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U.S. Geological Survey
Open-File Report 76-736

1976

Acoustic Reflection Profiles
R/V KELEZ, April 1973 (Leg 1)

Gulf of Farallones
Central California Offshore

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This report is preliminary and has
not been edited or reviewed for
conformity with Geological Survey
standards or nomenclature.

NOTE:

This report contains the following: a microfilm of single channel intermediate penetration and high resolution subbottom acoustic reflection profiles, a seismic log and a track chart.

The seismic reflection profiles in this report were obtained by the U.S. Geological Survey aboard the Research Vessel George B. Kelez in April, 1973. Intermediate penetration (sparker) profiles were usually run using a 3 second shoot and 3 second sweep rate with a 120 kJ power supply. On the near-shore ends of some lines (56, 58, 60, 62, 64, 66, 72, 77) lower power levels were used (as low as 60 kJ) and the sweep rate was shortened to 2 seconds and the shoot rate was increased to 4 seconds. High-resolution (towed Uniboom) profiles were run at a 1/4 second sweep and 1/4 second shoot rate with a 600 joule power supply.

The positions on the accompanying track chart were plotted from radio navigation provided by a contractor using an electronic range-range system. Seaward ends of lines 1, 3, 44, 66, 68 and 93 were outside the transponder range and were plotted by Loran and dead reckoning.

SEISMIC LOGBOOK

Vessel: R/V KELEZCruise location: Gulf of TatalloresDates: April, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kJ	REMARKS
JP 100	1146	52	093°/3kts.	3/3	98/50	80	
	1230	"				120	
	1330	"					
	1350	"	/4.5kts				
	1400	"					
	1418	"	/5.0kts				
	1427	"					Belt trouble; 120kJ down
	1430	"					"
	1439	"					"
	1440	"					"
	1453	"					"
	1500	"					"
	1501	52	093°/50kts	3/3	98/50	120	All systems working
	1517		/4.6kts				No.2 capacitor switch shut down
	1530	"					No.2 capacitor working
	1608	"					
	1630	"					No.2 capacitor bank shut down
	1643						
JD 100	1700	52	093°/4.6kts	3/3	98/50		Returning to 1630 position to re-run line

SEISMIC LOGBOOK

Vessel: R/V KELEZCruise location: Gulf of FarallonesDates: APRIL, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kJ	REMARKS
JD100	1736	52	9c	3/3	98/50		Begin turn to right
	1741	Ship will return on line at			original	1624 position (1624 = 1752)	
	1752	52	0930/	3/3	98/50	120	
	1845						Uniboom down
	1906						Begin right turn
	1915	"					Uniboom on
	1945	"					
	2023	"					shorten: big streamer
	2032						Turn to line 53
	2033	53	180/				
	2043						streamer on
	2050						phones off
	2052						phones on 300' of leader
	2100	54	270°				
	2123	"					
	2136	"					
	2149	"					
	2202	"					
	2229	"	270°/	3/3	98/50	120	

SEISMIC LOGBOOK

Vessel: R/V KELEZCruise Location: Gulf of FarallonesDates: APRIL, 1976

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kJ	REMARKS
	2259	54	270°	3/3	98/50	120	
	2308	"					
	2331	end 54					
	2354	Changed course	without notifying Lab.				
	2356	42					
	2358	"					Power out momentarily - blown fuse
JD101	0004	"	090°				
	0014	"					
	0030	"					
	0042	"					
	0100	"					
	0111	end 42					
	0121	41					
	0129	end 41					
	0130						Turning
	0134	40					
	0200	"	272°/3kts				
	0219	"					Beit - paper change deep pen.
	0245	"	272°/3kts	3/3	98/50	120	Beit - paper changed

SEISMIC LOGBOOK

Vessel: R/V KELEZCruise location: GULF OF PARALLONESDates: APRIL, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kW	REMARKS
JD101	0300	40	274°/34kts	3/3	98/50	120	
	0318	"					recorder down
	0324						
	0325						recorder on
	0330	end 40	355°/34kts				start turn
	0351	38	c/c	3/3	98/50	120	
	0401	"					ship's engine change
	0412	"	090°				
	0419		320°				c/c
	0420	37					
	0430		c/c				start turn to left
	0437	36	270°				
	0501	end 36					Begin long turn to line 42
	0516	tie line					tie line between 36 & 42
	0530		c/c 10°				
	0531		110°				
	0541		c/c 10°				
	0549		c/c to left				
JD101	0553		c/c	3/3	98/50	120	half circle to line 42

SEISMIC LOGBOOK

Vessel: R/V KEELZCruise location: Gulf of ParallonesDates: April, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER KJ	REMARKS
JD101	0602	42	270°	3/3	98/50	120	
	0632	"	13.5 Kts	1/4 / y4	1500/650	0.6	
	0700	"					
	0734						
	0807			3/3		120	
	0832						
	0905	"					
	0913			"	98/40		
	0921			1/4 / y4	1600/650	0.6	
	0954	"					change paper + bolt on Uniboom
	1036						
	1106	end 42	000°	{ 37°52'03" N 123°22'06" W }	{ radar fix }		c/c to 000° and 42
	1115	reline					on line
	1132	"		{ 37°52'24" N 123°22'06" W }	{ radar fix }		
	1146						37°53'24" N 123°22'15" W
	1151						37°54'08" N 123°22'16" W
	1200	"	"	3/3	98/40	120	
	1226	end					
JD101	1229	5	000°	3/3	98/40	120	start line 5

