

# RV Langseth Data Reduction Summary

## MGL0814

Astoria, OR-Eastern Gulf, Alaska

10/06/2008

Lamont-Doherty Earth Observatory,  
Columbia University

**Monday, October 06, 2008**

Date	Julian Date	Time	Port
2008-09-10	2008-254	1204 L, 1804 UTC	Astoria, OR
2008-10-06	2008-280	0900 L, 1400 UTC	Astoria, OR

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## 1. Background and Scientific Objectives

This is a multi-disciplinary study to address the evolution of the highest coastal mountain range on Earth - the St. Elias Mountains of southern Alaska and northwestern Canada. This orogen has developed over the past few million years as the Yakutat block, a continental-oceanic terrane, has attempted subduction beneath the eastern end of the Aleutian arc-trench system. The ~500 km-long, 150 km-wide St. Elias mountain range is the product of the dynamic balance between rapid uplift induced by crustal convergence and rapid exhumation by a regional system of large, fast-moving temperate glaciers. Most sediments are deposited either on a broad shelf or in deepsea fans and provide a complete record of the tectonic, climatic, erosional, and eustatic events that have accompanied the orogeny. The overarching goal of the project is to develop a comprehensive model for the St. Elias orogen that accounts for the interaction of regional plate tectonic processes, structural development, and rapid erosion. The focus of the study is on the partitioning of deformation within the system from upper mantle flow to near-surface faulting and exhumation. The study will investigate the geodynamics of oblique collision under a set of conditions that will allow the PIs to address several important and fundamental questions:

1. Has intense Quaternary glacial erosion redistributed mass in the orogen sufficiently to change regional deformational patterns, and has focused erosion along deep glacial valleys been sufficient to localize crustal strains?
2. How is deformation partitioned into lithospheric shortening and uplift versus lateral extrusion of the detached crust, and does intense erosion influence this partitioning?
3. Is the orogeny driven primarily by subduction of a buoyant oceanic plateau or by collision of a small microcontinental block attached to allochthonous ocean crust?

Addressing these questions has broad implications for understanding the geodynamics of oblique collision in general, the role of different mechanisms in development of far-field orogenic effects, and the control of erosion on development of slip partitioning during oblique convergence. The project also has general implications for how subduction/accretion of small continental terranes versus oceanic plateaus contribute to deformation of the continents, and ultimately the fate of these fragments in construction of the crustal collage which is typical of virtually all continents. Specifically, the P.I.s propose a multidisciplinary approach involving seismologists (subsurface imaging and seismicity), geologists, geodesists, glaciologists, geochronologists, and geodynamic modelers.

