REPORT AND INDEX OF

UNDERWAY MARINE GEOPHYSICAL DATA

TUNES EXPEDITION

LEG 4

R/V Thomas Washington

(Issued April 1992)

Part A: Chief Scientist - Steve Constable (Scripps Institution)
Honolulu to Kawaihae, Hawaii (6-13 October 1991)

Part B: Chief Scientist - Paul Johnson (University of Washington)
Kawaihae to Honolulu, Hawaii (13-16 October 1991)

Resident Marine Technician - Gene Pillard

Computer Technician - Ron Moe

No Sea Beam/Underway Processor on board

Post-Cruise Processing and Report Preparation by the
Geological Data Center, Scripps Institution of Oceanography
La Jolla, California 92093

Data Collection and Processing Funded by:
NSF Grant Number OCE90-02483

GDC Cruise I.D.# 254

INFORMAL REPORT AND INDEX OF NAVIGATION AND UNDERWAY GEOPHYSICAL DATA

Processed by the Geological Data Center
Scripps Institution of Oceanography

Contents:

Index Chart - gives track of cruise leg, dates, ports, and mileage of each type of data collected.

Track Charts - annotated with dates and hour ticks.

Profiles - depth, magnetic anomaly and gravity free air anomaly vs. distance. Sections of track having subbottom profile (airgun or watergun) records have a wide black line along the bottom of the profile.

Sample Index - list of beginning and end times and positions of all underway records as well as all other samples and measurements (geology, biology, physical oceanography, etc.) collected on the cruise leg.

NOTE: One or more of the underway data types may not be collected on a given cruise leg.

For information on the availability and reproduction costs of data in the following forms, contact S. M. Smith, Curator, Geological Data Center, Scripps Institution of Oceanography, La Jolla, CA 92093-0223. Phone (619)534-2752. Fax (619)534-5306. Internet EMail:ssmith@ucsd.edu

1. Navigation listing with times and positions of course and speed changes, fixes and drift velocity.
2. Depth compilation plots - compilation plots at the traditional scale of 4in/degree longitude (1:1,000,000) are no longer produced for Sea Beam cruises. Custom plots may be requested of vertical beam (2&2/3 degree beam width) depths retrieved at one minute intervals of ship time.
3. Plots of depths, magnetics or gravity profiles along track - custom plots at various map and profile scales on Mercator projection may be requested.
4. Separate time series files of navigation, depth, gravity and magnetics as well as these data merged in the MGD77 Exchange format on magnetic tape.
5. Microfilm or Xerox copies of:
   a. Echosounder records - 12 and 3.5 kHz frequency
   b. Subbottom profiler records
   c. Magnetometer records
   d. Underway data log book

SIO Sea Beam Data Information

The following forms are available, subject to approval of the cruise leg chief scientist:

1) Archive copy of contour swath books generated in real time on board ship available for inspection at the data center.

2) Microfilm (35mm flowfilm) containing swath books plus, for some cruises, the Sea Beam monitor record and navigation list.

3) Sea Beam merged tapes - Sea Beam data merged with navigation. (Navigation is edited to the extent that DR courses and speeds are edited and poor fixes are removed after inspection of drift vectors between fix pairs. No editing is done on the basis of adjusting to overlapping Sea Beam swaths.)

