

OPEN-FILE REPORT 75-205

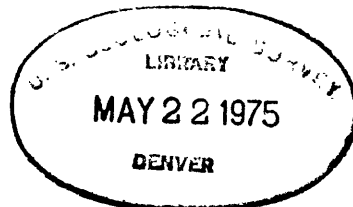
1975

SEISMIC REFLECTION PROFILES, R/V KELEZ
MAY 1973, LEG 2
OFFSHORE SOUTHERN CALIFORNIA

Chief Scientist: Holly C. Wagner

U. S. Geological Survey
OPEN FILE REPORT

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



SEISMIC LOG Page 1 of 60

EARTHQUAKE HAZARDS CRUISE - 4662

Location: Southern California

Vessel: R/V George B. Kelez

Date: May 1973

Chief Sci.: R. C. Wagner

Deep-penetration seismic records were run at 2 sec sweep and 3 sec firing rate except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
488	125/0130		532.5	610°/5.0	120	76/31			
	0200		507.75						
	0230		646.65	5.4					
	0300		712.75			60/25			
	0315								
	0330		982.5	5.3		60/31			
	0345								
	0400		678.75						
	0430		639.0	4.0					
	0441	250							
	0458	240							
	0500		2750T						
	0517	229							
	0530		807.0						
	0544	215		007°/5.1					
	0600		787.5						
	0630		802.5						
	0700		828.8	4.8					
	0726		828.8	5.0					
	0733			5.0					
367	0746	44	828.8	180°/5.0	120	60/31			Course corr. at 20 fathoms
	0748								"
	0752								
	0800		255.0	4.6					Generator down
	0820	34							Sp. 34 returning to 5034
	0830		861.8						Course correction
	0930		808.5	110°/4.6	120	60/31			

SEISMIC LOG Page 2 of 60

Date:

Chief Sci.:

Deep-penetration seismic records were run at 1/4 sec sweep and 1/4 sec firing rate except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
367	1000		888.4	181°/4.6	120	60/31			
	1015		855.0	4.76					
	1030		862.5	4.44					
	1037	22				76/31			
367	1100		873.7						
366	1113	7	877.5	207°/6.0	120	76/31			
365	1132			000°					
	1141	121		4.83					
	1200		862.5						
	1258	88				76/31			
	1300		840						
	1320			3.8					
	1327	76	832.5	4.5					
	1348	66	787.5	002°/4.8					
	1400		757.5						
	1421	49	675.0						
	1500		412.5						
365	1525								
363	1547	126	65.6	180°	120	76/31			
	1600		225.0	5.4					
	1630		577.5	4.0					
	1700		715.5						
	1707	81							
	1730		817.5						
	1743	62							
	1800		840.0						
	1803	50		5.1					

BACK ON LINE 367

SEISMIC LOG

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
363	125/1825	40		180°/5.1	120	76/31			
	1830		855.8						
	1844	30	866.3						
	1900			/5.5					
	1910	6	187.5						
	1927		191.3		120	76/31			
	1930		310.0						
362	1936		236.3	270°/3.3					
	1940	7	243.8	000°/					
	1953		249.8						
	2000		240.0	/3.5	120	76/31			
361	2003	147	176.3						
	2030								
	2032	135	853.5						
	2105	118	846.0						
	2130								
	2157	90	817.5						
	2200		765.0						
	2230								
	2241	69	690						
	2300	50	607.5						
	2308	40	498.7	/5.1					
	2327		502.5						
	2330		127.5						
	0009	18	750.0						
	0025	10							

IN TURN

SEISMIC LOG

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
360	124/0335		27.75		120	76/31			
359	0046								
358	0050	124			120	76/31			
	0136	97							
	0149	90		180°/5.0					
	0200		592.5						
	0210	79							
	0229	67	735.0						STARTED RECORD. 357 at 0248
	0240	60		/6.0					
	0256	50	795.8						
	0300								
	0312	40							
	0321	30	840.0						
	0330								
	0346	20			90				#4 bank off
	0400		855.0						
	0415								
358	0420	8							
357	0427								
357	0430	134	390.0	000°/6.0	120	76/31			
	0459	117	847.5						
	0500								
	0507			/5.8					
	0511	110							
	0528	100							
	0530		825.0						
	0547	90		000°/5.8					

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____
 Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate
 except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and
 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
357	140600		780.0	000°/5.8	120	7/6/31			
	0607	80							
	0628	69							
	0630		750.0						
	0646	60							
	0700		645.0						
	0730		414.8						
	0755		262.5						
	0800		180.0						IN TRANSIT
	0830		232.5						D.P. off 0825 ON 0833
353	0839	96	258.8		120	7/6/31			
	0901		270.0	180°/6.8					
	0911	76	506.3						
	0930		738.8						
	0949	50							
	1000		780.0						
	1030		832.5						
	1042	13							
	1100		555.0	270°					
	1104	6	562.5						
51	1111	96	588.7	000°	120	7/6/31			
	1130		630.0	/5.8					
	1146	76	847.5						
	1200		825.0						
	1217	59	810.0						
	1230		795.0						
	1300		765.0						