SEISMIC LOGBOOK

Vessel: R/V KELEZ

Cruise Location: Gulf of Tarallones

Dates: APRIL, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kJ	REMARKS
JD 101	1240	5	090°	3/3	98/40	120	
	1300	"					change belts
	1324						recorder on
	1329						
	1330	"					
	1341		090°/5.5 kts				
	1400	"					
	1411						belt & paper change
	1412		/5.8 kts				start recorder again
	1435	"					
	1500	"					
	1522						recorder down for belt change
	1533	"					on again
	1553	end					long slow turn
	1605	ship is 1/2 mile					away from previous line - returning to line 5
	1630	starting turn, back					onto line
	1636	5	090°				
	1641	"	090°	3/3	98/40	120	sparker on
JD 161	1643	"	"	1/4 / 1/4	1600 / 650		unibroom on

SEISMIC LOGBOOK

Vessel: R/V KCLER

Cruise Location: Gulf of Farallones

Dates: APRIL, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kJ	REMARKS
JD 101	1701	5	090°				
	1741						12000 ft to end of line
	1754	end					start turn to right
	1759	6	210°				
		Uniborn off 1740-1803			for paper	change	
	1813	end 6	0°				start turn
	1832	7	000°				
	1851	"		3/3	98/40	120	
				1/4 / 1/4	1600/650	3	
	1902	end 7	0°				start turn
	1907	8	300°				
	1920	9	180°				
	1951						1500 ft to end line 9
	1955	end 9	0°				start turn to right
	2000	10	270°				
	2010		0°				start turn to right
	2014	11	000°	3/3	98/40	120	← deep penetration
	2030	"		1/4 / 1/4	1800/650	.6	← high resolution
JD 101	2045	11					

SEISMIC LOGBOOK

Vessel: R/V KELEZCruise Location: Gulf of FarallonesDates: APRIL, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kW	REMARKS
JD101	2049	11		3/3	98/40	120	cut back to one engine
	2054	end 11	9c				start turn
	2100	12	270°				
	2109	end 12	9c				start turn
	2112	13	180°				
	2130	"					
	2145	"					
	2200	end 13	9c				start turn
	2205	14	270°				
	2214	end 14					sparken paper change
	2224	15	000°				
	2230						start new sparken roll
	2245	"					
	2300	"					
	2315	"					
	2318	end 15	270°				
	2322	16					
	2332	end 16	9c				
JD101	2336	17	180°				

SEISMIC LOGBOOK

Vessel: R/V KELEZCruise Location: Gulf of FarallonesDates: April, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kj	REMARKS
JD 102	0000	17	180°	3/3	98/40	120	
	0025	end 17					
	0030	18	270°				
	0040	end 18					
	0051	19	000°				
	0118	end 19					start turn
	0120	20	9°				
	0127		270°				uniboom paper change
	0134	end 20					
	0138	21	180°				
	0140	"					uniboom working
	0200	"					
	0206	end 21					
	0208	22	270°				sparkers off
	0211						sparkers on
	0219	end 22					
	0221	23	000°				
	0245	"					
JD 102	0253	end 23					

SEISMIC LOGBOOK

Vessel: R/V KELEZCruise location: Gulf of FarallonesDates: April, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kW	REMARKS
JD102	0259	24	180°	3/3	98/40	120	start 24
	0323	end 24					
	0332						turning between 24 & 25
	0337	25	000°	"	"	"	
	0345	"					
	0444	end 25					all systems off, uniboomer high speed run.
JD102	0622	27	185°/40 kts				
	0646	"		3/3	98/40	120	sparkler
				1/4 / 1/4	1750/625		uniboom
	0718	end 27	0°				start turn
	0721	28	270°				
	0732	end 28					
	0734	29	000°				
	0800	"		3/3	98/40	120	sparkler
	0815			1/4 / 1/4	1500/600	0.6	uniboom
	0834	end 29	0°				
	0841	30	270°				
	0850	end 30	0°				uniboom paper change

SEISMIC LOGBOOK

Vessel: R/V KEELEZCruise Location: Gulf of FarallonesDates: APRIL, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kJ	REMARKS
JD 102	0857	31	180°	3/3	98/40	120	spark
	0915	"					
	0930	"					unboom on again
	0955	end 31	9/c				
	1000	32	090°				
	1030	"					
	1045	"					
	1100	"					
	1115	"					
	1130	"					
	1145	"					
	1200	"					
	1215	"					
	1230	"					
	1300	"					
	1302	end 32	9/c				
	1307	33	144°				
	1311		180°				
JD 102	1315	end 33	9/c				