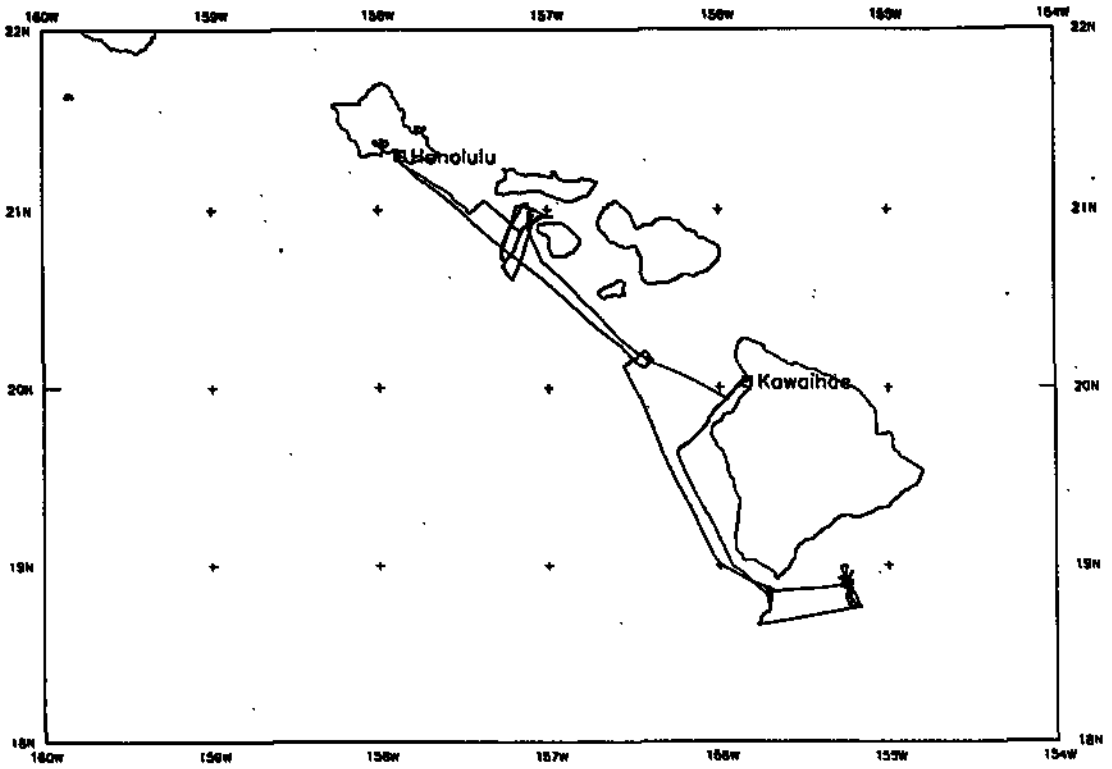
4) Archive contour plots - 16"/degree chart scale, with contour interval nominally 50m, are generated for all transit lines. Some survey areas are plotted at appropriate scales as well. Available for inspection at data center; additional copies may be generated from plot files stored on tape.

5) Custom generated plots of Sea Beam swaths on Mercator projection in four colors at variable plot scales and contour intervals. There are provisions to adjust positions of individual track lines and to edit out beams (bad data or overlapping data on inside of turns).

Revised October 1986

NOTE: Sea Beam data collection and processing were not funded by extramural grants on this leg. Instead, they have been collected and processed in "transit mode" by the SIO Shipboard Technical Support group as part of an experimental program to optimize ship usage and to increase the amount of available Sea Beam data. At this time, policies for processing these data are under review. For more information, contact the Geological Data Center curator.

