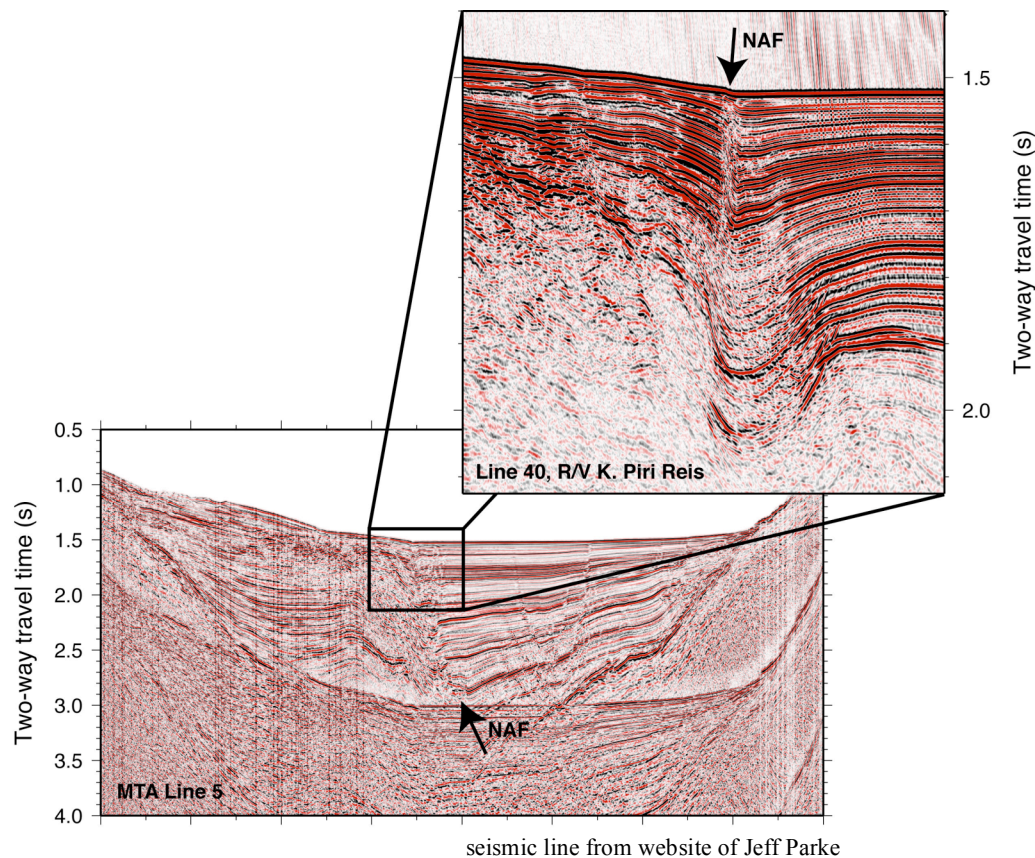


CRUISE REPORT

TAMAM: Turkish-American Marmara Multichannel Project



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Derman Dondurur (DEU)

R/V K. Piri Reis
Istanbul - Istanbul
3 July – 22 July 2008

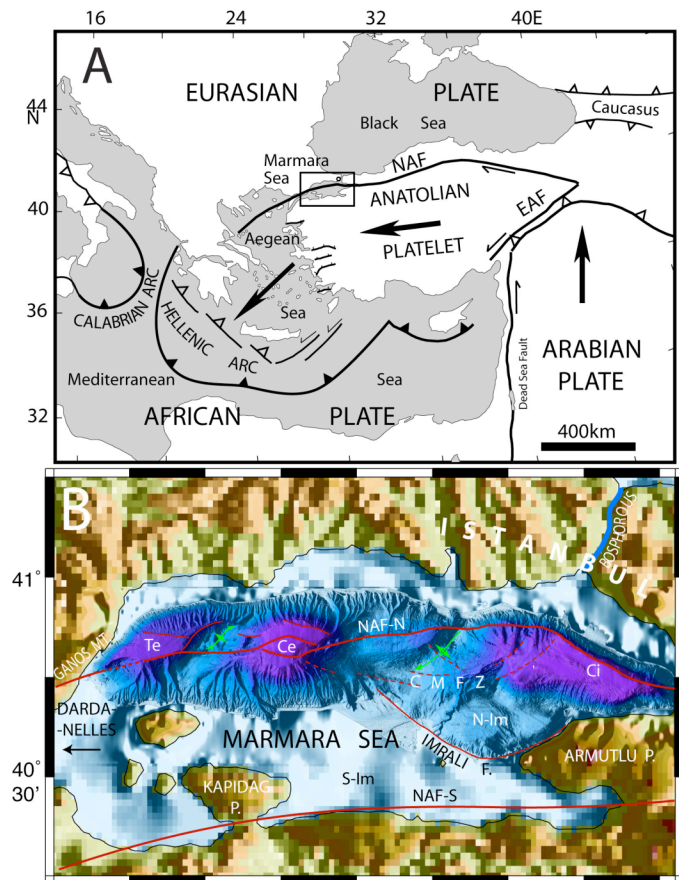
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Scientific Motivation for Experiment

The 1500-km-long North Anatolian continental transform (NAF) accounts for the westward motion of the Anatolian platelet relative to Asia (Fig. 1). This motion is primarily accommodated by recurrent large earthquakes that typically absorb several meters of slip over tens to hundreds km of the fault. At the current dextral relative velocity of about 25mm/y (Reilinger et al., 2006), the large earthquakes tend to recur after 1-3 centuries (Ambraseys and Finkel, 1995). Their occurrence is not only determined by the strain accumulated since the penultimate local rupture, but can be influenced by neighboring ruptures. Thus the entire NAF east of the Marmara Sea has ruptured in a westward propagating sequence that started in 1939. Two earthquakes in 1999 were the latest in this sequence and ruptured into the narrow Izmit Gulf in the eastern Marmara Sea. The NAF along the 150-km-long Marmara segment, however, has not ruptured in two centuries and is considered a mature seismic gap ready to complete the westward earthquake sequence (Hubert-Ferrari et al., 2000; Parsons et al., 2000; Toksoz et al., 1979). The catastrophic effects of the 1999 earthquakes brought the risk faced by Istanbul and the densely populated area around the Marmara Sea to the world's attention. The difficult task of reducing this risk requires a reliable assessment of the anticipated effects of future earthquakes rupturing the Marmara segment. After the 1999 earthquakes, the research community in Turkey and elsewhere has focused substantial resources on the Marmara segment of the NAF to meet this challenge. The Marmara segment differs from those farther east as it is the site of large extensional basins. Seismogenesis in the Marmara Sea may not be the same as other parts of the NAF. However, sedimentation in the basins leaves behind a detailed record of the tectonics along this section of the NAF. In addition to a better understanding of the earthquake hazard, the research focus on the Marmara Sea has also led to an improved general understanding of basin formation along continental transforms.

Figure 1: The Marmara Trough along the North Anatolian continental transform (NAF). **a.** Regional plate tectonic setting. **b.** Bathymetry/elevation in the Marmara Sea area (IOC IHO BODC, 2003; Rangin et al., 2001) and major active faults. Ci=Cinarcik Basin; Ce=Central Basin; Te=Tekirdag Basin; N-Im=North Imrali Basin; S-Im=South Imrali Basin; NAF-N=northern branch; NAF-S=southern branch; CMFZ=Central Marmara fault zone. The location and significance of the CMFZ is hypothetical. The other faults are widely recognized.



The NAF follows pre-existing sutures, and the abundance of active basins along this dextral fault system may be partly ascribed to non-ideal geometries of reactivated compressional

faults (Barka and Kadinsky-Cade, 1988; Sengör et al., 1985; Sengör et al., 2005). The Marmara trough is a composite Quaternary structure that includes three main basins with water depths reaching ~1200m separated by shallower ridges. It is situated at the transition between intramountain environment along the Anatolian (eastern and central) segment of the NAF, where basins are filled, and the marine environment of the Aegean (western) segment of the NAF, where basins are generally starved. The intermediate sedimentation regime in Marmara offers ideal conditions to unravel basin development from structural growth. On average, subsidence in the Marmara has been creating accommodation space faster than the sediment flux. Nevertheless, turbidite flux has changed drastically in response to sea level variations and has at times temporarily overwhelmed tectonics. As a result, syntectonic sediment offers unique time-space markers to reconstruct structural growth and basin development, provided it is examined with sufficient resolution (Seeber et al., 2006).

The Marmara Sea has been the focus of extensive geophysical and geological investigations, which have resulted in deep-penetration seismic reflection data throughout most of the basin (i.e., with a large source, a 4-km streamer, and a 4-ms sampling interval) (e.g., Carton et al., 2007; Laigle et al., 2008, in press), very high-resolution Chirp and subbottom profiler data (e.g., Cagatay et al., 2003), high-resolution (20-m) multibeam bathymetry grids over the deep basin (Rangin et al., 2001) and wide-angle seismic refraction data in parts of Marmara (Bécel, 2006). However, there is a critical resolution gap in on the upper stratigraphic section, which is essential for reconstructing the recent tectonic and paleoclimate history of the Marmara Sea. Acquiring a high-resolution seismic dataset that could be used to make stratigraphic correlations within and between subbasins in the Marmara Sea and to image shallow structures was the primary goal of this experiment.

Log of major events

July 1, ~1600 – R/V *K. Piri Reis* leaves Izmir and begins transit to Sea of Marmara

July 3, ~0200 – Ship arrives at Atakoy marina, Istanbul.

July 3, ~1800 – Acquisition of seismic data begins.

July 12, ~0800 – *K. Piri Reis* returns to Atakoy marina, Istanbul for crew change. Süleyman Coskun, John Diebold, Derman Dondurur, Hülya Kurt, and Emre Perinçek depart, and A. Evren Buyukasik, Melis Cevatoglu, Caner Imren, Pinar Gunes Özer and Donna Shillington arrive.

July 14, ~1030 – *K. Piri Reis* departs Atakoy marina to resume data acquisition.

July 15, ~2100 – *K. Piri Reis* anchors offshore Armutlu to avoid bad weather, temporarily repair broken part of A-frame and address plumbing problem.

July 16, ~1800 – Depart Armutlu area and resume data acquisition.

July 19, ~0800 – Arrive Atakoy Marina, Istanbul to drop off A-frame part to be repaired, receive oil and repair GI gun.

July 19, ~2200 – Depart Atakoy Marina and resume acquisition.

July 22, ~0300 – Finish acquisition on final line and recover streamer and guns.

July 22, ~0700 – Return to Atakoy Marina, Istanbul. End of cruise.



Figure 2: R/V *K. Piri Reis* anchored in the Atakoy marina, Istanbul on 19 July 2008.

Scientific and Ship Crew

Ship Crew

Irfan Nisanei, Captain I
Ali Buz, Captain II (until July 19)
Ilker Set, Captain III
Ilker Basyieit, Chief Engineer (until July 13)
Akif Aksade, Chief Engineer (after July 13)
Murat Yavuz, 2nd Engineer
Erding Sari, 3rd Engineer
Ibrahim Özdeniz, Seaman
Seyit Hindioglu, Seaman
Günay Acartürk, Seaman
Cemal Yildirim, Steward
Recep Baydemir, Assistant Steward

Scientific Party, Leg 1

Leonardo Seeber, Co-chief Scientist
Derman Dondurur, Co-chief Scientist
Selin Deniz Akhun
Süleyman Coskun
John Diebold
Savas Gurçay
H. Mert Küçük
Hülya Kurt
Emre Perinçek
Christopher Sorlien
Duygu Timur

Scientific Party, Leg 2

Leonardo Seeber, Co-chief Scientist
Savas Gurcay, Co-chief Scientist
Selin Deniz Akhun
A. Evren Buyukasik
Melis Cevatoglu
Caner Imren
H. Mert Kucuk
Pinar Gunes Özer
Donna Shillington
Christopher Sorlien
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**denotes scientists who did not participate in data acquisition aboard the R/V *K. Piri Reis*.

Scientific Watch Schedule

Leg 1

American science party

Day watch

Chris, Nano

Night watch

John

Turkish science party

0000 – 0600

Süleyman, Duygu

0600 – 1200

Mert, Selin

1200 – 1800

Derman, Emre

1800 – 2400

Savas, Hülya

Leg 2

American science party

Day watch

Chris

Night watch (before 0400), part 1

Nano

Night watch (after 0400), part 2

Donna

Turkish science party

0000 – 0600

Mert, Selin, Duygu

0600 – 1200

Savas, Melis

1200 – 1800

Pinar, Mert, Evren

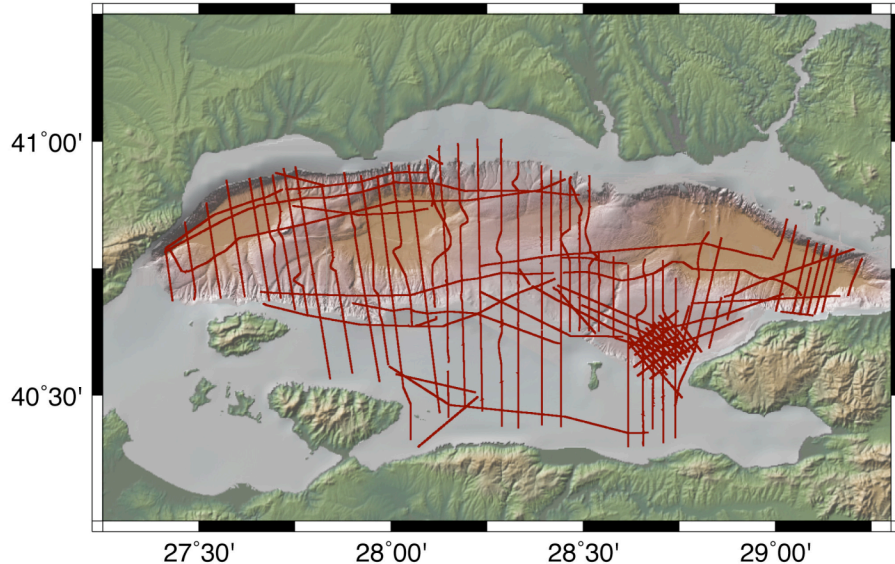
1800 – 2400

Savas, Caner

Data Acquisition

In total, 2649.5 km of MCS reflection and 3.5 kHz Chirp data were acquired throughout the Sea of Marmara. As described earlier, the primary goal of acquiring high-resolution seismic data was to provide stratigraphic ties between subbasins in the Marmara Sea and details on shallow stratigraphy and structure, which can be used to reconstruct the recent history of the Marmara basin. In order to reach this goal, a flexible cruise plan was adopted whereby the acquisition design was updated regularly based on the results of profiles acquired earlier in the cruise and on constraints imposed by ship traffic. An ambitious program of shipboard processing and interpretation was undertaken to facilitate this flexibility. Shipboard processing and interpretation efforts are described in the following sections. Irregular strike-lines were deliberate in order to regionally correlate stratigraphy between and within basins (Fig. 3). Other deviations were made by the captain to avoid heavy ship traffic, particularly in and around the shipping lanes. Especially heavy ship traffic near Istanbul and the Bosphorus also prevented us from acquiring data in the northern part of Çınarçık basin (Fig. 3).

Figure 3:
Bathymetry in the center of the Marmara Sea from multibeam data (Rangin et al., 2001), and other bathymetry from the GEBCO 1-minute atlas (IOC IHO BODC, 2003). Topography from NASA SRTM 1-km gridded data. Image created using Virtual Ocean. Red lines indicate the locations of newly acquired profiles.



MCS acquisition parameters were designed to collect high-resolution data. The source was a GI gun operating at 45 in³ – 45 in³ (specifications in Appendix 1). Shots were recorded by the inner 72 channels of DEU's 96-channel, 600-m-long streamer. The outer 24 channels did not work throughout the cruise due to a problem with a digitizer, and thus did not record any data. Data were recorded with a sampling interval of 1 ms, which yields a Nyquist frequency of 500 Hz. The shot interval was 12.5 m or 18.75 m, depending on the need for high-fold data versus acquiring data at a faster speed.

Both the guns and the streamer were towed at 3 or 4 m throughout the cruise. This facilitates high-frequency records because the 'ghost' arising from the reflection of the source wave off the water surface occurs at 250 Hz and 187.5 Hz for 3 and 4 m tow depths, respectively, thus preserving a large range of high frequencies. The streamer was towed at 3 m during the majority of the first leg (before July 13) except during bad weather, when it was

deepened to 4 m. It was towed at 4 m for the second leg (after July 13) in an attempt to reduce streamer noise and increase the low-frequency content for deeper imaging.

The offset between the source and the inner channel on the streamer was set to 100 m at the beginning of the experiment. It was changed to 40 m during shooting on the shelf so that enough traces would be recorded at small shot-receiver offsets to image the seabed and shallowest sediments. During the second leg of the cruise (after July 13), the shot-receiver distance was changed back to 100 m to reduce noise in the streamer data and to increase the range from source to receiver. The majority of the acquisition on the shallow southern shelf was completed during the first leg so small shot-receiver offsets were less important on the second leg of the cruise.