### Marine Seismic Objectives

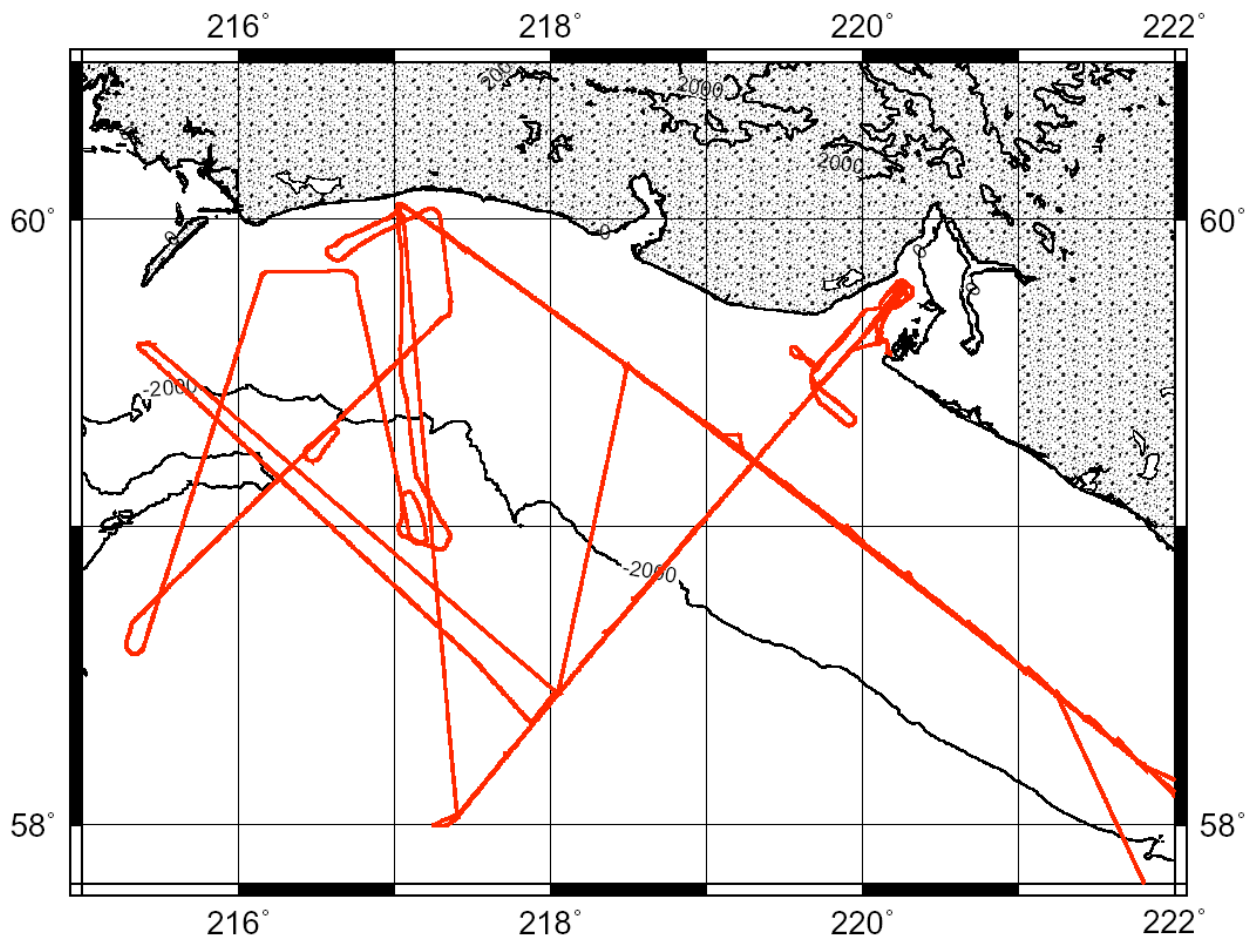
The primary objectives for the marine seismic portion of STEEP include are threefold: 1) to image the offshore primary faults within and on the boundaries of the Yakutat Block, 2) to measure the velocity and thickness of the Yakutat crust, and 3) to image the sedimentary cover on the Yakutat Shelf and the sediments that make up the proximal part of the Surveyor Fan. The seismic reflection part of the experiment seeks to accomplish goals #1 and #3, while the seismic refraction component seeks to accomplish goal #2.

Faults that are targeted by the offshore component of STEEP include: the Dangerous River Zone, the Pamplona Zone, the Khitrov Fault Zone, the Pacific Shear Zone, the Transition Fault, and the Kayak Island Fault Zone. For each of these faults we seek to map their location, type of deformation, and history of deformation in order to examine the tectonic response of the Yakutat Block and adjacent Pacific Plate to flat slab subduction.

The type and thickness of the Yakutat Block is unknown and yet this basic data are key to understanding the tectonic evolution of the margin. The Ocean Bottom Seismometer (OBS) transects (STEOP01 and STEOP02) are designed specifically to accomplish this goal by determining depth to Yakutat basement and moho and velocity structure of the crust.

The stratigraphic goals of the reflection data are to map key glacial erosion surfaces on the shelf that can be later dated by scientific ocean drilling and to map the sequences within the Surveyor Fan to track mass flux from the orogen. This stratigraphy can later be dated through ties with existing industry wells and hopefully future IODP drilling.

