

RV Langseth Data Redeuction Summary
MGL0807 Punta Arenas, Costa Rica – Punta Arenas, Costa Rica

Tue Apr 15 05:44:03 2008

Date	Julian Date	Time	Port
2008-03-20	2008-080	1212 L, 0512 UTC	Puerto Caldera, Costa Rica
2008-04-16	2008-107	0348 L, 0848 UTC	Limon, Costa Rica

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I. Background and Scientific Objectives

Objective was MCS/OBS/land instrument survey of track lines in the Pacific in support of the April/May 2008 TICO/CAVA Project undertaken by Steve Holbrook of University of Wyoming. Refer to NSF cruise report for further detail on scientific objectives and methods.

II. Crew List

Science Party

1	Steve Holbrook	Chief Scientist
2	Daniel Lizarralde	Co-Chief Scientist
3	Raymond W. Schmitt	Scientist
4	Daniel H. Eakin	Scientist
5	Will Fortin	Scientist
6	Dan Eakin	Scientist
7	Lisa Humbert	Scientist
8	Frances Rivera	Scientist
9	Nathaniel Miller	Scientist
10	Oscar Luecke	Scientist

Shipboard Technical Staff

1	Anthony Johnson	Technician-in-charge
2	Ted Koczyynski	Science Officer
3	Bernard Mckeiran	Science Officer
4	Megan Meyer	Science Officer
5	Elliot Aguilar	Science Officer
6	David M. Martinson	Navigation
7	Michael C. Martello	Navigation
8	Robert C. Gunn	Sound Source Technician
9	Carlos D. Guitierrez	Sound Source Technician
10	Justin Walsh	Sound Source Technician
11	Luis G. Villalobos	NCS Subsea -- Contractor
12	Maikol V. Badilla	NCS Subsea -- Contractor
13	Bruce Mactavish	Lead Mammal Observer
14	Jose D. Palacios Alfaro	Mammal Observer
15	John R. Nicholas	Mammal Observer
16	Giovanni Caltavuturo	Mammal Observer
17	Nicolas Engelmann	Mammal Observer
18	Brendan J. Hurley	Mammal Observer
19	John H. Schwartz	Electrician

Ship's Crew

1	James E. O'Loughlin	Master
2	Tamara L. Becker	Chief Mate
3	Chris Zimmerman	2 nd Mate
4	Nick Gasper	3 rd Mate
5	Douglas M. Tyson	Bosun

6	Inocencio B. Rimando	AB
7	Ricardo M. Redito	AB
8	Gordon M. Baxter	AB
9	Marcus B. Nadler	OS
10	Richard R Magnan	OS
11	Steve Pica	Chief Engineer
12	Matthew S. Tucke	1 st Asst. Engineer
13	Peter A. Chizmar	2 nd Asst. Engineer
14	Ryan P. Vetting	3 rd Asst. Engineer
15	Guillermo Uribe	Oiler
16	Louis Thibault	Oiler
17	Jack Billings	Oiler
18	Michelle D. Taylor	Steward
19	Ricardo Rios	Cook

III. Instrumentation Summary

All instruments aboard the Langseth are listed in the science_sensors spreadsheet in the docs section of the cruise archive. Summary notes on operation during this cruise are listed below. Instruments not listed were not in operation.

Instrument Data Files

Instrument	Description	Data Set	Interval	Data Output
FE700	Furuno FE700 Echosounder	Full	1s	serial logs
EM120	Kongsberg EM120 Multibeam Sonar	Full	Variable	raw output to file centerbeam to serial logs
DS50	Furuno DS50 Doppler Speedlog	Full	1s	serial logs
XBT	Sippican MK21 XBT Launcher		Variable	raw output to file converted output to file
WX1	RM Young 5103 Weather Bird and Translator	Full	1s	serial logs
TSG	SeaBird SBE23 Thermosalinograph	None	1s	serial logs
CNAV	C&C Tech. CNAV DGPS Receiver	Full	1s	serial logs
MAG01	GeoMetrics 882 Magnetometer	None	1s	serial logs
BGM	Bell Aerospace BGM-3 Gravimeter	None	1s	serial logs
GYRO	Simrad GC80 Gyrocompass/AD100	Full	1s	serial logs
POSMV	Applanix POSMV Integrated Nav System	Full	1s	serial logs
SEAPATH	Kongsberg SeaPath Integrated Nav System	Full	1s	serial logs
Event Logger	Spectrum Instruments intelligent reference TM-4	Full	shot	serial logs

All timestamps in this report are presented using UTC time and day of year in order to avoid confusion with local time changes.

Science Navigation Instrumentation

FE700

Logging interval: 1 second

File id: bath01

The FE700 only operated to 800m depth. The echosounder is normally switched off before the unit goes out of depth. The unit was operational during the entire cruise.

Interruptions greater than twenty seconds are displayed in the following table.