Chirp data (3.5 kHz) was also recorded along each line and assigned the same line number. Two Chirp datasets are recorded along each line. The first contains a constant time window, typically corresponding to 1000m or 2000m depth with sample interval of 1.6667 or 0.8333 milliseconds. The second dataset has a variable trace length and sampling interval, which are set based on a user-defined window, which is changed throughout acquisition such that it encompasses the seabed and shallow subbottom reflections. This dataset thus has a smaller sampling interval and better resolution than the first dataset. The data were recorded in Syqwest's proprietary NNN.ODC format, and were converted to SEG-Y using software provided by Syqwest. The Segy data have 800 samples per trace, apparently matching the 800 vertical samples in the on-screen data windows. Unfortunately the recording delays in the high resolution data are not carried over to the SEG-Y headers.

The EIVA seismic control and integrated navigation system produced log files with entries for each shot. These included event number, time-of-day (but not day, month or year) and positions for the ship, seismic source and for the chirp pole. EIVA time was, apparently, derived from its host computer (a PC) CPU clock and not GPS. Also, all logged times are local (seven hours later than EDT). Inspection of the logged shot times indicated that the recorded shot interval tended to vary (if at all) in units of nearly 1000 milliseconds, plus or minus 8 ms or less. For this reason, we made plots of distance between shots and apparent ship speed for all of the log files. These indicated that despite the granularity of the shot intervals, the system was functioning adequately. However, there appears to be a ~15-minute lag between the shots times in seismic data and the times in the log file. This issue will need to be addressed after the cruise.

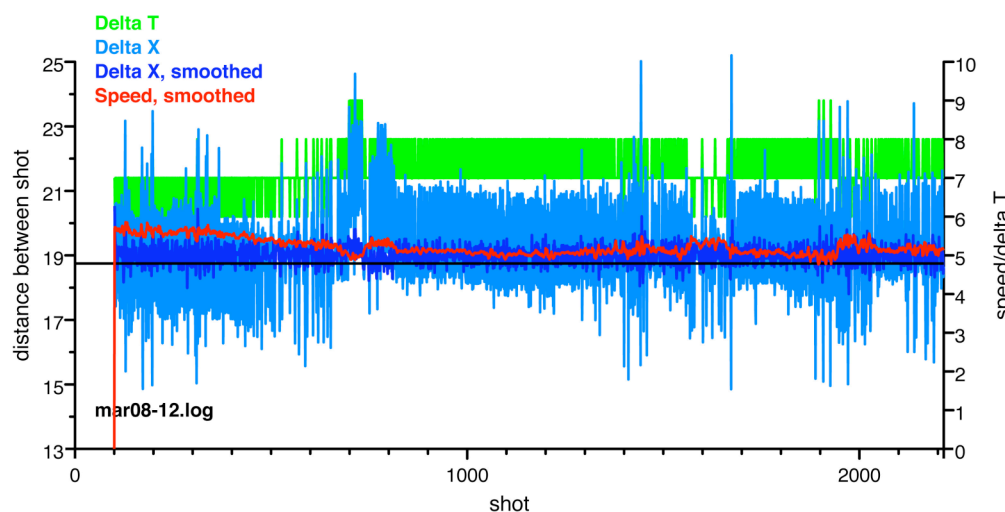


Figure 4: Plot of the delta T and delta X from the EIVA-NaviPAC navigation log files. Delta T is in milliseconds (ms), Delta x is in meters (m), and ship speed is in knots (kts). Note the 1 s 'steps' in delta T.

Shipboard processing

Preliminary shipboard processing of most MCS profiles was undertaken to guide decisions regarding acquisition. Filtering, velocity analysis and stacks and/or migrations were completed for ~77% (by line length) of seismic data acquired. Although this processing was considered ‘preliminary’, it was more comprehensive than typical shipboard processing efforts, which usually comprise real-time stacks using a constant velocity function supplemented by further processing of small sections of particular interest. Processing was completed using either ProMAX or SPW seismic processing packages. Processing consisted of the following primary steps:

- 1) Define simple 2D marine acquisition geometry
- 2) Import raw segy shotgathers and assign geometry
- 3) Minimum phase band pass filtering
- 4) Kill trace from channel 13 (which did not record useful data)
- 5) Amplitude correction (i.e., spherical divergence)
- 6) Sparse velocity analysis (e.g., every 500 to 1000 CMP’s in ProMAX and every ~300 CMP’s in SPW)
- 7) Normal moveout correction
- 8) Stack
- 9) FK migration using stacking velocities (on some profiles where time permitted. Migration was not done in SPW processing).

The lower bound of bandpass filters were varied from 12 to 20 Hz and the upper bound between 200 and 250 Hz depending on the offset of the streamer from the ship, the shot spacing and other factors that influenced noise in raw data. Time-varying filters were employed in SPW processing.

Several students also received onboard training in seismic processing in SPW or PROMAX. Sorlein trained one student in SPW during the first leg, and Savas and Hülya trained several students in ProMAX.

All of the processing flows, stacking velocities and other processing files generated using ProMax were archived using the “Archive to Tape” routine in Promax. This writes a large tar file (‘ctar’ according to ProMAX help documents) that can be extracted and read by ProMAX on another computer using “List/Restore from Tape” routine.

Shipboard Data Interpretation

Available SeisMarmara (Carton et al., 2007) and MTA (e.g., Imren et al., 2001; Okay et al., 1999; Okay et al., 2000; Parke et al., 1999; Parke et al., 2003; Parke et al., 2002) were loaded by Sorlein into the interactive interpretation software The Kingdom Suite (TKS) before the cruise and during the Izmir-Istanbul transit. One-hundred-meter and 20-meter grids of multibeam bathymetry (Armijo et al., 2001) were also imported into TKS project. During data acquisition, processed stacks and migrated stacks were imported into TKS as they became available, and traces were related to shot navigation. Both detailed and reconnaissance seismic stratigraphic and fault interpretation were done by Sorlien and Seeber. Students were also provided with limited training in data loading and interpretation. Interpretations done in near real-time provided guidance on future acquisition. For example, a dense survey of the buried delta complex was designed based on newly-acquired data.

Summary of cruise outcomes

A grid of high-resolution multichannel seismic reflection data and 3 kHz Chirp data were acquired throughout the Sea of Marmara that provide new constraints on shallow sedimentary and fault structure that would not otherwise be available from existing datasets. In total, ~2650 km of data were acquired in ~14 days of acquisition. These data fill a critical resolution gap between deep-seismic reflection data and shallow Chirp and subbottom profiler data. The following particularly exciting observations and initial results arose from this experiment:

- 1) Stratigraphic correlations between the major basins of the Sea of Marmara. Establishing this linkage was a primary goal of the experiment.
- 2) More clear identification of active faults in the Sea of Marmara, including the North Anatolian fault.
- 3) The identification of strata deposited early in the basin history near or exposed at the seafloor (e.g., Figs. 5 and 6). These outcrops are promising targets for a pilot program of piston coring in advance of deep (200 to 500 m) coring. Very little age control is available on the tectonic and paleo-climate history of the Sea of Marmara making this an important new opportunity.
- 4) Constraints on variations in the dip and the transpression versus transtension on the upper ~1-2 km of the North Anatolian Fault.
- 5) Sequence boundaries in the turbiditic sections in the deep basins. These may be related to interactions between tectonics and changes in sedimentation rate driven by variations in sealevel and paleoclimate (e.g., Fig. 7).
- 6) Gravity slides at the edges of most of the subbasins. In some cases, these appear to have modified sedimentary sections up to 400-m-thick and to have changed the apparent dip of the shallow portion of the NAF and other faults (Fig. 8).
- 7) Imaging of a stack of lowstand deltas, formed under the influence of wave-base and recording tilts and subsidence. Relatively even vertical spacing suggests deposition tracking the ~100 ka late Quaternary glacial cycles (Fig. 9).
- 8) Continuation of international collaboration between Turkish (ITU) and American (LDEO and UCSB) research institutes and establishment of collaboration with DEU (Izmir, Turkey). Institutes from both countries will participate in the processing and interpretation of new data, and several students from Turkey will spend one month analyzing new data at LDEO. At sea, informal seminars were held each evening during the second part of the cruise to discuss initial results and introduce students to cruise-related science.

The subbottom depth of penetration of most of the profiles appears to be limited to approximately ~1.5-2 s due to the use of only one GI gun (instead of two as planned). However, post-cruise processing (particularly multiple attenuation techniques such as radon filters or pre- or post-stack predictive deconvolution) may make it possible to image deeper structure. The strong “basement” reflector is imaged to as deep as 2.5 s below sea floor beneath North Imrali basin on (a) profile recorded with 12.5 m shot interval (e.g., line 13). Even though shipboard processing only included velocity analysis and stacking to attenuate multiples (which affect a large portion of the dataset due to the shallow water depths), primary reflections can be identified within and below the two-way travel times of multiples, and on parts of certain profiles with intermediate (~400 m) water depths, the multiple is difficult to discern on the stacks. For example, we interpret the prominent set of prograding reflections at 0.9 s two-way travel time on the left (west) side of Figure 5 to be a low-stand delta (falling stage systems tract (Plint and Nummedal, 2000; Plint et al., 2003) and a deeper one at 1.1 s TWTT to also be primary reflections.

Data Examples

Below are a few examples of seismic reflection profiles acquired and processed during the cruise.

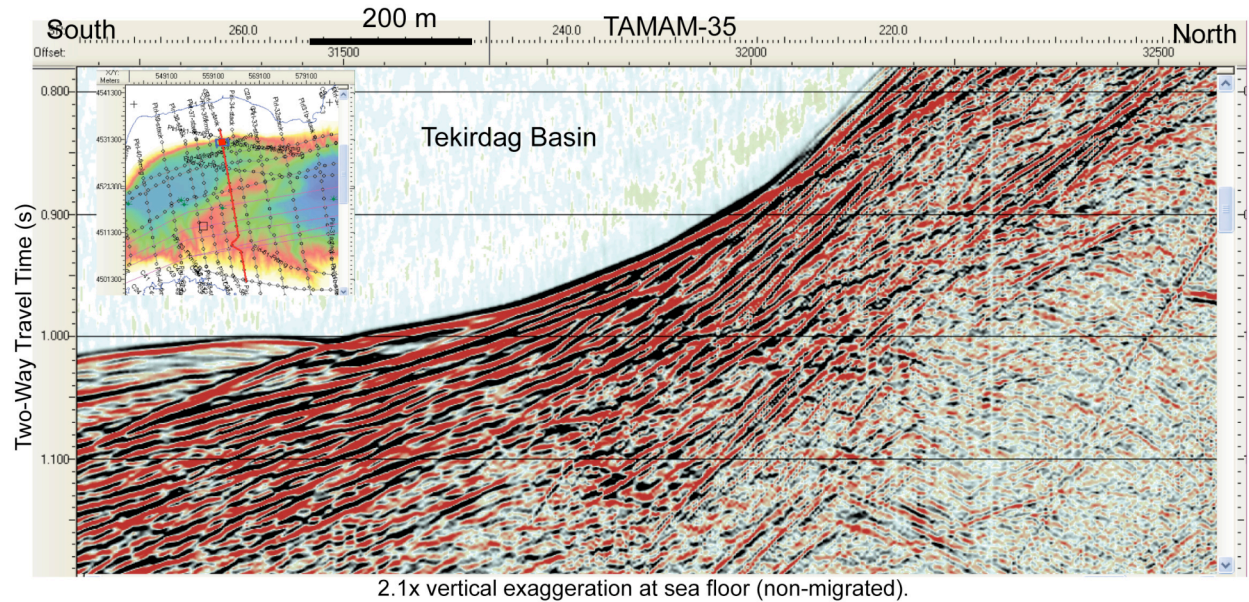


Figure 5. Seismic profile showing the exposure of deeper sediments. Initial shipboard correlations suggest that the sediments exposed here are from a deep stratigraphic level. Such exposures provide promising targets for piston coring, which would provide critical constraints on the timing of tectonic developments in Marmara and serve as a pilot study for a program of deeper coring.

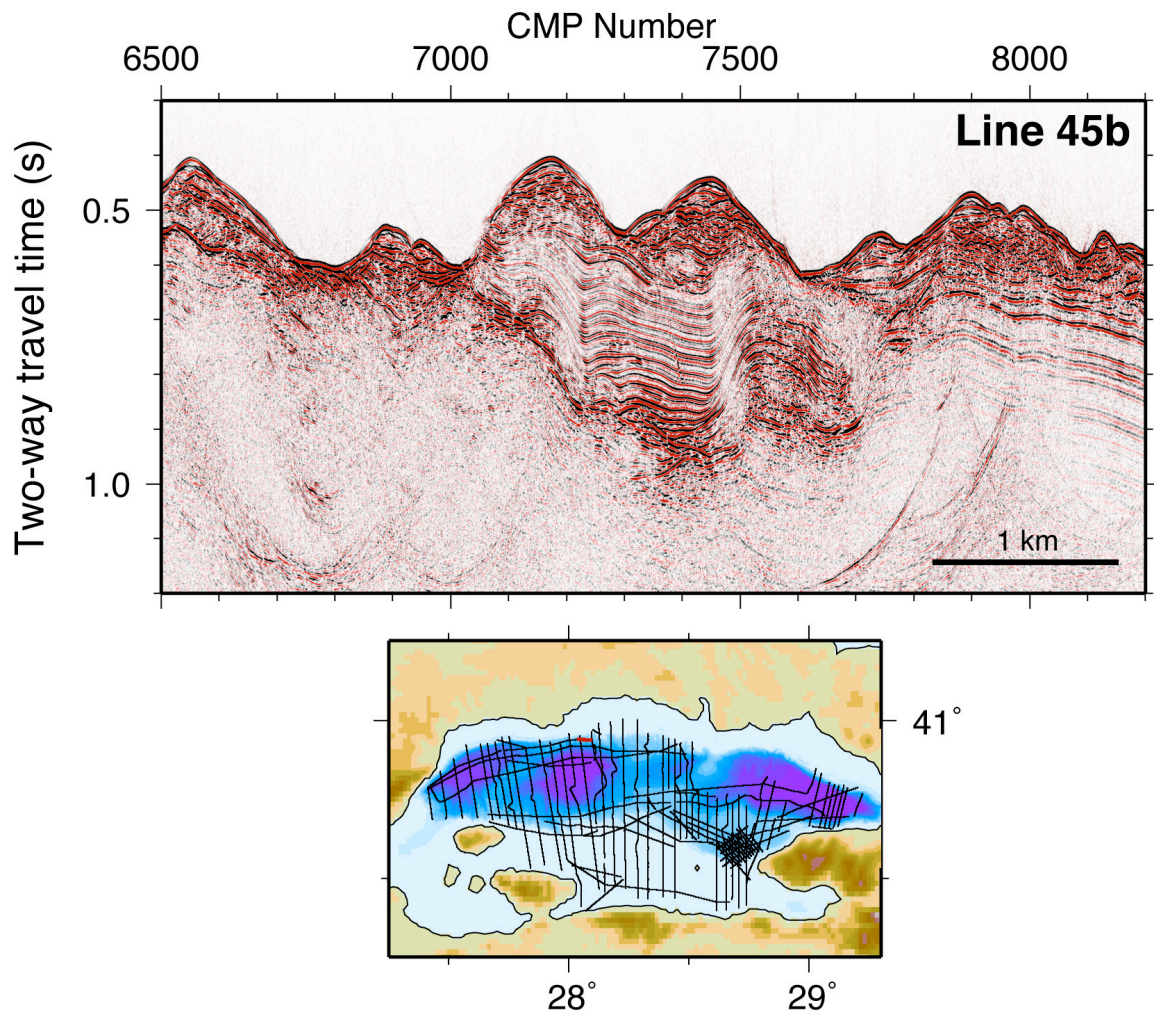


Figure 6. Seismic profile showing another exposure of deeper sediments in some canyons on the north slope of the central basin (~CMP 7000). Such targets provide promising targets for piston coring, which would provide critical constraints on the timing of tectonic developments in Marmara.