## 2. Racetrack Drawing



GM 2008 Oct 3 02:35:38 MGL0814 Alaska Gulf

### 3. Crew List

#### Science Party

1	Sean Gulick	Chief Scientist	University of Texas at Austin
2	Gail Christeson	Co-Chief Scientist	University of Texas at Austin
3	Beatrice Magnani	PI in Training	University of Memphis
4	Ben Hooks	Scientist Graduate Student	University of Texas at Austin
5	Adam Barker	Scientist Graduate Student	University of Texas at Austin
6	Bobby Reece	Scientist Graduate Student	University of Texas at Austin
7	Lindsay Worthington	Scientist Graduate Student	University of Texas at Austin
8	Seth Campbell	Scientist Graduate Student	University of Texas at Austin
9	Ryan Elmore	Scientist Graduate Student	University of Texas at Austin
10	John Gerboc	OBS/Sys Admin	UTIG
11	Anatoly Miranov	OBS Tech	UTIG

#### Shipboard Technical Staff

1	Robert Steinhaus	Technician-in-charge
2	Bern McKiernan	Watch Leader/Acq Watch Leader
3	Michael Zhang	IT-in-charge
4	David M. Martinson	Navigation-in-charge
5	Thomas Spoto	Chief Sound Source
6	Michael Tatro	Acquisition Watch Leader
7	Robert Gunn	Sound Source Watch Leader
8	Ryan Eaton	IT/Nav Watch Stander
9	Jenny White	Sound Source Watch Stander
10	Meike Holst	MMO, Lead Observer
11	Claudio Fossati	MMO, Lead PAM Observer
12	John Nicholas	MMO, Observer
13	Bradley Dawe	MMO, Observer
14	Brendan Hurley	MMO, Observer

**Ship's Crew**

1	Jim O'loughlin	Master
2	Matthew Bakis	Chief Mate
3	Chris Zimmerman	2 <sup>nd</sup> Mate
4	Nicholas Gasper	3 <sup>rd</sup> Mate
5	Sal Oboza	Bosun
6	Inocencio Rimando	AB
7	George Cerano	AB
8	Ping Paragas	AB
9	Jeromie Webster	OS
10	Nicky Applewhite	OS
11	Al Karlyn	Chief Engineer
12	Matthew Tucke	1 <sup>st</sup> Asst. Engineer
13	Thomas DeWhirst	2 <sup>nd</sup> Asst. Engineer
14	Ryan Vetting	3 <sup>rd</sup> Asst. Engineer
15	Jack Schwartz	Electrician
16	Fernando Uribe	Oiler
17	Rudolfo Florendo	Oiler
18	Travis Green	Oiler
19	Hervin Fuller	Steward
20	Ricky Rios	Cook



## 4. 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	Full	1s	serial logs
CNAV	C&C Tech. CNAV DGPS Receiver	Full	1s	serial logs
MAG01	GeoMetrics 882 Magnetometer	Full	1s	serial logs
BGM	Bell Aerospace BGM-3 Gravimeter	Full	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
2008:254:19:22:42.0000		Logging officially started
2008:255:01:58:13.2433 -- 2008:255:15:29:33.5681	System check	Reason unrecorded
2008:255:15:30:29.2424 -- 2008:255:15:40:05.4157	Missing data	System check
2008:255:15:40:08.3520 -- 2008:255:15:41:20.9923	Missing data	System check
2008:255:15:41:32.6957 -- 2008:255:16:03:20.1747	Missing data	System check
2008:255:16:03:24.0494 -- 2008:255:20:08:20.7794	Missing data	System check
2008:255:20:15:52.2840 -- 2008:255:20:19:26.6377	Missing data	Reason unrecorded
2008:255:20:19:47.0292 -- 2008:255:20:34:11.7351	Missing data	Reason unrecorded
2008:255:20:39:35.0704 -- 2008:257:03:47:15.3511	Missing data	Reason unrecorded
2008:257:03:47:47.3699 -- 2008:257:19:30:42.4358	Missing data	Reason unrecorded
2008:258:05:16:59.1934 -- 2008:258:10:46:23.1652	Missing data	Reason unrecorded
2008:260:00:01:13.5931 -- 2008:261:02:26:39.8589	Missing data	Reason unrecorded
2008:261:13:51:55.4745 -- 2008:263:05:49:26.5437	Missing data	Reason unrecorded
2008:263:05:57:44.5878 -- 2008:263:06:36:11.8100	Missing data	Reason unrecorded
2008:263:06:36:49.2089 -- 2008:263:10:38:43.0118	Missing data	Reason unrecorded
2008:267:21:43:37.1814 -- 2008:267:21:44:37.1260	Missing data	Reason unrecorded
2008:267:21:45:33.4880 -- 2008:268:01:03:44.8452	Missing data	Reason unrecorded
2008:268:01:04:10.9167 -- 2008:268:05:56:20.6105	Missing data	Reason unrecorded
2008:268:05:57:13.6108 -- 2008:268:15:39:06.7149	Missing data	Reason unrecorded
2008:269:18:44:22.1176 -- 2008:270:11:08:01.3731	Missing data	Reason unrecorded
2008:270:11:08:34.7458 -- 2008:271:02:16:40.0765	Missing data	Reason unrecorded
2008:271:02:17:04.1472 -- 2008:271:11:56:17.4524	Missing data	Reason unrecorded
2008:273:16:15:23.2243 -- 2008:274:19:16:58.5714	Missing data	Reason unrecorded
2008:274:19:17:20.9734 -- 2008:274:19:28:35.8945	Missing data	Reason unrecorded
2008:275:07:39:26.8366 -- 2008:275:22:44:34.5854	Missing data	Reason unrecorded
2008:280:07:00:00.1900		Logging officially ended

