1.84	1.84
22.	2.11	2.33	2.40	2.42	2.44
23.	2.94	3.39	3.28	3.31	3.31
24.	4.73	4.31	4.18	4.20	4.20
25.	7.45	4.06	4.98	4.96	4.96
26.	5.71	4.95	5.56	5.59	5.59
27.	3.81	8.14	5.98	6.14	6.12
28.	3.56	7.93	7.03	6.56	6.57
29.	4.61	5.21	6.30	6.92	6.97
30.	7.65	5.25	7.78	7.38	7.32
31.	11.21	6.91	7.81	7.59	7.62
32.	11.46	9.21	7.26	7.87	7.90
33.	9.79	10.30	8.28	8.19	8.14
34.	8.37	9.30	8.95	8.28	8.35
35.	7.63	8.11	8.21	8.65	8.54
36.	7.21	7.52	8.23	8.64	8.71
37.	7.21	7.57	9.24	9.00	8.89
38.	7.46	8.10	9.59	8.97	9.05
39.	7.81	9.05	8.89	9.26	9.17
40.	8.53	10.14	8.77	9.30	9.30
41.	9.33	10.83	9.53	9.40	9.46
42.	9.98	10.79	10.18	9.65	9.54
43.	10.87	10.14	9.77	9.50	9.63
44.	11.48	9.48	9.23	9.90	9.78
45.	11.34	9.04	9.40	9.73	9.81

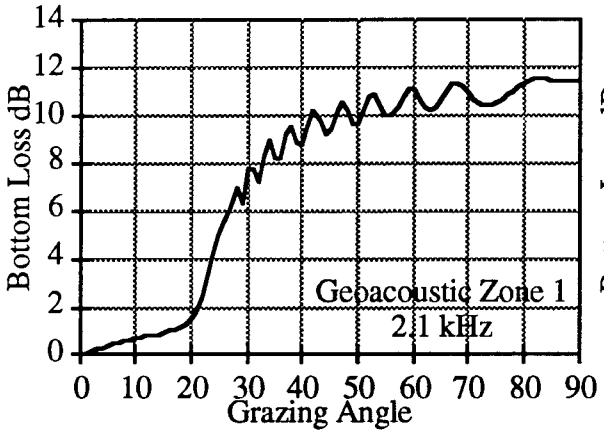
Appendix F (cont.)

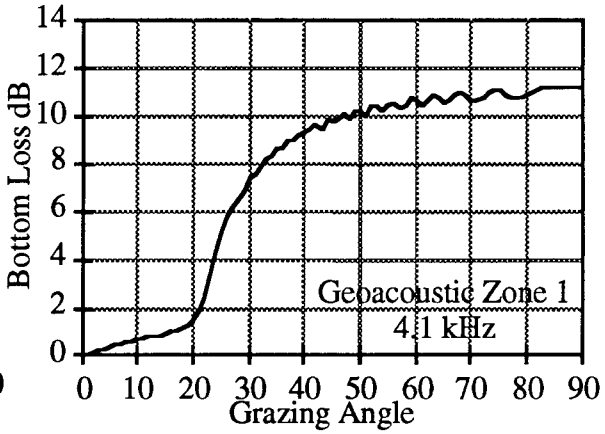
Geoacoustic Zone 1 (cont.)

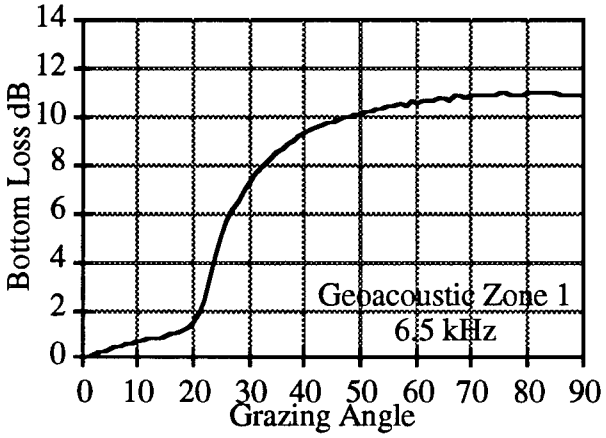
Grazing Angle	0.65 kHz	1 kHz	2.1 kHz	4.1 kHz	6.5 kHz
46.	11.21	8.82	10.15	9.90	9.91
47.	11.06	9.03	10.61	10.11	10.01
48.	10.43	9.30	10.22	9.88	10.02
49.	9.82	9.94	9.69	10.22	10.17
50.	9.63	10.61	9.66	10.25	10.14
51.	9.57	11.03	10.18	10.06	10.28
52.	9.33	11.51	10.80	10.42	10.26
53.	9.07	11.35	10.88	10.42	10.38
54.	9.13	10.97	10.42	10.20	10.36
55.	9.48	10.72	10.01	10.50	10.48
56.	9.79	10.20	9.95	10.62	10.44
57.	9.89	9.81	10.29	10.33	10.57
58.	9.94	9.80	10.84	10.44	10.50
59.	10.26	9.77	11.16	10.77	10.64
60.	10.81	9.68	11.07	10.67	10.60
61.	11.38	9.90	10.68	10.46	10.65
62.	11.61	10.35	10.31	10.63	10.73
63.	11.56	10.63	10.19	10.91	10.65
64.	11.51	10.79	10.30	10.83	10.78
65.	11.63	11.14	10.64	10.60	10.78
66.	11.92	11.62	11.02	10.63	10.73
67.	12.16	11.85	11.31	10.89	10.85
68.	12.15	11.73	11.39	11.04	10.85
69.	11.89	11.58	11.21	10.91	10.78
70.	11.50	11.58	10.98	10.71	10.87
71.	11.15	11.62	10.68	10.68	10.95
72.	10.95	11.51	10.48	10.84	10.88
73.	10.89	11.20	10.43	11.05	10.85
74.	10.90	10.87	10.41	11.14	10.93
75.	10.96	10.63	10.51	11.07	11.00
76.	10.99	10.52	10.71	10.93	10.98
77.	10.98	10.51	10.90	10.80	10.91
78.	10.90	10.53	11.06	10.76	10.90
79.	10.76	10.53	11.23	10.80	10.95
80.	10.61	10.48	11.40	10.90	11.02
81.	10.46	10.40	11.51	11.01	11.06
82.	10.33	10.31	11.56	11.12	11.06
83.	10.23	10.22	11.55	11.19	11.03
84.	10.14	10.16	11.52	11.22	10.99
85.	10.08	10.11	11.49	11.23	10.96
86.	10.03	10.09	11.47	11.22	10.95
87.	10.00	10.07	11.45	11.21	10.95
88.	9.98	10.07	11.44	11.19	10.95
89.	9.97	10.07	11.43	11.18	10.95
90.	9.97	10.07	11.42	11.18	10.95