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____
 Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate
 except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and
 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
351	124311	30	675.0	000°/5.8	120	7/6/31			
	1330		255.0?						
	1400		225.0						
	1416	3		LINE	350 LIMITED				TO TRAFFIC
349	1421		195.0	180°	120	7/6/31			
	1430		130.0						
	1500		585.0	7.0					
	1503		780.0						
	1520	50			90				
	1540	37		/6.0					
	1555	27							
	1600		840.0	/5.0					
	1614	20							
	1630		637.5						
	1646	6							
	1655								
	1700	6	877.5	270°/5.0					
	1707								
	1712	75		000°	90	7/6/31			
	1724	70							
	1730		716.2						
	1747	58							
	1800		825.0						
	1805	50							
	1830		825.0						
	1831	40							
	1853	30							

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
347	12/19/60		735.0	600°/5.0	90	76/31			
347	1930		615.0						
346	1951			253°	120	76/31			
	1955								
	1956	5							
	2000		45.0						
346	2014		46.0						
345	2018	76	60.0	180°	120	74/31			
	2030		356.3	4.2					
	2100		701.3						
	2130		663.8						
	2200		671.3						
	2222	21							
	2230		911.3	4.58					
345	2247							SYSTEM OFF	
343	2357	77		000°	120	76/31			
	12/06/61								SHUT DOWN ALL GEAR - CIRCUING BACK TO RESTART 343
	0035	IN		TRANSIT					
	0100	77 0054	1275.0	000°/4.5	120	76/31			
	0115	70	1162.0						
	0300		1132.5						
	0141	60	766.0						
	0200	50 04							
	0200	0261	~750.0						
	0230	40 04	806.2						
	0230	0224							
	0247	30	525.0	000°/4.5					
	0300		630.0						
	0308	20							

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
343	12/19/60		401.2	000°/4.5	120	76/31			
343	0341			9/C					
342	0344			9/C					
341	0354			190°/4.5	120	74/31			
	0357	69							
	0400		266.25						
	0422	58							
	0430		525.0						
	0440	50							
	0500		675.0	4.4					
	0503	40							
	0530	29	735.0						
	0551	19							
	0600		1185.0						
	0607	10							
	0632		1440.0						SPEED RUN
341	0625			11.0					
	0712			000°					
	0751								
339	0829	76	1515.0		120	74/31			
	0844	70	1353.8						
	0900		1275.0	4.8					
	0922	54							
	0930		1057.5						
	0946	43							
	1000		397.5?						

REDUCE TO CRUISING SPEED

SEISMIC LOG

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEH		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
305	17/1530		45.0	190°/4.4	60	76/31			
	1532	7							
	1541								
	1600	15	341.25	190°/4.4					
	1615								
	1616								
	1617								
	1620								
	1623		997.5	9/C					
	1627			0920/					
	1630	2	1110.0	000°/	60	74/31			
	1636								
	1641	2							
	1700	10	750.0						
	1725	21							
	1730								
	1732				60	74/31			
	1736		45.0	0500°/					
	1740	3							
	1744	5	56.62	180°/	60	60/31			
	1754	10							
	1800		244.0						
	1819	22							
	1830		1275.0						
	1835	30							
	1858				120				
	1900		1395.0						
	1915	50							

SEISMIC LOG

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEH		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
339	17/1010			000°/4.8	120	76/31			
	1030		414.8						
	1033	21							
	1043	16							
	1057	12							
	1052								
	1057	43		203°/	120	76/31			
	1100		112.5						
	1130		202.5						
	1132	59							
	1140								1154-90KJ
	1200		195.0		90				
	1207	73							
	1210					98/31			
	1215					76/31			
	1230		84.0						1240-60KJ
	1234	84							
	1300		90.0		60				
	1330		78.8						
	1400	120	52.5						
	1430		78.8						
	1435	141							
	1459	150							
	1500		75.0						
	1516								
	1520	2		02°/4.4					
	1527			190°/4.4	60	76/31			

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
508	128 0315	1		360 / 4.0	60	76/40			
	0320	3							
	0328	6							
	0330		255.0		120	76/31			
	0337	9							
	0340	11							
	0347	15							
	0355	20							
	0400		256.5						
	0401	23							
	0406	26		350 / 4.0					
509	0406				60	76/31			
	0411								
	0420		616.5	060 /					
	0430								
311	0431	6		180 / 5.0	120				
	0450								
	0453	17							SHUT DOWN
	0500	20	772.5						
	0520	30							
	0541	40							
	0554	46							
311	0600		1462.5						
318	0604	3		060 /	120	76/31			
	0617			/ 5.5					
	0630		1762.5						
	0638	20							

