

**Appendix A**

**Photos of Onboard Geophysical Equipment**

**Used in the Gulf of Thailand Project**

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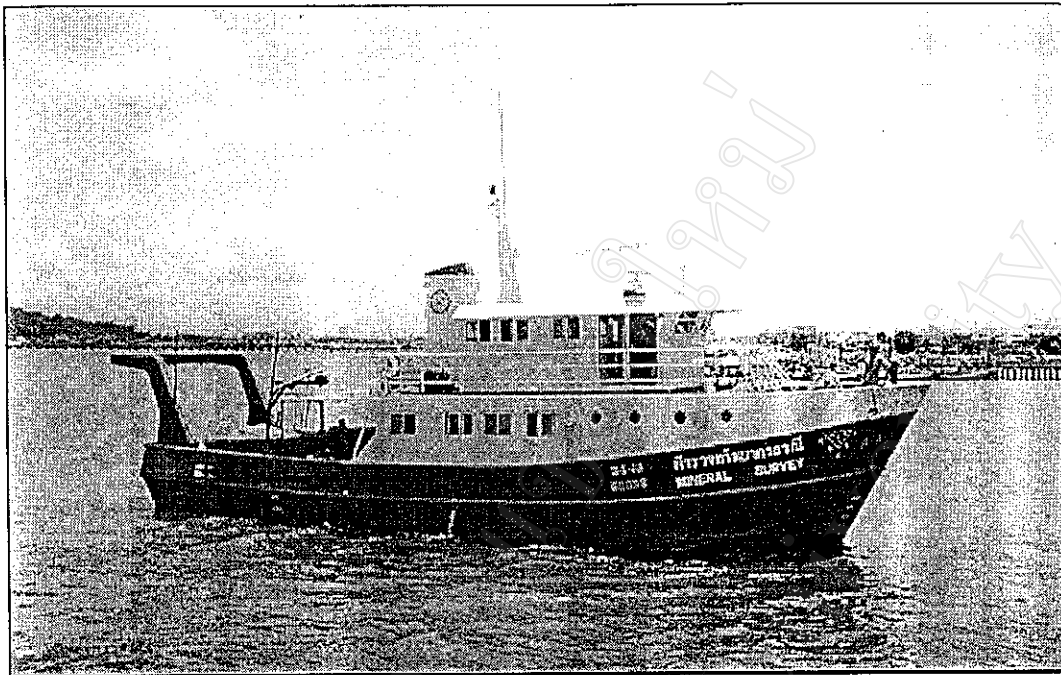


Plate 1. Survey vessel “ SUPPHAYAKORNTHORANI”