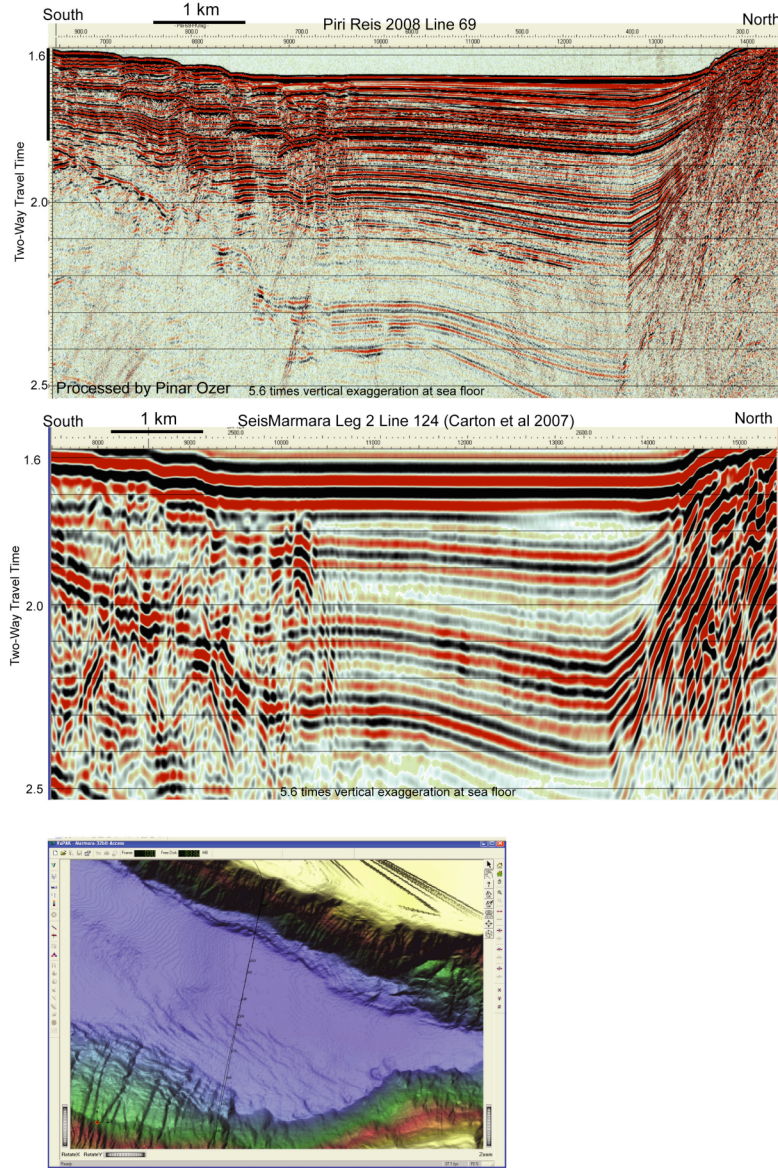


Figure 7. Comparison between our newly-acquired TAMAN-2008 high-resolution multichannel seismic reflection data (top, processed by Pinar Özer) and deep crustal data from Carton et al. 2007 (and web site). TAMAN profiles in this area were acquired precisely along the same path as the deep crustal profiles in order to compare detailed shallow fault geometries and stratigraphy to deep crustal structure. The stack and FK-migration of line 69 were done on-board and loaded into interpretation software. Line locations are shown on a 20-m grid of multibeam bathymetry (Rangin et al., 2001), and cross 1200+ m deep Çınarçık basin. The upper onlap fill sequence imaged on TAMAN 69 is lost in the wavetrain of the seabed reflection of SeisMarmara Line 124, and normal-separation faults are much more clearly imaged in the TAMAM data. The NW-striking faults are imaged in the multibeam data. The northern strand of the North Anatolian fault is along the north edge of Çınarçık Basin.

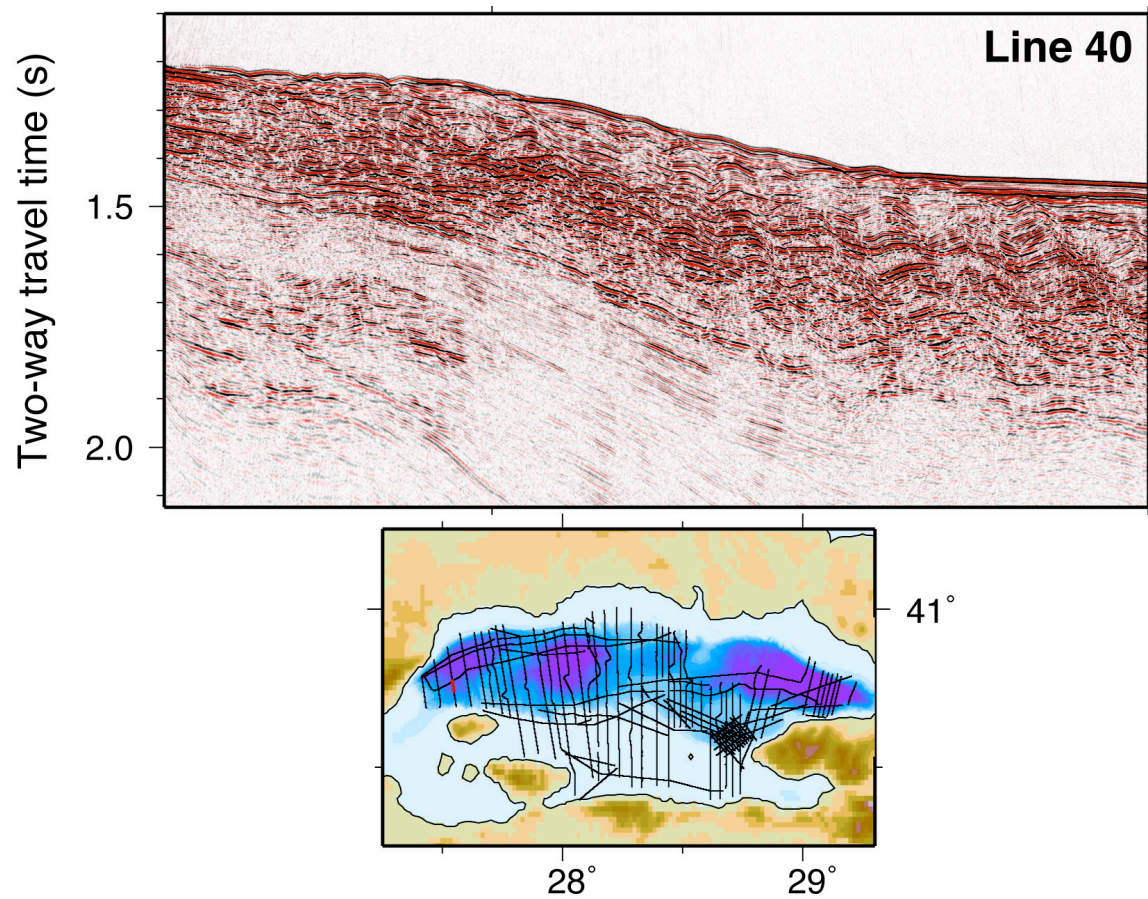


Figure 8. Seismic reflection profile Line 40 showing gravity slide on the southern slope of Tekirdag basin. The upper ~0.3-0.4 s of disturbed sediments overlies a section of continuous seismic reflections. Similar features were observed in our profiles in this and other basins of Marmara.

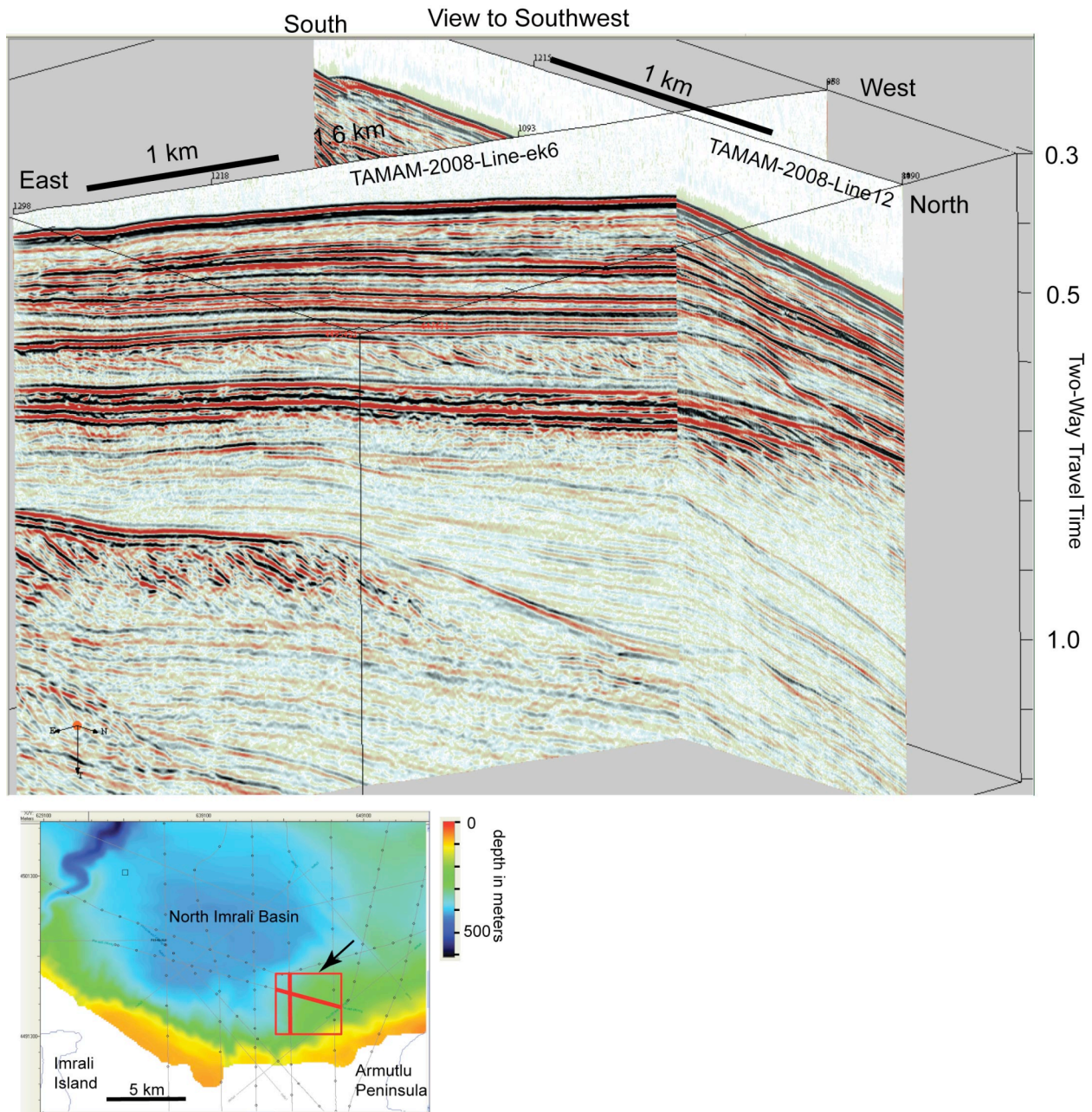


Figure 9. Stacked low-stand deltas (falling stage systems tracts). These deltas or delta complexes record subsidence of North Imrali Basin and also a proposed chrono-stratigraphic framework for this area that we will attempt to correlate to major onlap surfaces in the deeper Çınarcık and Central basins. Arrow on map records view angle for fence diagram.

K.Piri Reis 3.5 KHz chirp sonar - SyQwest Bathy 2010

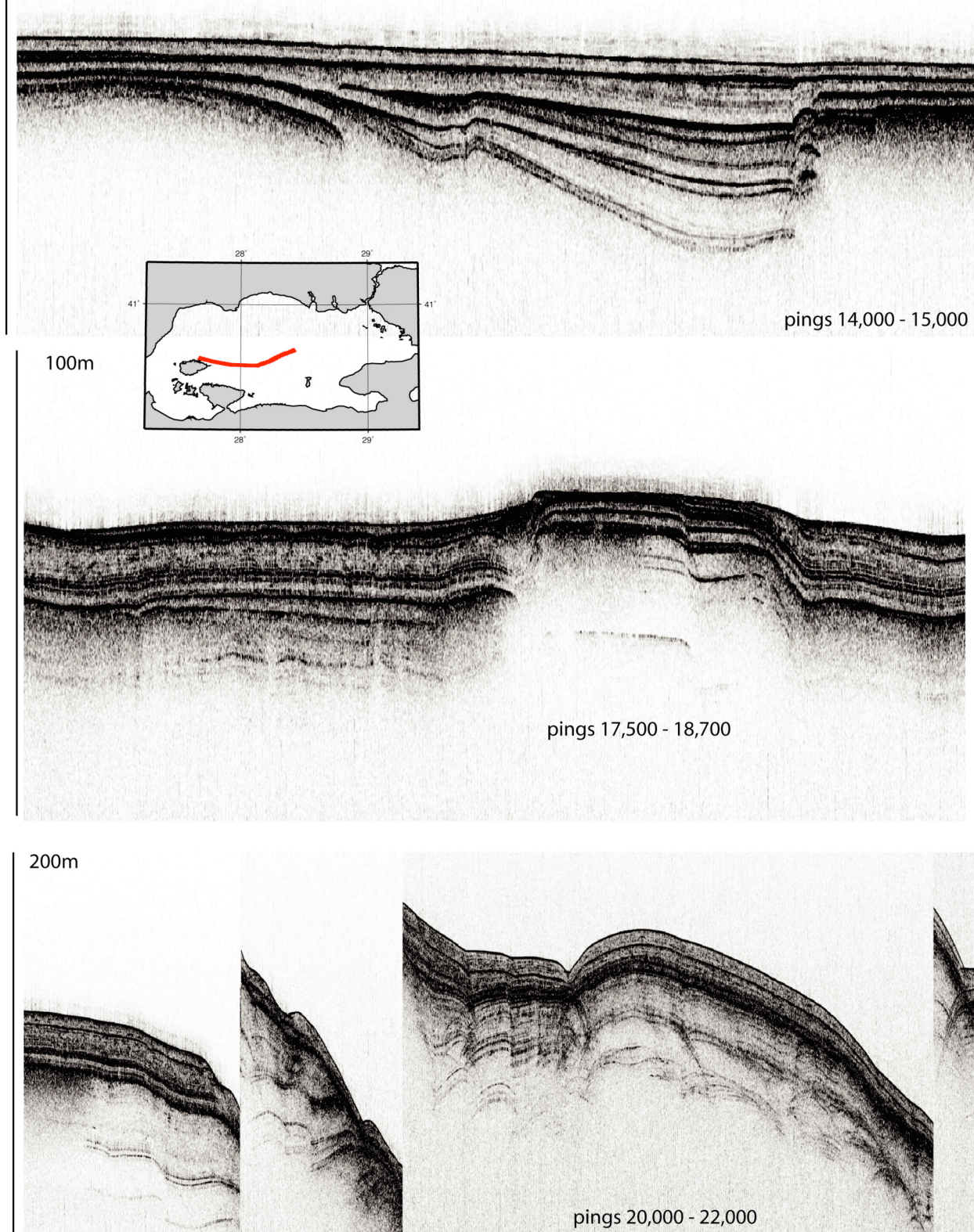


Figure 10. Three examples of 3.5 kHz Chirp profiles from the eastern portion of Line 53 (shown with red line in subset).

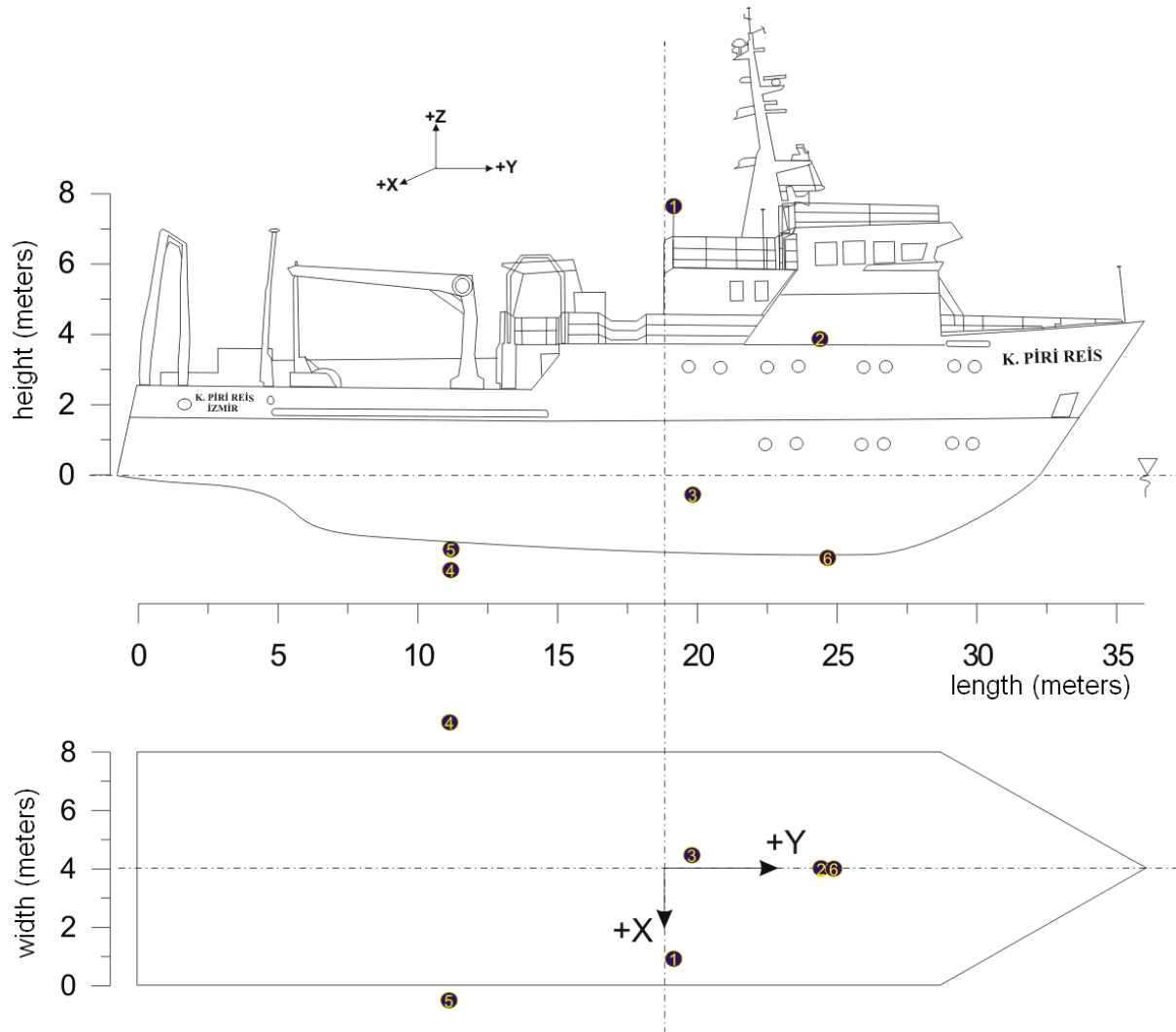
Description of ship and facilities

1. R/V K.PİRİ REİS RESEARCH VESSEL

General specifications		
	Length	36 m
	Width	8.1 m
	Height	3.8 m
	Draft	Min. 2.3 m, max. 3.5 m
	Tonnage	298 gross ton, 80 net ton
	Certificate	German Lloyd
	Working speed	9.0 knots
Accommodation		
Crew	10 people	
Scientific personnel	11 people	
Engines		
Main engine	V tipi, Süddeutsche Brimsen AG, Tb 602 V12, 12 cylinder MMW 610 BHP, 1500 RPM	
Propeller	Variable pitch controlled propeller	
Tanks		
Fuel	45 metric Ton	
Fresh water	23 metric Ton	
Electricity		
380 V AC	110 V AC	
220 V AC	24 V DC	
Communication and navigation		
ICOM GPS FP561	Debeg Mod. ITT 2200 Automatic Range Finder	
Decca Radar (12 n.mil)	Debeg 7313, Transreceiver, 400 W	
Decca Radar Bridge Master (Arpa - 96 n.mil)	Amplidan 9000, 10 channels in board comm.	
Decca 550 Autopilot	Navtex Receiver, JRC NCR – 300 A	
SG BROWN Meridian Gyro	Satellite phone 008821623670028	