Bottom Loss dB
Geoacoustic Zone 1
0.65 kHz


Bottom Loss dB
Geoacoustic Zone 1
1.00 kHz


Bottom Loss dB
Geoacoustic Zone 1
2.1 kHz
Grazing Angle


Bottom Loss dB
Geoacoustic Zone 1
4.1 kHz
Grazing Angle


Bottom Loss dB
Geoacoustic Zone 1
6.5 kHz
Grazing Angle

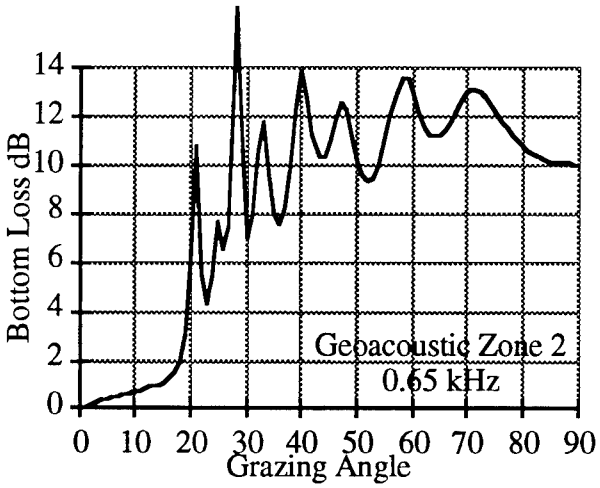
GEOACOUSTIC ZONE 2

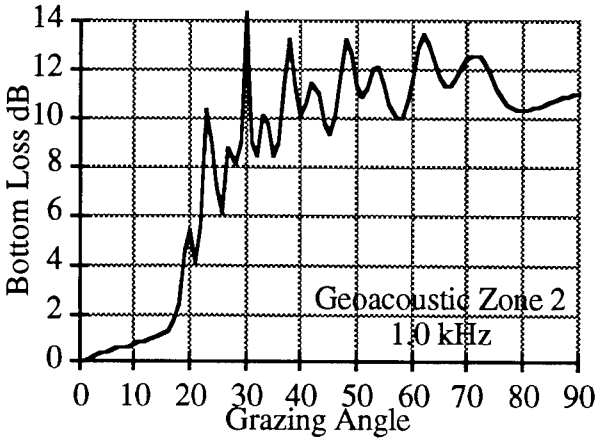
Grazing Angle	0.65 kHz	1 kHz	2.1 kHz	4.1 kHz	6.5 kHz
0.	0.02	0.02	0.02	0.02	0.02
1.	0.09	0.09	0.09	0.09	0.09
2.	0.18	0.18	0.18	0.18	0.18
3.	0.26	0.26	0.26	0.26	0.26
4.	0.34	0.34	0.34	0.34	0.34
5.	0.41	0.41	0.42	0.42	0.42
6.	0.48	0.48	0.49	0.49	0.49
7.	0.54	0.55	0.55	0.55	0.55
8.	0.60	0.61	0.61	0.61	0.61
9.	0.66	0.66	0.67	0.67	0.67
10.	0.71	0.72	0.72	0.73	0.73
11.	0.77	0.78	0.78	0.79	0.79
12.	0.83	0.84	0.85	0.85	0.85
13.	0.90	0.91	0.92	0.93	0.93
14.	0.98	1.00	1.02	1.03	1.03
15.	1.10	1.13	1.16	1.17	1.17
16.	1.26	1.33	1.37	1.39	1.40
17.	1.52	1.68	1.79	1.83	1.85
18.	2.00	2.45	2.72	2.80	2.82
19.	3.08	4.53	4.04	4.10	4.11
20.	6.16	5.47	5.14	5.16	5.15
21.	10.76	4.10	5.98	6.02	5.98
22.	5.58	5.61	6.71	6.75	6.64
23.	4.25	10.29	6.59	7.18	7.17
24.	5.37	9.04	8.68	7.49	7.63
25.	7.70	7.06	7.42	8.22	8.03
26.	6.52	6.12	8.01	8.35	8.37
27.	7.48	8.72	9.77	8.65	8.67
28.	16.49	8.05	8.82	9.13	8.95
29.	11.10	8.96	8.26	9.03	9.24
30.	6.97	14.42	10.07	9.67	9.50
31.	7.83	9.01	10.23	9.38	9.66
32.	10.56	8.46	9.32	10.03	9.74
33.	11.80	10.15	9.41	9.72	9.89
34.	9.63	9.81	10.27	10.28	10.13
35.	8.02	8.49	11.18	10.08	10.24
36.	7.59	8.95	9.93	10.37	10.26
37.	8.23	11.44	9.91	10.50	10.46
38.	9.87	13.30	10.42	10.35	10.67
39.	12.33	11.33	11.33	10.93	10.57
40.	13.97	10.12	11.21	10.47	10.75
41.	12.82	10.52	10.11	11.10	10.91
42.	11.26	11.42	10.66	10.88	10.78
43.	10.36	10.98	10.65	10.77	11.06
44.	10.32	9.76	12.00	11.29	11.02
45.	11.00	9.35	11.39	10.84	11.04

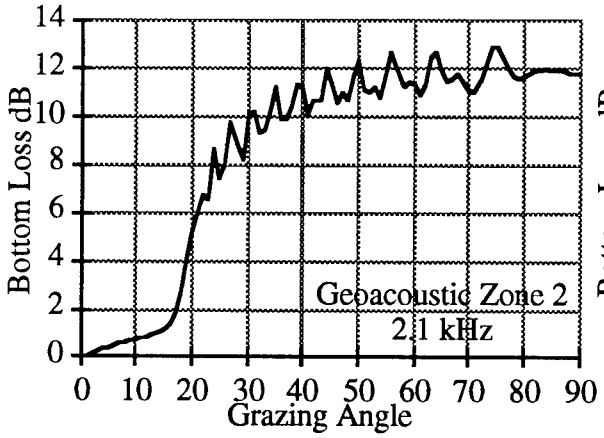
Appendix F (cont.)

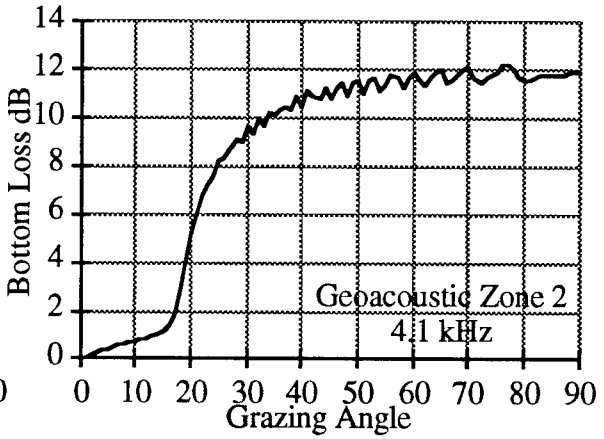
Geoacoustic Zone 2 (cont.)