SEISMIC LOGBOOK

Vessel: R/V KELEZCruise location: Gulf of ParallonnesDates: APRIL, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kJ	REMARKS
JD102	1318	34	270°	3/3	98/40	120	
"	1330	"	/ 4.3 kts				
"	1400	"	/ 4.5 kts				
"	1430	"					
"	1500	"					
"	1545	end 34					
"	1547	35	180°				uniboom off
"	1600		/ 8 kts				speed ran SE to 46 intersection
"	1630	" B "	145°				
"	1645	"	"	3/3	98/40	120	
"	1731						slowed to put uniboom in water
"	1751	46	090°				% to avoid buoy
"	1822	"					uniboom off
"	1830						
"	1855	C	240°				
"	1903	end C	%				
"	1938						near line 46; uniboom on
"	1944	46	090°	3/3	98/40	120	
JD102:	1954						slight overlap from previous run

SEISMIC LOGBOOK

Vessel: R/V KEELEZCruise location: Gulf of Farallones Dates: APRIL, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kJ	REMARKS
JD102	2000	46	090°	1/4/14	1800/600	.6	uniboom on
	2030	"					
	2046	end 46	9/c				sparkers phone off (dragged on bottom)
	2050	45	170°				
	2058	end 45					
	2101	44	270°				
	2130						new sparkers phone on
	2200	"					change uniboom paper.
	2220	"					working with sparkers uniboom back on
	2250	"		3/3	98/40	60 kJ	sparkers back on
	2320						uniboom off; belt repair
	2335	re-run 46	000°				re-run 46
	2349	"	090°				start re-run
JD103	0000	"					
	0015	"		"	98/31	60	
	0030	"					
	0055	end re-run					

SEISMIC LOGBOOK

Vessel: R/V KEEPERCruise Location: Gulf of FarallonesDates: APRIL, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kj	REMARKS
JD103	1006	1	270°	3/3	98/40	120	
	1030	"					
	1100	"					
	1130	"					
	1212						Navigators using Loran positioning
	1215			3/4	"	"	
	1230			"	"	"	
	1245			3/3	"	"	
	1300		"	3/4	"	"	
	1330		"				
	1400			"			
	1415		270°/6 kts				
	1430	"	"				
	1500	"	"	"	"	"	
	1530	"					
	1548	"					
	1646	"		3/3	"	"	
	1709	"		"	"	"	
JD103	1852	end	c/c	4/4	98/40	120	

SEISMIC LOGBOOK

Vessel: R/V KELEZCruise Location: Gulf of Farallones Dates: APRIL, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kW	REMARKS
JD 103	1900	D	000°	4/4	98/40	120	
"	1930	"					
	1949	end D	c/c				
	1952	3	090°				
	2030	"					
	2100	"					
	2130	"					
	2222	"					
	2231	"					
	2300	"					
	2330	"					
JD 104	0000	"					
	0030		080°				
	0039						reduced speed
	0100	"	090°				
	0130	"	090°/5 kts				
	0210	"	"	"	"	"	Uniform shut down
	0230	"					
JD 104	0300		090°/4.6 kts				

SEISMIC LOGBOOK

Vessel: R/V KEELEZCruise Location: Gulf of ParanallesDates: APRIL, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kJ	REMARKS
JD 104	0315	3	090°/5.2 kts	4/4	98/40	120	
	0330	"					spark off - shorten streamer
	0358						spark on again
	0412						start turn
	0419	end 3	90°				increase speed
	0428	2	180°				all systems off
	0459	end 2	90°				ship slowed
	0625						spark on & off again
	0635						spark on
	0652	44					
	0659	44	270°				
	0704	"		3/3	76/40	120	
	0705				98/40		slight 90° to avoid rocks
	0725		90°				
	0815	"					
	0900	"					
	0930	"					
	1000	"		"	"	"	
JD 104	1033	"		"	"	"	

SEISMIC LOGBOOK

Vessel: R/V KALEZDates: APRIL, 1973Cruise Location: Study of Seabirds

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kJ	REMARKS
JD104	1100	44		3/3	23/40	120	
	1130	"					
	1145	"	4.5 kts				going on Loran
	1200	"	270°/4.5 kts	"	"	"	
	1230	"					
	1300	"	/38 kts				
	1330	"					
	1400						lost range console on bridge
	1404						lost steering on bridge
	1412						Back on course
	1415	"	270°/4.5 kts	3/3	28/40	120	
	1430	"					
	1500	"					
	1530	"					
	1600	"					
	1626	end 44	190°				o/c to line, E
	1630	E	150°				
	1700	"					
JD104	1722	end E	9°	4/4	28/40	120	

SEISMIC LOGBOOK

Vessel: R/V KELEZCruise location: Gulf of FarallonesDates: APRIL, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kJ	REMARKS
JD104	1725	66	080°/	4/4	98/40	120	
	1800	"			98/31		C/FILTER
	1830	"					
	1900	"					
	1928	"					reduce speed
	2000	"					
	2016	"	090°/				
	2100	"					
	2131	"					
	2215	"					
	2251	"					
	2345	"					
JD105	0000	"					
	0030	"					
	0100	"					
	0133	"					
	0200	"					
	0210	end 66	%				
JD105	0215	F	180°/	4/4	98/31	120	

