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                    LAMONT DATA REDUCTION CRUISE SUMMARY
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CRUISE:  EW9003


START:   25 June 1990  [176]  Port Everglades, Florida


END:      2 July 1990  [183]  Port Newark, NJ


PURPOSE: Transit and shakedown


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TIME:
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Instrument: Kinemetrics True Time clock model 468 DC
    2 clocks designated "tr1" and "tr2"
Logging: 60 second intervals
Note:
       Used tr1 clock for this leg.



SPEED AND HEADING:
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Instrument: Furuno CI-30 2-axis doppler speed log, Sperry MK-27 gyro
Logging: 3 second intervals
Checking: visual check of plot of data
Smoothing: mean value of all good values within the same minute



TRANSIT SATELLITE FIXES:
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Instrument: Magnavox MX-1107RS dual frequency Transit satellite receiver
Logging: all fixes
Checking: reject receiver flagged fixes, fixes with high drifts in
   navigation and fixes producing Eotvos correction errors in gravity
Note:
       sf1 used in final navigation.



GPS SATELLITE FIXES:
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Instrument: Magnavox T-Set Global Positioning System 5 channel receiver
Logging: T-Set #1 at 2 second intervals, T-Set #2 at 20 second intervals.
    Note: T-Set #1 is logged at 2 second intervals to provide realtime
        postioning for the Hydrosweep; this GPS data is decimated to
        20 second intervals before used in reduction.
Checking:
    minimun number of sats: 3
    dilution of precision maximum: north = 4.0, east = 4.0
    carrier signal-noise ratio minimun: 35.0
    compared GPS speed and course with Furuno smooth speed and heading
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compared positions with Transit-Furuno navigation
        reject fixes producing Eotvos correction errors in gravity
Interpolation: interpolated positions at 00, 30 seconds of each minute
Smoothing: smoothed interpolated positions with 9 point running average
Note:
        Used T-Set #1 for navigation

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NAVIGATION:
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A "1 minute navigation" is produced from the above sources. Acceptable
fixes are merged at 1 per minute with priority given to GPS, then to
Transit. The smooth speed and heading data is used to fill any gaps of
2 minutes or longer between fixes by computing 1 minute DR'ed positions
corrected for set and drift between fixes. The DR'ed positions are
produced at 00 seconds of each minute.
Lamont data base: 1 minute navigation
Notes:
        day     time      comment
        ---   ---------   ------
        176    2222       gp1 starts
        176    2245       gp2 starts
        183    0818       gp1 and gp2 ends
    The gps coverage is not continuous during this cruise.


BATHYMETRY:
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Instrument: Krupp-Atlas Hydrosweep DS
Logging: each ping
Checking: visual check of plot of data; bad points removed
Interpolation: interpolated depth value at 00 seconds of each minute
Notes:
        day     time      comment
        ---   ---------   -------
        177    0217       Hydrosweep logging started
        177  0227-0315    gap
        177  1234-1332    gap
        178  0205-1115    gap
        179    0539       Hydrosweep logging ended

        Filled in hydrosweep data gaps with PDR readings where possible.

Instrument: Precision Depth Recorder (PDR) at 3.5 khz
Logging: values read from PDR every 5 minutes in meters
Checking: visual check of plot of data.
Notes:
        day     time      comment
        ---   ---------   -------
        176    2310       PDR starts
        177  0730-0735    gap
        177  0800-0900    gap
        177  1855-2335    gap
        178    0210       PDR ends

    The above readings in meters use 1500 meters/second sound velocity

Lamont data base: Depth is in uncorrected fathoms using a sound
            velocity 0f 800 fathoms/second.


MAGNETICS:
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Not collected

GRAVITY:

   Not collected