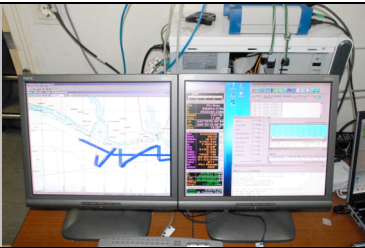
2. VESSEL SENSOR OFFSETS

NO	SENSÖR	X (meter)	Y (meter)	Z (meter)
1	SeaStar GPS receiver	3.04	0.40	7.70
2	Meridian Gyro	0.00	6.00	3.93
3	DMS05 motion sensor	-0.50	-1.75	-1.02
4	SeaBeam transducer	-4.96	-6.54	-2.75
5	Bathy 2010 CHIRP transducer	4.70	-6.54	-2.70
6	Simrad transducer	0.00	6.25	-2.50
7	GI gun shot point	0.00	36.5	-3.00



3. NAVIGATION SYSTEM AND LOP UNITS

3.1. Navigation System

NAVIGATION	
Software	EIVA-NaviPAC
Datum shifts	NGO, Bursa-Wolf, Northsea and NADCON
Ellipsoids	Airy 1830, Bessel 1841, Clarke 1866, 1878, 1880, 1880 (modified), 1881 IGN, Everest 1830, 1830 (modified), Helmert 1906, Hayford 1909, International 1909, 1924, 1980, ED 50, Krassovski 1940, Pulkovo 1942, NGO 1948, Geodetic Reference System 1967, Geodetic Reference System 1980, Mercury 1960, Modified Mercury 1968, Australian National, South America 1969, Int. Assoc. of Geodesy 1975, 1979, 1983, NWL 9D, NWL 10D, WGS 72, WGS 84, EUREF 89, NAD 83
Projections	Transverse Mercator, UTM (North, South), Gaus Krueger, Mercator, Polar Stereographic, Oblique Stereographic, RD (Holland), Lamberts Conformal Conical, Lamberts conical (one parallel), System SBF (Denmark), System DKS (Denmark/ Sweden), NGGB (Great Britain), Gauss Boaga East (Italy), Gauss Boaga West (Italy), RT38 (Sweden), RT90 (Sweden), TM 45
Digital chart	CM93/3 (AEGEAN SEA, MARMARA, BLACK SEA)

3.2. Sea Star Global DGPS Receiver


DGPS RECEIVER	
Model	SeaStar HP 8300
Horizontal Accuracy	10 cm (when used differential), 4 m (when used standart)
Vertical Accuracy	20 cm (when used differential)

3.3. Meridian Gyro



GYRO	
Model	SG Brown Meridian GyroCompass
Static error	0.1° sec latitude

4. ACOUSTIC SYSTEMS USED

4.1. Bathy2010 CHIRP Subbottom Profiler

BATHY2010 CHIRP SUBBOTTOM PROFILER	
Model	Bathy 2010
Frequency	3.5 kHz CHIRP
Bandwidth	1 - 8 kHz
Number of transducers	9
Transducer power	600 W

4.2. Multichannel Seismic System

MULTICHANNEL SEISMIC RECORDER	
Model	HydroScience NTRS-2
Channels	96
Sampling rates	0.25, 0.5, 1.0, 2.0, 4.0 ms
Record length	45 sn. max.
Trace summing	2:1, 3:1, 4:1
Max. no. of streamers	8
Max. no. of channels	1920 @ 2 msn, 960 @ 1 msn
Tapes	2xDLT 8000, 40 Gb
HDD	1x30 Gb, 1x120 Gb 1x1.5 Tb
Data format	SegD 8036 Rev1.0 and SegY 32 bit IEEE
MULTICHANNEL DIGITAL STREAMER	
Model	HydroScience SeaMUX Digital-Yönsüz
Channels	96
Streamer length	600 m (8x75 m active section)
Streamer group interval	6.25 m
No. of digitizers	4 (1 / 2 active section)
No. of hydrophones	8 / group

SEISMIC SOURCE		
Type	Generator / Injector (GI gun)	
Working pressure	1000–3000 psi	
Volume (inch ³)	G: 45-75-105 inch ³ and I: 45-75-105 inch ³	
AIR COMPRESSOR-1		
Model	LMF Model FL413/F	
Capacity	97 scfm (150 m³/hour)	
Working pressure	2000 psi	
AIR COMPRESSOR-2		
Model	Bauer Model 1280 D	
Capacity	117 scfm (200 m³/ hour)	
Working pressure	2000 psi	
GUN CONTROLLER		
Model	Macha TGS–8	
Max. No. of guns	8 Air guns or 4 GI guns	
STREAMER DEPTH CONTROLLER		
Model	I/O High Res. DMU	
I/O 5010 DigiBird	3	
I/O 5011 DigiBird	2	

Accuracy	0.15 m
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5. DATA ACQUISITION

5.1. Data Acquisition Parameters

NAVIGATION PARAMETERS	
GPS	Differential (min 8 satellites)
Ellipsoid	WGS 84
Inverse Flattening	298.2572235630
Semi major axis	6378137.0000
Projection	UTM (north)
Scale Factor	0.9996000000000
Eccentricity	0.081819190843
Central Meridian	027°00'0.0000"
Origin Latitude	000°00'0.0000"
False Easting	500000.0000
False Northing	0.0000
UTM zone	35

CHIRP SUBBOTTOM PROFILER	
Record length	50 ms
Samples/trace	1000
Delay	0.00 ms
Sample rate	20 kHz (0.05 ms)
Frequency	3.5 kHz
Bandwidth	4 kHz (2.75 – 6.75 kHz)
Data format	16 bit SegY and ODC

MULTICHANNEL SEISMICS	
Channels	72
Streamer length	450 m
Record length	4000 ms
Delay	0 ms
Sampling rate	1 ms
Streamer depth	3 m or 4 m
Shot interval	12.5 m or 18.75 m
Source	GI gun (45+45 in ³)
Source depth	3 m
Source pressure	2000 psi (160 bar)
Near offset	40 or 100 m
Data format	IEEE SegY

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Appendix 1: Table of line locations

Table A1. Line information from first leg of cruise (July 3-July 12)

LINE NAME	START DATE	START TIME	END TIME	FIRST SHOT	LAST SHOT	START LON/LAT	END LON/LAT
mar08-55	03.07.2008	20:17:12	21:45:22	101	1052	040°44.889429' 028°54.383196'	040°38.886594' 028°52.434878'
mar08-52	04.07.2008	0:45:03	7:18:11	101	4322	040°39.084149' 028°54.959607'	040°42.918653' 028°21.965730'
mar08-52ek	04.07.2008	7:46:19	8:18:21	101	446	040°43.057576' 028°21.655510'	040°44.909405' 028°19.988059'
mar08-24	04.07.2008	9:13:56	11:18:02	101	1315	040°46.417381' 028°23.491982'	040°37.779170' 028°23.500977'
mar08-24b	04.07.2008	11:19:48	13:56:04	101	1835	040°37.648217' 028°23.502110'	040°26.364588' 028°23.524168'
mar08-22	04.07.2008	14:28:17	18:02:56	101	2051	040°26.135232' 028°26.500861'	040°46.162179' 028°26.477221'
mar08-50	04.07.2008	18:05:01	19:29:18	101	857	040°46.252445' 028°26.682399'	040°45.568485' 028°36.825953'
mar08-16	04.07.2008	19:31:45	23:14:41	858	2962	040°45.393725' 028°37.013992'	040°23.794198' 028°36.965852'
mar08-14	04.07.2008	23:42:55	3:50:54	101	2269	040°23.872068' 028°39.332518'	040°46.136164' 028°39.655550'
mar08-12	05.07.2008	4:18:03	8:29:25	101	2218	040°45.987471' 028°42.417577'	040°24.268453' 028°42.454931'
mar08-27	05.07.2008	8:47:32	12:19:27	101	1953	040°24.852964' 028°44.356379'	040°43.874321' 028°44.425303'
mar08-51	05.07.2008	12:48:30	14:57:06	101	1288	040°44.952319' 028°42.344322'	040°44.484903' 028°26.773063'
mar08-22b	05.07.2008	15:03:01	17:12:02	101	1227	040°44.974562' 028°26.522085'	040°56.531894' 028°26.469293'
mar08-24c	05.07.2008	17:44:36	19:48:43	101	1122	040°57.160959' 028°23.473877'	040°46.674083' 028°23.525113'
mar08-23	05.07.2008	20:03:03	21:42:43	101	1036	040°47.034705' 028°24.972225'	040°56.633167' 028°24.978876'
mar08-25	05.07.2008	22:32:41	4:43:23	101	3185	040°57.643254' 028°19.828786'	040°25.980132' 028°19.822716'
mar08-26	06.07.2008	5:08:09	11:07:44	101	3420	040°26.201062' 028°17.292987'	041°00.283460' 028°17.162989'
mar08-28	06.07.2008	11:43:17	17:32:13	101	3250	041°00.338842' 028°13.454978'	040°27.990577' 028°14.219242'
mar08-connect3	06.07.2008	18:07:50	20:56:56	101	1636	040°28.368246' 028°11.537577'	040°44.146117' 028°10.979451'
mar08-29	06.07.2008	21:33:07	23:18:42	101	1054	040°43.646429' 028°08.466577'	040°33.786770' 028°08.950887'
mar08-29c	06.07.2008	23:29:09	0:33:24	101	642	040°32.849158' 028°08.836220'	040°27.287331' 028°08.970138'
mar08-30	07.07.2008	0:51:32	3:50:42	101	1578	040°27.854570' 028°07.610605'	040°42.898561' 028°05.119171'
mar08-31	07.07.2008	4:38:00	7:54:14	101	1801	040°41.806802' 028°00.133868'	040°24.615617' 028°03.046354'
mar08-transitto54	07.07.2008	8:10:16	9:48:25	101	1010	040°23.779067' 028°04.169672'	040°29.807697' 028°13.592753'
mar08-54a	07.07.2008	9:56:00	11:34:59	101	1057	040°30.282041' 028°13.214578'	040°32.465901' 028°00.661921'
mar08-32	07.07.2008	12:01:53	16:31:17	101	2559	040°31.486099' 027°58.164685'	040°56.374088' 027°52.643142'
mar08-31b	07.07.2008	17:20:04	19:51:12	101	1494	040°55.947771' 027°57.790648'	040°41.745906' 028°00.127183'
mar08-51b	07.07.2008	20:35:17	23:37:17	101	1845	040°41.822843' 028°03.125292'	040°42.226977' 027°39.602498'
mar08-53	07.07.2008	23:55:52	6:24:44	101	3637	040°40.871943' 027°40.046871'	040°43.766436' 028°25.589510'
mar08-51c	08.07.2008	6:34:40	8:32:05	101	1164	040°44.453756' 028°25.408222'	040°43.582283' 028°11.185486'
mar08-connect3b	08.07.2008	8:37:21	11:30:55	101	1633	040°44.079198' 028°10.993441'	040°59.817773' 028°10.433904'
mar08-51d	08.07.2008	15:28:05	16:34:51	101	712	040°43.552496' 028°11.019603'	040°41.827198' 028°03.057515'
mar08-29b	08.07.2008	11:56:43	15:00:00	101	1703	040°59.482715' 028°07.541155'	040°43.061568' 028°08.794908'
mar08-30b	08.07.2008	17:05:44	19:46:36	101	1591	040°57.170009' 028°02.719549'	040°41.993722' 028°05.244475'
mar08-46	08.07.2008	20:16:14	1:42:24	101	2940	040°55.239980' 028°00.915206'	040°46.899481' 027°24.598708'
mar08-44	09.07.2008	1:53:30	4:45:36	101	1625	040°47.403319' 027°24.846413'	040°54.352355' 027°43.122799'
mar08-45	09.07.2008	4:49:37	5:42:16	101	568	040°54.301823' 027°43.586193'	040°54.757749' 027°49.879880'
mar08-33	09.07.2008	5:58:37	9:56:43	101	2298	040°54.794493' 027°49.172683'	040°32.519455' 027°53.949397'
mar08-34	09.07.2008	11:33:17	16:09:50	101	2588	040°31.841941' 027°50.448444'	040°57.060410' 027°45.039532'
mar08-35	09.07.2008	16:29:13	20:00:43	101	1834	040°56.842366' 027°43.202848'	040°39.279776' 027°46.988321'
mar08-36	09.07.2008	20:17:54	23:14:41	101	1684	040°40.019887' 027°45.008105'	040°56.064799' 027°41.476981'
mar08-ek1	09.07.2008	23:20:37	0:22:11	101	688	040°56.302322' 027°41.892517'	040°54.800552' 027°49.603572'
mar08-45b	10.07.2008	0:22:52	2:32:58	101	1314	040°54.785320' 027°49.681085'	040°56.312254' 028°05.869350'
mar08-ek2	10.07.2008	2:41:51	3:14:04	101	414	040°55.538620' 028°06.318707'	040°52.327535' 028°06.313475'
mar08-47	10.07.2008	3:20:00	6:19:08	101	1677	040°52.051097' 028°05.756345'	040°52.402623' 027°44.541861'
mar08-37	10.07.2008	7:19:49	9:58:57	101	1521	040°55.804136' 027°39.595912'	040°41.415532' 027°42.804129'
mar08-38	10.07.2008	10:17:23	12:47:29	101	1538	040°41.097497' 027°40.982342'	040°55.669650' 027°37.857339'
mar08-39	10.07.2008	13:19:58	16:00:36	101	1477	040°55.504018' 027°34.282425'	040°41.540596' 027°37.167779'
mar08-40	10.07.2008	16:31:36	18:33:05	101	1221	040°41.431157' 027°33.407062'	040°52.797778' 027°31.152660'
mar08-41	10.07.2008	19:13:49	20:48:16	101	1006	040°50.514360' 027°27.829348'	040°41.263058' 027°29.172862'
mar08-42	10.07.2008	21:13:01	22:21:29	101	727	040°41.073763' 027°25.932505'	040°47.437817' 027°24.770276'
mar08-ek3	10.07.2008	22:27:53	23:03:16	101	407	040°47.395707' 027°25.317005'	040°44.642509' 027°27.347793'
mar08-57	10.07.2008	23:04:06	7:15:59	101	4703	040°44.621392' 027°27.449872'	040°55.529699' 028°27.182177'
mar08-21	11.07.2008	7:24:11	10:47:23	101	1854	040°55.454756' 028°27.943030'	040°37.457114' 028°27.916400'
mar08-20	11.07.2008	11:03:22	14:19:33	101	1885	040°37.535794' 028°29.327497'	040°55.810667' 028°28.093011'
mar08-19	11.07.2008	14:46:16	18:18:51	101	1894	040°55.990761' 028°30.897679'	040°37.556752' 028°30.856146'
mar08-61	11.07.2008	19:00:11	23:36:28	101	2580	040°36.088273' 028°26.360306'	040°40.886103' 027°53.881674'
mar08-46b	11.07.2008	2:11:50	6:14:02	101	2278	040°55.136526' 028°00.128525'	040°53.698335' 028°29.432912'

Table A2. Line information from second leg of cruise (July 14-July 22)