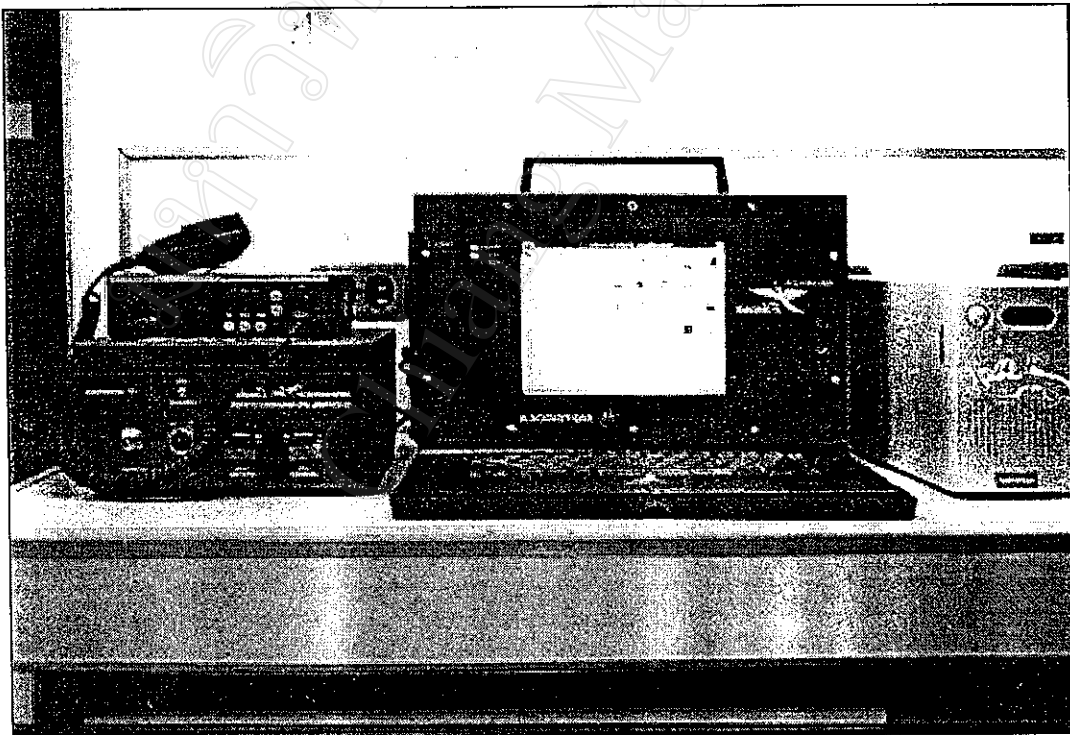


Plate 2. Motorola DGPS positioning system

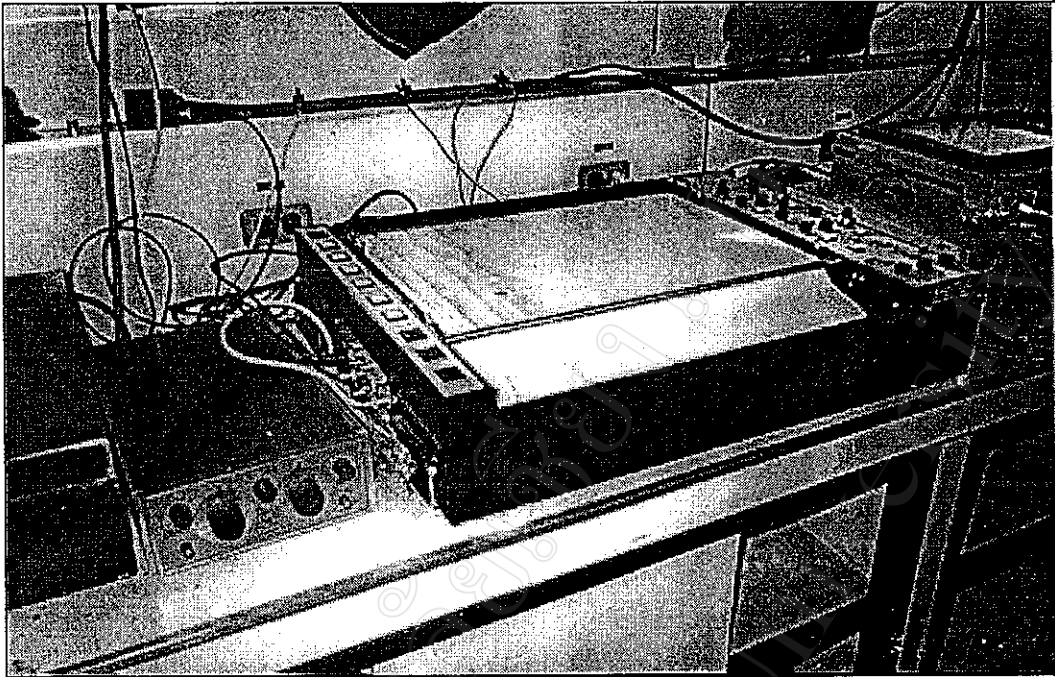


Plate 3. Graphic recorder model EPC 9802 (middle), Khron-hite band-pass filter model 3700 (left) and Innerspace 448 depth recorder (right)

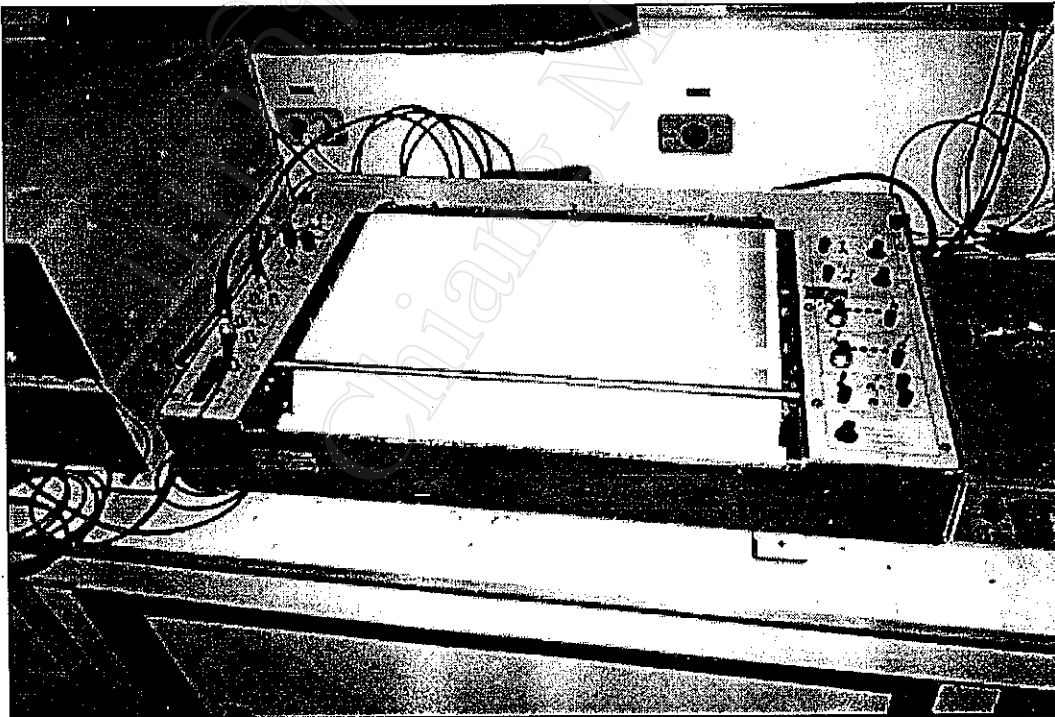


Plate 4. Graphic recorder model EPC 3200 (used for 3.5-7 KHz sub-bottom profiler)

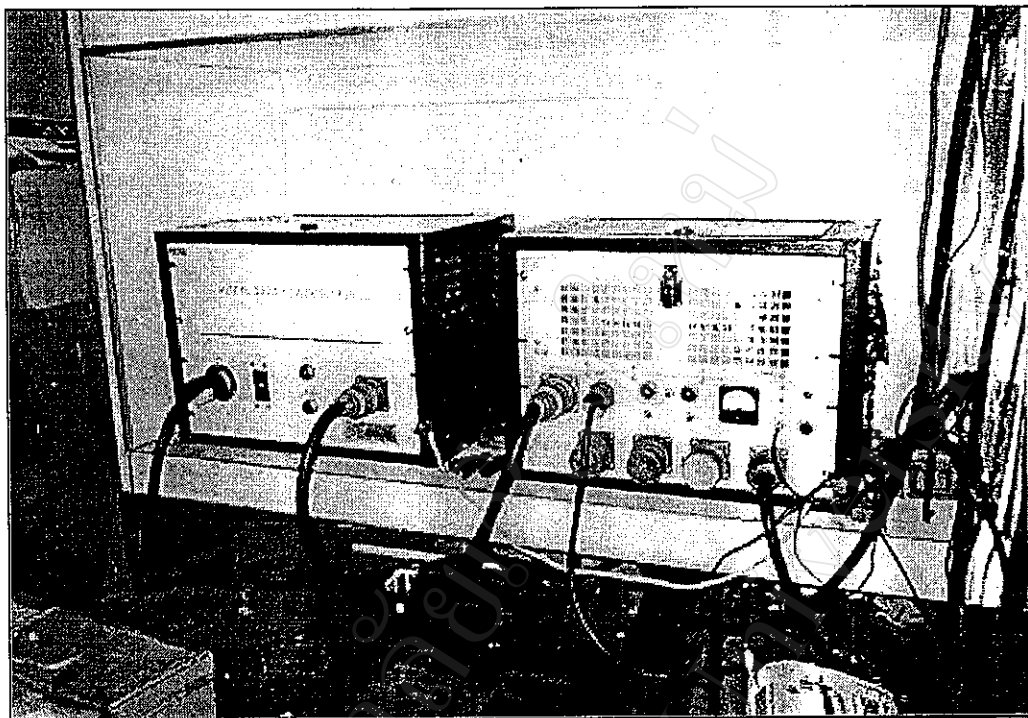


Plate 5. Triggered capacitor bank: model EG&G 231 (on the right)  
and High power supply : model EG&G 232A (on the left)