April 1989



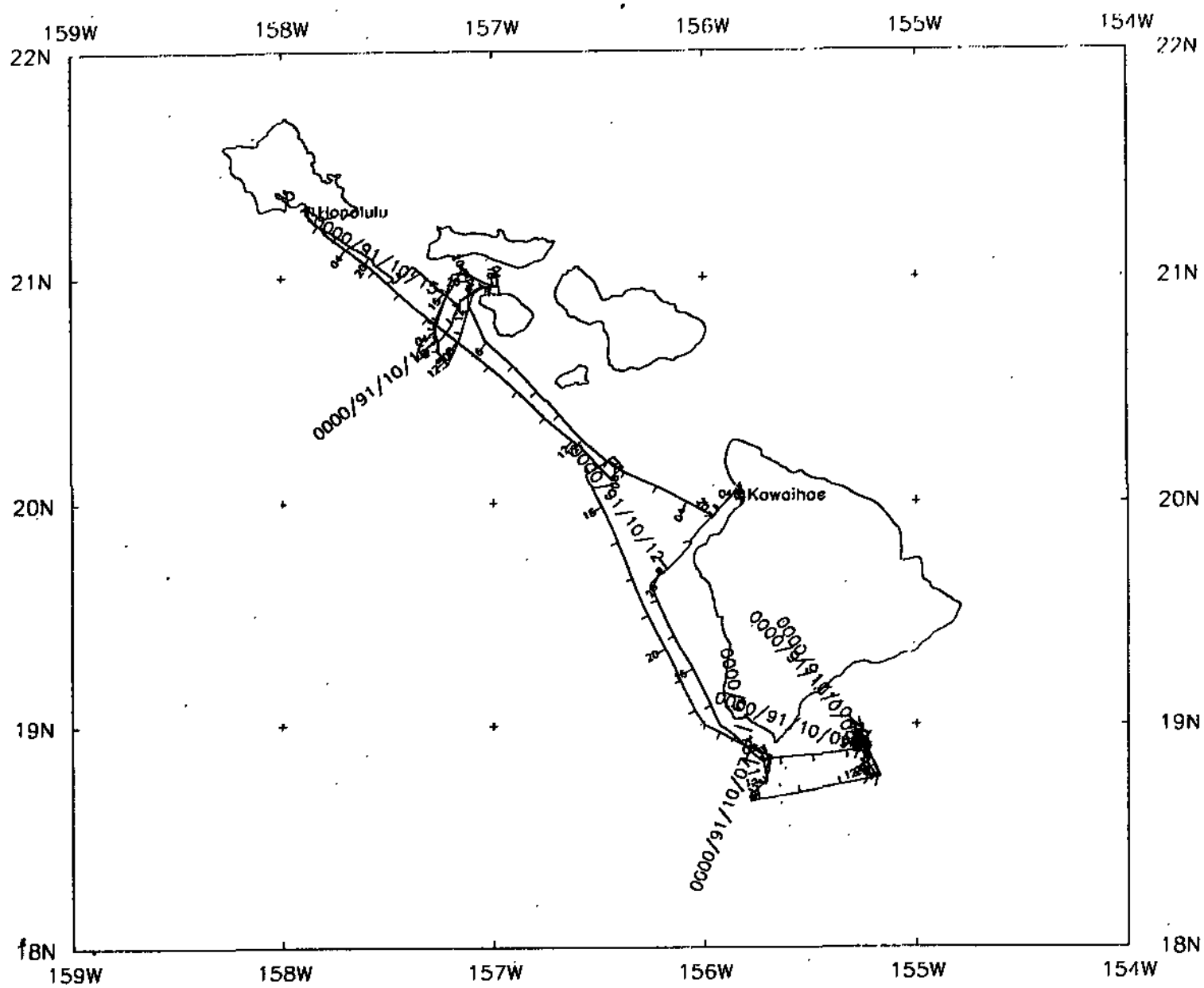
TUNES EXPEDITION LEG 4 (TUNE04WT) R/V T. Washington