SEISMIC LOGBOOK

Vessel: R/V KELEZ

Cruise location: Gulf of Farallones

Dates: APRIL, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kJ	REMARKS
JD105	0219	F		4/4	98/31	120	
	0300	"					
	0303	end F	270° W	"	"	"	End LINE F
	0306	68		3/3			start line 68 (circling)
	0345	"	270°	"	"	"	
	0406	"					
	0446	"					
	0739	"					
	0830	"					
	0930	"					
	1000	"		3/3			
	1046	"					
	1100						
	1115	"	270°	3/3	98/31	120	
	1130						
	1200						
	1230	"					
	1300	"	270°/4.8 kts	"	"	"	
JD 105	1330	68	"	3/3	98/31	120	

SEISMIC LOGBOOK

Vessel: R/V KELEZ
Cruise Location: Gulf of Farallones

Dates: APRIL 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kJ	REMARKS
JD105	1345	68	270°/5.8 kts	3/3	98/31	120	
	1400	"					
	1430	"					
	1449	end 68					
	1454	G	180°				
	1500	"					
	1530	"					
	1535	end G					
	1536	93	090°/6.0 kts				
	1600	"					
	1630	"					
	1730	"					
	1801	"					
	1845	"					
	1900	"					
	1946	"					
	2012	"					
	2030	"					
JD105	2100	"	090°	3/3	98/31	120	

SEISMIC LOGBOOK

Vessel: R/V KELEZ

Cruise Location: off of small ones

Dates: APRIL, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kJ	REMARKS
JD105	2130	93	090°	3/3	98/31	120	
	2200	"					
	2230						
	2246		%				making circle; low oil pressure; shut down big system generator
	2300						sparker on, still in circle
	2330						circling
	2333	93	090°				regained previous track at same place as 2244
	2356	"					ship slowed
JD106	0000	"					increasing speed
	0030						
	0040					60	
	0106				76/31		
	0121						change belt
	0130						circling
	0145	"					"
	0817	72	091°	2/4	"	"	BREAK IN TIME
	0831			1/4 / 1/4	1800/650	.6	
	0900	"					

SEISMIC LOGBOOK

Vessel: R/V KELEZ

Cruise Location: Guaymas TallonesDates: APRIL, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kW	REMARKS
JD 106	0915	72	091°				
	0945						
	1000	"	090°				
	1030	"					
	1057	end 72	0°				increase speed.
	1103	73	022°				
	1110	74					
	1120	end 74	0°				
	1132	77	270°				decrease speed
	1200	"					
	1204						unibeam off
	1212						unibeam paper change
	1230	"		2/4	76/31	60	
	1225 to	1235	variable	speed			
	1244	77					unibeam down
	1248	"					change to new power supply
	1249	Jog to North	000°				for unibeam
	1300	"	360°	2/4	"	"	
JD 106	1316	end Jog	0°				

SEISMIC LOGBOOK

Vessel: R/V KELEZ

Cruise Location: St. George Island

Dates: APRIL, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kJ	REMARKS
JD106	1319	66	090°	2/4	76/31	60	
	1330	ABORT LINE	circle				circle for re-start
	1430	66	090°	"	"	"	start 66
	1500	"					
	1530	"					
	1602	"					
	1616	end 66	c/c				
	1636	end Tie Line H	"				
	1641	62	270°				
	1645	"	"	2/4	76/31	60	
	1701	"					
	1730	"					
	1815	"					
	1836	end 62	c/c				
	1841	J					
	1900	end J	c/c				
	1905	58	090°				
	1930	"					
JD106	2000	58	090°	2/4	76/31	60	

SEISMIC LOGBOOK

Vessel: R/V KELEZ

Cruise Location: Gulf of Guadalupe

Dates: APRIL, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kJ	REMARKS
JD 106	2006	end 58	c/c				
	2015		270°				running toward line 56
	2056	56					
	2108	"	"	2/4	76/31	60	Uniboom on
	2131	"					
	2136	end 56	c/c				
	2145		180°				
	2202	end turn					
	2211	60	000°				
	2230	"					
	2300	"	"	2/4	76/31	60	
	2315	end 60	c/c				
	2320	61	120°				
	2345	end 61	c/c				
	2350	64	270°				
JD 107	0000	64	270°	1/4/14	1800/650	.6	Uniboom paper change
	0007	"					
	0011	"					Uniboom on
JD 107	0030	"	270°	1/4/14	1800/650	0.6	

SEISMIC LOGBOOK

Vessel: R/V KELEZCruise Location: Chief of MaldivesDates: APRIL, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kJ	REMARKS
JD 107	0100	64	270°/4 kts	1/4 / 1/4	1800 / 650	0.6	Uniboom recorder not working circle to fix
	0120	"					circle
	0130						60 kJ recorder turned off
	0135						BREAK IN TIME
							SPARKER ON NO UNIBOOM
JD 107	0518	60					
	0522	"	270°	2/4	76/31	60	
	0600	"					after 0600 all systems down
							BREAK IN TIME
JD 109	1837	"K"	180°	3/3	76/31	120	NO Uniboom
	1906	"					
	2000	"					
	2030	"		"	"		
	2100	"					
	2130	"					
	2200	"					
	2230	"					
JD 109	2241	end K	%	3/3	76/31	120	