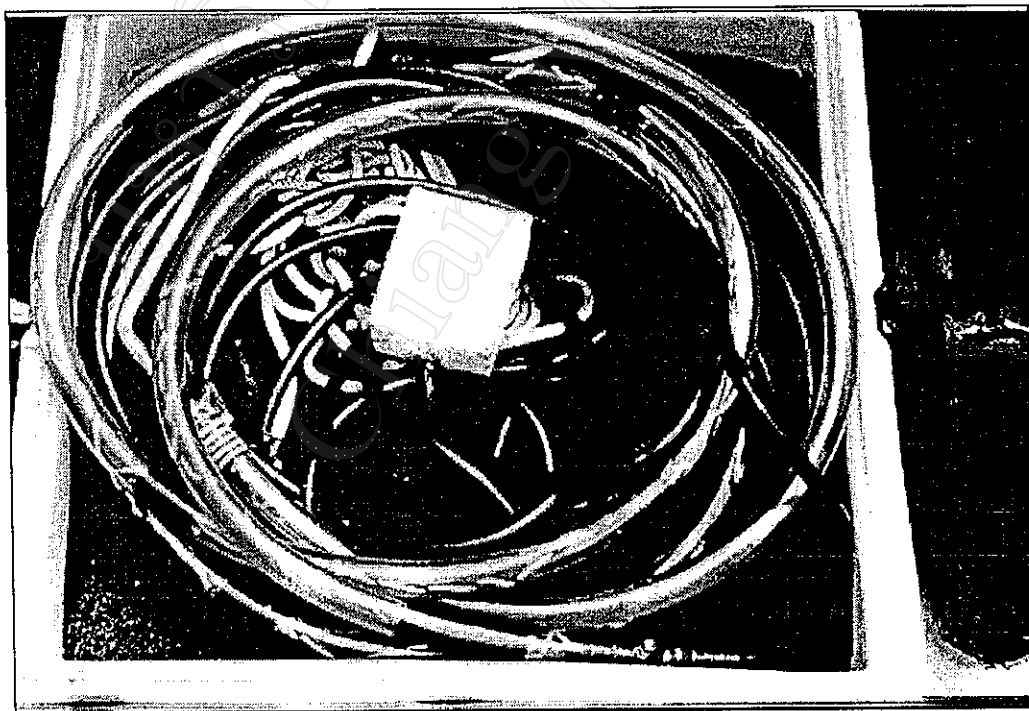


Plate 6. Seismic receiver: 8 element hydrophone array model EG&G 265

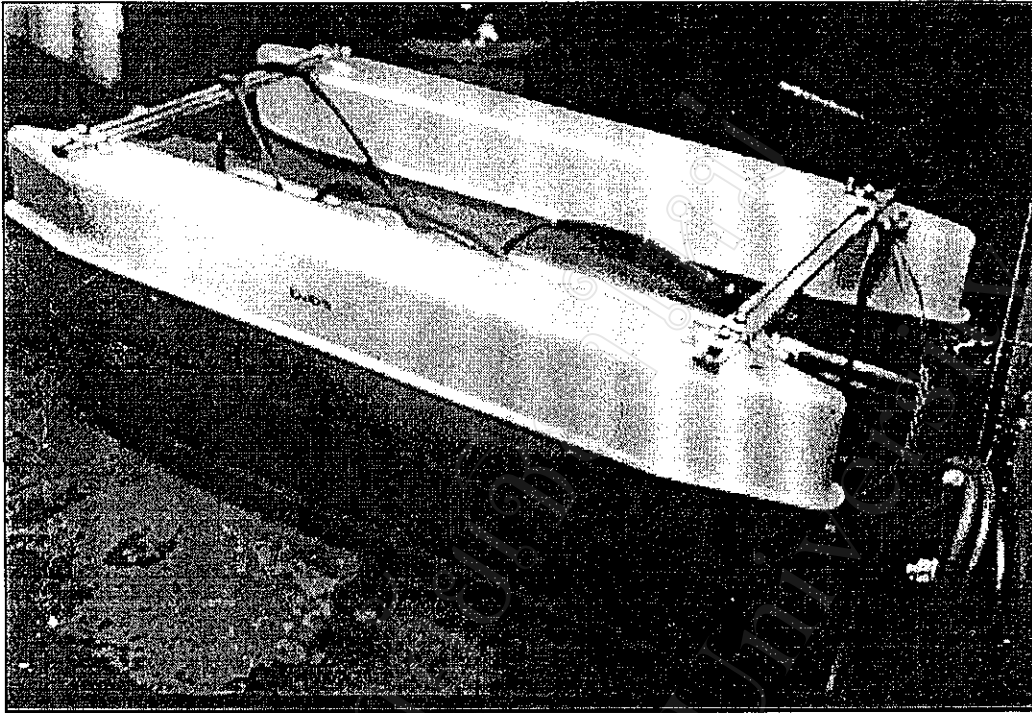