TUNES EXPEDITION LEG 4

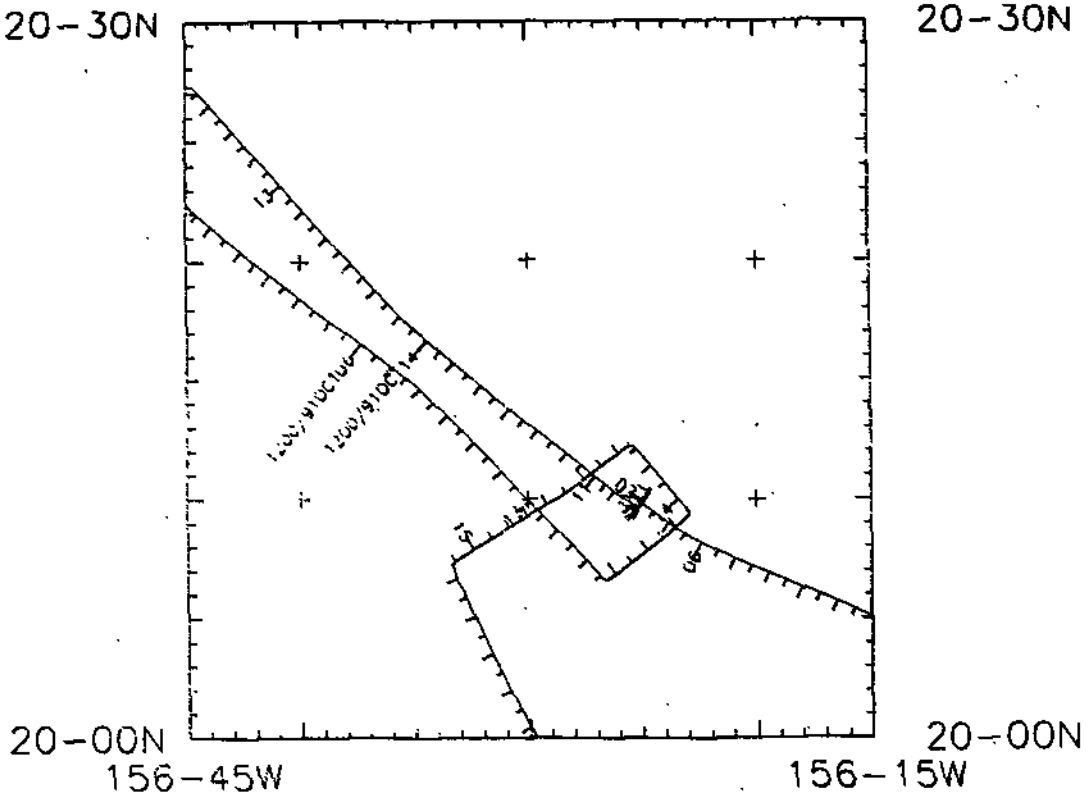
CHIEF SCIENTIST: Part A: Steve Constable, SIO
Part B: Paul Johnson, Univ. of Washington
PORTS: Honolulu - Honolulu, Hawaii
DATES: 6 - 13 October 1991
SHIP: R/V T. Washington

TOTAL MILEAGE OF UNDERWAY DATA COLLECTED

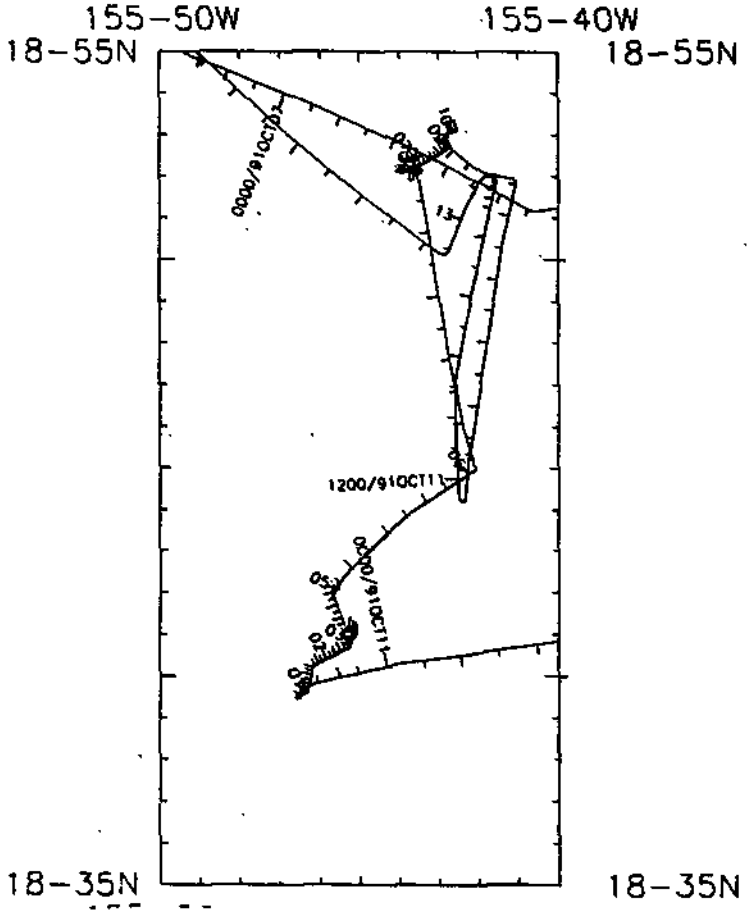
Cruise - 996 miles	Magnetics - none collected
Bathymetry - 656 miles	Seismic Reflection - none collected
Sea Beam - 656 miles	Gravity - not processed



TUNES EXPEDITION Leg 4 (TUNE04WT) R/V T. Washington



TUNE04WT Sea Beam Survey #1
requested by M. Garcia (Univ. of Hawaii)