Bath01 data format:

bath01	2008:220:13:45:42.0681	\$SDDBT, , , , , ,
bath01	2008:220:13:45:42.0690	\$SDDBS, , , , , ,
bath01	2008:220:13:45:42.0691	\$SDDPT, , 0006.6*49
bath01	2008:220:13:45:42.1482	\$PFEC, Alarm, 0, 0*6F
bath01	2008:220:13:45:42.1483	\$PFEC, xdr, FORE, 050*79

## 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
2008:254:19:22:42.6166		Logging officially started
2008:259:11:29:17.8812 -- 2008:259:11:41:39.3392	Missing data	Reason unrecorded
2008:259:13:07:23.2444 -- 2008:259:15:23:10.6033	Missing data	Reason unrecorded
2008:266:06:34:45.9065 -- 2008:267:18:14:50.1317	Missing data	Reason unrecorded
2008:270:18:23:35.0946 -- 2008:272:02:44:12.8402	Missing data	Shutdown logging for retrieving OBS
2008:273:08:59:06.2732 -- 2008:273:09:06:11.4421	Missing data	Reset parameter
2008:273:09:06:21.6474 -- 2008:273:09:11:51.1222	Missing data	Reset parameter
2008:273:09:19:42.0169 -- 2008:273:09:26:56.4737	Missing data	Reset parameter
2008:273:09:27:10.6766 -- 2008:273:09:31:46.3440	Missing data	Reset parameter
2008:273:09:43:42.7177 -- 2008:273:09:46:42.5313	Missing data	Reset parameter
2008:273:09:48:47.2988 -- 2008:273:09:52:30.8710	Missing data	Reboot software
2008:280:07:00:00.0602		Logging officially ended

## Bath02 data format

bath02	2008:192:00:00:12.6663	\$KGDPT, 2938.25, 0.0, 12000.0*4a
bath02	2008:192:00:00:30.3301	\$KGDPT, 2954.08, 0.0, 12000.0*4f
bath02	2008:192:00:00:46.5831	\$KGDPT, 2958.32, 0.0, 12000.0*4a
bath02	2008:192:00:01:03.0606	\$KGDPT, 2954.18, 0.0, 12000.0*4e

## 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
2008:254:16:24:14.8667		Logging officially started
2008:254:16:52:24.9853 -- 2008:254:16:54:43.8497	Missing data	Reason unrecorded
2008:254:17:37:07.6776 -- 2008:254:17:37:32.4002	Missing data	Reason unrecorded
2008:256:16:18:52.0590 -- 2008:256:16:20:23.8647	Missing data	Reason unrecorded
2008:280:07:00:21.8285		Logging officially ended

Slog01 data format:

slog01	2008:231:00:00:00.0744	\$VDVHW,,T,,M,09.68,N,17.93,K*4C
slog01	2008:231:00:00:00.1906	\$VDVBW,009.68,000.09,A,009.68,000.09,V*46
slog01	2008:231:00:00:00.1908	\$VDVLW,0005960.30,N,0005960.30,N*5F