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
319	128 0654	2			120	76/31			
	0700		1755.0						
	0727	15							
	0730		1320.0	000 / 3.75					
	0759	30							
	0800		648.8						
321	0844	15	187.5	100 /	120	76/31			
	0900		890.0	5.241					
	0927	37							
	0930		1387.5						
	0951	50							
	1000	60	1770	545416					
	1014								
	1030		1852.5						
	1033	73							
	1100		1867.5						
322	1119	3	1875.0		120	76/31			
	1130		1905.0	0700 / 4.44					
	1141	12							
	1201	20	1927.5						
329	1218	3			120	76/31			
	1230		1927.5						
	1300		1822	000 / 4.4					
	1330		1312.5						
	1357	55	1173.7						
	1400		1136.25						
	1431		915						

SEISMIC LOG Page 15 of 60

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
229	1744-3			060°/4.4	120	74/31	600	65/2000	
	14416			060°	60				
30	1500	1	131.25	260°/4.4	60	74/31			
	1530		56.25						
	1531	10		260°					
	1538			270°					
	1542			270°					
	1600		47.62	240°					
	1615			180°/4.4	60	74/31			
29	1622								
	1630	22	75.0						
	1645	41A							
30	1656	36		070°	60	74/31			
	1701	1	63.2						
	1711								
	1715	23		070°	60	74/31			
	1731	20							
	1730		232.5						
	1731	15							
	1737	12							
	1742	10							
	1745	8							
	1750	6							
30	1757	1		080°	60	74/31			
	1800		41.25						
	1804					98/40			

SEISMIC LOG Page 16 of 60

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
323	1808	4		180°/4.4	60	98/40			
	1820	10							
	1838								
	1830			270°/4.4					
	1847	13A		180°/4.4					
	1850	15A							
	1856	16							
	1900		491.3		120	74/40			
	1920		1087.5	4.5	90°				
324	2000		1470.0		120				OFF ON 1929
end	2012								271.1 x 9.2 210.0 2019
	2030		1331.3						
325	2120		1237		120	74/40			65/2000
	2106	10		4.8					
	2130	21	937						
	2201	37		000°					
	2214								
326	2218	3			120	74/40			
	2226								
327	2232	3		180°	60	74/40			
	2240				30				
	2249				60				
	2250				120				
	2357								SYSTEM OFF
	2333	31							
	2354								
328	2358	2							

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
333	12/2003	1	8437	400/5	60	76/40		600	
	0319	10							
	0330		4587	4.7					
	0336	18							
	0350	24							
	0400		14062						
	0405	30						600	
	0408								
	0418				120				
	0430		5925						
	0431	40							
	0448	47							
	0455	50							
	0500		8856						SYSTEM DOWN
	0512	57							
	0518								
334	0523	2		0538/4.7	120	76/40			
	0530		1680.0						
	0535								
335	0540	2		0600/4.7	120	76/40			
	0552	8							
	0600		300.0						
	0611	17							
	0628	25							
	0630		292.5						
	0639	30							
	0654	38							

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
328	12/2003	7	1207.5	0900	120	76/40		600	
	0009								
	0021			000					
331	0025	2							
	0030		1087.5						
	0040				76/31				
	0042				76/40				
	0046	11	597.5					600	
	0052								
	0100		945	4.9					
	0104	19							
	0117							SYSTEM ON	
	0119	36							
	0127	30							
	0130		317.5						
	0147	40							
	0151				60				
332	0157	2				76/40			
	0213			0470					
	0216	10							
	0219			040					
	0221			035					
	0223			030					
	0230		66						
	0239	19							
	0246								
	0300			9/2					

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
A03	12/1530		1485.0	042/4.8	120	76/40			
	1545				120	76/40			
	1550	41							
	1600		1155.0						
	1606	49							
	1630		712.5						
	1635	63							
	1638			4.7					
	1648	69							
	1700		840.0						
	1721	84							
	1730		806.25						
	1750	97		4.8					
	1756	100							
	1800		750.0						
	1813	108							
	1830		727.5						
	1835	118							
	1853	127							
	1900		667.5						
	1912	134							
	1930	142	435.0						
	1934	148							
	2000		155.6		60			500	65% 2000
	2030		140.6						
	2035			c/c					
	2057								charlye filter

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
305	12/0720		45.0	000/4.7	60	76/40		65% 2000	
	0730		81.0						
	0753								
	0800		1041						
	0816	1	82.5		60	76/40			
	0835								
	0841	2		100%	60	76/40		65% 2000	
	0900		65.6	4.0				CHAN SUP FILTER 0900-0906	
	0925	19							
	0930		55.4		120			0959 H-RES OFF 1000 H-RES ON	
	1000		225.0						
	1010	38							
	1030		322.5					1040 H-RES OFF	
	1043	53							
	1130		1290						
	1131	76							
	1150			4.2					
	1203	91							
	1230		1875.0						
	1314								
A03	1424	1		090%	120	76/40			
	1430								
	1443	10							
	1500		1856.25	4.84					
	1506	19							
	1522	25							
	1527	30							