Plate 7. Acoustic energy source : Uniboom EG&G 230A

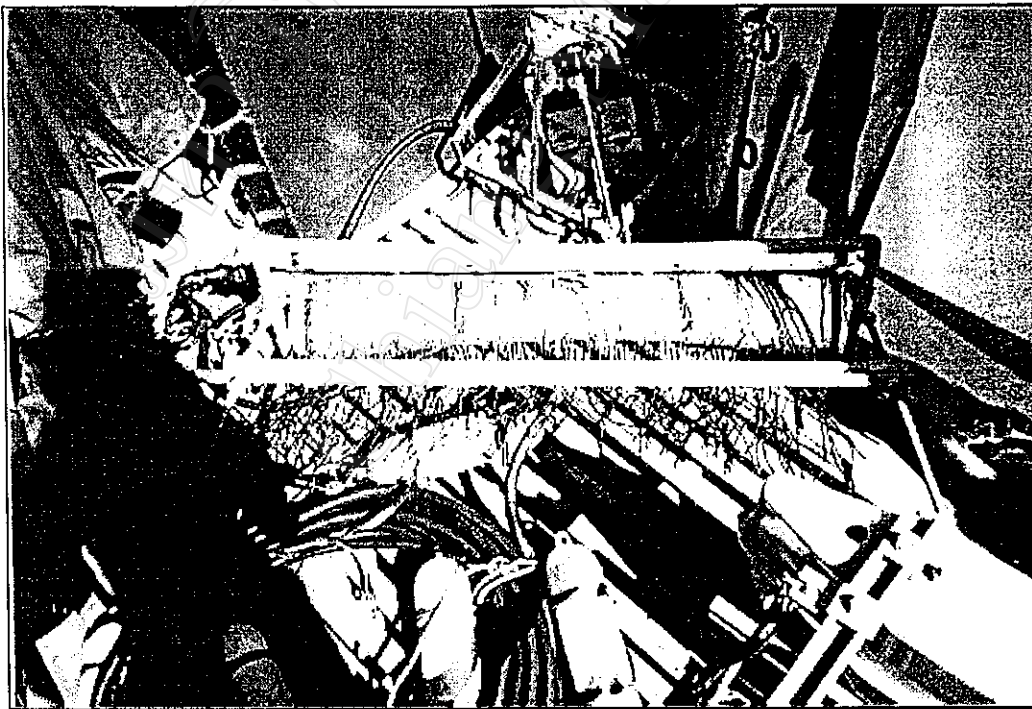
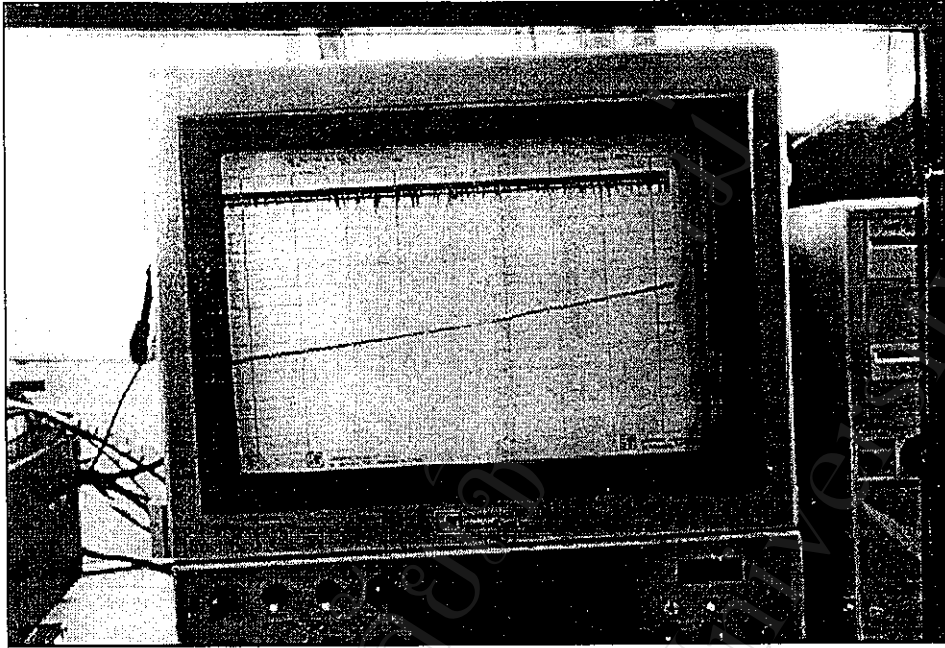
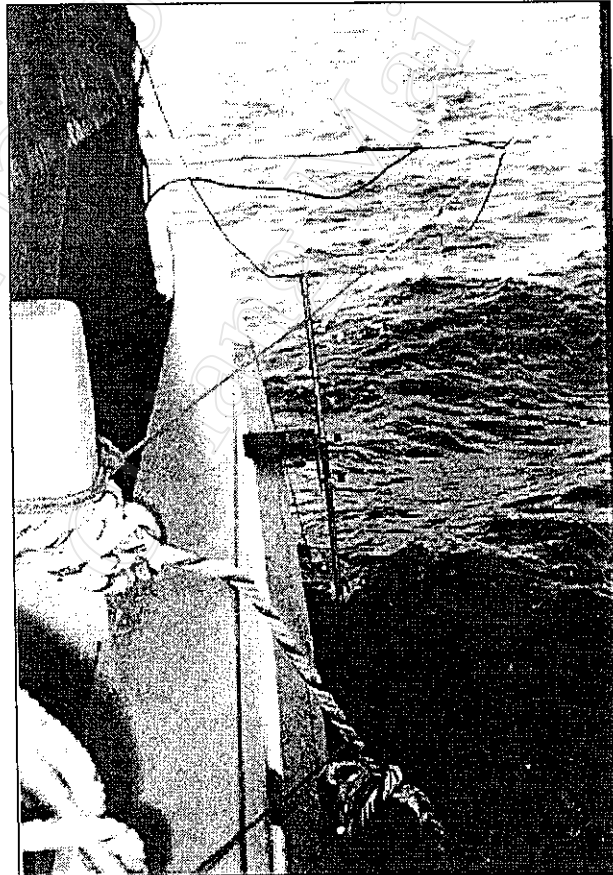