LINE NAME	START DATE	START TIME	END TIME	FIRST SHOT	LAST SHOT	START LON/LAT	END LON/LAT
mar08-2b	14.07.2008	12:27:01	13:00:28	101	441	040°47.979207' 029°06.474353'	040°45.605448' 029°05.690168'
mar08-2c	14.07.2008	13:06:39	14:30:32	101	1004	040°45.159612' 029°05.554044'	040°39.462323' 029°03.795281'
mar08-68	14.07.2008	14:48:11	16:47:18	101	1397	040°39.575228' 029°04.956268'	040°47.780836' 029°07.533599'
mar08-69	14.07.2008	17:16:58	19:17:43	101	1460	040°48.365965' 029°05.209148'	040°39.768436' 029°02.684274'
mar08-58	14.07.2008	19:55:18	2:43:26	101	4498	040°41.966016' 029°01.202382'	040°42.987008' 028°25.934499'
mar08-ek5	15.07.2008	2:55:12	4:38:57	101	1253	040°42.817252' 028°25.349983'	040°37.258959' 028°31.935729'
mar08-18	15.07.2008	4:46:43	6:56:55	101	1543	040°37.500371' 028°32.402383'	040°46.861327' 028°32.440363'
mar08-17	15.07.2008	7:24:30	9:40:23	101	1574	040°46.424969' 028°34.715073'	040°46.424969' 028°34.715073'
mar08-ek6	15.07.2008	9:42:27	11:34:33	101	1298	040°36.760768' 028°34.860717'	040°34.532005' 028°44.625323'
mar08-8new	15.07.2008	11:40:19	15:27:15	101	2402	040°34.765666' 028°45.034923'	040°49.277723' 028°49.718401'
mar08-7new	15.07.2008	15:52:17	20:40:51	101	3293	040°48.659596' 028°51.570730'	040°28.648484' 028°44.292145'
mar08-ek7	16.07.2008	20:25:48	22:16:35	101	1041	040°29.670146' 028°45.430875'	040°36.875820' 028°36.991365'
mar08-60	16.07.2008	22:23:05	1:41:36	101	1875	040°36.918256' 028°36.235749'	040°42.237087' 028°13.902524'
mar08-ek8	17.07.2008	2:19:47	8:51:23	101	3484	040°45.224752' 028°13.803655'	040°46.090201' 028°59.550847'
mar08-4	17.07.2008	8:53:00	9:48:15	101	577	040°46.224956' 028°59.638454'	040°50.836382' 029°01.850980'
mar08-70	17.07.2008	10:04:31	12:04:59	101	1128	040°50.144165' 029°03.188530'	040°39.870206' 029°00.042111'
mar08-ek9	17.07.2008	12:11:25	12:54:50	101	485	040°39.880046' 029°00.753249'	040°39.421630' 029°05.924531'
mar08-01new	17.07.2008	12:57:15	14:51:32	101	1400	040°39.590064' 029°06.041322'	040°47.758260' 029°08.806154'
mar08-67	17.07.2008	15:07:56	16:51:08	101	1299	040°47.340888' 029°09.674745'	040°39.760352' 029°07.243274'
mar08-51a	17.07.2008	17:39:32	22:00:26	101	3013	040°41.789307' 029°04.023899'	040°44.413872' 028°40.997242'
mar08-13	18.07.2008	22:02:53	2:17:44	101	2931	040°44.243824' 028°40.908466'	040°25.877371' 028°40.824597'
mar08-59	18.07.2008	2:27:22	9:38:22	101	5124	040°25.515661' 028°40.184253'	040°33.397330' 027°59.664047'
mar08-64	18.07.2008	9:40:26	15:00:53	101	3595	040°33.522970' 027°59.560875'	040°56.038210' 027°55.281223'
mar08-62	18.07.2008	15:56:19	20:41:06	101	3106	040°57.560549' 028°00.000244'	040°38.204990' 028°03.277030'
mar08-ek10a	18.07.2008	20:46:21	21:27:32	101	492	040°38.218702' 028°03.733382'	040°39.367062' 028°07.003980'
mar08-ek10b	18.07.2008	21:42:32	22:09:53	101	420	040°40.337492' 028°06.851278'	040°42.506083' 028°06.588185'
mar08-ek10c	18.07.2008	22:13:25	1:12:50	101	1571	040°42.837416' 028°06.542166'	040°57.919748' 028°05.588777'
mar08-ek11	19.07.2008	1:18:52	1:47:56	101	302	040°58.293440' 028°05.811855'	040°57.320742' 028°08.090441'
mar08-delta3	20.07.2008	4:36:23	6:20:58	101	1268	040°39.997058' 028°44.820116'	040°35.502245' 028°37.015183'
mar08-2000	20.07.2008	16:15:24	17:34:02	101	822	040°46.148569' 029°13.496540'	040°41.737456' 029°11.300682'
mar08-transitto6new	20.07.2008	8:29:32	9:27:52	101	716	040°38.287030' 028°45.386643'	040°35.061316' 028°48.472436'
mar08-6new	20.07.2008	9:44:10	11:24:02	101	1064	040°35.465693' 028°49.593974'	040°41.540271' 028°51.573541'
mar08-transitto65	20.07.2008	11:28:41	15:46:42	101	2652	040°41.619742' 028°51.941461'	040°47.306709' 029°12.294651'
mar08-65	20.07.2008	16:15:24	17:34:02	101	822	040°46.148569' 029°13.496540'	040°41.737456' 029°11.300682'
mar08-transittodelta-a	20.07.2008	17:49:23	21:07:30	101	1831	040°41.723283' 029°10.107844'	040°40.866622' 028°46.803384'
mar08-transittodelta-b	20.07.2008	21:11:44	21:47:47	101	407	040°40.593566' 028°46.496160'	040°37.579677' 028°45.294865'
mar08-4000	20.07.2008	21:49:43	23:43:05	101	1182	040°37.485949' 028°45.133684'	040°33.253446' 028°37.810034'
mar08-6000	21.07.2008	0:11:50	2:02:30	101	1220	040°32.231345' 028°38.383310'	040°36.600314' 028°45.984789'
mar08-delta4	21.07.2008	2:02:30	4:16:28	101	1214	040°36.368037' 028°47.854879'	040°31.901517' 028°40.408385'
mar08-delta1	21.07.2008	4:51:33	6:24:07	101	923	040°32.275640' 028°41.287134'	040°36.395914' 028°36.863286'
mar08-delta1-2000	21.07.2008	6:56:25	8:27:45	101	953	040°36.617831' 028°38.448721'	040°32.356348' 028°43.065871'
mar08-delta1-3000	21.07.2008	8:43:43	10:13:44	101	956	040°33.096890' 028°43.180104'	040°37.374949' 028°38.559593'
mar08-delta1-4000	21.07.2008	10:34:12	12:14:26	101	966	040°37.410365' 028°39.448086'	040°33.076559' 028°44.130862'
mar08-delta1-5000	21.07.2008	12:32:56	14:13:11	101	965	040°33.632813' 028°44.436637'	040°37.960755' 028°39.778046'
mar08-delta1-6000	21.07.2008	14:33:55	16:12:23	101	984	040°38.172529' 028°40.459207'	040°33.743303' 028°45.223751'
mar08-delta1-7000	21.07.2008	16:30:21	18:11:34	101	1001	040°34.158287' 028°45.683383'	040°38.669657' 028°40.809511'
mar08-delta1-8000	21.07.2008	18:25:59	19:51:49	101	942	040°38.645105' 028°41.721905'	040°34.456222' 028°46.297650'
mar08-delta1-9000	21.07.2008	20:13:32	21:45:08	101	976	040°35.055970' 028°46.571702'	040°39.442899' 028°41.841552'
mar08-delta2	21.07.2008	22:00:43	23:31:23	101	970	040°39.382646' 028°42.781908'	040°35.043564' 028°47.497929'
mar08-ekdelta	22.07.2008	23:51:29	0:09:50	101	263	040°34.969390' 028°46.103034'	040°35.839035' 028°44.362917'
mar08-lastline	22.07.2008	0:11:02	2:21:44	101	1273	040°35.888328' 028°44.232345'	040°40.651202' 028°29.717946'

Appendix 2: Maps of Line Locations

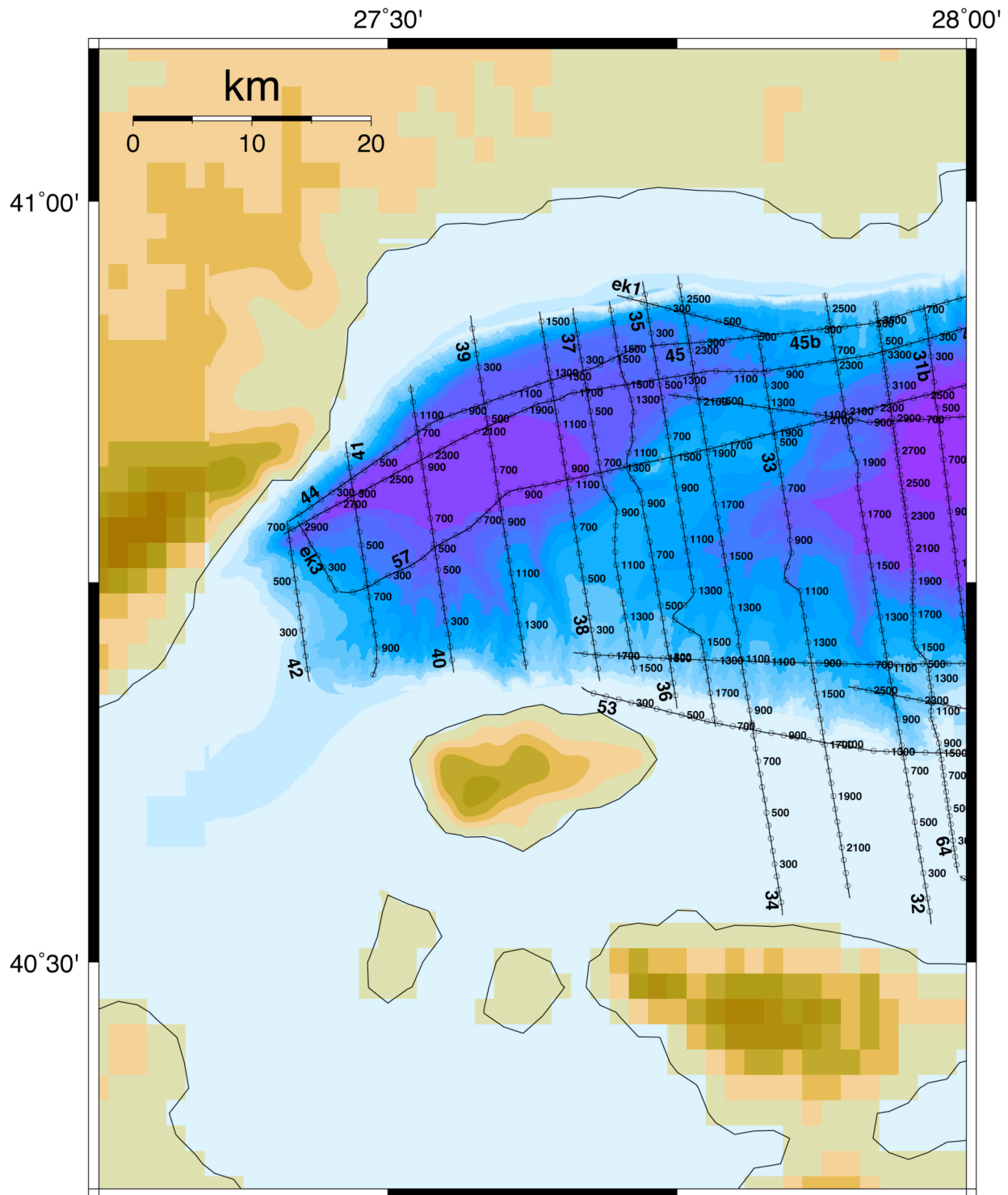


Fig. A1. Map of the western part of the survey area. Bathymetry in the center of the Marmara Sea from multibeam data (Rangin et al., 2001), and other bathymetry and onshore elevation from the GEBCO 1-minute atlas (IOC IHO BODC, 2003). Profile locations indicated with black lines. Every 200th shot is labeled with a black circle and text. Line numbers indicated in larger bold face type.

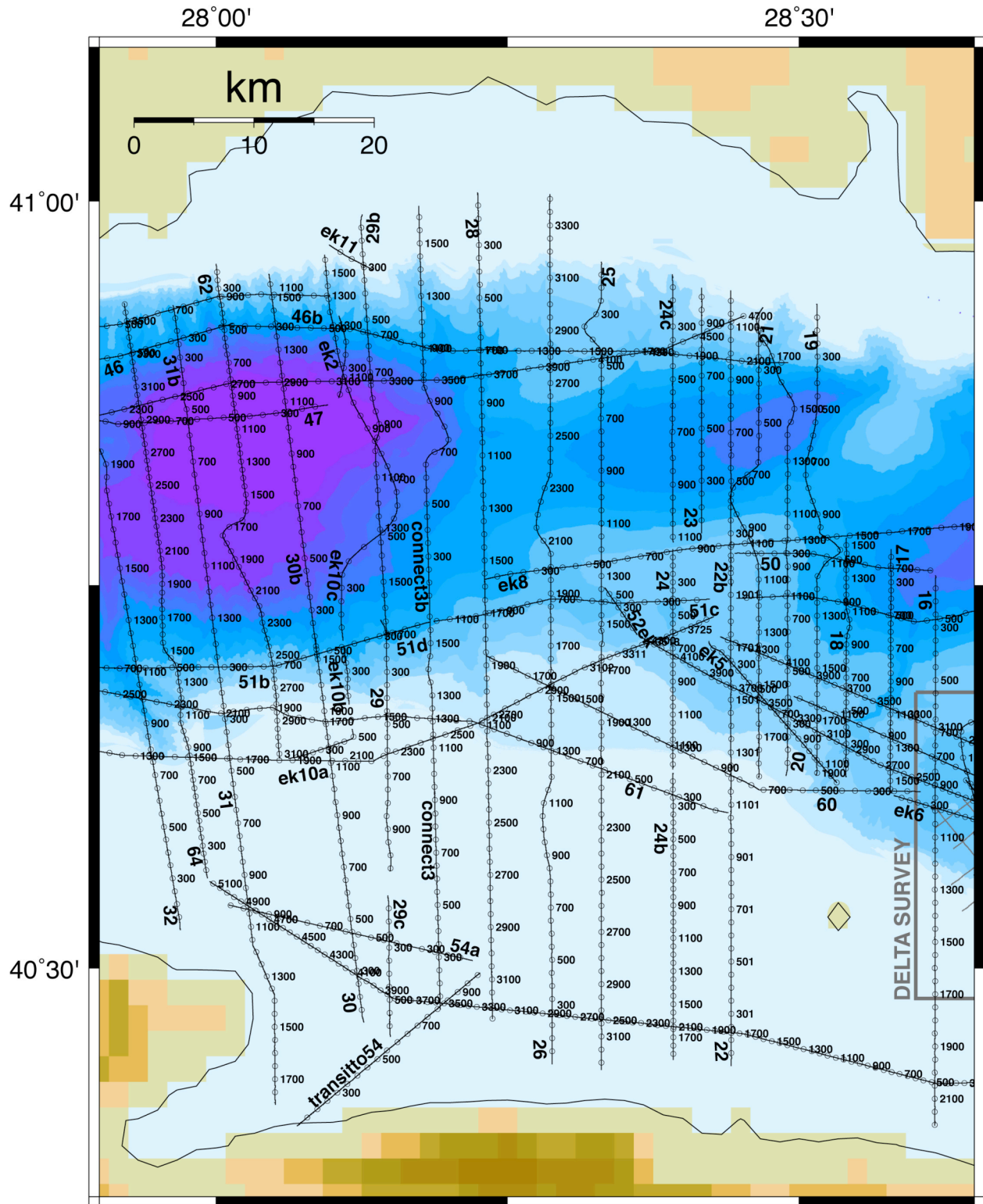


Fig. A2. Map of the central part of the survey area. Bathymetry in the center of the Marmara Sea from multibeam data (Rangin et al., 2001), and other bathymetry and onshore elevation from the GEBCO 1-minute atlas (IOC IHO BODC, 2003). Profile locations indicated with black lines. Every 200th shot is labeled with a black circle and text. Line numbers indicated in larger bold face type.