SEISMIC LOG Page 21 of 60

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____
 Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate
 except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and
 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
7020	12/21/54				60	74/40	5/372	11 07	
404	2113	15	28.2	257°/4.0	120		500	65/200	
	2130		37.5						
	2200		74.1						
	2201	35							
	2225	44							
	2230		423.8						
	2257	58							
	2328	70							
	2330		161.3						
	2344	76							
	2346				60				
	2354	83	78.8						
	1300000								
	0052	108							
	0100	111			60	74/40			
359	0115		52.7	182°					
	0122	6							
	0126			5/6					
	0130		98.25						
	0131	41		083°					
	0152	31							
	0211	21							
	0224	15	82.5						
	0230		127.5						
	0245	5	412.5						
	0258			4/6					SYSTEM OFF

SEISMIC LOG Page 22 of 60

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____
 Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate
 except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and
 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
301	130025	59	506.25	033°	60	74/40			MAIN SYS. SHUT DOWN
	0259		442.5	5.5					
	0311	50							
	0312								SYSTEM ON
	0322	44							
	0330		210.0						
	0347	31		5/6					
	0351								
End 301	0400		232.5						
	0405	1		190°/8.5	60	74/40			600
355	0424	9							
	0430		345.0						
	0445	18							120
	0500	25	630.0						
	0511	30							
	0530		705.0						
	0533	40							
	0549	47							
	0555	50							
	0600		750.0						
	0609	56							
	0630		795.0						
	0643	70							
	0700		872.3						
	0730		817.5						74/31
	0731	90							
	0755	100							

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
355	130/2850		498.8	182°/3.5	120	76/31			
	0820	110							
	0830		408.8						
end 355	0834	116							
	0834								
405	0951	1	476.3	092°/5.3	120	74/31	600		
	1000		530.6						
	1030		847.5						
	1031	20							
	1100		836.3						
	1114	40	832.5	4.2					
	1130	50	832.5						
	1135	60							
	1155								
	1200		825.0						
	1218	70							
	1230		787.5						
	1238	80							
	1300		761.25						
	1323	100	693.75						
	1330		393.75						
	1338			4.1	60				
	1342					76/40			
	1345	110	122.25						
	1400		214.75						
	1407	120							
end 405	1431								

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
406	130/1445				60	74/40			
406A	1500	15	412.5	280°					
	1505			278°					
	1512			280°					
	1514			285°					
	1515								
	1525	8B			60	98/40			SP 27 = 8B
	1534	13B	65.62						SP 32 = 13B
406C	1541	1C							SP 37 = 1C
	1549	5C							SP 40 = 5C
end 406	1550								
369	1553	3		C/C	60	98/40			
	1600		44.25	180°/4.5					
	1605	10		4.6					
	1625	20							
	1630		815.0						
end 369	1648	30		C/C					
370	1652	3		090°/4.6	60	98/40			
	1700		698.4						
end 370	1705			C/C					
371	1707	2		000°/4.6	60	98/40			
	1727	12							
	1730		412.5						
	1743	20							
end 371	1756			9C					
372	1800	circling			60	98/40			
	1803	1		090°					

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
383	13/08 44	30	71.3	000/4.9	120	76/40			
end 383	0900	40							
382	0910	43			60				
end 382	0915	2							
381	0930	10	37.5	180/4.9	60	76/40	500	650/2000	
	0934	8			120				
	0935								
	0950				120				
	1000		195.0						
	1006	20		4.8					
	1029	30							
	1030		600.0						
end 381	1043	36							
380	1100		802.5		120	76/40			
	1127	20							
end 380	1130	22	843.8	9/C					
407	1137	4		090/4.9	120	76/40	600		drifted off course
	1152								
	1200		826.0						
	1214	20							
	1216				60				
	1227	27	183.75						
	1230								
end 407	1258		93.75	9/C					
408	1303		93.75	348/4.9	60	76/40			NO S.P. SIGNAL LOST
	1330		59.75						

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
109	13/04 15	80		041/4.9	120	76/40			
	0425								
	0430		645.0						
	0447	90							
	0500		232.5						
	0508	100							
	0512			9/C					
110	0515	2		300/4.9	120	76/40			
	0526	7							
	0530		51.60						
end 110	0538	13		9/C					
885	0547	8		180/4.9	120	76/40	500	650/2000	
	0600		75.0						
	0615	20							
	0630		555.0						
	0638	30							
	0700		768.8						
	0712	40							
end 885	0713	46							
884	0717	2		270/4.8	120	76/40			
	0730		840.0						
end 884	0738	12							
883	0744	2		000/4.9	120	76/40	500	650/2000	
	0800		836.3						
	0803	11							
	0823	20							
	0830		510.0						

SEISMIC LOG

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
379	13/1340	12		C/C	60	76/40			
379	1400		8625	180°			600		
379	1413	21							
388	1420	3	1425	090°					
	1443								MI-RES. repair same of the line
	1502		1875	090°/45	60	76/40			cutting for MI-RES. repair same of the line at about 1875
	1517	11							on line at SP 11
	1526								overhaul at 4 shot points
	1530		14062						
	1536	20							
	1556	30							
	1600		11175						
	1617	40							
	1630		60.0	180°/45	60	76/40			
	1637	50		600°					NAVIGATING AROUND PT. DUME
	1652								
	1700		22.5						
383A	1705	1		090°/45	60	76/40			
	1727	10							
	1730		46.87						
	1745	17							
	1752	20							
	1800		51.0						
	1814	27							
	1823	30							
	1830		56.25						