Plate 8. Acoustic energy source : 50 tip home-made sparker



**Plate 9. Depth sounder with thermal print recorder model Inner space 448**



**Plate 10. 208 KHz transducer of depth sounder system**

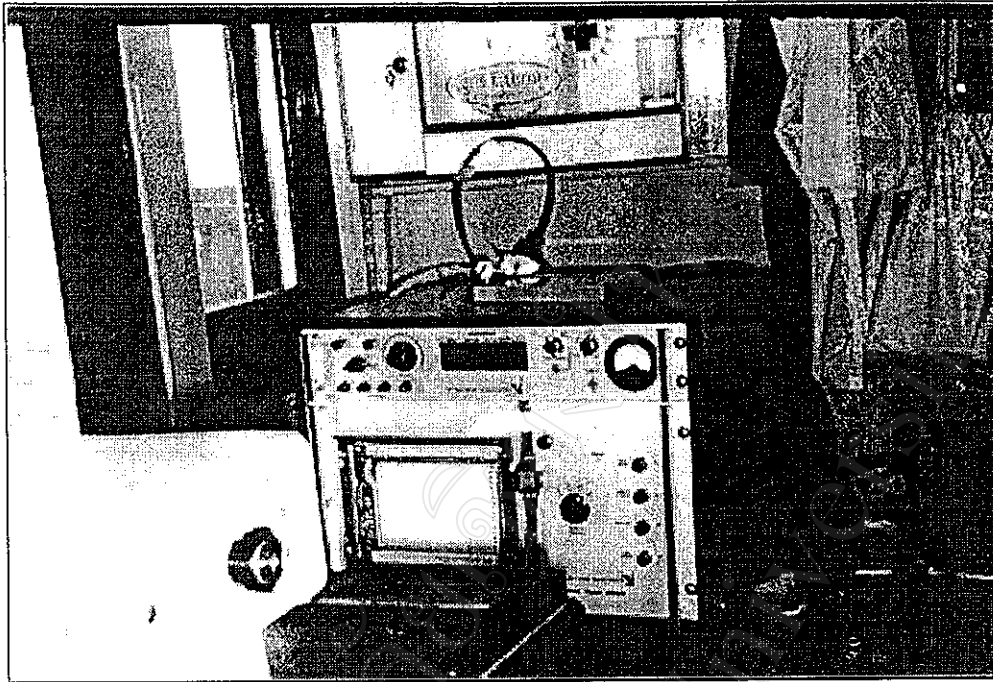


Plate 11. Magnetometer recorder with graphic analogue and digital display model G866

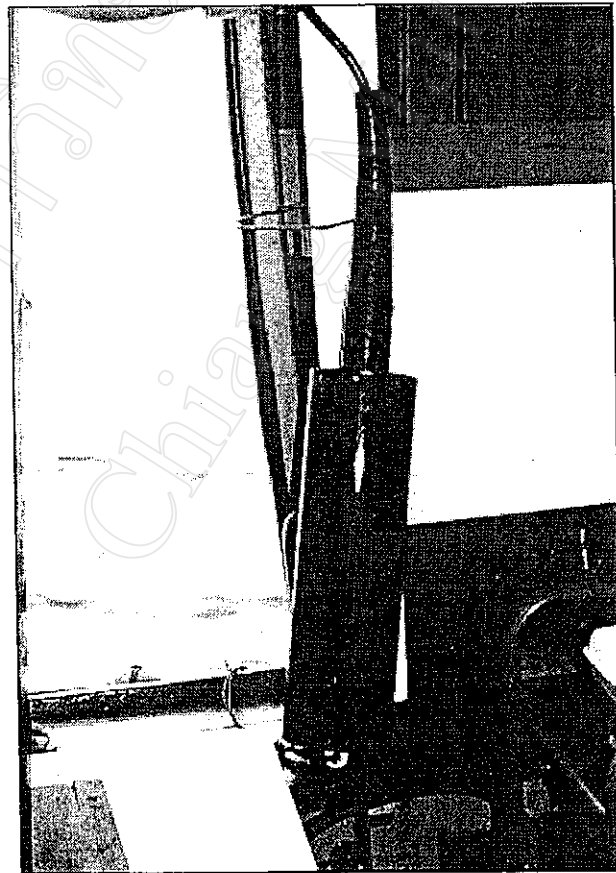


Plate 12. Marine magnetometer sensor: model G801 tow system

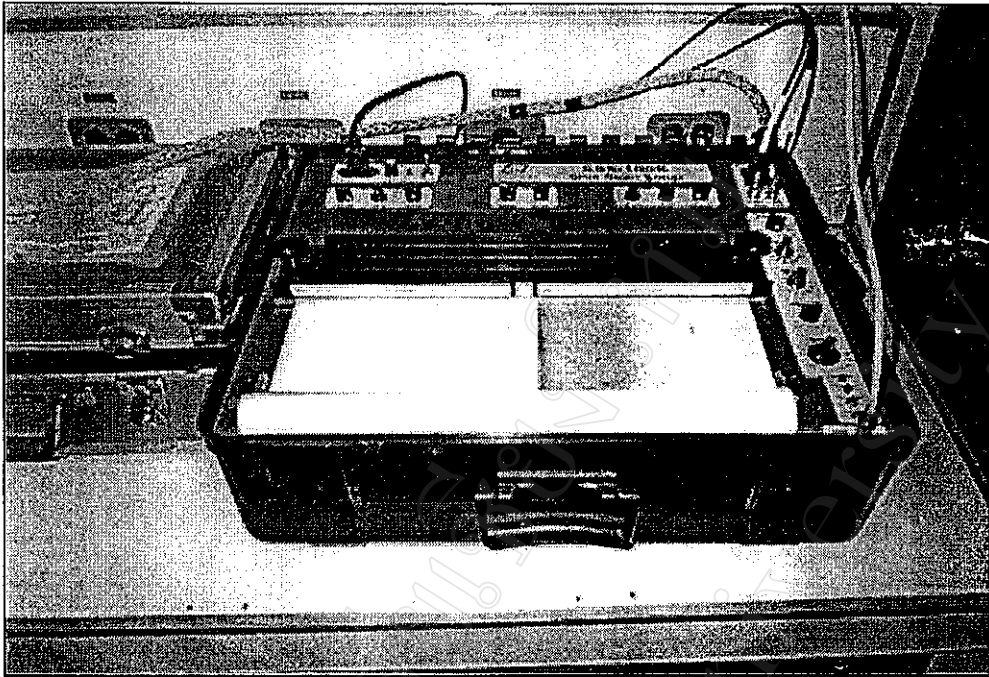


Plate 13. Side scan sonar recorder (Model SSS 100K)