Log Date	Interruption	Comment
		Logging officially started
2008:079:14:01:43.6125 -- 2008:079:19:10:22.3414	Missing data	Reason unrecorded
2008:080:08:41:27.1624 -- 2008:081:00:57:52.0565	Missing data	Reason unrecorded
2008:081:05:24:25.2503 -- 2008:081:11:43:12.1750	Missing data	Reason unrecorded

2008:081:11:43:42.2911 -- 2008:081:16:06:16.8358	Missing data	Reason unrecorded
2008:082:08:02:10.7839 -- 2008:083:16:13:22.9973	Missing data	Reason unrecorded
2008:084:18:15:46.5549 -- 2008:084:18:16:29.3910	Missing data	Reason unrecorded
2008:084:20:03:56.6832 -- 2008:084:20:06:13.6801	Missing data	Reason unrecorded
2008:085:06:41:40.0853 -- 2008:088:21:45:39.7035	Missing data	Reason unrecorded
2008:089:00:35:34.0418 -- 2008:090:02:58:35.1065	Missing data	Reason unrecorded
2008:090:02:59:08.3627 -- 2008:090:04:20:45.8214	Missing data	Reason unrecorded
2008:090:10:05:53.0033 -- 2008:090:17:50:13.3049	Missing data	Reason unrecorded
2008:091:00:55:26.1140 -- 2008:091:11:27:04.1496	Missing data	Reason unrecorded
2008:091:22:25:20.1527 -- 2008:092:02:28:56.6257	Missing data	Reason unrecorded
2008:092:10:42:18.8367 -- 2008:096:12:14:19.1827	Missing data	Reason unrecorded
2008:096:16:21:44.5746 -- 2008:097:16:42:19.4861	Missing data	Reason unrecorded
2008:097:21:48:14.9780 -- 2008:099:14:48:02.1724	Missing data	Reason unrecorded
2008:099:18:12:50.3871 -- 2008:103:11:32:59.9147	Missing data	Reason unrecorded
2008:103:13:36:09.1402 -- 2008:105:04:06:29.0702	Missing data	Reason unrecorded
2008:107:08:00:00.0000		Logging officially ended

EM-120

Logging interval: variable with water depth

File id: bath02

The EM120 multibeam sonar was operated throughout the cruise. The system is designed for deeper water, and does not track ground well in less than 50m of water.

Interruptions greater than sixty seconds are displayed in the following table.

Log Date	Interruption	Comment
2008:079:00:00:00.7496		Logging officially started
2008:080:14:57:53.8368 -- 2008:080:14:59:50.4921	Missing data	Reason unrecorded
2008:080:16:13:43.2079 -- 2008:080:16:15:57.8463	Missing data	Reason unrecorded
2008:106:06:39:51.4404 -- 2008:106:07:19:40.7301	Missing data	Reason unrecorded
2008:107:08:00:00.0000		Logging officially ended

DS50 Speedlog

Logging interval: 1 second

File id: slog01

The Furuno DS-50 is a Doppler speed log. It was in operation for the length of the cruise.

Interruptions greater than ten seconds are displayed in the following table.

Log Date	Interruption	Comment
		Logging officially started
2008:107:08:00:00.0000		Logging officially ended

RMYoung Weather Station

Logging interval: 1 second

File id: mwv01

The weather station is used to log wind speed, direction, air temperature, and barometric pressure. The unit was functioning during the cruise.

Interruptions greater than ten seconds are displayed in the following table.

Log Date	Interruption	Comment
		Logging officially started
2008:107:08:00:00.0000		Logging officially ended

CNAV

Logging interval: 1 second

File id: cnav

The C-NAV is a global satellite-based differential receiver. This is the best individual receiver currently on the ship. This system was operational during the cruise.

Interruptions greater than ten seconds are displayed in the following table.

Log Date	Interruption	Comment
2008:079:00:00:00.7496		Logging officially started
2008:079:14:33:23.6890 -- 2008:079:14:33:33.6927	Missing data	Reason unrecorded
2008:107:08:00:00.0000		Logging officially ended

GGC80 Gyrocompass

Logging interval: 1 second

File id: gy01

The GC80 gyrocompass operated normally.

Interruptions greater than ten seconds are displayed in the following table.

Log Date	Interruption	Comment
		Logging officially started
2008:107:08:00:00.0000		Logging officially ended

POSMV Integrated Nav

Logging interval: 1 second

File id: posmv

The POS/MV is a receiver that uses CNAV input in addition to its own antennae, an inertial sensor and optional RTG, WTC, or WAAS corrections and a Kalman filter to produce a smooth navigation output and very accurate heading. The PosMV operated normally during the cruise.

Interruptions greater than ten seconds are displayed in the following table.

Log Date	Interruption	Comment
		Logging officially started
2008:107:08:00:00.0000		Logging officially ended

SeaPath Integrated Nav

Logging interval: 1 second

File id: seapath

The Kongsberg Seapath is an integrated navigation system. It was in operation for the length of the cruise.

Interruptions greater than ten seconds are displayed in the following table.