## 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
2008:254:16:52:26.8128		Logging officially started
2008:254:19:38:34.2379 -- 2008:254:19:42:08.2386	Missing data	Reason unrecorded
2008:255:15:29:31.3816 -- 2008:255:15:40:09.4053	Missing data	System check
2008:255:15:41:17.4066 -- 2008:255:15:41:33.4070	Missing data	System check
2008:255:20:08:17.6618 -- 2008:255:20:15:52.6668	Missing data	System check
2008:255:20:19:22.6710 -- 2008:255:20:19:47.6704	Missing data	System check
2008:255:20:34:08.6840 -- 2008:255:20:39:35.6902	Missing data	System check
2008:259:05:50:35.5015 -- 2008:259:05:50:48.5801	Missing data	Reason unrecorded
2008:262:20:16:36.1989 -- 2008:262:20:19:02.5186	Missing data	Reason unrecorded
2008:262:20:23:12.1352 -- 2008:262:21:16:15.7032		
2008:280:07:00:08.5292		Logging officially ended

Mwv01 data format:

mwv01 2008:231:00:00:00.5173 ***** 8 8 8 1009.7	6.1 6.6 6.6 8.8 354 321 5 0.0 0.0 0.0 0.0 355 355 0 *****
mwv01 2008:231:00:00:01.5172 ***** 8 8 8 1009.6	5.9 6.6 6.6 8.8 353 321 5 0.0 0.0 0.0 0.0 355 355 0 *****
mwv01 2008:231:00:00:02.5190 ***** 8 8 8 1009.8	6.3 6.6 6.6 8.8 354 321 5 0.0 0.0 0.0 0.0 355 355 0 *****

## 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
2008:254:16:52:26.8128		Logging officially started
2008:255:14:59:54.7169 -- 2008:255:15:01:33.6932	Missing data	System check
2008:255:15:07:21.7462 -- 2008:255:15:08:06.7460	Missing data	System check
2008:255:15:35:47.8210 -- 2008:255:15:37:52.6924	Missing data	System check
2008:255:15:51:58.6879 -- 2008:255:16:03:17.1983	Missing data	System check
2008:259:03:43:11.7275 -- 2008:259:03:43:24.6600	Missing data	Reason unrecorded
2008:259:18:59:37.4307 -- 2008:259:18:59:47.6985	Missing data	Reason unrecorded
2008:280:07:00:03.7162		Logging officially ended

## Cnav data format:

cnav 2008:231:00:00:00.6936 \$GPGGA,000000.00,1434.94372,N,10444.85748,W,2,8,1.1,15.52,M,-20.60,M,9,0108*65
cnav 2008:231:00:00:00.7137 \$GPVTG,006.5,T,,M,9.64,N,17.85,K*53

## 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
2008:254:16:52:26.8128		Logging officially started
2008:255:15:31:29.9893 -- 2008:255:15:32:25.9796	Missing data	System check
2008:255:15:34:33.9528 -- 2008:255:15:39:20.6656	Missing data	System check
2008:272:00:15:00.6315 -- 2008:272:00:16:11.4551	Missing data	Reason unrecorded
2008:272:00:18:44.8328 -- 2008:272:00:23:32.6125	Missing data	Reason unrecorded
2008:280:07:00:06.4515		Logging officially ended

Gy01 data format:

gy01	2008:231:00:00:00.4110	\$PTKM,HEALM,0000,0,G1*09
gy01	2008:231:00:00:00.6395	\$HEHDT,005.8,T*22
gy01	2008:231:00:00:00.6396	\$HEROT,-005.25,A*34
gy01	2008:231:00:00:01.6394	\$HEHDT,005.7,T*2D
gy01	2008:231:00:00:01.6395	\$HEROT,-004.53,A*34

## 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
2008:254:16:00:26.8128		Logging officially started
2008:255:15:17:56.1109 -- 2008:255:15:19:15.7347	Missing data	System check
2008:255:15:35:35.7162 -- 2008:255:15:38:28.7109	Missing data	System check
2008:255:15:43:37.0765 -- 2008:255:15:44:52.7007	Missing data	System check
2008:280:07:00:16.1359		Logging officially ended