SEISMIC LOGBOOK

Vessel: R/V KELEZ

Cruise Location: Gulf of Thailand

Dates: APRIL, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kJ	REMARKS
JD109	2244			3/3	76/31	120	letting out hydrophone
	2250						phone out + recording
	2300	North into swell		"	"	"	
	2324	123	270°				
JD110	0000	"	"	"	"	"	
	0030	"					
	0100	"					
	0130	"					
	0200	"					
	0215	"			76/25		
	0235	"			46/31		
	0302	"			76/25		
	0330	"					
	0400	"	270°/3.5 kts	3/3	76/31	120	increase speed
	0426	"					
	0445	"	/3 kts				
	0512	"					
	0530	"					
JD110	0545	end 123		3/3	76/31	120	

SEISMIC LOGBOOK

Vessel: R/V KEELCruise Location: SW of JacksonvilleDates: APRIL, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kJ	REMARKS
JD 116	0540	"L"		3/3	76/31	120	
	0600	"					
	0630	"					
	0700	"					
	0730	"					
	0800	"		"	"	"	sparkes recorder off
	0813	"					
	"						sparkes recorder on
	0840	L					systems off for night
							BREAK IN TIME
JD 111	2343	123	090°	3/3	76/31	120	sparkes
	2345	"	"	1/4 / 1/4		6	unibeam
JD 112	0000	"	"	3/3	76/31	120	
	0030	"					
	0100	"					
	0130	"					
	0145	"	090°/4.3 kts				
	0148	"					unibeam paper change
JD 112	0151	123	090°/4.3 kts	3/3	76/31	120	unibeam on

SEISMIC LOGBOOK

Vessel: R/V KELEZ

Cruise Location: South of Guadalcanal

Dates: APRIL, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kW	REMARKS
JD 112	0200	123	000°/4.3 kts	3/3	76/31	120	uniboom + sparkers on
	0220	end 123					
	0221	M					
	0225	M	000°	3/3	76/31	120	
	0300	"					
	0330	"					
	0345	end M					
	0346	101	270°	3/3	76/31	120	
	0359	"					
	0445	"					
	0500	"	270°/4.6 kts				
	0510	"					paper change - uniboom
	0520	"					uniboom back on
	0527	"					uniboom down
	0530	"					" on
	0536	"					" down
	0545	"					" on
	0600	"					
	0623	"	270°	1/4 / 1/4	1650/93		

SEISMIC LOGBOOK

Vessel: R/V KELEZ

Cruise Location: Gulf of Guadalupe

Dates: APRIL, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER KJ	REMARKS
JD 112	0702	101	270°	3/3	76/31	120	
	0730	"					
	0755	end 101	c/c				
	0800	"N"	000°				
	0815	"	090°				c/c; still on line "N"
	0831	"					
	0845	"					
	0853	103	090°				start line 103
	0900	"					
	0930	"					
	0945		138Kts				
	1000	"					
	1015	"		1/4 / 1/4	1500/800	.6	← unboom
	1030	"					
	1100	"					
	1130	"					unboom off trigger problem
	1200	"					
	1203	end 103					
JD 112	1205	"0"	000°	3/3	76/31	120	

SEISMIC LOGBOOK

Vessel: R/V KELEZ

Cruise Location: Shelf of Swathlines

Dates: APRIL, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kW	REMARKS
JD 112	1206	"0"	000°	3/3	76/31	120	uniboom paper change
	1216	end "0"					
	1219	105	270°				
	1223	"	270°/3.0 kts	1/4	165°/800	.6	uniboom on
	1230	"	"	3/3	76/31	120	sparken
	1300	"					
	1330	"					
	1400	"					
	1430	"					
	1500	"	270°/3.7 kts				
	1530	"					
	1558	end 105	"				
							BREAK IN TIME
JD 112	1958	109	090°				circling to begin 109
	2009	109		3/3	76/31	120	← sparken
	2018	"		1/4	1500/850	.6	← uniboom
	2029	"					reduced speed
	2030	"					at Normal towing speed
JD 112	2100	109		3/3	76/31	120	

SEISMIC LOGBOOK

Vessel: R/V KELEZ

Cruise Location: Gulf of Saraklosses

Dates: APRIL, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kW	REMARKS
JD112	2130	109	090°	3/3	76/31	120	← sparked
	2200	"					
	2230	"					
	2240		90°				loop to change uniboom paper
	2300						in loop
	2322	109	90°				back on line
	2330	"					
	2351		90°				loop to fix uniboom
	0000						in loop
JD113	0014	"	090°	3/3	76/31	120	← sparked
	"	"	"	1/4 1/4	150/850	.6	← uniboom on
	0031	end 109	90°				end line 109
	0034	"-p"	000°				start line "p"
	0045	"					
	0100	"					
	0113	end "p"					
	0114	93	271°				
	0122						decreasing speed
JD113	0123	93	271°				increasing speed