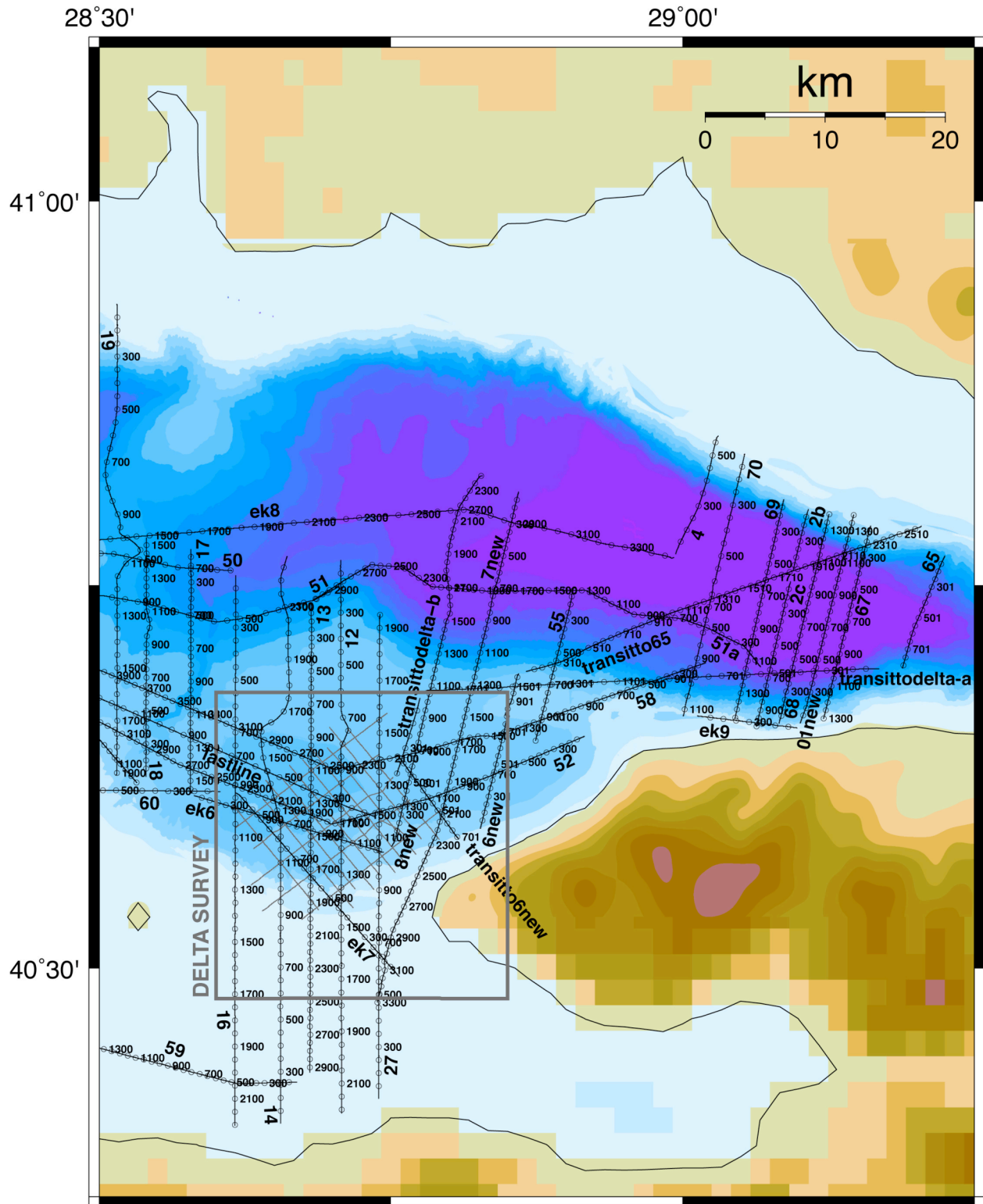


Fig. A3. Map of the eastern part of the survey area. Bathymetry in the center of the Marmara Sea from multibeam data (Rangin et al., 2001), and other bathymetry and onshore elevation from the GEBCO 1-minute atlas (IOC IHO BODC, 2003). Profile locations indicated with black lines. Every 200th shot is labeled with a black circle and text. Line numbers indicated in larger bold face type. Details on lines within delta survey (indicated with grey box and grey lines) shown in Fig. A4.

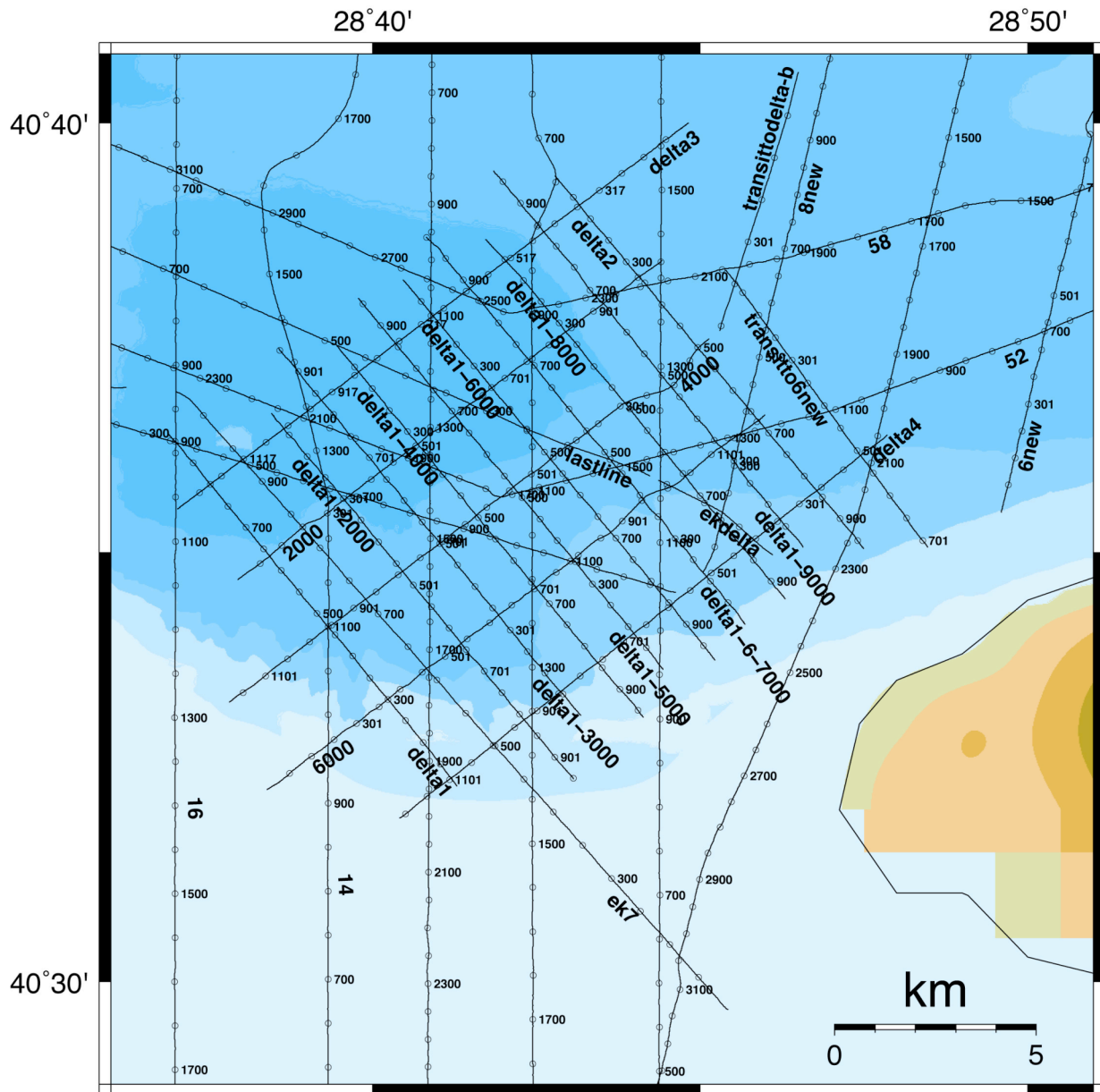


Fig. A4. Map of the “Delta survey” (location shown in grey box in Fig. A3). Bathymetry in the center of the Marmara Sea from multibeam data (Rangin et al., 2001), and other bathymetry and onshore elevation from the GEBCO 1-minute atlas (IOC IHO BODC, 2003). Profile locations indicated with black lines. Every 200th shot is labeled with a black circle and text. Line numbers indicated in larger bold face type.

Appendix 3: Acquisition notes for each profile

The following pages contain logs with specific notes on acquisition parameters for each line and any events (changes in ship speed, etc) that occurred during data collection.

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SURVEY NOTES	
Chirp data:20080703210736.odc	
Range: 500	
At 6595 range: 300(chirp)	
System error at shot 745 . The system restarted. The new line is mar08-24B	
At 7940 range:150(chirp)	
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AREA: MARMARA	LINE NAME: Mar08-12	CLIENT: SeisLab-LDL	DATE: 05:07:08	SEA CONDITION: x SMOOTH CHOPPY ROUGH	RAIN?: YES x NO
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	3
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	■18.75 meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	100	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	2218	
FIRST SegY FILE	Ds20080704-043347.0101.sy	
LAST SegY FILE	Ds20080704-084557_2218.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
LAST NAVIPAC EVENT NO		2269	
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		5.7	
NAVIPAC CUSTOM LOG FILE NAME		MAR08-12.LOG	
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		04:33	
LINE END TIME		08:45	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
COORDINATES	DATUM	Lon:	N:
		x WGS84	ED 50 Other:.....

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES	
Chirp file name: 20080704161209 range:2000	
At 2980 range=500	
At 2995 range:300	
At 4830 range:150	

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AREA: MARMARA	LINE NAME: Mar08-52	CLIENT: SeisLab-LDL	DATE: 05:07:08	SEA CONDITION: x SMOOTH CHOPPY ROUGH	RAIN?: YES x NO
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	3
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	■18.75 meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	100	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	4322	
FIRST SegY FILE	Ds20080704-010040-101.sy	
LAST SegY FILE	Ds20080704-073347-4322.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
LAST NAVIPAC EVENT NO		4322	
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		4.2	
NAVIPAC CUSTOM LOG FILE NAME		MAR08-52.LOG	
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		01:00	
LINE END TIME		07:33	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
COORDINATES	DATUM	Lon:	N:
		x WGS84	ED 50 Other:.....

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES	
Chirp: 200807033123936	
Aim point at -17 ms	
Chirp stopped at ffid1497 20080703123936	
Chirp started at ffid 1604	
??? shotpoint 2900	

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AREA: MARMARA	LINE NAME: Mar08-22B	CLIENT: SeisLab-LDL	DATE: 05:07:08	SEA CONDITION: x SMOOTH CHOPPY ROUGH	RAIN?: YES x NO
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	3
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	■18.75 meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	100	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	1227	
FIRST SegY FILE	Ds20080705-151848-0101.sy	
LAST SegY FILE	Ds20080705-172752-1227.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
LAST NAVIPAC EVENT NO		1241	
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		5.7	
NAVIPAC CUSTOM LOG FILE NAME		MAR08-22B.log	
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		15:38	
LINE END TIME		17:27	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
COORDINATES	DATUM	Lon:	N:
		x WGS84	ED 50 Other:.....

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES	
Half of the line mar08-22 (the north part)	
Chirp:20080705025537.odc	
At ping 3765 range 150m	

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MULTICHANNEL SEISMIC REFLECTION OBSERVER LOG**



AREA: MARMARA	LINE NAME: Mar08-24C	CLIENT: SeisLab-LDL	DATE: 05:07:08	SEA CONDITION: x SMOOTH CHOPPY ROUGH	RAIN?: YES x NO
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	3
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	■18.75 meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	100	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	1122	
FIRST SegY FILE	Ds20080704-180022-101.sy	
LAST SegY FILE	Ds20080704-200427-1122.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
LAST NAVIPAC EVENT NO		1122	
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		5.7	
NAVIPAC CUSTOM LOG FILE NAME		MAR08-24C.LOG	
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		01:00	
LINE END TIME		07:33	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
COORDINATES	DATUM	Lon:	N:
		x WGS84	ED 50 Other:.....

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES	
Chirp: 2008070053440	
The half of the line mar08-24(north part)	



SURVEY NOTES	
Chirp: 20080705075656.odc	
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MULTICHANNEL SEISMIC REFLECTION OBSERVER LOG**



AREA: MARMARA	LINE NAME: Mar08-25	CLIENT: SeisLab-LDL	DATE: 05:07:08	SEA CONDITION: x SMOOTH CHOPPY ROUGH	RAIN?: YES x NO
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	3
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	■18.75 meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	100	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	3185	
FIRST SegY FILE	Ds20080705-224830-0101.sy	
LAST SegY FILE	Ds20080706-045916-3185.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
LAST NAVIPAC EVENT NO		3185	
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		5.7	
NAVIPAC CUSTOM LOG FILE NAME		MAR08-25.LOG	
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		22:48	
LINE END TIME		04:59	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
COORDINATES	DATUM	Lon:	N:
		x WGS84	ED 50 Other:.....

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES	
Chirp: 20080705102642.odc	
Nearly at ffid 1500 a ship appeared and the speed of the ship decreased to 1.5 knot and the streamer went to deeper part.	



AREA: MARMARA	LINE NAME: Mar08-26	CLIENT: SeisLab-LDL	DATE: 06:07:08	SEA CONDITION: SMOOTH <input checked="" type="checkbox"/> CHOPPY ROUGH	RAIN?: YES <input checked="" type="checkbox"/> NO
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	3
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	■18.75 meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	100	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	3420	
FIRST SegY FILE	Ds20080706-052403-0101.sy	
LAST SegY FILE	Ds20080706-1128(?3)38-3420.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
LAST NAVIPAC EVENT NO		3420	
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		5.7	
NAVIPAC CUSTOM LOG FILE NAME		MAR08-26.LOG	
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		05:24	
LINE END TIME		11:23	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	Lon:	N:	
	END	Lat:	E:
		Lon:	N:
	DATUM	x WGS84	ED 50

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

[illegible][illegible]

SURVEY NOTES	
Chirp: 20080705181041.odc	
Ping 210 range=500	
Ping 7660 range=1000	
Ping 12100 range=300	
Ping 12335 range=150	
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MULTICHANNEL SEISMIC REFLECTION OBSERVER LOG**



AREA: MARMARA	LINE NAME: Mar08-29	CLIENT: SeisLab-LDL	DATE: 06:07:08	SEA CONDITION: ■ SMOOTH CHOPPY ROUGH	RAIN?: YES ■ NO
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	3
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	■ 18.75 meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	40	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	1054	
FIRST SegY FILE	Ds20080706-214903-0101.sy	
LAST SegY FILE	Ds20080706-233339-1054.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
LAST NAVIPAC EVENT NO		1054	
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		5.5	
NAVIPAC CUSTOM LOG FILE NAME		MAR08-29.LOG	
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		21:49	
LINE END TIME		23:33	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
COORDINATES	DATUM	Lon:	N:
		x WGS84	ED 50 Other:.....

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES
Chirp file: 20080706092706.odc
At ffid 1054 a mistake happened at line NTRS closed and reopen. Nearly after 1km the line contunied under the line name 29-C
29-b is cancelled.!!!

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AREA: MARMARA	LINE NAME: Mar08-54a	CLIENT: SeisLab-LDL	DATE: 07:07:08	SEA CONDITION: <input checked="" type="checkbox"/> SMOOTH <input type="checkbox"/> CHOPPY <input type="checkbox"/> ROUGH	RAIN?: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	3
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	<input checked="" type="checkbox"/> 18.75 meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	40	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	1057	
FIRST SegY FILE	Ds20080706-101157-0101.sy	
LAST SegY FILE	Ds20080706-115052-1057.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
LAST NAVIPAC EVENT NO		1057	
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		6	
NAVIPAC CUSTOM LOG FILE NAME		MAR08-26.LOG	
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		10:11	
LINE END TIME		11:50	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
COORDINATES	DATUM	Lon:	N:
		x WGS84	ED 50 Other:.....

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES	
Chir file:20080706215004	

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MULTICHANNEL SEISMIC REFLECTION OBSERVER LOG**



AREA: MARMARA	LINE NAME: Mar08-51B	CLIENT: SeisLab-LDL	DATE: 06:07:08	SEA CONDITION: ■ SMOOTH CHOPPY ROUGH	RAIN?: YES ■ NO
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	3
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	■ 18.75 meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	40	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	1845	
FIRST SegY FILE	Ds20080708-205117-0101.sy	
LAST SegY FILE	Ds20080708-235314-1845.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
LAST NAVIPAC EVENT NO		1845	
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		5.9	
NAVIPAC CUSTOM LOG FILE NAME		MAR08-51B.LOG	
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		20:51	
LINE END TIME		23:58	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
COORDINATES	DATUM	Lon:	N:
		x WGS84	ED 50 Other:.....

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES	
Chirp file=20080707082925	

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MULTICHANNEL SEISMIC REFLECTION OBSERVER LOG**



AREA: MARMARA	LINE NAME: Mar08-connect3b	CLIENT: SeisLab-LDL	DATE: 08:07:08	SEA CONDITION: ■ SMOOTH CHOPPY ROUGH	RAIN?: YES ■ NO
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	3
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	■ 18.75 meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	40	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	1633	
FIRST SegY FILE	Ds20080708-085327-0101.sy	
LAST SegY FILE	Ds20080708-114654-1633.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
LAST NAVIPAC EVENT NO		3250	
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		5.9	
NAVIPAC CUSTOM LOG FILE NAME		MAR08-26.LOG	
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		11:59	
LINE END TIME		17:48	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
COORDINATES	DATUM	Lon:	N:
		x WGS84	ED 50 Other:.....

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES
20080707203034.odc
Ping 328 range:1000
Ping 1754 range=2000
Ping 2969 range=750
Ping 3016 range=500
Ping 3060 range=300
Ping 3521 range 300
Than canceled the pinh has been stopped
At the coordinates N4520353.08 E 599482.96 get out from the lines cause of two ships then re-entered the line at 962 th shot.