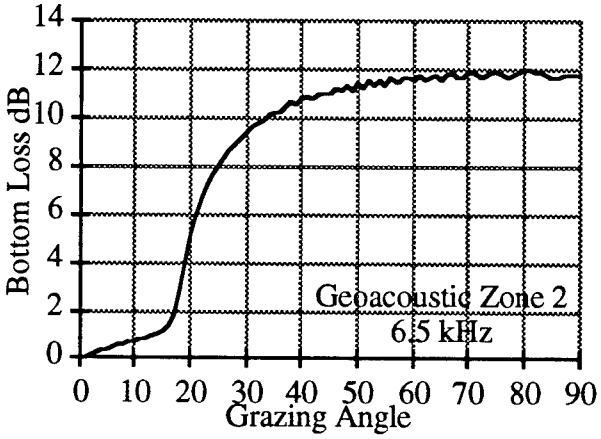
Grazing Angle	0.65 kHz	1 kHz	2.1 kHz	4.1 kHz	6.5 kHz
46.	11.92	10.09	10.56	11.24	11.24
47.	12.57	11.85	10.98	11.41	11.08
48.	12.28	13.30	10.72	10.88	11.38
49.	11.17	12.68	11.69	11.46	11.17
50.	10.15	11.39	12.37	11.56	11.47
51.	9.54	10.91	11.09	10.99	11.26
52.	9.29	11.21	11.06	11.52	11.54
53.	9.42	11.97	11.20	11.72	11.33
54.	10.00	12.14	10.83	11.13	11.62
55.	10.97	11.45	11.67	11.40	11.39
56.	12.06	10.51	12.70	11.75	11.68
57.	13.04	9.95	11.79	11.64	11.48
58.	13.64	10.04	11.18	11.24	11.65
59.	13.59	10.66	11.49	11.68	11.63
60.	12.91	11.71	11.36	11.95	11.53
61.	12.12	12.92	10.94	11.61	11.79
62.	11.55	13.45	11.38	11.36	11.59
63.	11.28	13.05	12.52	11.70	11.71
64.	11.20	12.34	12.73	11.96	11.81
65.	11.26	11.70	11.89	11.97	11.61
66.	11.43	11.33	11.42	11.42	11.78
67.	11.75	11.36	11.58	11.59	11.86
68.	12.21	11.68	11.78	11.76	11.69
69.	12.69	12.10	11.51	12.03	11.72
70.	13.06	12.43	11.11	12.16	11.93
71.	13.19	12.61	11.06	11.67	11.86
72.	13.07	12.56	11.52	11.49	11.69
73.	12.81	12.24	12.28	11.69	11.78
74.	12.50	11.75	12.86	11.78	11.96
75.	12.16	11.26	12.90	11.91	11.94
76.	11.84	10.86	12.47	12.20	11.83
77.	11.55	10.60	12.00	12.27	11.71
78.	11.28	10.44	11.70	11.98	11.80
79.	11.03	10.35	11.59	11.66	11.95
80.	10.80	10.33	11.63	11.56	12.00
81.	10.61	10.35	11.75	11.62	11.98
82.	10.45	10.40	11.88	11.72	11.94
83.	10.33	10.48	11.96	11.78	11.86
84.	10.24	10.58	11.99	11.80	11.78
85.	10.17	10.69	11.96	11.81	11.73
86.	10.12	10.79	11.92	11.82	11.72
87.	10.09	10.88	11.86	11.84	11.74
88.	10.07	10.95	11.82	11.86	11.76
89.	10.06	11.00	11.79	11.88	11.78
90.	10.05	11.01	11.78	11.89	11.79


Bottom Loss dB
0 2 4 6 8 10 12 14
Geoacoustic Zone 2
0.65 kHz
0 10 20 30 40 50 60 70 80 90
Grazing Angle


Bottom Loss dB
0 2 4 6 8 10 12 14
Geoacoustic Zone 2
1.0 kHz
0 10 20 30 40 50 60 70 80 90
Grazing Angle


Bottom Loss dB
0 2 4 6 8 10 12 14
Geoacoustic Zone 2
2.1 kHz
0 10 20 30 40 50 60 70 80 90
Grazing Angle


Bottom Loss dB
0 2 4 6 8 10 12 14
Geoacoustic Zone 2
4.1 kHz
0 10 20 30 40 50 60 70 80 90
Grazing Angle


Bottom Loss dB
0 2 4 6 8 10 12 14
Geoacoustic Zone 2
6.5 kHz
0 10 20 30 40 50 60 70 80 90
Grazing Angle

Appendix F (cont.)