SEISMIC LOGBOOK

Vessel: R/V KELEZCruise Location: Gulf of SinaloaDates: APRIL, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kW	REMARKS
JD 113	0130	93	271°	3/3	16/31	120	← sparkers
	0145	"		1/4 1/4	1409/850	.6	← sunboon data
	0200	"					
	0223						slowed
	0226	"					regained speed
	0300	"					
	0330	"					
	0342	end 93					
	0350		Ship Stop				120 kT off
	0353		"				Boom bent one 120 kT cable lost
							BREAK - IN - TIME
JD 114	1508	pre- 44					coming up on Line 44
	1528	"					circling to avoid traffic
	1539	44	270°	3/3	16/31	120	← sparkers
	1559	"	13.8 kts				
	1630	"					
	1700	"					
	1730	"					
JD 114	1800	"	270°/30 kts				

SEISMIC LOGBOOK

Vessel: R/V YELT-2Cruise Location: Shelf of SahalloneeDates: APRIL, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kJ	REMARKS
JD 114	1830	44	270°/3.8 kts				loop to change electrode
"	1840		c/c				
	1905	"	c/c				back on line 44
	1930	"	270°/	3/3	76/31	120	← sparked
	"			1/4 / 1/4	1500/850	.6	← uniboom
	2000	"					
	2015	"					uniboom paper change
	2025	"					" on
	2040		270°/				increase speed
	2100	"	"				"
	2123	end 44	c/c				system off
							BREAK IN TIME
JD 114	2231	"R"	135°/				
	2240	"					uniboom on
	2252	"					120 kJ on
	2315	"					sparked off
	2321	"	16 kts				" on
	2345	"	15 kts				
JD 115	0000	"R"	145°/5 kts				

SEISMIC LOGBOOK

Vessel: R/V K'ELTZ

Cruise Location: Gulf of Surablonas

Dates: April, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kJ	REMARKS
JD 115	0015	"R"	145°/5 kts	3/3	76/31	120	← sparkler
	0038			1/4 / 1/4	1200/680	.6	← uniboom
	0038	"			1725/680		HR. filters changed
	0100	"	"				
	0115	end "R"					
	0117	"	090°				
	0123	"					TURNING - circling to switch over generator & changing paper
	0200						working on generator
	0225						120 kJ on; trable w/paper feed
	0231						120 kJ down
	0234	"					120 kJ on
	0236	"	090°	3/3	76/31	120	
	0239	"					120 kJ down; belt change
	0243	"					120 kJ on
	0315	"	090°/5 kts	1/4 / 1/4	1725/680	.6	← uniboom
	0300	"	090°/4.6 kts				
	0330	"	"				
	0400	"					
JD 115	0430	"					

SEISMIC LOGBOOK

Vessel: R/V KEELEZ

Cruise Location: Gulf of Surinam

Dates: APRIL, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kJ	REMARKS
JD 115	0435	79	C/C	3/3	76/31	120	right turn off course to change belt; making loops
	0500						
	0501	"	090°				Back on course
	0530	"					
	0545	"		3/3	76/31	120	← sparkle
	"			1/4 / 1/4	1725/650	.6	← unboom furling on 2 nd system only.
	0600	"					
	0632	end 79					
	0639	" S "	198°				
	0654	end "S"					
	0701	75	270°				
	0730	"					
	0800	"					
	0830		3:14ts				
	0843	end 75	C/C				
	0848	" T "	180°				
	0900						
	0913	end "T"	C/C				
JD 115	0918	70	090°	3/3	76/31	120	

SEISMIC LOGBOOK

Vessel: R/V KELEZCruise Location: July 27, 1973Dates: APRIL, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kW	REMARKS
JD115	0930	70	000°/4.1 kts	3/3	76/31	120	
	1000	"					
	1030	"					
	1049	end 70	9°				uniboom paper change
	1052	69	180°/				
	1100	"					
	1103	end 69	9°				uniboom on
	1106	68	270°/				
	1130	"	270°/3.9 kts				
	1200	"	"	3/3	76/31	120	↑ sparker
				1/4 / 1/4	1625/680	.6	↑ uniboom
	1212	"	9°				circle to avoid traffic
	1217	"	270°/				back on line
	1230	"					
	1303	end 68	9°				
	1306	"U"	255°/4.8 kts	3/3	76/31	120	
	1330	"					
	1356	end "U"	9°				
JD115	1405	85	090°/	"	"	"	

SEISMIC LOGBOOK

Vessel: R/V KEELZCruise location: Chief of Sound LinesDates: APRIL, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kW	REMARKS
JD 115	1415	85	090°	3/3	76/31	120	
	1430	"					
	1500	"					
	1608	"					
	1630						
	1656	end 85	90°				
	1656	"V"					
	1702	"	160°				
	1729	end "V"	90°				
	1733	89	270°				
	1800	"					
	1830	"					
	1913	"					course changes to avoid - fishing boats
	1928	"					Track is 200 yds. N. of plotted course.
	1935	"					Back to plotted track
	2000	"		3/3	76/31	120	
	2015	"		1/4 / 1/4	1800/650	0.6	
	2022	end 89	90°				uniform paper change
JD 115	2026	90					