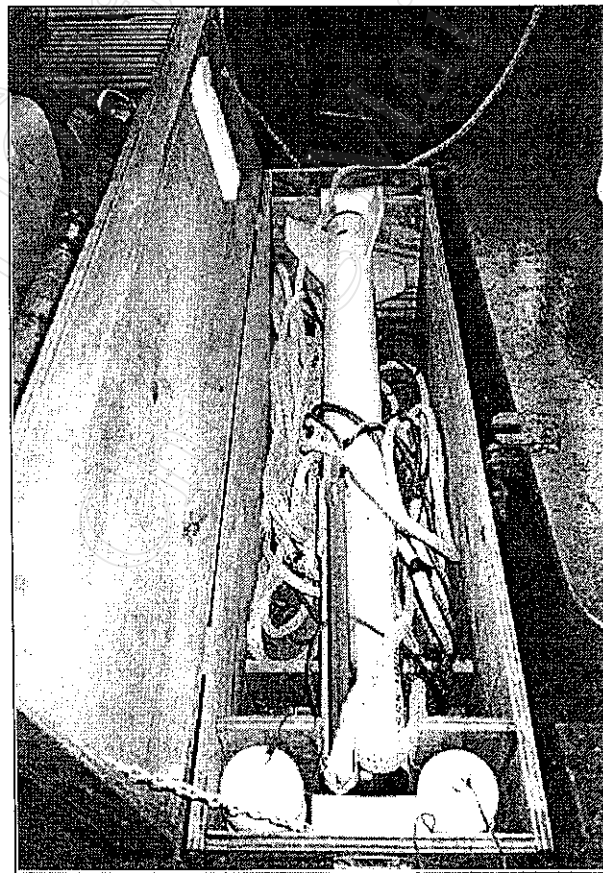


Plate 14..Side scan sonar tow-fish transducer



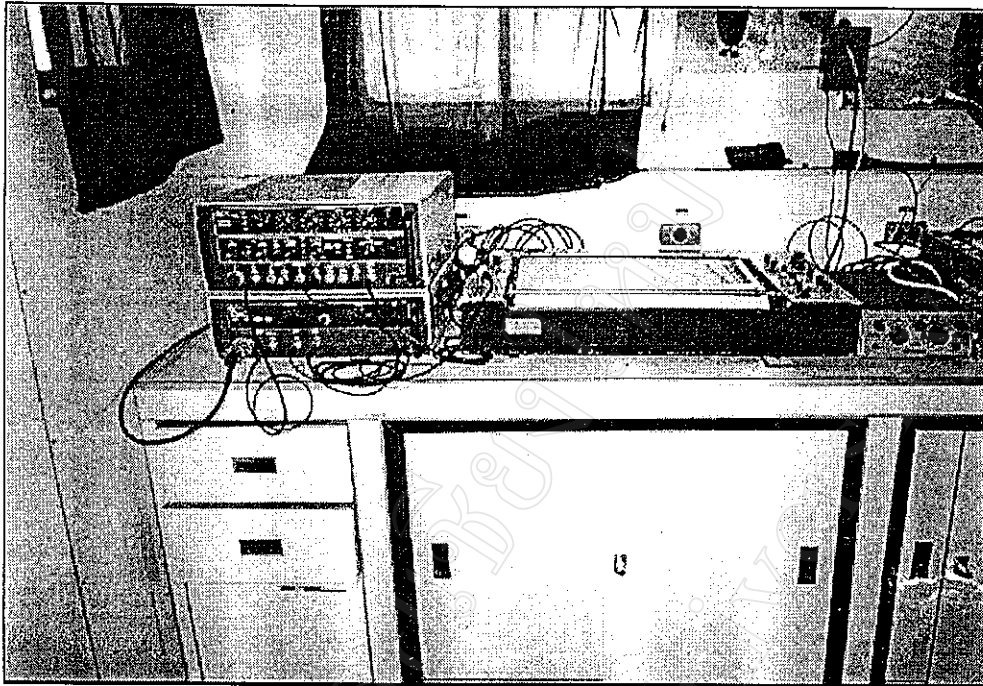


Plate 15. Sub-bottom profiler processing unit (left) and graphic recorder (right)

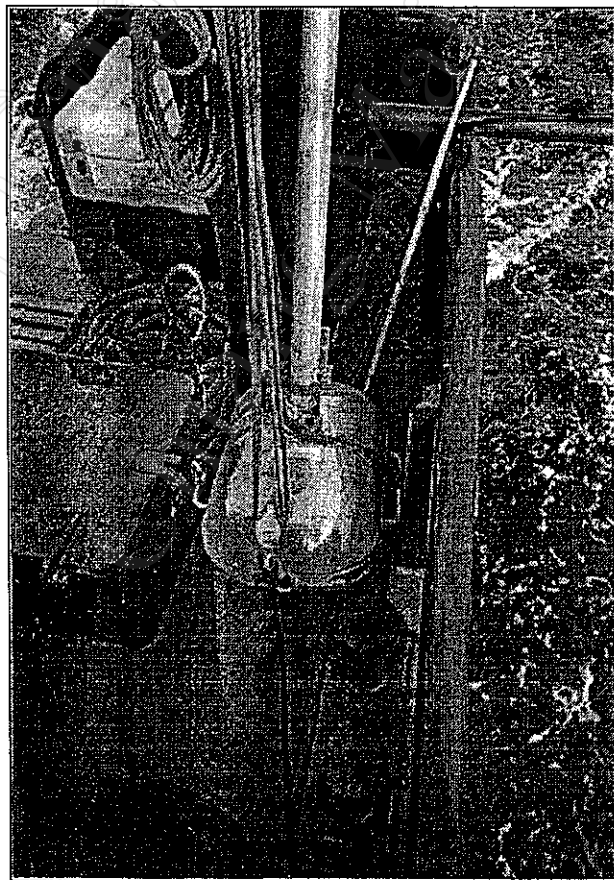


Plate 16. 3.5 -7 KHz transducer

**Appendix B**

**Drilling Results of the Area 1**

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**Table B1 : DRILLING RESULTS OF SUB-AREA 1-A, 1994**