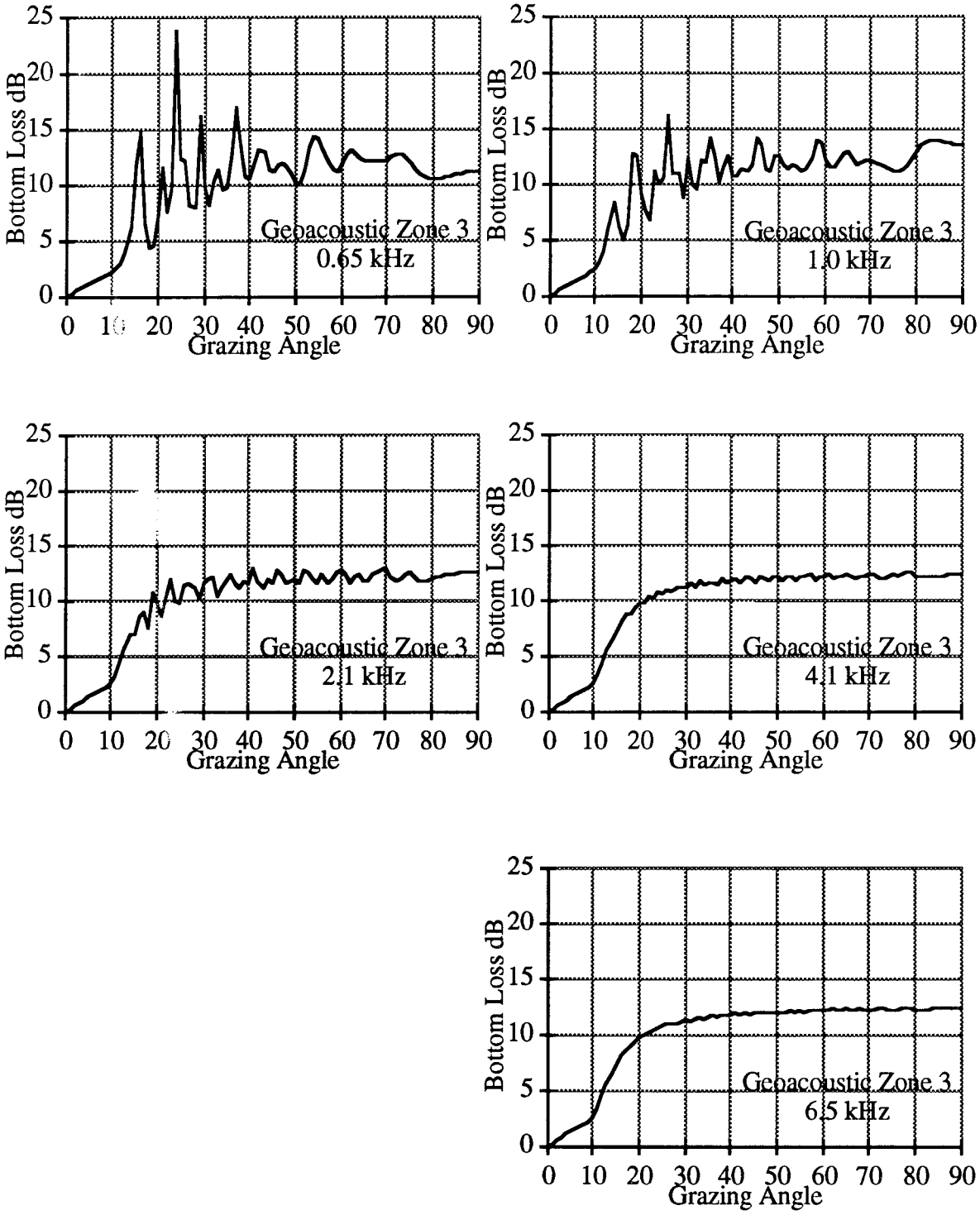
GEOACOUSTIC ZONE 3

Grazing Angle	0.65 kHz	1 kHz	2.1 kHz	4.1 kHz	6.5 kHz
0.	0.03	0.03	0.03	0.03	0.03
1.	0.30	0.31	0.32	0.32	0.33
2.	0.60	0.61	0.63	0.63	0.64
3.	0.86	0.89	0.91	0.92	0.92
4.	1.10	1.14	1.16	1.17	1.18
5.	1.31	1.35	1.39	1.40	1.41
6.	1.49	1.55	1.59	1.61	1.62
7.	1.66	1.74	1.79	1.81	1.82
8.	1.83	1.94	2.01	2.04	2.05
9.	2.02	2.18	2.28	2.32	2.34
10.	2.27	2.51	2.67	2.74	2.77
11.	2.61	3.04	3.33	3.44	3.48
12.	3.15	4.02	4.43	4.54	4.58
13.	4.13	6.09	5.64	5.75	5.76
14.	6.23	8.53	7.01	6.75	6.75
15.	11.94	6.28	6.99	7.51	7.55
16.	14.81	5.15	8.59	8.19	8.19
17.	6.68	6.54	9.01	8.85	8.71
18.	4.51	12.92	7.71	8.92	9.14
19.	4.60	12.70	10.92	9.56	9.51
20.	7.23	9.30	9.91	9.85	9.83
21.	11.59	7.73	8.76	9.93	10.10
22.	7.65	6.96	10.41	10.47	10.29
23.	9.68	11.33	12.08	10.29	10.44
24.	23.85	9.98	10.12	10.84	10.62
25.	12.46	10.65	9.88	10.62	10.85
26.	12.25	16.24	11.38	11.12	11.00
27.	8.26	11.02	11.62	10.97	11.02
28.	8.14	11.05	11.35	11.26	11.12
29.	16.35	8.92	10.19	11.34	11.33
30.	9.92	12.40	11.76	11.28	11.39
31.	8.20	10.03	11.98	11.69	11.33
32.	10.53	9.74	12.21	11.28	11.49
33.	11.44	12.18	10.56	11.87	11.58
34.	9.69	12.00	11.36	11.38	11.54
35.	9.83	14.34	11.94	11.73	11.71
36.	12.65	12.65	12.51	11.73	11.79
37.	17.01	10.32	11.62	11.57	11.70
38.	13.76	11.61	11.18	12.16	11.90
39.	10.90	12.69	11.88	11.73	11.84
40.	10.68	10.91	11.66	11.93	11.88
41.	11.78	10.89	12.99	11.98	12.01
42.	13.29	11.53	11.90	11.70	11.86
43.	13.00	11.22	11.34	12.28	12.08
44.	11.52	11.96	12.10	12.06	11.96
45.	11.25	14.21	11.59	11.76	12.11

Appendix F (cont.)

Geoacoustic Zone 3 (cont.)

Grazing Angle	0.65 kHz	1 kHz	2.1 kHz	4.1 kHz	6.5 kHz
46.	11.85	13.57	12.81	12.31	12.06
47.	12.07	11.40	12.53	12.13	12.09
48.	11.76	11.37	11.76	11.82	12.12
49.	11.01	12.61	11.80	12.31	12.10
50.	10.23	12.73	12.07	12.24	12.15
51.	10.27	11.83	11.76	11.83	12.14
52.	11.48	11.43	12.79	12.33	12.16
53.	13.41	11.93	12.75	12.32	12.20
54.	14.53	11.64	12.06	11.88	12.16
55.	14.23	11.19	11.73	12.22	12.30
56.	13.28	11.46	12.44	12.32	12.17
57.	12.16	12.47	11.72	12.38	12.35
58.	11.39	14.13	12.08	11.96	12.21
59.	11.36	13.90	12.68	12.33	12.26
60.	12.05	12.33	12.91	12.37	12.30
61.	12.96	11.69	12.50	12.43	12.21
62.	13.24	11.76	11.73	12.01	12.38
63.	12.86	12.19	12.24	12.31	12.29
64.	12.45	12.88	12.46	12.37	12.23
65.	12.29	13.06	11.84	12.55	12.41
66.	12.31	12.42	11.90	12.21	12.32
67.	12.27	11.93	12.38	12.13	12.25
68.	12.20	12.00	12.61	12.34	12.38
69.	12.19	12.27	12.93	12.37	12.37
70.	12.34	12.29	12.97	12.49	12.32
71.	12.63	12.07	12.35	12.56	12.27
72.	12.88	11.85	11.83	12.16	12.43
73.	12.86	11.67	12.03	12.17	12.39
74.	12.54	11.47	12.48	12.32	12.36
75.	12.05	11.30	12.64	12.41	12.28
76.	11.52	11.26	12.35	12.35	12.33
77.	11.08	11.44	11.96	12.45	12.45
78.	10.79	11.85	11.84	12.66	12.42
79.	10.63	12.42	11.96	12.57	12.40
80.	10.58	13.03	12.12	12.32	12.37
81.	10.60	13.57	12.23	12.19	12.31
82.	10.68	13.93	12.32	12.18	12.29
83.	10.79	14.08	12.39	12.21	12.33
84.	10.90	14.09	12.47	12.26	12.40
85.	11.02	14.01	12.54	12.31	12.46
86.	11.13	13.90	12.61	12.35	12.47
87.	11.22	13.79	12.66	12.39	12.46
88.	11.28	13.71	12.71	12.41	12.45
89.	11.32	13.66	12.73	12.42	12.44
90.	11.33	13.64	12.74	12.42	12.44


Bottom Loss dB
Grazing Angle
Geoacoustic Zone 3
0.65 kHz
Geoacoustic Zone 3
1.0 kHz
Geoacoustic Zone 3
2.1 kHz
Geoacoustic Zone 3
4.1 kHz
Geoacoustic Zone 3
6.5 kHz