SEISMIC LOGBOOK

Vessel: R/V KELEZCruise Location: Bay of BiscayDates: April, 1993

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kW	REMARKS
JD 115	2033	90					uniboom on
	2035	end 90	c/c				
	2039	91	000°				
	2100	"					
	2130	"					
	2200	"					
	2230	"					
	2242	"	c/c to left				increase speed
	2247	"	c/c				
	2252	"	c/c to right				
	2300	"	030°				
	2311	end 91	c/c				
	2313	"W"					
	2330	"					
	2341	end W	c/c				
	2344	111					
JD 116	0000	111	270°	3/3	76/31	120	← sparbu
				1/4 1/4	1900/750	.6	← uniboom
JD 116	0026	111	c/c				c/c to avoid traffic

SEISMIC LOGBOOK

Vessel: R/V KEELEZ Dates: APRIL, 1973Cruise location: Gulf of Paracel

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER KJ	REMARKS
JD 116	0045	111	270°	3/3	76/31	120	
	0100	"					
	0113	"	c/c				c/c to avoid traffic
	0114		270°				c/c
	0130	"	14.8 kts	1/4	1200/750	.6	← unknown
	0131	"					change paper on unknown
	0143	"					unknown on
	0200	"					
	0230	"					
	0300	end 111	c/c				
							BREAK IN TIME
JD 116	0350	"X"	180°	2/3	76/31	120	
	0412	end X	c/c				
	0421	107		3/3	76/31	120	← spark
				1/4 / 1/4	1200/720	0.6	← unknown
	0425	"	c/c				begin loops off line 107
	0500	"	c/c				
	0530	"					
JD 116	0600	107					
	0630		090°				

SEISMIC LOGBOOK

Vessel: R/V KELEZ

Cruise Location: Gulf of California

Dates: APRIL, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kJ	REMARKS
JD 116	0700	107	090°	3/3	76/31	120	
	0716	"	c/c	1/4 / 1/4	1900/120	0.6	loop to charge paper
	0742	"	c/c				
	0800	"	090°				
	0830	"					
	0842	end 107	c/c				
	0846	" Y"	180°				
	0900	"					
	0930	"					switched engines
	0945	end "Y"	c/c				both engines on - increase speed in turn
	0950	115	270°	3/3	76/31	120	← sparker
	1000	"					
	1013		c/c				c/c to avoid traffic; increase
	1035	"					uniboom off
	1048	"					uniboom on
	1100	"	c/c				
	1130	"					
JD 116	1200	115	270°				

SEISMIC LOGBOOK

Vessel: R/V YEELEZCruise Location: Gulf of Farallones Dates: April, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kJ	REMARKS
JD 116	1215	115	270°	3/3	76/31	120	← sparked
	"			1/4 / 1/4	1950/800	0.6	← unboom
	1230	"					unboom paper + belt change
	1251	"					
	1300	"					unboom on
	1302	"					
	1330	"					
	1358	end 115	c/c				
	1406	" 2"	180°				
	1426	end 2	c/c				
	1428	119	090°				
	1500	"					
	1515	"		1/4 / 1/4	1500/800	0.6	unboom - filter change
	1530	"					
	1600	"					
	1630	"					
	1700	"					
	1730	"					
JD 116	1746	end 119	c/c				

SEISMIC LOGBOOK

Vessel: R/V KELEZCruise Location: Shelf of Marshall Is.Dates: APRIL, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kW	REMARKS
JD 116	1751	AA	190°				
	1801	"	/4.1 kts				uniboom paper change
	1815	"					uniboom on
	1832	encl AA	c/c				
	1839	133	270°				
	1845	c/c to 250°	250°				%; turn not in right place
	1858		250°				line to 133
	1933	133	270°				now on correct line 133
	2000	"					
	2030	"		3/3	76/31	120	← sparked
	2045	"		1/4 / 1/4	1600/700	0.6	← uniboom
	2050	"					crossing oil well
	2055	encl 133	c/c				
	2104	163	%				
	2130	"					
	2200	"					
	2225		%				dog
	2228		%				
	2259	"					crossing oil well

SEISMIC LOGBOOK

Vessel: R/V KELEZ

Cruise Location: Chilly of FarallonesDates: APRIL, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kJ	REMARKS
JD 116	2301	end 163	9/c	3/3	76/31	120	
	2304						
	2314	BB	354°				uniboom paper change
	2330		14.4 kts				uniboom on
JD 117	0000	"					
	0015	"		1/4 1/4	2100/150	0.6	← uniboom filter change
	0030	"					
	0045	"		"	2100/600		← uniboom filter change
	0100	"					
	0130	"					
	0200	"					
	0230	"					
	0300	"					
	0330	"		3/3	78/31	120	sparkw filter change
	0400	"					
	0412	"					uniboom shut down
	0422	"					uniboom on
	0427	end BB	9/c				
JD 117	0435	87	270°				