DRILL HOLE NUMBER	DATE OF DRILLING (D/M/Y)	DRILLING GRID UTM		WATER DEPTH LSL.(m)	DRILLING DEPTH (m)	NUMBER OF SAMPLES	TYPE OF BEDROCK
		EAST	NORTH				
1A-1	24/03/94	741985.0	1395738.0	11.5	18.0	6	Unbottomed
1A-2	24/03/94	738059.4	1395118.6	15.0	12.6	4	Unbottomed
1A-3	25/03/94	731518.4	1393427.6	15.7	16.2	6	Unbottomed
1A-4	25/03/94	731475.2	1391707.8	14.0	16.1	6	Unbottomed
1A-5	23/03/94	751480.0	1394046.0	10.5	31.4	11	Unbottomed
1A-6	23/03/94	744698.6	1390016.4	15.5	14.9	5	Unbottomed
1A-9	27/03/94	738998.2	1392961.8	14.8	24.4	8	Unbottomed
1A-10	27/03/94	735096.6	1393991.4	16.0	20.5	7	Unbottomed
1A-11	26/03/94	734875.4	1391451.6	15.4	22.2	8	Unbottomed
1A-12	26/03/94	731587.2	1387975.4	14.5	18.7	5	Unbottomed
1A-13	25/03/94	727079.8	1393452.4	14.7	18.1	6	Unbottomed
<b>11 Holes</b>		<b>Total</b>			<b>213.7</b>	<b>72</b>	
		<b>Minimum</b>		<b>11.5</b>			
		<b>Maximum</b>		<b>16.0</b>			

**Table B2 : DRILLING RESULTS OF SUB-AREAS 1-C and 1-D, 1994**

DRILL HOLE NUMBER	DATE OF DRILLING (D/M/Y)	DRILLING GRID UTM		WATER DEPTH LSL (m)	DRILLING DEPTH (m)	NUMBER OF SAMPLES	TYPE OF BEDROCK
		EAST	NORTH				
1C-2	25/02/94	785336.5	1394614.0	11.8	9.5	3	Unbottomed
1C-3	25/02/94	791364.0	1394539.0	9.7	8.0	3	Unbottomed
1C-5	24/02/94	797348.0	1389460.0	12.9	20.3	7	Unbottomed
1C-7	23/02/94	793570.0	1388440.4	16.0	11.9	4	Granite
1C-8	24/02/94	798745.0	1388516.2	13.4	16.8	6	Unbottomed
1C-10	23/02/94	791455.4	1387362.6	15.8	17.3	7	Granite
1C-11	21/02/94	790835.0	1383861.0	16.7	11.1	4	Unbottomed
1C-12	21/02/94	799660.0	1383575.0	15.5	11.3	4	Schist
1C-14	21/02/94	795497.0	1381560.0	17.2	15.1	6	Granite
1C-15	22/02/94	790578.6	1377018.0	21.9	13.9	5	Granite
1C-17	22/02/94	790098.8	1376044.6	20.9	21.0	8	Unbottomed
1C-20	24/02/94	796559.2	1392523.8	9.8	14.7	5	Unbottomed
1C-21	24/02/94	790726.0	1389739.4	14.1	10.9	4	Unbottomed
1D-26	28/02/94	810942.0	1391457.0	9.0	25.1	8	Sandstone
1D-27	19/02/94	808790.0	1389350.0	11.7	16.1	4	Unbottomed
1D-28	19/02/94	805282.8	1386386.4	13.8	20.3	7	Unbottomed
1D-29	20/02/94	802957.0	1384402.0	14.4	20.8	7	Unbottomed
17 Holes	<b>Total</b>				<b>264.1</b>	<b>92</b>	
	<b>Minimum</b>			<b>9.0</b>			
	<b>Maximum</b>			<b>21.9</b>			

**Table B3 : DRILLING RESULTS OF SUB-AREA 1-E, 1994**

DRILL HOLE NUMBER	DATE OF DRILLING (D/M/Y)	DRILLING GRID UTM		WATER DEPTH LSL.(m)	DRILLING DEPTH (m)	NUMBER OF SAMPLES	TYPE OF BEDROCK
		EAST	NORTH				
1E-2	09/03/94	179000.2	1379690.8	3.7	41.4	14	Unbottomed
1E-3	09/03/94	178876.8	1379067.4	5.9	18.6	6	Sandstone
1E-4	09/03/94	179311.2	1378417.6	6.7	18.3	6	Shale
1E-5	10/03/94	178826.6	1376869.0	9.7	26.7	9	Shale
1E-5A	17/03/94	178869.2	1376953.6	9.5	35.9	15	Sandstone
1E-5B	17/03/94	178802.0	1376894.4	9.7	27.3	9	Sandstone
1E-5C	18/03/94	178858.4	1376870.2	9.8	28.3	10	Shale
1E-5D	18/03/94	178769.0	1376746.6	10.0	13.5	5	Sandstone
1E-5E	18/03/94	178728.0	1376899.0	9.8	15.3	5	Unbottomed
1E-5F	19/03/94	179034.0	1377119.2	9.2	12.3	4	Shale
1E-5G	19/03/94	178905.4	1377076.8	8.7	17.4	6	Shale
1E-5H	19/03/94	178888.0	1376723.0	10.4	15.6	6	Shale
1E-6	01/03/94	177764.4	1374885.2	12.5	21.5	7	Sandstone
1E-7	01/03/94	176580.0	1373649.2	14.2	21.8	8	Sandstone
1E-8	02/03/94	177755.2	1373990.8	13.5	23.5	8	Sandstone
1E-9	02/03/94	178762.8	1373626.8	12.9	17.3	6	Sandstone
1E-10	02/03/94	177535.0	1372673.0	14.5	22.4	8	Unbottomed
1E-11	03/03/94	176663.8	1371639.8	14.5	25.4	10	Sandstone
1E-12	03/03/94	175431.4	1370123.2	15.4	18.9	6	Unbottomed
1E-13	15/03/94	177765.0	1369699.0	14.4	28.3	10	Sandstone
1E-15	03/03/94	176702.0	1368734.0	16.0	15.2	5	Unbottomed
1E-16	16/03/94	178458.6	1368364.2	14.6	34.4	12	Sandstone
1E-20	04/03/94	177728.4	1367711.0	15.1	15.3	5	Unbottomed
1E-23	16/03/94	178964.2	1367164.0	15.5	32.4	11	Unbottomed
1E-26	04/03/94	176056.4	1366220.8	17.2	16.5	6	Unbottomed
1E-31	10/03/94	179101.0	1377667.2	8.0	18.8	7	Sandstone
1E-32	10/03/94	178216.2	1375422.8	11.4	22.1	8	Shale
1E-33	12/03/94	178777.0	1376107.0	10.7	16.9	6	Unbottomed
1E-34	12/03/94	178212.2	1374919.8	11.8	14.5	5	Unbottomed
1E-35	11/03/94	177824.0	1374654.6	12.2	15.2	5	Unbottomed