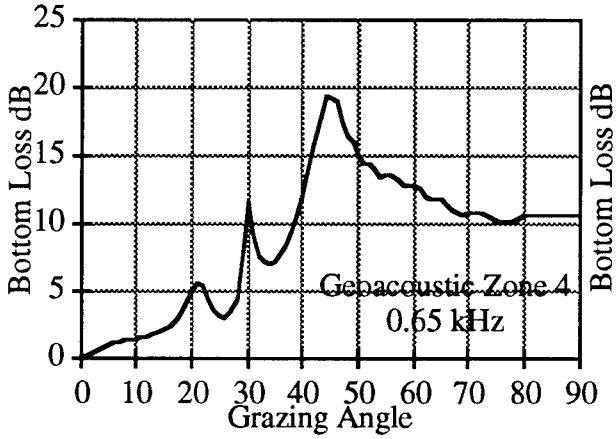
GEOACOUSTIC ZONE 4

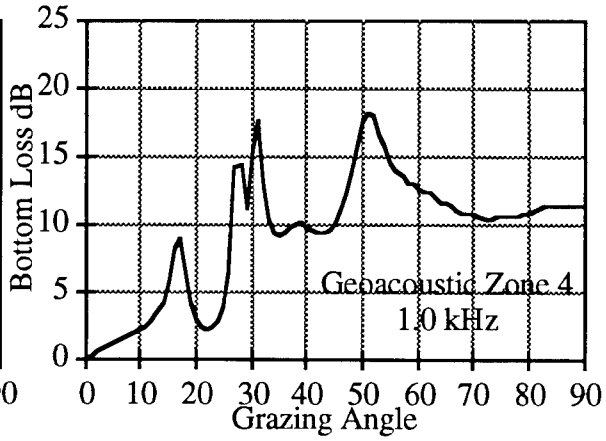
Grazing Angle	0.65 kHz	1 kHz	2.1 kHz	4.1 kHz	6.5 kHz
0.	0.03	0.03	0.03	0.03	0.03
1.	0.27	0.34	0.39	0.39	0.40
2.	0.52	0.65	0.75	0.77	0.77
3.	0.74	0.93	1.08	1.10	1.11
4.	0.92	1.17	1.37	1.41	1.42
5.	1.08	1.37	1.64	1.68	1.69
6.	1.20	1.54	1.89	1.95	1.97
7.	1.30	1.69	2.16	2.26	2.28
8.	1.38	1.84	2.51	2.67	2.71
9.	1.45	2.00	3.03	3.37	3.43
10.	1.53	2.20	3.99	4.64	4.67
11.	1.61	2.46	6.16	5.86	6.13
12.	1.71	2.84	11.42	7.35	7.26
13.	1.83	3.41	8.77	9.19	8.09
14.	2.00	4.34	4.97	6.86	9.12
15.	2.21	5.89	4.34	9.46	9.01
16.	2.52	8.20	5.39	13.67	9.99
17.	2.94	9.14	9.11	6.83	10.20
18.	3.52	6.66	16.60	7.44	9.22
19.	4.30	4.37	7.76	20.66	13.37
20.	5.15	3.14	4.49	8.82	8.12
21.	5.67	2.55	3.68	5.90	16.57
22.	5.39	2.36	4.07	8.88	8.50
23.	4.57	2.46	5.92	22.20	10.75
24.	3.77	2.89	11.10	7.29	12.43
25.	3.27	3.94	13.64	6.62	8.40
26.	3.12	6.56	9.15	11.71	17.28
27.	3.41	14.23	6.53	19.99	10.08
28.	4.55	14.40	6.64	10.02	10.40
29.	7.93	11.29	8.30	8.23	16.16
30.	11.66	15.38	7.67	10.56	10.29
31.	9.06	17.60	10.59	17.48	11.35
32.	7.74	13.02	19.35	13.75	15.46
33.	7.23	10.54	18.71	10.30	10.65
34.	7.13	9.49	15.64	9.35	11.32
35.	7.36	9.23	13.44	12.23	15.24
36.	7.80	9.43	10.43	16.12	11.44
37.	8.50	9.82	8.79	14.47	11.16
38.	9.39	10.15	8.72	10.55	14.74
39.	10.65	10.19	9.91	10.21	12.51
40.	11.99	9.94	11.77	11.82	10.98
41.	13.96	9.66	13.30	14.81	13.34
42.	15.76	9.47	14.59	15.73	14.23
43.	17.96	9.45	16.61	11.89	11.41
44.	19.54	9.77	17.54	10.80	11.74
45.	19.36	10.28	14.68	10.96	14.71

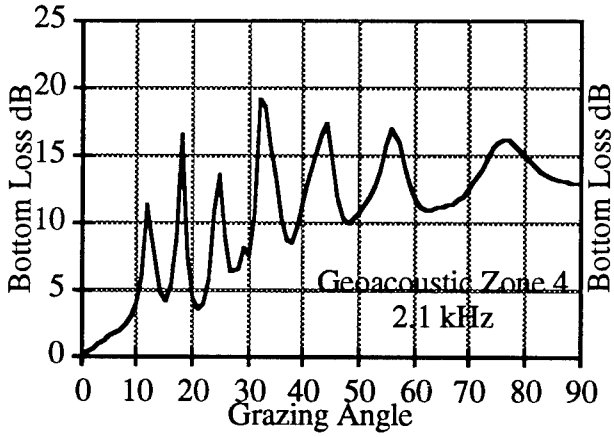
Appendix F (cont.)

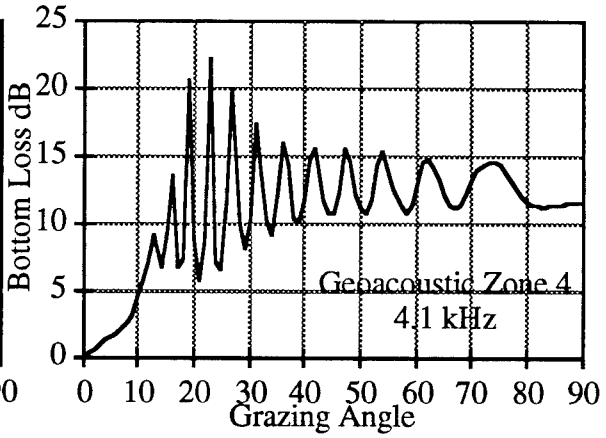
Geoacoustic Zone 4 (cont.)

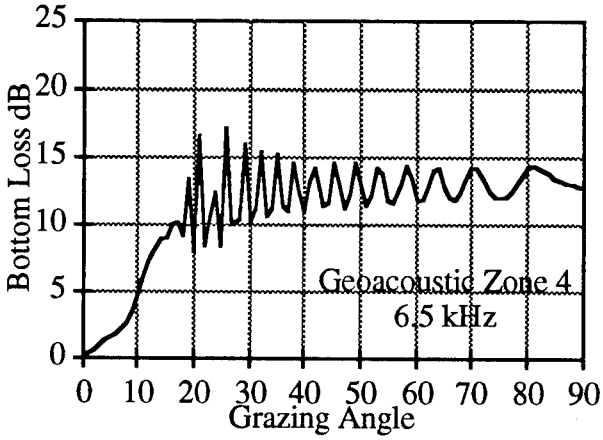
Grazing Angle	0.65 kHz	1 kHz	2.1 kHz	4.1 kHz	6.5 kHz
46.	19.14	11.25	11.95	12.48	13.07
47.	17.46	12.41	10.54	15.76	11.35
48.	16.49	14.12	10.15	14.67	12.37
49.	16.03	15.82	10.42	12.37	14.61
50.	14.97	17.73	10.96	11.30	13.13
51.	14.44	18.26	11.48	10.91	11.44
52.	14.51	18.05	11.99	11.93	12.29
53.	14.08	16.65	12.77	14.40	14.26
54.	13.55	15.79	14.09	15.39	13.87
55.	13.61	14.63	15.87	14.01	11.92
56.	13.74	14.06	17.03	12.63	11.73
57.	13.31	13.59	16.15	11.46	13.15
58.	12.84	13.05	14.31	10.95	14.43
59.	12.89	13.00	12.79	11.57	13.55
60.	12.95	12.70	11.85	13.14	11.94
61.	12.61	12.39	11.37	14.63	11.84
62.	12.02	12.39	11.17	14.92	12.77
63.	11.79	12.11	11.17	14.36	14.06
64.	11.81	11.75	11.24	13.40	14.35
65.	11.83	11.68	11.30	12.28	12.95
66.	11.54	11.53	11.40	11.44	11.99
67.	11.08	11.16	11.53	11.18	11.94
68.	10.81	10.94	11.79	11.52	12.45
69.	10.73	10.95	12.16	12.30	13.40
70.	10.82	10.89	12.70	13.25	14.35
71.	10.93	10.68	13.36	14.05	14.26
72.	10.86	10.51	14.16	14.55	13.29
73.	10.66	10.54	14.91	14.76	12.47
74.	10.46	10.67	15.65	14.71	12.07
75.	10.29	10.76	16.09	14.39	12.00
76.	10.21	10.74	16.25	13.84	12.16
77.	10.23	10.68	16.18	13.20	12.52
78.	10.35	10.69	15.82	12.59	13.07
79.	10.50	10.78	15.38	12.09	13.68
80.	10.62	10.94	14.99	11.74	14.19
81.	10.70	11.12	14.60	11.52	14.42
82.	10.73	11.29	14.21	11.40	14.35
83.	10.74	11.41	13.89	11.37	14.11
84.	10.74	11.48	13.65	11.40	13.81
85.	10.72	11.51	13.47	11.45	13.54
86.	10.70	11.54	13.34	11.52	13.31
87.	10.68	11.55	13.23	11.59	13.14
88.	10.67	11.56	13.16	11.64	13.03
89.	10.65	11.57	13.11	11.67	12.96
90.	10.65	11.57	13.10	11.69	12.94