SEISMIC LOG

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
388A	13/1341	35		090°/45	60	76/40			
	1900	40	46.9				600		
	1930		29.1						
	2200			C/C					
389	2202		24.4	180°	60	76/40	600		
	2204	4			120				
	2230		551.3						
	2300		697.5						
	2308	34							
	2321	40							
	2330		832.5						
	2332	45		C/C					
	2337	2	825.0	090°	120	76/40			
	0000		720.0	180°					
	0019	20					600		
	0034								
	0030		562.5						
	0121	40							
	0123					60			
	0130		56.3						
	0144	1							
	0148		SHUT DOWN			VAN			
393	0202	5	31.5	180°	60	76/40			
	0211	10							
	0233			C/C	120				
	0253	20							
	0300		465.0						

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
3943	13/03/51	40		180°/4.5	120	76/40			
	0330		511.2						
	0336	50							
	0347	65							
	0353	2							
	0400		573.7						
	0412	12							
	0418	2		060°	120	76/40			
	0430		476.25						
	0436	10							
	0457	20	360.0						
	0500	30							
	0530		235.0						
	0540	40			60				
	0600		445.0						
	0601	50							
	0606			C/C					
	0611	1		090°/4.5	60	76/40			
	0630		28.12						
	0632			C/C					
	0634	7		180°/4.5	60	76/40			
	0700	30			120				
	0730		233.4						
	0740	40							
	0800	50	180.0						

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
397	13/03/51	60		180°/4.5	120	76/40			
	0830							500	
	0833	66							
	0846	70							estimation 397
	0900		686.3						
	0911	80							
	0931	90	870.0						
	0934								
	0934	1		330°/4.5	120	76/40			
	0940		870.0						
	0959	10							
	1000		866.3						
	1008			330°					COURSE CORR. TO 330°
	1021	20	806.3						
	1022	30							
	1043			C/C					
	1046			040°	120	76/40			
	1049	A							
	1057	F							
	1100			C/C					
	1119			050°					
	1121			040°					
	1126	10							
	1130		198.8						
	1200		251.3						
	1209	30							
	1219					60			

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate
 except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and
 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
415	132/1225	40		040°/4.5	60	76/40			
	1230		1416.3						
	1249	50							
	1300		36.7						
	1309	60							
end 415	1317								
402	1313	1			60	76/40			
end 402	1328/1300								
	1330		17.8	9/C					
	1336			9/C	60	76/40			
	1347	19	34.7	180°/					
	1400		416.9						
	1410	30							
	1431	40							
	1451	50							
	1500		67.5						
	1514	60							
	1530		75.22						
	1537	70							
	1600		232.5						
	1611	80							
	1615				120				
end 401	1617								
400A	1620	1		9/C	120	76/40			
	1630		618.75	270°/					
	1634	6							
	1643	10							

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate
 except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and
 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
400A	132/1617	12		9/C	120	76/40			
399	1651	1A		000°/					evaluation of 399
	1700		637.5						
	1716	10A							
	1730		183.7						
	1745	20A			60				
	1800		75.0						
end ext. 399	1811	30A							original 399 begun
	1813	1			60	76/40			
	1830		164.25						
	1834	10							
	1856	20							
	1900		161.3						
	1919	30			60				
	1930		60.9		60	76/40			
	1941	40							
	1957	48		9/C					
	2003			120°/	60				
	2003	1							
	2021	10							
	2030		19.7						
	2041	20							
end 416	2059	29		9/C					
	2100		10.4						
	2103	5		210°/	60	76/40			
	2113	10							
	2125				120				

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
417	13/2130		41.3	221°	120	76/40			
	2136	20							
	2158	30							
	2200		63.8						
	2223	40							
	2230		75.0						
	2245	50							
	2300		81.0						
	2309	60							
	2324	69		90					
418	2336	2		131°	120	76/40			
	2352	10							
	2358	13							
419	0001		517.0		120	76/40			
	0003	2							
	0020	10							
	0030		84.75						
	0043	20							
	0100		73.4						
	0105	30							
	0130		56.3		60				
	0149	50							
	0200		33.75						
	0212	60							
	0216			90					
420	0230		24.3	210°	60	76/40			
	0253	10		280°					

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
420	13/0300		44.25	280°	60	76/40			
	0302	20							
	0310			275°					
	0327	30							
	0330		60.9	280°					
	0352	40							
	0400		168.75						
	0404				120				
	0416	50							
	0430		217.5						
	0441	60							
	0500		300.0						
	0505	70							
	0526	80							
	0539	85	412.5						MADE BEEN 3400 m. N. of line by last 10 shot
	0552	90							
	0600		310.5						
	0618	100							
	0630		555.0						
	0641	110							
	0700		618.75						
	0705	120							
	0716	126							
	0730		637.5						
	0745	7A							
	0800		645.0						