N. MILES
0.
100.
200.
300.
400.
500.
TUNES LEG 4 (TUNE04WT) DEPTH
0.
1000.
2000.
3000.
4000.
5000.
6000.
7000.
8000.
METERS
04
08
1200/910CT06
16
20
0000/910CT07
04
08
1200/910CT07
1200/910CT08
1200/910CT08
16
20
0000/910CT09
04
08
1200/910CT09
16
20
0000/910CT10
08
1200/910CT10
18

N. MILES
500.
600.
700.
800.
900.
1000.
TUNES LEG 4 (TUNE04WT) DEPTH
0.
1000.
2000.
3000.
4000.
5000.
6000.
7000.
8000.
METERS
0000/910CT11
08
1200/910CT11
16
20
0000/910CT12
04
08
1200/910CT14
16
20
0000/910CT15
04
1200/910CT15
16
20
0000/910CT16
04
08
1200/910CT16
16
20

S.I.O. SAMPLE INDEX

(Issued April 1992)

TUNES EXPEDITION

Leg 4

R/V T. Washington

Part A: Chief Scientist - Steve Constable (Scripps Institution)

Honolulu - Kawaihae, Hawaii (6-13 October 1991)

Part B: Chief Scientist - Paul Johnson (University of Washington)

Kawaihae - Honolulu, Hawaii (13-16 October 1991)

The Sample Index is a first level interdisciplinary listing of time, position, sample identification and disposition of all samples, records and measurements collected on this cruise leg. The index data are encoded at sea by the resident marine technician and processed on shore by the S.I.O. Geological Data Center shortly after the completion of the cruise leg.

Positions are interpolated on the basis of sample time by comparison to a single, edited navigation file. Samples beginning at one time and position and ending at another are entered on two consecutive lines. Disposition and sample type are represented by three and four character codes to permit further computer searches on these parameters. (Listings defining these codes are available from the Geological Data Center.)