Bottom Loss dB
25
20
15
10
5
0
0 10 20 30 40 50 60 70 80 90
Grazing Angle
Geoacoustic Zone 4
0.65 kHz


Bottom Loss dB
25
20
15
10
5
0
0 10 20 30 40 50 60 70 80 90
Grazing Angle
Geoacoustic Zone 4
1.0 kHz


Bottom Loss dB
25
20
15
10
5
0
0 10 20 30 40 50 60 70 80 90
Grazing Angle
Geoacoustic Zone 4
2.1 kHz


Bottom Loss dB
25
20
15
10
5
0
0 10 20 30 40 50 60 70 80 90
Grazing Angle
Geoacoustic Zone 4
4.1 kHz


Bottom Loss dB
25
20
15
10
5
0
0 10 20 30 40 50 60 70 80 90
Grazing Angle
Geoacoustic Zone 4
6.5 kHz

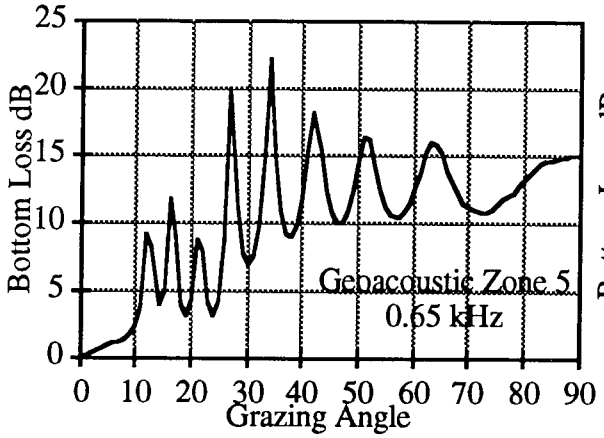
GEOACOUSTIC ZONE 5

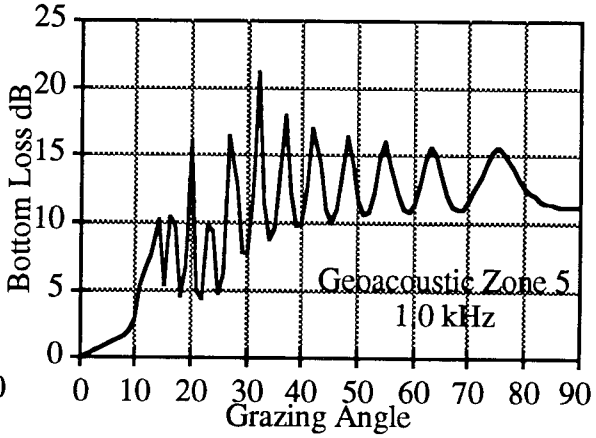
Grazing Angle	0.65 kHz	1 kHz	2.1 kHz	4.1 kHz	6.5 kHz
0.	0.03	0.03	0.03	0.03	0.03
1.	0.24	0.25	0.26	0.27	0.27
2.	0.47	0.49	0.51	0.52	0.52
3.	0.68	0.71	0.73	0.75	0.75
4.	0.86	0.90	0.93	0.95	0.96
5.	1.03	1.07	1.11	1.14	1.15
6.	1.18	1.23	1.29	1.32	1.34
7.	1.34	1.41	1.50	1.54	1.56
8.	1.54	1.65	1.78	1.86	1.89
9.	1.84	2.04	2.31	2.47	2.54
10.	2.40	2.89	3.61	3.98	4.09
11.	3.80	5.54	5.85	5.88	5.91
12.	9.29	6.70	7.13	7.19	7.20
13.	8.23	7.70	7.83	8.15	8.14
14.	4.16	10.34	8.32	8.84	8.87
15.	5.02	5.39	10.60	9.48	9.44
16.	11.86	10.49	9.95	10.08	9.89
17.	8.99	9.93	8.19	10.11	10.26
18.	3.98	4.72	14.93	10.09	10.59
19.	3.31	6.92	8.15	10.40	10.96
20.	4.51	16.10	11.23	10.98	11.14
21.	8.82	5.16	9.91	11.67	11.10
22.	8.13	4.57	8.61	12.34	11.66
23.	4.18	9.78	12.80	12.90	11.59
24.	3.35	9.42	7.64	13.30	11.55
25.	4.33	4.88	16.56	13.46	12.21
26.	8.74	6.31	7.93	13.25	11.57
27.	19.98	16.49	16.77	12.70	12.44
28.	11.27	12.88	9.03	12.03	11.83
29.	7.90	7.80	14.25	11.42	12.38
30.	7.09	7.96	10.33	11.08	12.30
31.	7.72	12.24	12.05	11.21	12.06
32.	9.92	21.23	12.38	11.94	12.77
33.	14.88	11.47	10.56	13.13	12.13
34.	22.33	8.88	15.33	13.79	12.30
35.	14.87	9.62	10.10	12.92	12.92
36.	10.90	13.80	15.29	11.77	12.50
37.	9.31	18.16	11.11	11.63	12.24
38.	9.04	12.23	12.07	12.78	12.72
39.	9.85	9.78	14.15	13.83	13.05
40.	11.93	10.00	10.60	12.66	12.72
41.	15.48	12.67	14.87	11.72	12.39
42.	18.21	17.06	11.91	12.69	12.44
43.	15.42	14.48	11.49	13.84	12.73
44.	12.42	11.15	15.29	12.33	13.03
45.	10.78	10.14	11.24	12.07	13.16

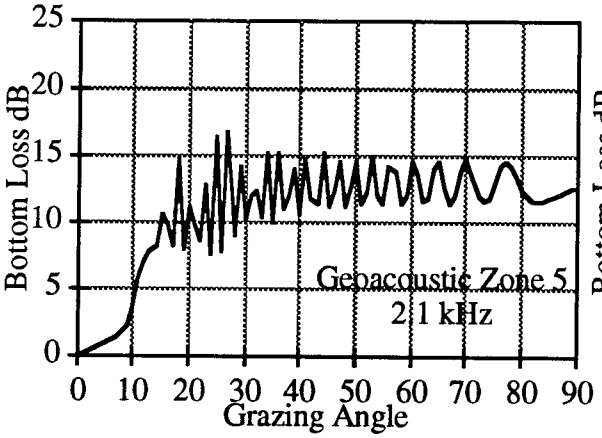
Appendix F (cont)

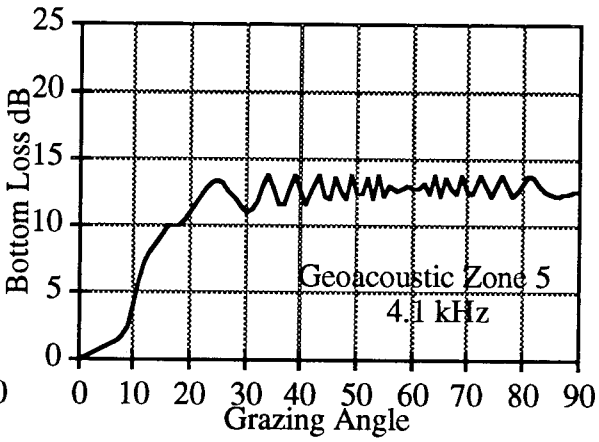
Geoacoustic Zone 5 (cont.)

