

SUMMARY INFORMATION FOR GS1974 "IPOD" SEISMIC LINE

07/15/2013

Relevant information

Ship: R/V GULF SEAL

Cruise dates: 10/17/74 - 11/07/74

USGS Field Activity 1974-010-FA

Chief scientist: John Grow USGS

scientist Rudy Markl LDEO

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The IPOD Line was a single seismic line from the vicinity of Cape Hatteras along a flow line to the rift zone of the Mid-Atlantic Ridge. It was shot by DIGICON.

The original segy files contained only FFIDs which generally went to 1000 and then were reset to one. In order to have continuous shot numbers another 1000 needed to be added to the FFID each time this happened. In addition because of various acquisition issues an additional constant sometimes needed to be added. This was determined from the tables provided showing segy shot range compared to navigation shot range. The shot numbers in bytes 9-12 of the segy trace header are continuous and can easily be matched to navigation shot numbers. The original FFID is in bytes 17-20 of the segy trace header.

Each of the files named 001 to 010 represents a segment of the line, which often overlaps the end of the previous file.

When the number of samples is constant for the segment there is just one file, e.g. 004. When the number of samples changed during the segment, the segment was divided into sub-segments, each with a constant number of samples, e.g. 003.1, 003.2, 003.3.

The original acquisition data was multiplexed and did not have a recording delay. For early archiving purposes, the water column was removed, so a deep water delay needs to be applied by the user. The delay is NOT in the segy headers. John Miller processed the data up to segy shot 13292 and for those shots has provided us with a table containing seismic shot number, FFID, and delay to apply. The delays for the rest of the line will need to be determined by the user.

The navigation supplied to us contained only latitude, longitude, and navigation shot number for every tenth navigation shot. The navigation shots were every 100 meters. The seismic shots were every 50 meters. The navigation file we provide (see below) also contains the seismic shot number corresponding to each navigation shot number in the file:

seismic shot= ((nav shot-101)x2)+1.

The 14 auxiliary channels were eliminated for this archive.

GS1974.IPOD.seismic.segy.files

GS1974.IPOD.001	shots 1-2950	samples=2250
GS1974.IPOD.002	shots 2877-4596	samples=2250
GS1974.IPOD.003.1	shots 4403-4970	samples=2250
GS1974.IPOD.003.2	shots 4971-5562	samples=1800
GS1974.IPOD.003.3	shots 5563-6360	samples=1549
GS1974.IPOD.004	shots 6279-8700	samples=1549
GS1974.IPOD.005.1	shots 8619-8966	samples=1549
GS1974.IPOD.005.2	shots 8967-13618	samples=1301
GS1974.IPOD.006	shots 13599-18442	samples=1301
GS1974.IPOD.007	shots 18443-22110	samples=1301
GS1974.IPOD.008.1	shots 22039-25468	samples=1301
GS1974.IPOD.008.2	shots 25469-28022	samples=1551
GS1974.IPOD.008.3	shots 28023-32570	samples=1301
GS1974.IPOD.009.1	shots 32479-38194	samples=1301
GS1974.IPOD.009.2	shots 38195-45870	samples=1549
GS1974.IPOD.010	shots 45799- 68020	samples=1549

GS1974.IPOD.snav

example:

#	LAT	LON	NAV SHOT	SEISMIC SHOT (2 SEISMIC SHOTS to 1 NAV SHOT)
	34.800244	-76.000753	101	1
	34.796912	-75.992328	110	19
	34.793174	-75.982897	120	39
	34.789378	-75.973382	130	59
	34.785529	-75.963777	140	79
	34.781644	-75.954088	150	99
	34.777726	-75.944211	160	119
	34.773782	-75.934061	170	139
	34.769720	-75.923759	180	159
	34.765447	-75.913434	190	179
	34.760989	-75.903173	200	199