[illegible]

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SURVEY NOTES	
Chirp file :200807080807531.odc	
Ping: range:1000	
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SURVEY NOTES	
Chirp file :20080708164501.odc	
Ping: range:1000	
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AREA: MARMARA	LINE NAME: Mar08-35	CLIENT: SeisLab-LDL	DATE: 09.07.08	SEA CONDITION: ■ SMOOTH CHOPPY ROUGH	RAIN?: YES ■ NO
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	3
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	■ 18.75 meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	40	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	1834	
FIRST SegY FILE	Ds20080709-164525-0101.sy	
LAST SegY FILE	Ds20080709-201655-1834.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
LAST NAVIPAC EVENT NO		1834	
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		5.7	
NAVIPAC CUSTOM LOG FILE NAME		MAR08-35.LOG	
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		16:45	
LINE END TIME		20:16	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
COORDINATES	DATUM	Lon:	N:
		x WGS84	ED 50 Other:.....

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES
Chirp file :20080709042343.odc
Ping: 1210 range:2000
Bird Depth 10m. for 1 minute
19:00 – 19:20 Speed decreased and went out of the line

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MULTICHANNEL SEISMIC REFLECTION OBSERVER LOG



AREA: MARMARA	LINE NAME: Mar08-36	CLIENT: SeisLab-LDL	DATE: 08:07:08	SEA CONDITION: ■ SMOOTH CHOPPY ROUGH	RAIN?: YES ■ NO
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	3
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	■18.75 meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	40	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	1684	
FIRST SegY FILE	Ds20080709-203407-0101.sy	
LAST SegY FILE	Ds20080709-233047-1684.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
LAST NAVIPAC EVENT NO		1684	
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		5.3	
NAVIPAC CUSTOM LOG FILE NAME		MAR0-36.LOG	
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		20:34	
LINE END TIME		23:30	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
COORDINATES	DATUM	Lon:	N:
		x WGS84	ED 50 Other:.....

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES	
Chirp file :20080709081156.odc	
Range:1000	
Ping:3342 Range:2000	
Ping:4062 Range:1000	
Ping:4470 Range:500	
FFID# 871 – FFID#892 Shot interval is short because of the ship traffic	
FFID#960 – Ship went to port side because of the ship trafiic	

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MULTICHANNEL SEISMIC REFLECTION OBSERVER LOG**



AREA: MARMARA	LINE NAME: Mar08-ek1	CLIENT: SeisLab-LDL	DATE: 09:07:08	SEA CONDITION: <input checked="" type="checkbox"/> SMOOTH <input type="checkbox"/> CHOPPY <input type="checkbox"/> ROUGH	RAIN?: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	3
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	<input checked="" type="checkbox"/> 18.75 meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	40	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	688	
FIRST SegY FILE	Ds20080710-233651-0101.sy	
LAST SegY FILE	Ds20080710-003818-0688.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
LAST NAVIPAC EVENT NO		688	
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		5.7	
NAVIPAC CUSTOM LOG FILE NAME		MAR0-45b.LOG	
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		23:36	
LINE END TIME		00:38	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
COORDINATES	DATUM	Lon:	N:
		x WGS84	ED 50 Other:.....

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES	
Chirp:20080709111431.odc	
Ffid=1400 range=1000	

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AREA: MARMARA	LINE NAME: Mar08-47	CLIENT: SeisLab-LDL	DATE: 10:07:08	SEA CONDITION: ■ SMOOTH CHOPPY ROUGH	RAIN?: YES ■ NO
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	3
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	■ 18.75 meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	40	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	1677	
FIRST SegY FILE	Ds20080710-0336131-0101.sy	
LAST SegY FILE	Ds20080710-063517-1677.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
LAST NAVIPAC EVENT NO		688	
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		5.7	
NAVIPAC CUSTOM LOG FILE NAME		MAR0-47.LOG	
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		03:36	
LINE END TIME		06:35	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
COORDINATES	DATUM	Lon:	N:
		x WGS84	ED 50 Other:.....

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES
Chirp:20080709151346.odc
range=2000
Transit from 47 to 37 chirp(only)file:
20080709181719.odc

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MULTICHANNEL SEISMIC REFLECTION OBSERVER LOG**



AREA: MARMARA	LINE NAME: Mar08-46b	CLIENT: SeisLab-LDL	DATE: 12:07:08	SEA CONDITION: SMOOTH CHOPPY ■ ROUGH	RAIN?: YES ■ NO
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	3
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	■18.75 meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	40	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	2278	
FIRST SegY FILE		
LAST SegY FILE		
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
LAST NAVIPAC EVENT NO		2278	
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		5.7	
NAVIPAC CUSTOM LOG FILE NAME		MAR0-36.LOG	
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		02:28	
LINE END TIME			
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
COORDINATES	DATUM	Lon:	N:
		x WGS84	ED 50 Other:.....

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES
Chirp:2008070911140805 range:2000
2008071114126.odc
20080711141134.odc
20080711154125.odc
No data seen in chirp, the system restarted.
Ping:982 range:750

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MULTICHANNEL SEISMIC REFLECTION OBSERVER LOG**



AREA: MARMARA	LINE NAME: Mar08-2b	CLIENT: SeisLab-LDL	DATE: 14:07:08	SEA CONDITION: ■ SMOOTH CHOPPY ROUGH	RAIN?: YES ■ NO
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	4
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	■ 12.50 meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	100	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)		
FIRST SegY FILE		
LAST SegY FILE		
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
LAST NAVIPAC EVENT NO			
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		4.5	
NAVIPAC CUSTOM LOG FILE NAME		MAR0-2b.LOG	
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME			
LINE END TIME			
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
COORDINATES	DATUM	Lon:	N:
		x WGS84	ED 50 Other:.....

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES	
Chirp:2008071400331.odc	
There is not data in chirp for 5 minutes in the start.	
The line is mar08-2 but it is written as mar08-2b in the logs.	
Ping:90 range:1600m	
NIRS gave error at the 441. shot and the record was stopped.	
The line contunie under the line number mar08-2c.(record restarted)	

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MULTICHANNEL SEISMIC REFLECTION OBSERVER LOG**



AREA: MARMARA	LINE NAME: Mar08-58	CLIENT: SeisLab-LDL	DATE: 14:07:08	SEA CONDITION: <input checked="" type="checkbox"/> SMOOTH <input type="checkbox"/> CHOPPY <input type="checkbox"/> ROUGH	RAIN?: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	4
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	<input checked="" type="checkbox"/> 12.5 meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	100	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	4498	
FIRST SegY FILE	Ds20080714.201153-0101.sy	
LAST SegY FILE	Ds20080714.030000-4498.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
LAST NAVIPAC EVENT NO		1253	
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		4.2	
NAVIPAC CUSTOM LOG FILE NAME		MAR08-ek5.log	
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		03:11	
LINE END TIME		04:55	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
COORDINATES	DATUM	Lon:	N:
		x WGS84	ED 50 Other:.....

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES	
Chirp:20080714144943.odc	
Because of the speed, the ship goes 200 meters out of the profile	

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AREA: MARMARA	LINE NAME: Mar08-7new	CLIENT: SeisLab-LDL	DATE: 15:07:08	SEA CONDITION: ■ SMOOTH CHOPPY ROUGH	RAIN?: YES ■ NO
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	4
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	■ 12.5 meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	100	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	3293	
FIRST SegY FILE	Ds20080715.160901-0101.sy	
LAST SegY FILE	Ds20080715.205739-3293.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
LAST NAVIPAC EVENT NO		3293	
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		4.2	
NAVIPAC CUSTOM LOG FILE NAME		MAR08-7new.log	
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		16:09	
LINE END TIME		20:57	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
COORDINATES	DATUM	Lon:	N:
		x WGS84	ED 50 Other:.....

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES	
Chirp:20080715034646.odc	
FFID is about 800	
The ship speed is rised up to 4.7 knots	

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MULTICHANNEL SEISMIC REFLECTION OBSERVER LOG**



AREA: MARMARA	LINE NAME: Mar08-ek7	CLIENT: SeisLab-LDL	DATE: 16:07:08	SEA CONDITION: ■SMOOTH CHOPPY ROUGH	RAIN?: YES ■ NO
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	4
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	■18.75 meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	100	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	1041	
FIRST SegY FILE	Ds20080716.204239-0101.sy	
LAST SegY FILE	Ds20080716.223319-1041.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
LAST NAVIPAC EVENT NO		1041	
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		4.2	
NAVIPAC CUSTOM LOG FILE NAME		MAR08-ek7.log	
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		20:42	
LINE END TIME		22:33	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
COORDINATES	DATUM	Lon:	N:
		x WGS84	ED 50 Other:.....

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES	
Chirp:20080716081359.odc	

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MULTICHANNEL SEISMIC REFLECTION OBSERVER LOG**



AREA: MARMARA	LINE NAME: Mar08-60	CLIENT: SeisLab-LDL	DATE: 16:07:08	SEA CONDITION: ■ SMOOTH CHOPPY ROUGH	RAIN?: YES ■ NO
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	4
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	■ 18.75 meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	100	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	1875	
FIRST SegY FILE	Ds20080716.223956-0101.sy	
LAST SegY FILE	Ds20080716.015821-1875.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
LAST NAVIPAC EVENT NO		1875	
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		5.5	
NAVIPAC CUSTOM LOG FILE NAME		MAR08-60.log	
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		22:39	
LINE END TIME		01:58	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
COORDINATES	DATUM	Lon:	N:
		x WGS84	ED 50 Other:.....

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES	
Chirp:20080716101606.odc	



SURVEY NOTES	
Chirp:20080716141408.odc	
There was traffic so we started from 1000 m starboard of profile	
Ping:6479, range:2000	
In the end of the profile without stopping the air-gun we started the profile mar08-58	
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MULTICHANNEL SEISMIC REFLECTION OBSERVER LOG**



AREA: MARMARA	LINE NAME: Mar08-4	CLIENT: SeisLab-LDL	DATE: 17/07/08	SEA CONDITION: ■ SMOOTH CHOPPY ROUGH	RAIN?: YES ■ NO
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	4
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	■ 18.75 meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	100	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	577	
FIRST SegY FILE	Ds20080717.090950-0101.sy	
LAST SegY FILE	Ds20080717.100513-0577.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
LAST NAVIPAC EVENT NO		577	
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		4.2	
NAVIPAC CUSTOM LOG FILE NAME		MAR08-4.log	
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		09:09	
LINE END TIME		10.05	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
COORDINATES	DATUM	Lon:	N:
		x WGS84	ED 50 Other:.....

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES	
Chirp:20080716204730.odc	

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MULTICHANNEL SEISMIC REFLECTION OBSERVER LOG



AREA: MARMARA	LINE NAME: Mar08-ek9	CLIENT: SeisLab-LDL	DATE: 17/07/08	SEA CONDITION: ■ SMOOTH CHOPPY ROUGH	RAIN?: YES ■ NO
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	4
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	■ 18.75 meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	100	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	485	
FIRST SegY FILE	Ds20080717.122815-0101.sy	
LAST SegY FILE	Ds20080717.131137-0485.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
LAST NAVIPAC EVENT NO		485	
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		5.8	
NAVIPAC CUSTOM LOG FILE NAME		MAR08-ek9.log	
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		12:28	
LINE END TIME		13:11	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
COORDINATES	DATUM	Lon:	N:
		x WGS84	ED 50 Other:.....

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES	
Chirp:20080717000524.odc	

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MULTICHANNEL SEISMIC REFLECTION OBSERVER LOG



AREA: MARMARA	LINE NAME: Mar08-01new	CLIENT: SeisLab-LDL	DATE: 17/07/08	SEA CONDITION: ■ SMOOTH CHOPPY ROUGH	RAIN?: YES ■ NO
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	4
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	■ 12.5 meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	100	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	1400	
FIRST SegY FILE	Ds20080717.131407-0101.sy	
LAST SegY FILE	Ds20080717.150820-1400.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
LAST NAVIPAC EVENT NO		1400	
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		4.5	
NAVIPAC CUSTOM LOG FILE NAME		MAR08-01new.log	
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		13:14	
LINE END TIME		15:08	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
COORDINATES	DATUM	Lon:	N:
		x WGS84	ED 50 Other:.....

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES	
Chirp:20080717005136.odc	



AREA: MARMARA	LINE NAME: Mar08-67	CLIENT: SeisLab-LDL	DATE: 17/07/08	SEA CONDITION: <div> <input checked="" type="checkbox"/>SMOOTH <input type="checkbox"/>CHOPPY <input type="checkbox"/>ROUGH </div>	RAIN?: <div> <input type="checkbox"/>YES <input checked="" type="checkbox"/>NO </div>
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	4
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	■12.5 meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	100	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	1299	
FIRST SegY FILE	Ds20080717.152447-0101.sy	
LAST SegY FILE	Ds20080717.170802-1299.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
LAST NAVIPAC EVENT NO		1299	
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		4.2	
NAVIPAC CUSTOM LOG FILE NAME		MAR08-67.log	
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		15:24	
LINE END TIME		17:08	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	Lon:	N:	
	END	Lat:	E:
		Lon:	N:
	DATUM	x WGS84	ED 50

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

[illegible][illegible][illegible]

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MULTICHANNEL SEISMIC REFLECTION OBSERVER LOG



AREA: MARMARA	LINE NAME: Mar08-51a	CLIENT: SeisLab-LDL	DATE: 17/07/08	SEA CONDITION: ■SMOOTH CHOPPY ROUGH	RAIN?: YES ■ NO
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	4
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	■12.5 meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	100	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	3013	
FIRST SegY FILE	Ds20080717.175026-0101.sy	
LAST SegY FILE	Ds20080717.221715-3013.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
LAST NAVIPAC EVENT NO		3013	
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		4.5	
NAVIPAC CUSTOM LOG FILE NAME		MAR08-51a.log	
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		17:56	
LINE END TIME		22:17	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
COORDINATES	DATUM	Lon:	N:
		x WGS84	ED 50 Other:.....

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES	
Chirp:20080717052739.odc	
The record was stopped because the parameters wasn't changed. The new line log is mar08-51a And the chirp continued	

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MULTICHANNEL SEISMIC REFLECTION OBSERVER LOG**



AREA: MARMARA	LINE NAME: Mar08-13	CLIENT: SeisLab-LDL	DATE: 18/07/08	SEA CONDITION: ■ SMOOTH CHOPPY ROUGH	RAIN?: YES ■ NO
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	4
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	■ 12.5 meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	100	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	2931	
FIRST SegY FILE	Ds20080717.221949-0101.sy	
LAST SegY FILE	Ds20080717.023434-2931.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
LAST NAVIPAC EVENT NO		2931	
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		4.3	
NAVIPAC CUSTOM LOG FILE NAME		MAR08-13.log	
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		22:19	
LINE END TIME		02:34	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
COORDINATES	DATUM	Lon:	N:
		x WGS84	ED 50 Other:.....

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES	
Chirp:20080717095550.odc	
At ping 3031 range:1000	

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MULTICHANNEL SEISMIC REFLECTION OBSERVER LOG**



AREA: MARMARA	LINE NAME: Mar08-64	CLIENT: SeisLab-LDL	DATE: 18/07/08	SEA CONDITION: ■ SMOOTH CHOPPY ROUGH	RAIN?: YES ■ NO
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	4
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	■ 12.5 meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	100	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	3595	
FIRST SegY FILE	Ds20080718-095721-0101.sy	
LAST SegY FILE	Ds20080718-151751-3595.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
LAST NAVIPAC EVENT NO		3595	
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		4.5	
NAVIPAC CUSTOM LOG FILE NAME		MAR08-64.log	
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		09:57	
LINE END TIME		15:17	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
COORDINATES	DATUM	Lon:	N:
		x WGS84	ED 50 Other:.....

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES
Chirp:20080717213400.odc
FFID 1340 Hz. The speed decreased to 2.7 knots
In the end of the linet he speed decreased to 2 knots
Ping:11748 Range:2000

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MULTICHANNEL SEISMIC REFLECTION OBSERVER LOG**



AREA: MARMARA	LINE NAME: Mar08-62	CLIENT: SeisLab-LDL	DATE: 18/07/08	SEA CONDITION: ■ SMOOTH CHOPPY ROUGH	RAIN?: YES ■ NO
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	4
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	■ 12.5 meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	100	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	3106	
FIRST SegY FILE	Ds20080718-161314-0101.sy	
LAST SegY FILE	Ds20080718-205800-3106.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
LAST NAVIPAC EVENT NO		3106	
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)			
NAVIPAC CUSTOM LOG FILE NAME		MAR08-62.log	
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		16:13	
LINE END TIME		20:58	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
COORDINATES	DATUM	Lon:	N:
		x WGS84	ED 50 Other:.....

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES	
At the shot #1680 the speed decreased to 3.8 knots	
FFID:1600 because of the ship the route changed to starboard	

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MULTICHANNEL SEISMIC REFLECTION OBSERVER LOG**



AREA: MARMARA	LINE NAME: Mar08-ek10b	CLIENT: SeisLab-LDL	DATE: 18/07/08	SEA CONDITION: ■ SMOOTH CHOPPY ROUGH	RAIN?: YES ■ NO
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	4
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	■ 12.5 meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	100	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	420	
FIRST SegY FILE	Ds20080718-215932-0101.sy	
LAST SegY FILE	Ds20080718-222648-0420.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
420		492	
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)			
NAVIPAC CUSTOM LOG FILE NAME		MAR08-ek10b.log	
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		21:59	
LINE END TIME		22:26	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
COORDINATES	DATUM	Lon:	N:
		x WGS84	ED 50 Other:.....