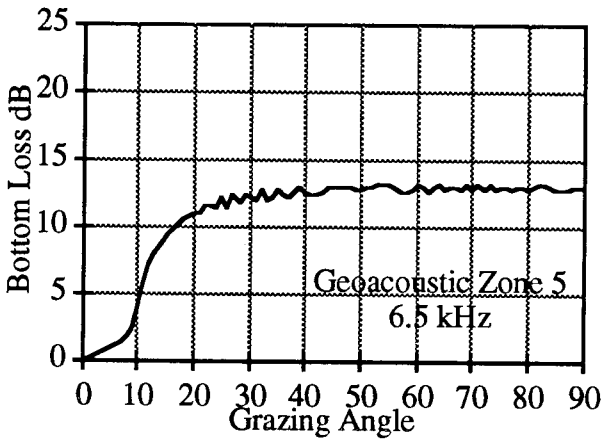
Grazing Angle	0.65 kHz	1 kHz	2.1 kHz	4.1 kHz	6.5 kHz
46.	9.98	10.98	12.39	13.75	13.14
47.	10.12	13.62	14.76	12.73	13.06
48.	10.92	16.52	11.20	12.08	12.98
49.	12.40	14.51	12.65	13.81	12.94
50.	14.74	11.77	14.75	12.46	12.95
51.	16.47	10.60	11.43	12.54	12.99
52.	16.33	10.80	12.20	13.71	13.08
53.	14.31	12.27	15.05	12.02	13.17
54.	12.51	14.77	12.16	13.79	13.23
55.	11.35	16.08	11.50	12.29	13.18
56.	10.71	14.23	14.19	13.16	12.98
57.	10.54	12.13	13.91	12.72	12.74
58.	10.87	11.03	11.53	12.89	12.69
59.	11.40	10.87	12.09	12.97	12.96
60.	12.57	11.48	14.64	12.93	13.24
61.	13.64	12.89	13.66	12.81	13.03
62.	15.18	14.70	11.64	13.27	12.73
63.	15.98	15.73	11.89	12.44	13.03
64.	15.93	15.05	13.98	13.77	13.21
65.	15.26	13.45	14.61	12.24	12.78
66.	13.92	12.16	12.60	13.59	13.08
67.	13.04	11.36	11.55	12.90	13.10
68.	12.28	11.06	12.12	12.49	12.84
69.	11.54	11.16	13.82	13.84	13.24
70.	11.19	11.67	14.79	12.65	12.81
71.	11.09	12.40	13.57	12.56	13.25
72.	10.96	13.45	12.15	13.80	12.82
73.	10.92	14.44	11.61	13.04	13.23
74.	11.12	15.25	11.96	12.32	12.89
75.	11.46	15.59	12.97	13.12	13.08
76.	11.78	15.24	14.18	13.83	13.15
77.	12.04	14.65	14.76	13.06	12.85
78.	12.35	13.98	14.30	12.37	13.16
79.	12.78	13.28	13.37	12.57	13.16
80.	13.27	12.69	12.54	13.32	12.88
81.	13.74	12.28	12.00	13.81	12.97
82.	14.13	11.98	11.73	13.60	13.22
83.	14.41	11.74	11.67	13.06	13.21
84.	14.61	11.56	11.77	12.62	13.02
85.	14.75	11.42	11.95	12.40	12.88
86.	14.87	11.33	12.16	12.37	12.85
87.	14.96	11.28	12.36	12.44	12.91
88.	15.03	11.26	12.52	12.53	12.98
89.	15.08	11.24	12.63	12.61	13.04
90.	15.09	11.24	12.67	12.63	13.05


Bottom Loss dB
25
20
15
10
5
0
0 10 20 30 40 50 60 70 80 90
Grazing Angle
Geoacoustic Zone 5
0.65 kHz


Bottom Loss dB
25
20
15
10
5
0
0 10 20 30 40 50 60 70 80 90
Grazing Angle
Geoacoustic Zone 5
1.0 kHz


Bottom Loss dB
25
20
15
10
5
0
0 10 20 30 40 50 60 70 80 90
Grazing Angle
Geoacoustic Zone 5
2.1 kHz


Bottom Loss dB
25
20
15
10
5
0
0 10 20 30 40 50 60 70 80 90
Grazing Angle
Geoacoustic Zone 5
4.1 kHz


Bottom Loss dB
25
20
15
10
5
0
0 10 20 30 40 50 60 70 80 90
Grazing Angle
Geoacoustic Zone 5
6.5 kHz

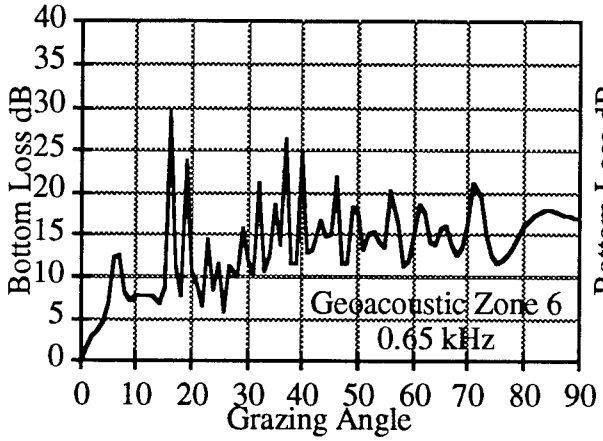
GEOACOUSTIC ZONE 6

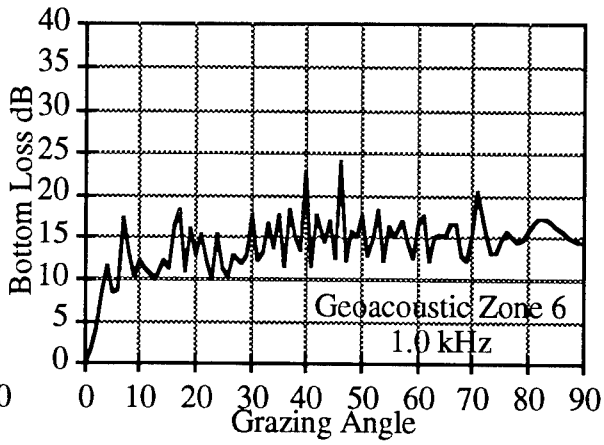
Grazing Angle	0.65 kHz	1 kHz	2.1 kHz	4.1 kHz	6.5 kHz
0.	0.01	0.02	0.02	0.02	0.02
1.	1.79	1.88	2.21	2.16	2.16
2.	3.03	4.30	4.29	4.34	4.34
3.	3.78	8.47	6.35	6.57	6.57
4.	4.64	11.70	9.37	8.87	8.86
5.	6.71	8.53	10.51	11.27	11.26
6.	12.24	8.77	15.40	13.87	13.83
7.	12.65	17.24	14.85	16.81	16.67
8.	8.14	13.12	19.01	19.98	19.95
9.	7.24	10.47	32.91	23.52	24.02
10.	7.82	12.40	20.88	31.59	29.81
11.	7.76	11.41	21.87	36.35	39.01
12.	7.71	10.63	22.16	30.59	33.96
13.	7.81	10.01	18.17	30.75	28.24
14.	6.87	12.30	16.84	24.63	25.72
15.	8.66	11.39	19.28	23.17	23.45
16.	29.64	16.34	26.20	23.07	22.35
17.	11.41	18.42	26.38	20.25	21.06
18.	7.87	11.14	19.94	21.08	20.46
19.	23.66	16.07	17.28	19.55	19.67
20.	10.74	12.86	15.32	18.65	19.16
21.	9.11	15.33	20.05	19.44	18.81
22.	6.51	12.14	18.05	17.83	18.24
23.	14.55	9.98	24.67	18.13	18.16
24.	8.46	15.35	15.64	18.42	17.65
25.	11.73	11.25	16.08	16.74	17.58
26.	5.85	10.24	14.92	17.57	17.28
27.	11.40	12.92	15.05	17.28	17.01
28.	9.93	12.06	24.00	16.60	16.69
29.	15.95	12.88	16.96	17.27	16.86
30.	11.90	17.67	14.29	16.23	16.77
31.	10.23	12.39	16.63	16.96	16.51
32.	21.38	13.37	15.68	16.14	16.51
33.	10.79	16.62	16.00	16.57	16.37
34.	12.47	13.80	16.39	15.97	16.16
35.	18.65	17.71	16.43	16.56	16.33
36.	13.96	11.77	15.43	15.60	15.99
37.	26.37	18.28	15.65	16.51	16.09
38.	11.49	15.15	15.70	15.76	16.11
39.	11.67	13.71	14.13	16.27	15.84
40.	25.15	22.76	15.41	15.10	15.74
41.	12.92	11.49	19.06	16.43	15.99
42.	13.18	17.66	17.84	15.92	15.92
43.	16.70	14.50	15.13	15.64	15.79
44.	14.68	17.18	16.10	16.47	15.62
45.	15.17	12.69	16.66	15.40	15.48