GDC Cruise I.D.# 254

```
#*** Ports ***

0200 061091        LGPT B Honolulu, Hawaii          21 03 N 157 09 W fTUNE04WT
2200 161091        LGPT E Honolulu, Hawaii          21 03 N 157 09 W fTUNE04WT

0041 121091        LGSS B Kawaihae, Hawaii          20 02 N 155 01 W fTUNE04WT
1606 131091        LGSS E Kawaihae, Hawaii          20 02 N 155 01 W fTUNE04WT


#*** Leg 4, Part A ***
#*** Personnel ***
#          *** Name ***        *** Title ***     *** Affiliation ***   **Crid**
#-----------------------------------------------------------------------------

PECS IGP  Constable,S.         Chief Scientist   Scripps Institution   TUNE04WT
PESP IGP  Everett,M.           Post. doctoral    Scripps Institution   TUNE04WT
PEST UHI  Foss,D.              Grad student      University of Hawaii  TUNE04WT
PECT STS  Moe,R.               Computer tech     Scripps Institution   TUNE04WT
PEST UHI  Parker,J.            Student           University of Hawaii  TUNE04WT
PERT STS  Pillard,E.           Resident tech     Scripps Institution   TUNE04WT
PESP GRD  Staudigel,H.         Scientist         Scripps Institution   TUNE04WT
PESP MPL  Webb,S.              Oceanographer     Scripps Institution   TUNE04WT
PESP AUS  White,A.             Sr. Lecturer      Australia             TUNE04WT

#*** Leg 4, Part B ***
#*** Personnel ***
#          *** Name ***        *** Title ***     *** Affiliation ***   **Crid**
#-----------------------------------------------------------------------------

PECS UWA  Johnson,P.           Chief Scientist   Univ. of Washington  TUNE04WT
PESP UHI  Barry,J.             Research Assist.  University of Hawaii  TUNE04WT
PESP GSU  Beeson,M.            Scientist         U.S.Geological Survey TUNE04WT
PEST UHI  Bozak,R.             Grad student      University of Hawaii  TUNE04WT
PESP GSU  Clague,D.            Researcher        U.S.Geological Survey TUNE04WT
PESP UWA  Halbert,B.           Engineer          Univ. of Washington  TUNE04WT
PECT STS  Moe,R.               Computer tech     Scripps Institution   TUNE04WT
PESP GSU  Moore,J.             Geologist         U.S.Geological Survey TUNE04WT
PERT STS  Pillard,E.           Resident tech     Scripps Institution   TUNE04WT
PESP UWA  Semyan,S.            Technician        Univ. of Washington  TUNE04WT
PESP SIX  Stein,T.             Engineer          Williamson & Assoc.   TUNE04WT
PESP GSU  Stover,R.            Scientist         U.S.Geological Survey TUNE04WT
PESP SIX  Waagstein,R.         Researcher        Danish Geological Sur. TUNE04WT
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#GMT DDMMYY LOC T   SAMP    SAMPLE              DISP  LAT.     LONG.     CRUISE
#TIME DATE TIME Z   CODE   IDENTIFIER           CODE  (TENTHS OF MINS) LEG-SHIP
#-----------------------------------------------------------------------------

#*** NOTES ***
#An 'X' in the (B)egin/(E)nd column following the sample code indicates no
#sample or data recovered.  A 'C' indicates continuation of data collection
#from before the beginning or after the end of a particular leg.  (Moored
#bottom instruments, for example.)  The number appearing in the columns
#between the sample identifier and the disposition code, for many sample
#entries, is the water depth in corrected meters.

#*** Underway Data Curator - S. M. Smith  ext. 42752 ***

#*** No Underway Log Books ***

#*** No Sea Beam Swath Books ***

#-----------------------------------------------------------------------
#*** All instruments that were left on the bottom during this cruise were
#*** retrieved in December 1991 by the R/V Wecoma
#-----------------------------------------------------------------------

#*** Echo Sounder Records ***

0230 061091          MBRM B Seabeam Monitor R-01  GDC 21-171N 157-526W sTUNE04WT
0649 141091          MBRM E Seabeam Monitor R-01  GDC 20-102N 156-248W sTUNE04WT

0658 141091          MBRM B Seabeam Monitor R-02  GDC 20-100N 156-248W sTUNE04WT
0305 161091          MBRM E Seabeam Monitor R-02  GDC 20-575N 157-019W sTUNE04WT

2020 161091          MBRM B Seabeam Monitor R-03  GDC 21-074N 157-379W sTUNE04WT
2200 161091          MBRM E Seabeam Monitor R-03  GDC 21-173N 157-524W sTUNE04WT

1902 070991          MBRM B 12kHz Site Records    GDC 21-189N 157-531W sTUNE04WT
2300 131091          MBRM E 12kHz Site Records    GDC 19-561N 155-570W sTUNE04WT

#*** Free Vehicle Seafloor Hydrophones ***

0626 071091          SBOH B Hydrophone            IGP 18-558N 155-147W sTUNE04WT
2200 161091          SBOH C seafloor FV           IGP 21-173N 157-524W sTUNE04WT