SEISMIC LOGBOOK

Vessel: R/V KELEZCruise Location: Gulf of Farallones Dates: APRIL, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kW	REMARKS
JD 117	0445	87	270°				
	0500	"					
	0530	"					
	0600	"	428 kts				
	0645	"					
	0700	"					
	0704	end 87	c/c				
	0708	" CC "					
	0730	end CC	c/c				
	0745	81	090°				
	0800	"					
	0830			3/3	76/31	120	
	0843						unboom belt change
	0851	"		1/4 1/4	2050/650	0.6	unboom; filter change
	0900	"					
	0930	"					
	1000	end 81	c/c				systems off
							BREAK IN TIME
JD 117	1102	70	270°				

SEISMIC LOGBOOK

Vessel: R/V KELEZ

Cruise location: Gulf of Mexico

Dates: APRIL, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kJ	REMARKS
JD 117	1130	70	270°				
	1200	"	"				
	1215	"	"	3/3	78/31	120	← sparked filter change
	1230	"	"	1/4 1/4	2050/650	0.6	← uniboom
	1241	end 70	c/c				
	1245	DD	235°				
	1300	"	"				
	1314	end DD	"				
	1320	75	090°				
	1330	"	"				
	1400	"	"				
	1430	"	"				
	1445		090°/4.6 kts				
	1448	"	"				uniboom belt & paper change
	1455	"	"				uniboom on
	1456	end 75	c/c				
	1502	EE	000°				
JD 117	1507	end EE	c/c				

SEISMIC LOGBOOK

Vessel: R/V KELEZ

Cruise Location: Gulf of Farallones

Dates: APRIL, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER KJ	REMARKS
JD 117	1511	77	270°	3/3 1/4 / 1/4	78/31 2050/650	120 0.6	↑ sparker ↑ uniboom
	1530	"					LOST POWER IN GENERATOR
	1559	"					POWER BACK
	1602	"					
	1637	"	270° / 4.4 KTS				
	1700	"					
	1724	end 77	c/c				sparker + uniboom off
	1741	GG	070° / full speed				
	1800	"					sparker on/off again
	1824	"	c/c				slow + left to avoid tanker
	1836	end 66	c/c				
	1844	62	270°				uniboom + sparker on
	1849	"		3/3 1/4 / 1/4	76/31 2100/700	120 0.6	↑ sparker ↑ uniboom
	1900	"					increase speed slightly at this point boat left lane 62 on previous run.
	1902	"	/ 4.4 KTS				
	1930	"					
JD 117	2000	62	270° / 4.4 KTS				

SEISMIC LOGBOOK

Vessel: R/V KELEZ

Cruise location: Gulf of Thailand

Dates: APRIL, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER KJ	REMARKS
JD117	2008	62	270°				slight jog around Buoy B.
	2030	"					
	2106	"					uniboom paper change
	2106	end 62	C/C				
	2110	" #14"					uniboom on
	2115						
	2130	"		3/3	76/31	120	
	2145	"			76/50		filter change
	2200	"					
	2230	"					
	2238	"					uniboom off
	2258	end #14	C/C				
	2315	58	090°				
	2321						uniboom on
	2330						
JD118	0000						
	0015	58	090°/5 kts	3/3	76/50	120	← sparken
			"	1/4/1/4	1800/700	0.6	← uniboom
JD118	0030	58	090°/5 kts				

SEISMIC LOGBOOK

Vessel: R/V KELEZ

Cruise Location: Key of SarallonesDates: APRIL, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER KJ	REMARKS
JD 118	0100	58	090°/5 kts	3/3	76/50	120	
	0130	"		"	76/31	"	
	0153	"					uniboom paper change
	0158						uniboom on
	0200	"	090°/4.8 kts				
	0206	tie line	1/2				
	0215	58	094°				
	0216	" JJ "					
	0220	"	000°				
	0227	end JJ					
	0231	56	276°				
	0300	"	12.5 kts				
	0325	"		3/3	76/50	90	filter & power change
	0330	"	"		76/40		filter change
	0332	"	276°/3.7 kts				increase speed
	0422	"					uniboom down; seas too high
	0445	"	14.7 kts				
	0512	"	14.2 kts				
JD 118	0530	end 56	0°				

SEISMIC LOGBOOK

Vessel: R/V KEELEZ

Cruise Location: Gulf of Farallones

Dates: APRIL, 1973

DATE	TIME	LINE	COURSE SPEED	SWEEP SHOOT RATE	FILTER H/L	POWER kW	REMARKS
JD118	0710	46	/6 kts				new generator no unboom
	0730	"					
	0745	"		3/3	76/31	90	
	0800	"					
	0830	"	090°				
	0854	end 46	c/c				
	0858	" 46"	090°				
	0910	end 46	c/c				
	0915	48	270°/3.9 kts				
	0930	"	12.8 kts				Turned on 2nd engine increased speed.
	0945	"	/4.3 kts				2nd engine off
	1016	"	/4 kts				
	1030	"	/2.8 kts				2nd engine on
	1037	"	/4.3 kts				
	1100	"					
	1130	"					
	1134	end 48	335°				systems off
	1214	54	090°	3/3	76/31	90	no unboom
JD118	1230	"	090°/7 kts				

Vessel: R/V KELEZ
Cruise Location: Lucy B. Zachallano
Dates: APRIL, 1973

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[illegible]