Lead line comparisons were taken when weather permitted to
determine echo sounder error. Innerspace echo sounder s/n 283
appeared to have instrument error that fluctuated throughout the
duration of the survey. It should noted that there were
inconsistencies with the lead line comparisons. There were two
days with -0.2m instrument corrector, nine days with -0.1m
instrument corrector, and ten days with 0.0m instrument
corrector. Because of the inconsistencies in the day to day
readings and the margin for error in the taking of measurements,
no instrument error should be applied. A copy of the calibration
form is in the "Survey Separates." ∗

A static draft of 0.3 meters was applied to the final sounding
plot by using the HDAPS program REAPPLY. The draft was measured
by subtracting the difference from a punch mark on the side of
Launch 770, 0.6 meters above the transducer, to the water
surface.

Settlement and squat measurements for Launch 770 were determined
on January 9, 1995 (DN 009). These measurements were conducted
in Clear Lake, Texas using the level method. Data from this test
are included in the "Survey Separates." * Settlement and squat
correctors were applied online to the soundings by the PC-DAS
offset table ∗

Predicted tides for this project were provided on diskette by
N/OES334 for the Lynchburg Landing, Texas, Tide Station
#877-0733. Correctors for this survey were used as designated in
the project instructions. The correctors are as follows: Approved Tides ∗

<table>
<thead>
<tr>
<th>Zone</th>
<th>High Water</th>
<th>Low Water</th>
<th>Range Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>#13</td>
<td>Direct</td>
<td>Direct</td>
<td>Direct</td>
</tr>
<tr>
<td>#14</td>
<td>+00:15</td>
<td>+00:15</td>
<td>Direct</td>
</tr>
<tr>
<td>#15</td>
<td>+00:20</td>
<td>+00:20</td>
<td>X 1.06</td>
</tr>
</tbody>
</table>

All elevations and soundings on survey H-10619 are based on MLLW
unless otherwise specified.

Approved tide levels were requested from the Product and Services
Branch, Datums Section, N/OES231, in a letter dated September 25,
1995. A copy is appended to this report.

∗ Data Filed With Field Records.
No bracketing levels were run at the completion of this survey because closing levels for the project were conducted within an acceptable time frame to acquire smooth tides for processing.

**H. CONTROL STATIONS** *See also Evaluation Report.*

The horizontal control datum for this project is the North American Datum of 1983. The Galveston, Texas DGPS Beacon was used for control throughout this survey with the exception of Day Number 256 when the Port Aransas, Texas DGPS Beacon was used due to Galveston beacon maintenance by the U.S. Coast Guard at the Galveston station. The beacons' geographic positions are listed on the Control Station List included in "Survey Separates".

**I. HYDROGRAPHIC POSITION CONTROL**

Differential GPS (DGPS) was used for all hydrographic data acquired on this survey. An Ashtech sensor serial number 700417B1070 with antenna serial number 700391A0504 was used as the remote station on launch 770. The corrector data link between the reference station receiver and the launch sensor was a Communications Systems International, Inc., MBX-1 Beacon Data Receiver, model 1/02, serial number X-1251.

Daily DGPS performance checks were conducted in accordance with FPM 3.4.4, by comparing the DGPS position of the vessel to a horizontal control station. Station "BBC, 1983", used during prior survey H-10119 was recovered on this survey for use as a daily calibration check point. To obtain a performance check, the launch was brought alongside the checkpoint. The easting and northing values, number of SVs, HDOP, and time of observation were noted on the echogram. These values were then entered into a Lotus spreadsheet table which computes the acceptable error margin based on the HDOP and also the observed difference between our known and observed position. The table of these comparisons is included in the "Survey Separates." All of our observed differences fell well within the allowable limit.

* Data filed with Field Records.