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate
 except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and
 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
413C	1330.5	10A		210°	120	76/40			
413C	1310	11A		C/C					
387A	1315	1		140°					
	1320		377.5						
	1331	5A							
387A	1340	6A		C/C					
386A	1345	1A		090°	120	76/40			
	1350		385.0						
	1351	5A							
	1351	10A							
	1353		377.5						
387A	1356	15A							
387A	1356	16A							
	1355	10	787.5	090°/S.L.	120	76/40			
386	1000	30							
	1015		615.0						
	1030	30							
	1034	40							
	1054		616.5						
	1100								
	1113	50							
	1133	60	390.0						
	1147	70					600		
	1154		420.8	45					
	1200	80							
	1214		362.5						
	1230								

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate
 except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and
 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
386	133/1234	90		040°/4.5	120	76/40			
	1238				60				
	1255	100	59.3						
	1300								
	1316	110							
	1330		38.5						
	1337	120							
421	1342			C/C					
386	1351	13			60	76/40			
	1400		28.13	219°					
	1415	20							
	1437	30							
	1458	40							
	1500		110.62						
	1519	50							
	1530		392.5						
421	1541	60		C/C					
	1600		600.0	90	120	76/40			
422	1609	7		120°					
	1616	11							
423	1620			C/C					
423	1625	3		040°	120	76/40			
	1630		247.5						
	1636	10							
	1654	20							
	1700		159.0						
	1705				60				

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate
 except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and
 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
431	0730	1051	57.0	130°	120	74/31	OMIT	LINE 430	START AT 0143 HI-RES ON 012308
432	0735		46.0	90°	60	74/31			
433	0740		23.0	130°	60	98/40			
434	0745		31.2						ON SHIP'S NAVIGATIONAL CRADLE - NO SHOT POINTS
435	0750		21.50						
436	0755		31.87	130°					
437	0800		41.25						
438	0805		70.35						
439	0810		27.5		120				
440	0815		35.25	90°	120	98/40			
441	0820		198.0	310°	120				
442	0825		164.1						
443	0830	47	39.8						
444	0835	60							
445	0840		29.6						60KJ@0811
446	0845	60	4		60				
447	0850	70	21.6						
448	0855		22.5		120				
449	0900	80							
450	0905								
451	0910	2	32.9		120	98/40			
452	0915								

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate
 except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and
 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
437	0945	10			120	98/40			
438	0951	18							
439	0953				120	98/40			
440	0956		281.3	130°					
441	1000			5.2					
442	1011	10	63.8						4.8 RES ON 1044
443	1030			4.8					90 to avoid traffic
444	1031	20		1550°					
445	1050	30		130°					
446	1100		65.6						
447	1111	40							
448	1130		82.5	130°/4.6					
449	1153	60							
450	1200		210.0						
451	1214	70			120	18/40			
452	1230		375.0	130°					
453	1234	15							
454	1301	20	390.0						
455	1341	20			90	17/40			
456	1402		360.0						
457	1417	20		310°/5.0					
458	1431		232.5						
459	1437	30							
460	1457	40							
461	1500		126.0						60KJ at 1509
462	1519	50			60				
463	1530		70.35						

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
454	134539	60		310/5.0	60	98/40			
	1600	70	144.37						
	1622	80							
	1630		6075						
454	1642	88		9/C					
433	1649	3		043/5.2	60	98/40			
	1700		262.5						
	1704	10							
433	1707	12							
458	1712	2		132/	60	98/40			
	1739	10	47.25						
	1750	20							
	1800		43.5						
	1815	32							
	1830	40	44.25						
	1851	51							
	1900		38.5						
	1914	63							
	1928	70							
	1930		148.1					90KJ @ 1942	
	1947				90				
	1955	84							
	1957			9/C					
454	2000		382.5	2269/	90	98/40			
454	2002	10							
454	2005	20							

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
459	1342030	26	401.3	225/	90	98/40			
459	2039			320/	90	98/40	500	650/2000	
452	2043	2	382.5						
	2100								
	2102	10			120				
	2124	20	390.0						
	2130								
	2147	30							
	2202		251.3						
452	2208								
452	1352058	30							
	0200		273.8					SP41 @ 0224	
	0217	38		329/					
	0230		318.0						
	0244	50							
	0310		206.25						
	0308	60							
	0330	70	120.0						
	0347	78		9/C					
453	0347			217/	120	98/40			
435	0351	2							
	0400		648.75						
	0402	7		9/C					
435	0403			125/	120	98/40			
444	0406	2							
	0421	10							

SEISMIC LOG

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate
 except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and
 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
441	0422	2		9/C	120	98/40			
444	0425	2		0910	120	98/40			
	0430		54375						
	0442	10							
	0500		40125						
	0530		3187		60				
	0544	40							
	0600		2160						
	0665	50							
	0607	52							
	0610				120				
	0613			9/C					
	0623	8		2500	120	98/40		500	
	0630		1547						
	0633	13							
	0635			9/C					
	0640	1			120	98/40			
	0656	10	21.0	1300					
	0715	20							
	0730		2813						
	0735	30							
	0754	40							
	0800		3563						
	0813	50							
	0832	60							
	0850	70							
	0856	73							