0652 071091          SBOH B Hydrophone            IGP 18-543N 155-152W fTUNE04WT
2200 161091          SBOH C seafloor FV           IGP 21-173N 157-524W sTUNE04WT

0724 071091          SBOH B Hydrophone            IGP 18-558N 155-148W fTUNE04WT
2200 161091          SBOH C seafloor FV           IGP 21-173N 157-524W sTUNE04WT
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#GMT DDMMYY LOC T   SAMP    SAMPLE                DISP  LAT.     LONG.     CRUISE
#TIME DATE TIME Z   CODE   IDENTIFIER             CODE  (TENTHS OF MINS) LEG-SHIP
#-----------------------------------------------------------------------------------

0525 101091         SBOH B Hydrophone A            MPL 18-550N 155-160W fTUNE04WT
2200 161091         SBOH C seafloor FV             MPL 21-173N 157-524W sTUNE04WT

0600 101091         SBOH B Hydrophone B            MPL 18-563N 155-155W fTUNE04WT
2200 161091         SBOH C seafloor FV             MPL 21-173N 157-524W sTUNE04WT

0632 101091         SBOH B Hydrophone C            MPL 18-549N 155-147W fTUNE04WT
2200 161091         SBOH C seafloor FV             MPL 21-173N 157-524W sTUNE04WT

0936 101091         SBOH B Magnetometer            MPL 18-553N 155-150W fTUNE04WT
2200 161091         SBOH C seafloor FV             MPL 21-173N 157-524W sTUNE04WT


#*** Dredges ***

1902 071091         DRRO B Dredge 01               UHI 18-499N 155-135W sTUNE04WT
2038 071091         DRRO E Dredge 01       2700M   UHI 18-505N 155-134W sTUNE04WT

1506 091091         DRRO B Dredge 02               UHI 18-459N 155-116W sTUNE04WT
1601 091091         DRRO E Dredge 02       4200M   UHI 18-460N 155-112W sTUNE04WT

0035 101091         DRRO B Dredge 03               GRD 18-600N 155-161W sTUNE04WT
0135 101091         DRRO E Dredge 03               GRD 19-001N 155-156W sTUNE04WT

1727 101091         DRRO B Dredge 04               GRD 18-455N 155-125W sTUNE04WT
1919 101091         DRRO E Dredge 04               GRD 18-464N 155-114W sTUNE04WT

0232 111091         DRRO B Dredge 05               GRD 18-406N 155-452W sTUNE04WT
0403 111091         DRRO E Dredge 05               GRD 18-411N 155-453W sTUNE04WT

0804 111091         DRRO B Dredge 06               GRD 18-521N 155-434W sTUNE04WT
0950 111091         DRRO E Dredge 06               GRD 18-530N 155-427W sTUNE04WT

2106 111091         DRRO B Dredge 07               GRD 19-411N 156-115W sTUNE04WT
2248 111091         DRRO E Dredge 07               GRD 19-407N 156-123W sTUNE04WT

1954 151091         DRRO B Dredge 08               GSU 21-012N 157-075W sTUNE04WT
2031 151091         DRRO E Dredge 08       320M    GSU 21-016N 157-069W sTUNE04WT
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#GMT DDMMYY LOC T   SAMP    SAMPLE              DISP  LAT.     LONG.     CRUISE
#TIME DATE TIME Z   CODE   IDENTIFIER            CODE  (TENTHS OF MINS) LEG-SHIP
#-----------------------------------------------------------------------------

#*** Long Baseline Tiltmeters ***

0410 081091         TLFV B Tiltmeter 03          IGP 18-552N 155-148W fTUNE04WT
2200 161091         TLFV C seafloor deformation  IGP 21-173N 157-524W sTUNE04WT

1204 081091         TLFV B Tiltmeter 01          IGP 18-551N 155-145W fTUNE04WT
2200 161091         TLFV C seafloor deformation  IGP 21-173N 157-524W sTUNE04WT

0204 091091         TLFV B Tiltmeter 04          IGP 18-555N 155-147W fTUNE04WT
2200 161091         TLFV C seafloor deformation  IGP 21-173N 157-524W sTUNE04WT

0921 091091         TLFV B Tiltmeter 02          IGP 18-554N 155-147W fTUNE04WT
2200 161091         TLFV C seafloor deformation  IGP 21-173N 157-524W sTUNE04WT


#*** Rock Drill Cores ***

2228 131091         CORD B Rock Drill Core 01    UWA 19-562N 155-571W sTUNE04WT
2249 131091         CORD X Rock Drill Core 01    UWA 19-561N 155-571W sTUNE04WT

0213 141091         CORD B Rock Drill Core 02    UWA 19-562N 155-571W sTUNE04WT
0229 141091         CORD X Rock Drill Core 02    UWA 19-562N 155-570W sTUNE04WT


#*** Deep Towed Magnetometer ***

0705 151091         MGDT B Magnetometer          UWA 20-404N 157-152W sTUNE04WT
0808 151091         MGDT E Deep-Towed            UWA 20-402N 157-155W sTUNE04WT

#*** Continuous Computer Logged Gravity ***

0230 161091         GVCR B Gravity               GDC 21-171N 157-526W sTUNE04WT
2200 161091         GVCR E Gravity               GDC 21-173N 157-524W sTUNE04WT

#***                End Sample Index                                  TUNE04WT
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