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES	
Chirp: 20080718093919.odc	

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AREA: MARMARA	LINE NAME: Mar08-delta3	CLIENT: SeisLab-LDL	DATE: 20/07/08	SEA CONDITION: SMOOTH <input type="checkbox"/> CHOPPY <input checked="" type="checkbox"/> ROUGH <input type="checkbox"/>	RAIN?: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	4
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	<input checked="" type="checkbox"/> 12.5meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	100	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	1055	
FIRST SegY FILE	Ds20080718-045155-0101.sy	
LAST SegY FILE	Ds20080718-063805-1268.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
420		1268	
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		4.4	
NAVIPAC CUSTOM LOG FILE NAME		MAR08-delta3.log	
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		04:51	
LINE END TIME		06:38	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
COORDINATES	DATUM	Lon:	N:
		x WGS84	ED 50 Other:.....

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES	
Chirp: 20080719162136.odc	
At the shot 860 chirp stopped.	
On the navigation computer log data starts on event # 117. We cannot see events before 117 because of an error occured	
Ping 22 changed to 160	Navipac:117
The line started 1000 m before the line	
New chirp file: 20080719174737.odc	

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MULTICHANNEL SEISMIC REFLECTION OBSERVER LOG**



AREA: MARMARA	LINE NAME: Mar08-2000	CLIENT: SeisLab-LDL	DATE: 20/07/08	SEA CONDITION: SMOOTH <input type="checkbox"/> CHOPPY <input checked="" type="checkbox"/> ROUGH	RAIN?: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	4
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	<input checked="" type="checkbox"/> 12.5 meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	100	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	1055	
FIRST SegY FILE	Ds20080718-070145-0101.sy	
LAST SegY FILE	Ds20080718-083404-1055.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
420		1055	
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		4	
NAVIPAC CUSTOM LOG FILE NAME		MAR08-2000.log	
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		07:01	
LINE END TIME		08:34	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
COORDINATES	DATUM	Lon:	N:
		x WGS84	ED 50 Other:.....

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES	
Chirp: 20080719183352.odc	
FFID 560: speed decreased from 4.4 to 4 knots	

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MULTICHANNEL SEISMIC REFLECTION OBSERVER LOG



AREA: MARMARA	LINE NAME: Mar08-6new	CLIENT: SeisLab-LDL	DATE: 20/07/08	SEA CONDITION: SMOOTH <input type="checkbox"/> CHOPPY <input checked="" type="checkbox"/> ROUGH	RAIN?: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	4
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	<input checked="" type="checkbox"/> 12.5 meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	100	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	1064	
FIRST SegY FILE	Ds20080718-100118-0101.sy	
LAST SegY FILE	Ds20080718-114105-1064.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
420		1064	
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		3.8	
NAVIPAC CUSTOM LOG FILE NAME		MAR08-6new.log	
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		10:01	
LINE END TIME		11:41	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
COORDINATES	DATUM	Lon:	N:
		x WGS84	ED 50 Other:.....

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES	
Chirp: 20080719213200.odc	

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AREA: MARMARA	LINE NAME: Mar08-4000	CLIENT: SeisLab-LDL	DATE: 20/07/08	SEA CONDITION: SMOOTH <input checked="" type="checkbox"/> CHOPPY ROUGH	RAIN?: YES <input checked="" type="checkbox"/> NO
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	4
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	■18.75 meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	100	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	1182	
FIRST SegY FILE	Ds20080720-220650-0101.sy	
LAST SegY FILE	Ds20080721-000016-1182.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
420			
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		5.2	
NAVIPAC CUSTOM LOG FILE NAME		MAR08-4000.log	
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		22:06	
LINE END TIME		00:00	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	Lon:	N:	
	END	Lat:	E:
		Lon:	N:
	DATUM	x WGS84	ED 50

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

[illegible][illegible]

SURVEY NOTES	
Chirp: 20080720094350.odc	
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MULTICHANNEL SEISMIC REFLECTION OBSERVER LOG



AREA: MARMARA	LINE NAME: Mar08-6000	CLIENT: SeisLab-LDL	DATE: 20/07/08	SEA CONDITION: SMOOTH <input type="checkbox"/> CHOPPY <input type="checkbox"/> ROUGH <input type="checkbox"/>	RAIN?: YES <input type="checkbox"/> NO <input type="checkbox"/>
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	4
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	<input checked="" type="checkbox"/> 12.5 meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	100	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	1220	
FIRST SegY FILE	Ds20080721-002858-0101.sy	
LAST SegY FILE	Ds20080721-021937-1220sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
420			
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		5.3	
NAVIPAC CUSTOM LOG FILE NAME		MAR08-6000.log	
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		00:28	
LINE END TIME		02:19	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
DATUM	x	WGS84	ED 50
		Other:.....	

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES	
Chirp: 200807201205335.odc	



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MULTICHANNEL SEISMIC REFLECTION OBSERVER LOG



AREA: MARMARA	LINE NAME: Mar08-delta4	CLIENT: SeisLab-LDL	DATE: 20/07/08	SEA CONDITION: SMOOTH <input checked="" type="checkbox"/> CHOPPY ROUGH	RAIN?: YES <input checked="" type="checkbox"/> NO
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	4
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	■12.5meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	100	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	1214	
FIRST SegY FILE	Ds20080721-024901-0101.sy	
LAST SegY FILE	Ds20080721-043341-1214.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
420			
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		4	
NAVIPAC CUSTOM LOG FILE NAME		MAR08-delta4.log	
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		02:49	
LINE END TIME		04:33	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
		Lon:	N:
	END	Lat:	E:
		Lon:	N:
DATUM	x WGS84	ED 50	Other:.....

OPERATORS	
NAME(s)	SHIFT TIME

[illegible][illegible]

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MULTICHANNEL SEISMIC REFLECTION OBSERVER LOG**



AREA: MARMARA	LINE NAME: Mar08-delta1	CLIENT: SeisLab-LDL	DATE: 20/07/08	SEA CONDITION: SMOOTH <input type="checkbox"/> CHOPPY <input checked="" type="checkbox"/> ROUGH	RAIN?: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	4
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	<input checked="" type="checkbox"/> 12.5meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	100	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	923	
FIRST SegY FILE	Ds20080721-050840-0101.sy	
LAST SegY FILE	Ds20080721-064121-0923.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
420			
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)			
NAVIPAC CUSTOM LOG FILE NAME		MAR08-delta1.log	
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		05:08	
LINE END TIME		06:41	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
COORDINATES	DATUM	Lon:	N:
		x WGS84	ED 50 Other:.....

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES	
Chirp: 20080720164446.odc	

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MULTICHANNEL SEISMIC REFLECTION OBSERVER LOG**



AREA: MARMARA	LINE NAME: Mar08-delta1-2000	CLIENT: SeisLab-LDL	DATE: 20/07/08	SEA CONDITION: SMOOTH <input type="checkbox"/> CHOPPY <input checked="" type="checkbox"/> ROUGH	RAIN?: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	4
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	<input checked="" type="checkbox"/> 12.5meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	100	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	953	
FIRST SegY FILE	Ds20080721-071335-0101.sy	
LAST SegY FILE	Ds20080721-084500-0953.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
420			
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)			
NAVIPAC CUSTOM LOG FILE NAME		MAR08-delta1.log	
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		07:13	
LINE END TIME		08:45	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
COORDINATES	DATUM	Lon:	N:
		x WGS84	ED 50 Other:.....

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES	
Chirp: 20080720184652.odc	

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MULTICHANNEL SEISMIC REFLECTION OBSERVER LOG



AREA: MARMARA	LINE NAME: Mar08-delta1-3000	CLIENT: SeisLab-LDL	DATE: 20/07/08	SEA CONDITION: SMOOTH <input type="checkbox"/> CHOPPY <input checked="" type="checkbox"/> ROUGH	RAIN?: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	4
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	<input checked="" type="checkbox"/> 12.5meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	100	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	956	
FIRST SegY FILE	Ds20080721-090053-0101.sy	
LAST SegY FILE	Ds20080721-103058-0956.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
420			
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		3.7	
NAVIPAC CUSTOM LOG FILE NAME			
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		09:00	
LINE END TIME		10:30	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
COORDINATES	DATUM	Lon:	N:
		x WGS84	ED 50 Other:.....

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES	
Chirp: 200807202003536.odc	

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MULTICHANNEL SEISMIC REFLECTION OBSERVER LOG



AREA: MARMARA	LINE NAME: Mar08-delta1-4000	CLIENT: SeisLab-LDL	DATE: 20/07/08	SEA CONDITION: SMOOTH <input type="checkbox"/> CHOPPY <input checked="" type="checkbox"/> ROUGH	RAIN?: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	4
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	<input checked="" type="checkbox"/> 12.5meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	100	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	966	
FIRST SegY FILE	Ds20080721-105126-0101.sy	
LAST SegY FILE	Ds20080721-123135-0966.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
420			
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		3.9	
NAVIPAC CUSTOM LOG FILE NAME			
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		10:51	
LINE END TIME		12:31	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
COORDINATES	DATUM	Lon:	N:
		x WGS84	ED 50 Other:.....

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES	
Chirp: 20080720212229.odc	

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MULTICHANNEL SEISMIC REFLECTION OBSERVER LOG**



AREA: MARMARA	LINE NAME: Mar08-delta1-5000	CLIENT: SeisLab-LDL	DATE: 20/07/08	SEA CONDITION: SMOOTH <input type="checkbox"/> CHOPPY <input checked="" type="checkbox"/> ROUGH	RAIN?: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	4
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	<input checked="" type="checkbox"/> 12.5meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	100	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	965	
FIRST SegY FILE	Ds20080721-125006-0101.sy	
LAST SegY FILE	Ds20080721-143028-0965.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
420			
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		3.8	
NAVIPAC CUSTOM LOG FILE NAME			
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		12:50	
LINE END TIME		14:30	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
DATUM	x	WGS84	ED 50
		Other:.....	

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES	
Chirp: 20080721001940.odc	

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MULTICHANNEL SEISMIC REFLECTION OBSERVER LOG



AREA: MARMARA	LINE NAME: Mar08-delta1-6000	CLIENT: SeisLab-LDL	DATE: 20/07/08	SEA CONDITION: SMOOTH <input type="checkbox"/> CHOPPY <input checked="" type="checkbox"/> ROUGH	RAIN?: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	4
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	<input checked="" type="checkbox"/> 12.5meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	100	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	984	
FIRST SegY FILE	Ds20080721-145106-0101.sy	
LAST SegY FILE	Ds20080721-162932-0984sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
420			
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		3.8	
NAVIPAC CUSTOM LOG FILE NAME			
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		14:51	
LINE END TIME		16:29	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
COORDINATES	DATUM	Lon:	N:
		x WGS84	ED 50 Other:.....

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES	
Chirp: 20080721022126.odc	

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MULTICHANNEL SEISMIC REFLECTION OBSERVER LOG



AREA: MARMARA	LINE NAME: Mar08-delta1-7000	CLIENT: SeisLab-LDL	DATE: 20/07/08	SEA CONDITION: SMOOTH <input type="checkbox"/> CHOPPY <input checked="" type="checkbox"/> ROUGH	RAIN?: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	4
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	<input checked="" type="checkbox"/> 12.5meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	100	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	1001	
FIRST SegY FILE	Ds20080721-164736-0101.sy	
LAST SegY FILE	Ds20080721-182843-1001.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
420			
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		3.1	
NAVIPAC CUSTOM LOG FILE NAME			
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		16:47	
LINE END TIME		18:28	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
COORDINATES	DATUM	Lon:	N:
		x WGS84	ED 50 Other:.....

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES	
Chirp: 20080721042359.odc	



AREA: MARMARA	LINE NAME: Mar08-delta1-8000	CLIENT: SeisLab-LDL	DATE: 20/07/08	SEA CONDITION: SMOOTH <input checked="" type="checkbox"/> CHOPPY ROUGH	RAIN?: YES <input checked="" type="checkbox"/> NO
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	4
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	■12.5meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	100	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	942	
FIRST SegY FILE	Ds20080721-184312-0101.sy	
LAST SegY FILE	Ds20080721-200905-1001.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
420			
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)			
NAVIPAC CUSTOM LOG FILE NAME			
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		18:43	
LINE END TIME		20:09	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	Lon:	N:	
	END	Lat:	E:
		Lon:	N:
	DATUM	x WGS84	ED 50

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

[illegible][illegible]

SURVEY NOTES	
Chirp: 20080721061736.odc	
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AREA: MARMARA	LINE NAME: Mar08-delta1-9000	CLIENT: SeisLab-LDL	DATE: 20/07/08	SEA CONDITION: SMOOTH <input checked="" type="checkbox"/> CHOPPY ROUGH	RAIN?: YES <input checked="" type="checkbox"/> NO
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	4
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	■12.5meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	100	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	976	
FIRST SegY FILE	Ds20080721-203044-0101.sy	
LAST SegY FILE	Ds20080721-220219-0976.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
420			
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)			
NAVIPAC CUSTOM LOG FILE NAME			
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		20:30	
LINE END TIME		22:02	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	Lon:	N:	
	END	Lat:	E:
		Lon:	N:
	DATUM	x WGS84	ED 50

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

[illegible][illegible]

SURVEY NOTES	
Chirp: 20080721095138.odc	
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AREA: MARMARA	LINE NAME: Mar08-delta2	CLIENT: SeisLab-LDL	DATE: 20/07/08	SEA CONDITION: SMOOTH <input type="checkbox"/> CHOPPY <input checked="" type="checkbox"/> ROUGH	RAIN?: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	4
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	<input checked="" type="checkbox"/> 12.5meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	100	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	970	
FIRST SegY FILE	Ds20080721-221759-0101.sy	
LAST SegY FILE	Ds20080721-234839-0970.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
420			
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		3.6	
NAVIPAC CUSTOM LOG FILE NAME			
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		22:17	
LINE END TIME		23:48	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
DATUM	x	WGS84	ED 50
		Other:.....	

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES	
Chirp: 20080721095139.odc	

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MULTICHANNEL SEISMIC REFLECTION OBSERVER LOG



AREA: MARMARA	LINE NAME: Mar08-ekdelta	CLIENT: SeisLab-LDL	DATE: 20/07/08	SEA CONDITION: SMOOTH <input type="checkbox"/> CHOPPY <input checked="" type="checkbox"/> ROUGH	RAIN?: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	4
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	<input checked="" type="checkbox"/> 18.75meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	100	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	263	
FIRST SegY FILE	Ds20080721-000842-0101.sy	
LAST SegY FILE	Ds20080721-002707-0263.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
420			
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		5.4	
NAVIPAC CUSTOM LOG FILE NAME			
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		00:08	
LINE END TIME		00:27	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	END	Lon:	N:
		Lat:	E:
DATUM	x	WGS84	ED 50
		Other:.....	

OPERATORS	
NAME(s)	SHIFT TIME

DELAYS	
FFID to FFID	Delay (sec)

SURVEY NOTES	
Chirp: 20080721114055.odc	



AREA: MARMARA	LINE NAME: Mar08-lastline	CLIENT: SeisLab-LDL	DATE: 20/07/08	SEA CONDITION: SMOOTH <input checked="" type="checkbox"/> CHOPPY ROUGH	RAIN?: YES <input checked="" type="checkbox"/> NO
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STREAMER PARAMETERS	
LENGHT (m)	600 m
DEPTH (m)	4
GROUP INT. (m)	6.25 m
# OF MODULES	4
# OF SECTIONS	8
I-O 5010 BIRDS	3
I-O 5011 BIRDS	2

RECORD PARAMETERS		
RECORDER	Hydroscience NTRS-2	
DEVICE and S/N	MFG43 / 111	
DATA FORMAT	SegD rev 1.0 / SegY IBM Float	
# OF CHANNELS	72	
SHOT INTERVAL	■18.75meter	sec
REC. LENGTH (ms)	4000	
SAMPLE RATE (ms)	1	
OFFSET (m)	100	
FIRST SHOT (FFID)	101	
LAST SHOT (FFID)	970	
FIRST SegY FILE	Ds20080721-002816-0101.sy	
LAST SegY FILE	Ds20080721-023855-1273.sy	
LOW-CUT / SLOPE	5 Hz / 12 dB / oct	
HIGH-CUT / SLOPE	412 Hz / 225 dB / oct	

NAVIGATION PARAMETERS			
FIRST NAVIPAC EVENT NO		101	
420			
LINE LENGTH / BEARING (m / °)			
NOMINAL VESSEL SPEED (knots)		5.4	
NAVIPAC CUSTOM LOG FILE NAME			
NAVIPAC EVENTS LOG FILE NAME			
LINE START TIME		00:28	
LINE END TIME		02:38	
COORDINATES	START	LATITUDE & LONGITUDE	UTM (Zone: 35)
		Lat:	E:
	Lon:	N:	
	END	Lat:	E:
		Lon:	N:
	DATUM	x WGS84	ED 50

GUN PARAMETERS	
# OF GUNS	1
TYPE OF GUNS	GI
PRESSURE (psi)	2000
TOW DEPTH (m)	3
VOLUME (inch ³)	45+45

OPERATORS	
NAME(s)	SHIFT TIME

[illegible][illegible]