Posmv data format:

posmv	2008:231:00:00:00.0885	\$INGGA,235959.842,1434.95002,N,10444.85734,W,2,,1.1,12.71,M,,9.0,0108*2E
posmv	2008:231:00:00:00.0889	\$INHDT,15.0,T*11
posmv	2008:231:00:00:00.2047	\$INVTG,7.0,T,,M,9.7,N,17.9,K*46
posmv	2008:231:00:00:00.3208	\$INGST,235959.842,,0.9,0.9,0.0,0.9,0.9,2.5*51

posmv 2008:231:00:00:00.4411 \$PASHR,235959.842,15.05,T,- 0.58,0.48,0.15,0.069,0.069,0.045,2,0*05
posmv 2008:231:00:00:00.4412 \$INZDA,235959.0000,17,08,2008,,*73

## 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
2008:254:18:00:00.1538		Logging officially started
2008:255:15:35:00.4873 -- 2008:255:15:39:09.3602	Missing data	Reason unrecorded
2008:255:15:59:38.4382 -- 2008:255:16:01:12.3182	Missing data	Reason unrecorded
2008:255:22:11:54.6510 -- 2008:255:22:12:07.5332	Missing data	Reason unrecorded
2008:256:16:04:32.5936 -- 2008:256:16:04:59.2888	Missing data	Reason unrecorded
2008:280:07:00:20.1374		Logging officially ended

## Seapath data format:

seapath 2008:231:00:00:00.0504 \$INZDA,235959.99,17,08,2008,,*73
seapath 2008:231:00:00:00.1686 \$INGGA,235959.99,1434.953109,N,10444.859147,W,2,08,1.1,- 16.30,M,,M,1.0,0291*70
seapath 2008:231:00:00:00.1687 \$INVTG,5.97,T,,M,9.7,N,,K,D*03
seapath 2008:231:00:00:00.1688 \$INHDT,5.82,T*1A

## 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
2008:254:20:26:00.1946		Logging officially started
2008:184:12:35:48.8457 -- 2008:184:12:36:38.5296	Missing data	Reason unrecorded

2008:254:21:23:58.9911 -- 2008:254:21:24:09.0579	Missing data	Reason unrecorded
2008:255:01:11:39.8652 -- 2008:255:01:11:55.2022	Missing data	Reason unrecorded
2008:255:15:37:03.0260 -- 2008:255:15:38:53.6162	Missing data	System test
2008:280:07:00:35.3418		Logging officially ended

Tagger1 data format:

tagger1	2008:231:00:00:00.0383	#51,08182008,000001
tagger1	2008:231:00:00:00.2027	#79,00000000
tagger1	2008:231:00:00:00.2948	#68,2
tagger1	2008:231:00:00:00.3689	#70,0
tagger1	2008:231:00:00:00.4010	#56,-00000
tagger1	2008:231:00:00:00.4210	#72,FF

## 882 Magnetometer

**Logging interval:** 1 second

**File id:** mag01

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

Log Date	Interruption	Comment

Mag01 data format:

mag01	2008:185:09:45:58.1820	\$107714.673,0042,0024,0110,3533,1143
mag01	2008:185:09:46:01.0333	\$ 63703.933,0042,0024,0110,3533,1143
mag01	2008:185:09:46:04.0330	\$ 44031.029,0042,0027,0110,3533,1143

## SBE-23 Thermosalinograph

**Logging interval:** 1 second

**File id:** tsqconv

It was in operation from day 261 to day 265. It was not functional from day 254 to day 261 and after day 265 in MGL0814 cruise.

*Interruptions greater than 60 seconds are displayed in the following table.*

2008:261:21:24:37.1346		Logging officially started
2008:265:15:56:06.5383		Logging officially ended



Tsgconv data format:

tsgconv 33.74	2008:231:00:00:01.9179	B479CB5528A6D6ABFB2D	1531.59	28.85	24.35	5.53
tsgconv 33.74	2008:231:00:00:11.9187	B474CB5428A799ABBB2D	1531.61	28.85	24.36	5.53
tsgconv 33.74	2008:231:00:00:21.9176	B46FCB5328A70CAB8B2D	1531.60	28.85	24.35	5.53

### BGM-3 Gravimeter

**Logging interval:** 1 second

**File id:** vc01

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

2008:154:16:00:00.0000		Logging officially started
2008:280:07:00:00.0000		Logging officially ended

### XBT

**Logging interval:** variable

**File id:** refer to spreadsheet

5 XBT drops were made during this cruise. Refer to the Expendable\_Drops spreadsheet in the Reports directory of the cruise archive.