Log Date	Interruption	Comment
		Logging officially started
2008:107:08:00:00.0000		Logging officially ended

Event Logger

Logging interval: 1 second

File id: tagger1

The Event logger time stamps time-break triggers from DigiShot in all fire modes.

Interruptions greater than ten seconds are displayed in the following table.

Log Date	Interruption	Comment
		Logging officially started
2008:107:08:00:00.0000		Logging officially ended

XBT

Logging interval: variable

File id: refer to spreadsheet

265 XBT/XCTD drops were made during this cruise. Refer to the Expendable_Drops spreadsheet in the deck_log directory of the cruise archive.

SBE-23 Thermosalinograph

Logging interval: 1 second

File id: n/a

The TSG did not operate during this cruise.

882 Magnetometer

Logging interval: 1 second

File id: n/a

The magnetometer did not operate during this cruise.

BGM-3 Gravimeter

Logging interval: 1 second

File id: n/a

The gravimeter did not operate during this cruise.

IV. Seismic Summary

The primary objectives of the cruise were survey lines using all four gun strings and an 8km streamer as well as lines of OBS instruments deployed by the New Horizon.

Physical Configuration

There were two different physical tow configurations of the air guns and streamer. Consult the tow configuration diagrams in the archive

Spectra

Spectra was used for recording MCS positions and for triggering the gun system. Refer to the nav line logs for detail.

Spectra streamer, airgun, and GPS antenna configuration was updated several times during the cruise. Spectra vessel and source position should not be used without reprocessing the data. Consult the nav line logs for detail.

V. Client Instrumentation

Client launched 25 sippican XCPs over the side during the cruise. XCP data and inventory are located in MGL0807/raw/XCP in the cruise archive.

Sail Date: 2008-03-09, DOY 079
Port Date: 2008-04-16, DOY 107
29 days

**Raw instrument data
System**

ID	Model	Description	Manufacturer	op	log	format	location	quantity
ADCP	RDI150	150 kHz Hull Mounted Transducer	RDI	n				
FE700	FE-700	Fathometer	Furuno	y	y	nmea	/raw/serial	full
12K	??	12 Khz Transceiver		n				
3_5K	??	3.5 Khz Transceiver		n				
EM120	EM-120	12 kHz 150 beams/191 degree multibeam echosounder	Simrad/Kongsberg Applied	y	y	raw	/raw/multibeam	full
SV1	MicroSV	Sound Velocity	Microsystems	n				
DS50	DS-50	Speedlog	Furuno	y	y	nmea	/raw/serial	full
CTD		CTD	Seabird	n		ascii		
XBT	MK21-ISA	XBT MK21	Sippican	y	y	rdf	/raw/XBT	212 drops
SBE38	SBE-38	Thermometer	Seabird	n				
SBE48	SBE-48	Magnetic mount temp sensor Integrated Meteorological	Seabird	n				
WX1	5103 SBE-21	instrument	RM Young Industries	y	y	ascii	/raw/serial	full
TSG	SEACAT	Thermosalinograph	Seabird	y	y	ascii	/raw/serial	partial
FLOURO	10-AU-005-CE	Flourometer	Turner Designs	n				
PCO2		pCO2	Lamont	n				
CNAV	C-NAV	Globally corrected DGPS	C&C Technologies	y	y	nmea	/raw/serial	full
TRIMBLE	NT-300D	DGPS	Trimble	y	n			
MAG	882	Magnetometer	Geometrics	n				
BGM	BGM-3	Marine Gravity Meter System Gyrocompass Master	Bell Aerospace	n				
GYRO	GC-80	Compass/AD100 POSMV Inertial Navigation	Simrad	y	y	nmea	/raw/serial	full
POSMV	POS/MV 320	System	Applanix				/raw/serial	full

SEAPATH	SeaPath 200	SeaPath Inertial Navigation System	Simrad/Kongsberg			/raw/serial	full
TIME1	1520-S250	GPS Network Time Server	Symmetricom	y	n/a	n/a	
TIME2	TS2100-GPS	GPS Network Time Server	Symmetricom	n	n/a		
ATT	na	Joe's Advanced Time Tagger	LDEO	n			
TAGGER	TM-4	TM-4 Event Logger	Spectrum Instmnts.	y	y	/raw/serial	partial

2008-03-19 2008-04-16
2008-079 – 2008-107
29 days

MCS

Reels 139 reel 61 skipped
RAW Files 49618
EOT Files 131
Shot Files 49487
Syntron SEG-D

**Seismic navigation
System**

ID	Model	Description	Manufacturer	op	log	format	location	quantity
SPECTRA		Spectra Seismic navigation	Concept Systems	y	y	P1/P2	/raw/spectra	
SIPS		Sonardyne SIPS Acoustic	Sonardyne	y	y	P1/P2	/raw/spectra	
POSNET		Posnet	PBX Systems	y	y	P1/P2	/raw/spectra	
DIGICOUR SE		Digicourse	ION	y	y	P1/P2	/raw/spectra	

Client Instruments

XCP /raw/XCP 25 drops