SEISMIC LOG

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate
 except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and
 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
414	0910	75	172.5	1320	120	98/40			
404	0902								
465	0906	1						600	
465	0915	6							
465	0917								
466	0921	2	48.75	3120	120	98/40		500	650/2000
	0925				60				SPEED UPDATED @ 0935
	0930		40.5	476				76/40	
	0938	10							
	1000	20	33.8						
	1022	30							
	1024				120				
	1030		30.0						
	1044	40							
	1128	60							
	1130		20.3						
	1147			9/C					
	1155			1000	120	76/40			
	1201		24.8						
	1203	9		9/C					
	1205	3		1320	120	76/40			
	1219	10							
	1230		19.5						
	1240	20							
	1300		21.8						
	1302	30							
	1322	40							

SEISMIC LOG Page 47 of 60

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____
 Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate
 except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and
 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
468	13/1230		26.3		120	76/40			
467	1400		28.0		120	76/40			
	1427	1							
470	1430		27.3	310	120	76/40	600		
	1438	1							
	1500		26.6			78/40			
	1503	12							
	1520	20							
	1530		18.75						
	1542	30							
	1600		16.87						
	1603	40			60				
	1623	50							
	1630		18.75						
	1640	58							
500/476	1642			9/C					
445	1646	4		200	60	78/40			
	1657	10							
	1700		21.75						
	1716	20							
	1730		21.75						
	1738	30							
	1800	40	38.47						
	1820	50							
	1830		65.25						

SEISMIC LOG Page 48 of 60

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____
 Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate
 except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and
 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
445	13/1841	60		2210	60	78/40			
	1900		412.5		120				
	1902	70							
	1924	80							
	1930		877.5	4.6					
	1945	90	885.0						
	2000		900.0						
	2006	100							
	2026	110		4.8					
	2030		900.0						
	2100		465.0				500		
	2103	127		4.6					
	2109	130							
500/445	2115	133							
448	2120	1			120	78/40			
500/448	2127	5							
449	2131	2	165.0		120	78/40	600		
	2149	10		2040					
	2155						600		
	2200		657.5						
	2210	20							
	2230	30		2370					
	2300	40	588.8						6240 @ 2354
	2318	50							
	2335	60							
	2345		532.5						
	2356	70							

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate
 except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and
 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
447	13/0601		247.5	039/4.6	120	98/40			
	0030		49.6						
	0100		28.5						
	0101	100							
	0123	110							
	0130		19.4						
	0147	122							
	0201	132	18.97						0.55 m. on course
449	0225				120	98/40			log log to 0225
451	0300		18.75	220					ON SHIP'S NAVIGATION TRACE ON SHOT PRINTS.
	0322	28							
	0330	40	38.12						
	0350	50	40.50						
	0410		50.62						
	0430	60							
	0432	70							
	0453	80							
	0500		225.0						
	0514	90	750.0						
	0530	100							
	0535	105							
	0554								
	0600		825.0						
	0604			90					
	0605			130					
450	0607				120	98/40			

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate
 except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and
 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
450	13/0611	3			120	98/40			
	0627	10							
End 450	0630		806.25						
	0631								
453	0635	2		0475	120	98/40			500
	0656	10							
	0700		765.0						
	0717	20							
	0730		495.0						
	0739	30							
	0800	40	195.0						
	0826	50							
	0842	60							
	0900		42.0						
	0907	70	37.5						
	0926	80							
	0930		29.3						
	0941			5.0					
	0943			0.30					AVOIDING A Buoy
	0956	93							
	1000		13.9		60				
End 453	1006	99							
470A	1010	1			60	98/40			
471A	1023								
472A	1026	5			60	98/40			500
455	1032		12.4	222					
	1035	10							

SEISMIC LOG

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
455	13/10/56	21		223	60	98/40			
	1100	30	28.4						
	1114								
	1130		162.0						
	1134	40							
	1150	50	198.8						
	1200								
	1214	60	315.0	224/48					
	1230								
	1236	71	543.8						
	1300								
	1314	90	772.5						
	1330								
	1336	101							
	1355	110	716.3						
	1400								
	1414	120							
	1433		536.3				600		
	1435	130			90				
	1445								
	1455	140							
	1500		100.3						
	1505								
	1517	45	113.47			90	98/40		
	1557	20	600.0						
	1623	31							

LINE 446 1651 NO. 08 3081 POINTS

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
457	13/16/50		476.25	0418	90	98/40			
	1634	37							
	1640	40	742.5						
	1700								
	1718	60	675.0						
	1730		382.5						
	1800								
	1825	90	307.6	0330					
	1830								
	1844	100	292.5						
	1900								
	1907	111							
	1927	120							
	1930		42.0						
	1930	131							
	2000		19.5						
	2004	140							
	2015								
	2018	1		9/0	90	98/40			
	2027								
	2034								
	2044	1							
	2051								
	2059	7							
	2100		13.1						
	2124	15							
	2139	20							