## 5. Magnetometer Deploy/Retrieve Table

Time	Event
2008:260:20:15:40.680	Maggie deployed and recording
2008:262:15:59:39.917	Recovering Maggie
2008:264:00:41:36.179	Maggie deployed and recording
2008:165:22:34:18.001	Recovering Maggie
2008:269:05:42:10.558	Maggie deployed and recording
2008:270:22:05:53.545	Recovering Maggie
2008:272:23:46:01.453	Maggie deployed and recording
2008:275:02:30:19.694	Recovering Maggie

## 6. Acquisition Parameter Table

Acquisition Parameter Table	
AcquisitionParameterID	MGL0814_ACQ01
FieldActivityID	MGL0814
ReceiverType	Hydrophone Streamer
SourceType	Airgun
Acquisition System Name	Syntron Syntrack 960
Acquisition System Type	Digital
Seismic_Nav_System	C-Nav primary
Survey_datum	WGS84
Navigation Reference Point	Fore/Aft+4.87 m, Stb/pt +8.055 m, vertical +14.5 m
NRP_to_Antennae	4.87 m
NRP to source	161 m
Antenna_to_Source	
Source_to_Near_Channel	164 m
Number_of_channels_recorded	636
Number_of_cables	1
Number_of_channels_each_cable	636
Channel_length	12.5 m
Cable_length	8100 m
Cable_spacing	N/A
Near_Channel_Number	636
Cable_depth	9 m
Number_source_arrays	1
Alternate_Shooting	No
Source_array_separation	N/A
Source_volume	6600 cu in
Source_pressure	2000 psi nominal
Source_make,model	Bolt
Source_number	10
Source_depth	9 m
Shot_control	Distance
Shot_interval	50 m - MCS, 150 m - OBS
Sample_interval	2 ms
Record_length	16 sec
Compass_birds	Yes
Tail_buoy_Positioning	Yes
Recording_delay	No

## 7. Seismic Summary

The primary objectives of the cruise were survey lines in a 2D survey block using four gun strings set up as an alternating source (2 gun strings per source) and one 8.1 km streamers deployed by Lamont-Doherty Earth Observatory.

### Physical Configuration

The towing configuration for the air guns and streamers is detailed in the document titled *MGL0814.xls*. All antenna, vessel, and in water equipment offsets are also detailed in the aforementioned document.

### Spectra

Spectra was used for all timing and synchronization during the cruise. Spectra P294 data was processed using Sprint and a post-acquisition P190 data set was generated for the cruise.

### Misc Comments

Other information pertinent to the Alaska cruise is included in the *Job Book with Nav & Technical Support Final Rpt – MGL 0814*.

## 8. Client Instrumentation

Client launched 43 OBSs over the side during the cruise.

## 9. RV Langseth Gravity Tie Information

Cruise ID: MGL0814		
	PRE	POST
Date	09/07/2008	10/07/2008
Port	Pierside Astoria, OR	Pierside Astoria, OR
Operator	Ted	Bern McKiernan

### Pier Side Reading #1

Ship's position (C-Nav)	LAT: 19 03.94650	LONG: 104 17.52587	ALT:
Shipboard BGM	Shipboard BGM reading (mGal): 4.372mG		Height of pier over Main Deck (m) Level
Portable GPS Time	Time: 22:10UTC		
Portable GPS Position	LAT: 46 11.42	LONG: 123 51.52	ALT
L&R Reading	Reading1: 42584.6	Reading2: 42584.4	Reading3: 42584.5

### Tie Point

Tie Point Description (also include relevant documentation/maps/pictures)			
Portable GPS Time	Time:		
Portable GPS Position	LAT:	LONG:	ALT:
L&R Reading	Reading1:	Reading2:	Reading3:

### Pier Side L&R reading #3

Shipboard BGM	Shipboard BGM reading (mGal)		Height of pier over Main Deck (m)
Portable GPS Time	Time:		
Portable GPS Position	LAT:	LONG:	ALT:
L&R Reading	Reading1:	Reading2:	Reading3:

### Note

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