

C. VERTICAL AND HORIZONTAL CONTROL *See Also H-Cell Report*

Tide and water level corrections were determined and applied in accordance with Attachment #7 of the Statement of Work*. Tidal zoning as set forth in the Statement of Work was applied. Data from Port Fourchon, LA (8762075) was used as the primary source of tides, while Grand Isle, LA (8761724) was used as a back up. Because there were no outages at the primary station during the survey, the secondary station was not used for any tidal corrections. The following table shows the tidal zone and correctors that were used for this sheet. Tidal data were processed using the 1983-01 epoch.

| Tide Zone | Reference Station | Primary/Secondary | Time Corrector | Range Ratio |
|-----------|-------------------|-------------------|----------------|-------------|
| CGM366 | 8762075 | PRIM | -12 | 1.05 |
| CGM366 | 8761724 | SEC | -48 | 1.23 |
| CGM717 | 8762075 | PRIM | -12 | 1.05 |
| CGM717 | 8761724 | SEC | -48 | 1.23 |
| CGM718 | 8762075 | PRIM | -12 | 1.05 |
| CGM718 | 8761724 | SEC | -42 | 1.23 |
| CGM731 | 8762075 | PRIM | -12 | 1.05 |
| CGM731 | 8761724 | SEC | -42 | 1.23 |
| CGM732 | 8762075 | PRIM | -6 | 1.09 |
| CGM732 | 8761724 | SEC | -42 | 1.27 |
| CGM733 | 8762075 | PRIM | -6 | 1.17 |

Descriptive Report to Accompany Hydrographic Survey H12055



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|--------|---------|------|-----|------|
| CGM733 | 8761724 | SEC | -36 | 1.37 |
| CGM734 | 8762075 | PRIM | -6 | 1.09 |
| CGM734 | 8761724 | SEC | -36 | 1.27 |
| CGM735 | 8762075 | PRIM | -6 | 1.05 |
| CGM735 | 8761724 | SEC | -42 | 1.23 |
| CGM749 | 8762075 | PRIM | 0 | 1.13 |
| CGM749 | 8761724 | SEC | -36 | 1.32 |
| CGM750 | 8762075 | PRIM | 0 | 1.09 |
| CGM750 | 8761724 | SEC | -36 | 1.27 |
| WGM416 | 8762075 | PRIM | -6 | 1.21 |
| WGM416 | 8761724 | SEC | -36 | 1.42 |
| CGM364 | 8762075 | PRIM | -6 | 1.09 |
| CGM364 | 8761724 | SEC | -36 | 1.27 |

The horizontal datum for the survey is the North American Datum of 1983 (NAD 83). The projection is Universal Transverse Mercator (UTM) Zone 15 North. The vertical datum for the soundings is Mean Lower Low Water (MLLW). *Concur.*

The tidal data applied to all multibeam echo sounder data was downloaded from the following website:

http://tidesandcurrents.noaa.gov/data_menu.shtml?stn=8768094%20Calcasieu%20Pass,%20LA&type=Historic%20Tide%20Data

ABSTRACT OF TIMES OF HYDROGRAPHY

Project: OPR-K354-KR-09

Contractor Name: C & C Technologies, Inc.

Inclusive Dates: August 14th, 2009 - September 2nd, 2009

Registry No.: H12055 (Sheet D)

Date: April 2009

Sheet Letter: D

Field Work is Complete

Time (UTC)

| Date | Julian Day | Start | End | Year |
|-----------|------------|-------|------|------|
| 8/14/2009 | 226 | 1200 | 2400 | 2009 |
| 8/15/2009 | 227 | 0000 | 2400 | 2009 |
| 8/16/2009 | 228 | 0000 | 2400 | 2009 |
| 8/17/2009 | 229 | 0000 | 2400 | 2009 |
| 8/18/2009 | 230 | 0000 | 2400 | 2009 |
| 8/19/2009 | 231 | 0000 | 1110 | 2009 |
| 8/20/2009 | 232 | 0300 | 2400 | 2009 |
| 8/21/2009 | 233 | 0000 | 2400 | 2009 |
| 8/22/2009 | 234 | 0000 | 0306 | 2009 |
| 8/23/2009 | 235 | 0808 | 2400 | 2009 |
| 8/24/2009 | 236 | 0000 | 2400 | 2009 |
| 8/25/2009 | 237 | 0000 | 2400 | 2009 |
| 8/26/2009 | 238 | 0000 | 1044 | 2009 |
| 8/27/2009 | 239 | 0501 | 2400 | 2009 |
| 8/28/2009 | 240 | 0000 | 2400 | 2009 |
| 8/29/2009 | 241 | 0000 | 2400 | 2009 |
| 8/30/2009 | 242 | 0000 | 1654 | 2009 |
| 8/30/2009 | 242 | 2127 | 2400 | 2009 |
| 8/31/2009 | 243 | 0000 | 0934 | 2009 |
| 9/2/2009 | 245 | 0804 | 0838 | 2009 |