REPAIR DOWN FOR REPAIRS
 D.P. ON.
 C/C to avoid busy

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____
 Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate
 except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and
 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
530	13/2320		13.7	310°	90	98/40			
	2206	38							
	2229	35	13.9						
	2230	40							
	2253		13.1						
	2300								
	2303	43							
479	13/2030			210°	90	98/40			
	0060	1		60					
	0130		695.6						
	0200		682.5						
	0219	30							
	0227	33							
	0230		176.3						
	0300		937.5	4.5					
	0330		1021.75						60 KTS from 0300-0315
480	0347				90	98/40			
	0352								
	0400		1170.0	3530					
	0430		84.37						
	0443								
481	0500		84.37	2650	90	98/40			
482	0530								
483	0540		122.0	2100	90	98/40			
484	0600		1275.0	2350	90	98/40			

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____
 Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate
 except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and
 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
483	13/0630		1312.5	2450	90	98/40			
484	0636			0/c					
484	0700		1207.0	0300	90	98/40			
484	0730		93.8						
484	0800		60.0	60					
485	0804			2440/60	90	98/40			
485	0829			0/c					
486	0831		94.5	2100/60	90	98/40			
486	0912			0/c					
487	0916			0000	90	98/40			
487	1000		337.5						
487	1035								
496	13/0230			TIME					
	0300	70	288.0	0900/50	90	98/40			
	0311	50	217.5						
	0330		247.0						
	0335	39							
	0352	30							
	0400		106.1						
	0413	19							
	0430	10	173.25						
496	0448	1		0/c					
495	0451	1			90	98/40			
495	0459								
495	0500		15.97						
494	0503	71			90	98/40			

SEISMIC LOG

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____
 Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate
 except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and
 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
494	13/0527	60	103.12	2100/4.6	90	98/40			
	0530	50							
	0551	50	46.87						
	0600								
494	0601	43		90	98/40				
367	0611	109		1500					
	0630	99	352.5						
	0648	90	622.5						
	0700								
	0706	80	735.0						
	0728	69							
	0730	60							
	0746	60	817.5						
	0800	50							
	0807	50							
	0819	44	862.5						
	0831			90	98/40				
	0832								
488	0911	169	817.5	0500	120				
	0912		840.0						
	0931								
	0935	159							
	0943			138					
	0956	149	862.5						
	1001								
	1008	D.P.	SEISMIC DOWN FOR REPAIRS						
	1012	RESTART	D.P. SYSTEM						
	1015	140							

SEISMIC LOG

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____
 Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate
 except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and
 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
488	13/1035		870.0	0400	120	98/40			
	1037	129							
	1053	120							
	1111		CIRCLING	6	OFF	LINE			7440 @ 1652 AST NAV. SYSTEM USING PAPER
	1200		870.0						
	1218		BACK ON		LINE	START	OVERLAP		
	1230		885.0	0700	120	76/40			
	1300		892.5	0600/4.6					
	1330		866.3						
	1400		847.3	5.0					
	1411	65							
	1421	60							
	1430		2700.0						
	1442	50							
	1500		562.5						
	1503	40							
	1515	30	502.5						
	1549	20							
	1600		195.0						
	1611	10							
	1629	1		C/O					
	1630		75.0						
	1726	14			120	76/40			
	1730		49.97	2200/5.0	90				
	1736	20							
	1757	30							
	1800		330.0		120				1865 = 1200

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
411	13/0421	40			180	76/40			
	1830		562.5						
	1843	50							
	1900		660.0						
	1926	60							
	1926	70							
	1930		855.0						
	1947	80							
	2005		907.5						
	2011	90							
	2030		907.5						
	2031	100							
	2050	110							
	2100		907.5						
	2132	131							
	2150	140							
	2200		907.5		90				
	2211	150							
	2230		900.0						
	2232	160							
	2255	170							
	2300		555.0		90	125/50			
	2318	180							
	2332		255.0						
	2340	190							
	2345	210							
	0030		72.2						

Location: _____ Date: _____
 Vessel: _____ Chief Sci.: _____

Deep-penetration seismic records were run at _____ sec sweep and _____ sec firing rate except as noted in remarks column. High-resolution records were run at 1/4 sec sweep and 1/4 sec firing rate.

LINE NO.	DATE TIME	SHOT POINT	WATER DEPTH IN METRES	COURSE SPEED	D.P. SEISMIC		HI-RES SYSTEM		REMARKS
					POWER KJ	FILTER H/L	POWER JOULES	FILTER H/L	
411	14/0047	220		220	90	125/50			
	0100		465.0						
	0111	231				98/40			
	0117								
	0130		525.0						
	0131	240							
	0141					76/40			
	0156	251							
	0200		536.0		60	98/40			
	0215	260		90					
	0218	2							
	0230		262.0	133		76/40			
	0238	10							
413	0400	D.P.	SYSTEM	118.2	60	76/40			50300359
	0421	20							
	0430		1076						
	0442	40							
	0450	44							
	0500		169.5	240/5.0	90				
	0502	50							
	0525	60							
	0530		140.6						
	0547	70							
	0600		171.75						
	0616	81							
	0630		367.5						