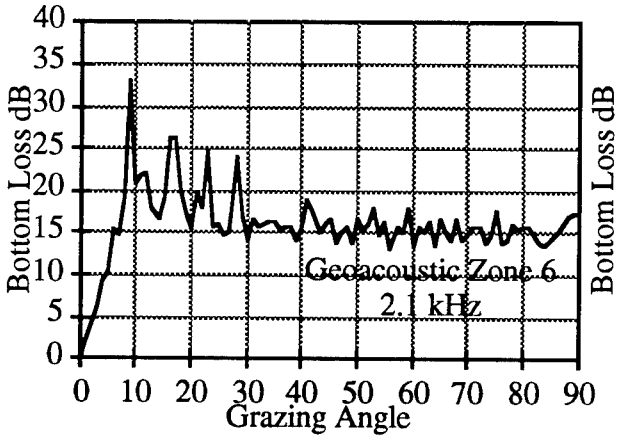
Appendix F (cont.)

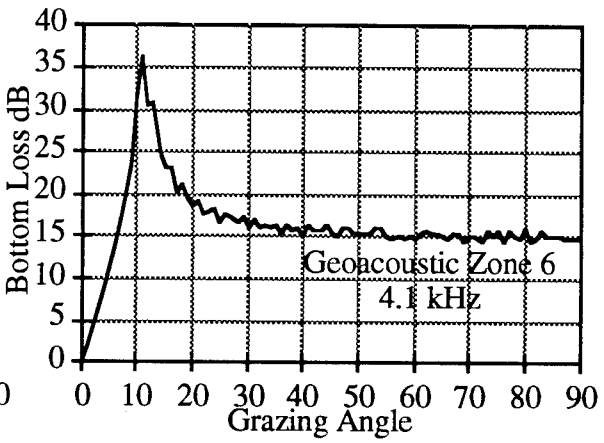
Geoacoustic Zone 6 (cont.)

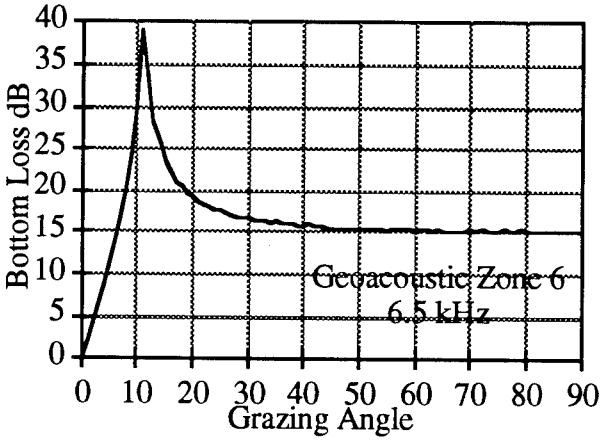
Grazing Angle	0.65 kHz	1 kHz	2.1 kHz	4.1 kHz	6.5 kHz
46.	21.89	24.06	13.97	15.22	15.44
47.	11.75	12.18	15.26	16.16	15.45
48.	11.53	15.83	15.87	16.00	15.44
49.	18.26	15.25	13.99	15.33	15.41
50.	17.77	17.79	16.60	15.32	15.40
51.	13.32	12.83	15.63	15.59	15.44
52.	15.10	14.99	15.99	15.53	15.55
53.	15.45	18.40	17.96	16.00	15.61
54.	14.26	12.16	14.90	16.01	15.44
55.	13.68	16.55	16.43	15.17	15.26
56.	20.38	15.20	13.23	14.99	15.55
57.	16.49	17.01	15.77	15.24	15.37
58.	11.38	14.56	15.03	14.71	15.33
59.	11.98	12.54	17.99	15.31	15.43
60.	15.22	16.84	13.64	14.92	15.28
61.	18.71	17.57	15.70	15.53	15.46
62.	17.83	12.34	15.05	15.89	15.32
63.	14.25	15.17	16.56	15.58	15.19
64.	13.74	15.52	13.56	15.54	15.41
65.	15.73	15.16	16.71	15.20	15.29
66.	16.04	16.83	15.13	14.93	15.16
67.	13.74	16.68	14.11	15.42	15.24
68.	12.74	12.99	16.75	15.36	15.31
69.	13.56	12.18	14.27	14.48	15.31
70.	16.37	15.47	14.83	15.08	15.41
71.	21.15	20.75	15.75	15.23	15.31
72.	19.64	15.82	15.77	14.58	15.36
73.	15.09	13.26	14.00	15.87	15.20
74.	12.68	13.35	14.93	15.01	15.10
75.	11.74	14.86	17.64	15.87	15.17
76.	11.80	15.71	13.81	14.43	15.35
77.	12.55	15.03	14.06	15.88	15.31
78.	13.68	14.55	16.17	15.01	15.14
79.	14.94	14.90	15.42	14.90	15.36
80.	16.04	15.77	15.67	15.98	15.11
81.	16.87	16.69	15.92	14.64	15.25
82.	17.48	17.31	14.84	14.92	15.09
83.	17.85	17.48	13.83	15.81	15.29
84.	17.98	17.17	13.58	15.30	15.14
85.	17.91	16.54	14.07	15.10	15.02
86.	17.72	15.82	15.04	15.02	15.16
87.	17.49	15.19	16.11	14.86	15.18
88.	17.28	14.73	16.94	14.77	15.14
89.	17.14	14.46	17.39	14.78	15.12
90.	17.10	14.36	17.52	14.79	15.11


Bottom Loss dB
40
35
30
25
20
15
10
5
0
0 10 20 30 40 50 60 70 80 90
Grazing Angle
Geoacoustic Zone 6
0.65 kHz


Bottom Loss dB
40
35
30
25
20
15
10
5
0
0 10 20 30 40 50 60 70 80 90
Grazing Angle
Geoacoustic Zone 6
1.0 kHz


Bottom Loss dB
40
35
30
25
20
15
10
5
0
0 10 20 30 40 50 60 70 80 90
Grazing Angle
Geoacoustic Zone 6
2.1 kHz


Bottom Loss dB
40
35
30
25
20
15
10
5
0
0 10 20 30 40 50 60 70 80 90
Grazing Angle
Geoacoustic Zone 6
4.1 kHz


Bottom Loss dB
40
35
30
25
20
15
10
5
0
0 10 20 30 40 50 60 70 80 90
Grazing Angle
Geoacoustic Zone 6
6.5 kHz