**Table B3 : DRILLING RESULTS OF SUB-AREA 1-E, 1994 (continued)**

DRILL HOLE NUMBER	DATE OF DRILLING (D/M/Y)	DRILLING GRID UTM		WATER DEPTH	DRILLING DEPTH	NUMBER OF SAMPLES	TYPE OF BEDROCK
		EAST	NORTH	LSL.(m)	(m)		
1E-36	12/03/94	177625.4	1374429.6	12.3	24.2	8	Unbottomed
1E-37	11/03/94	177329.4	1374115.2	12.9	27.9	10	Sandstone
1E-38	13/03/94	178623.2	1377885.4	8.1	14.3	6	Shale
1E-39	13/03/94	180424.6	1377915.4	6.2	23.0	8	Sandstone
1E-40	15/03/94	179851.0	1371619.0	13.3	23.4	8	Sandstone
<b>35 Holes</b>			<b>Total</b>		<b>763.8</b>	<b>268</b>	
			<b>Minimum</b>	<b>3.7</b>			
			<b>Maximum</b>	<b>17.2</b>			

**Table B4 : DRILLING RESULTS OF SUB-AREA 1-A, 1995**

DRILL HOLE NUMBER	DATE OF DRILLING (D/M/Y)	DRILLING GRID		WATER DEPTH LSL.(m)	DRILLING DEPTH (m)	NUMBER OF SAMPLES	TYPE OF BEDROCK
		UTM					
		EAST	NORTH				
1A-1	15/06/95	743909.0	1398044.0	7.4	17.3	4	Unbottomed
1A-2	15/06/95	743801.7	1395759.0	13.0	22.4	7	Unbottomed
1A-3	16/06/95	741878.7	1397898.0	10.0	19.4	7	Unbottomed
1A-4	16/06/95	740107.6	1398049.0	9.5	19.9	6	Unbottomed
1A-5	17/06/95	739914.9	1395756.0	11.9	15.2	4	Unbottomed
1A-5/1	21/06/95	750383.3	1392948.0	11.9	17.5	5	Unbottomed
1A-6	16/06/95	738006.5	1397998.0	11.5	20.6	7	Unbottomed
1A-11	14/06/95	749913.6	1393958.0	13.0	24.4	7	Unbottomed
1A-11/1	21/06/95	750006.4	1393990.0	11.9	17.5	6	Unbottomed
1A-12	17/06/95	739914.9	1395757.0	13.6	16.5	5	Unbottomed
1A-13	14/06/95	752939.4	1392940.0	11.1	24.3	7	Unbottomed
1A-13/1	22/06/95	752800.3	1393005.0	11.1	15.3	5	Unbottomed
1A-14	15/06/95	749275.0	1394995.0	11.5	20.7	6	Unbottomed
1A-14/1	21/06/95	742165.8	1399851.0	7.8	12.6	4	Unbottomed
1A-15	21/06/95	745258.0	1398950.0	9.0	20.4	6	Unbottomed
1A-22	20/06/95	747791.0	1398006.0	9.1	17.3	6	Unbottomed
1A-27	20/06/95	746850.0	1395770.0	11.8	16.6	5	Unbottomed
1A-28	20/06/95	751386.7	1395758.0	11.1	24.3	8	Unbottomed
1A-30	20/06/95	749999.3	1394997.0	15.5	22.9	3	Unbottomed
1A-31	19/06/95	741928.3	1392905.0	11.7	12.3	7	Unbottomed
1A-33	21/06/95	742446.9	1391107.0	16.1	16.3	5	Unbottomed
1A-37	21/06/95	751398.6	1389536.0	16.8	20.6	7	Unbottomed
1A-37/1	21/06/95	750389.0	1392011.0	16.8	16.4	5	Unbottomed
23 Holes	<b>Total</b>				<b>430.7</b>	<b>132</b>	
	<b>Minimum</b>			<b>7.8</b>	<b>12.3</b>		
	<b>Maximum</b>			<b>16.8</b>	<b>24.4</b>		

**Table B5 : DRILLING RESULTS OF SUB-AREA 1-E, 1995**

DRILL HOLE NUMBER	DATE OF DRILLING (D/M/Y)	DRILLING GRID		WATER DEPTH LSL (m)	DRILLING DEPTH (m)	NUMBER OF SAMPLES	TYPE OF BEDROCK
		UTM					
		EAST	NORTH				
1E-1	24/05/95	178179.7	1379441.0	6.8	20.0	6	Shale
1E-1/1	24/05/95	178164.8	1379705.0	6.8	15.0	4	Shale
1E-1/2	24/05/95	178029.3	1379477.0	6.8	17.0	6	Shale
1E-1/3	24/05/95	178150.0	1379326.0	6.8	18.6	6	Shale
1E-2	16/04/95	178814.3	1379320.0	7.1	21.6	6	Unbottomed
1E-2/1	20/05/95	178517.1	1379389.0	6.0	23.4	7	Unbottomed
1E-2/2	21/05/95	179000.0	1379392.0	5.7	26.7	8	Shale
1E-2/3	21/05/95	178759.9	1379598.0	6.0	21.5	7	Unbottomed
1E-2/4	21/05/95	178736.0	1379236.0	6.0	25.6	7	Unbottomed
1E-2/5	20/05/95	178625.5	1379421.0	6.2	35.2	11	Unbottomed
1E-2/6	24/05/95	178980.1	1379426.0	5.6	41.8	13	Unbottomed
1E-2/8	25/04/95	178709.6	1379355.0	5.6	28.6	9	Unbottomed
1E-2/9	29/05/95	178813.4	1379219.0	5.3	23.2	7	Unbottomed
1E-2/10	29/05/95	178801.8	1379427.0	5.3	19.9	5	Shale
1E-2/11	29/05/95	178865.6	1379332.0	6.3	26.1	7	Unbottomed
1E-3	17/04/95	179229.9	1379373.0	5.3	14.5	4	Unbottomed
1E-4	18/04/95	179168.6	1378895.0	5.9	17.3	5	Unbottomed
1E-5	19/04/95	178647.0	1378913.0	6.3	16.4	5	Unbottomed
1E-6	19/04/95	178176.8	1378901.0	7.0	22.0	7	Unbottomed
1E-7	19/04/95	178154.7	1378493.0	7.7	16.5	6	Unbottomed
1E-8	20/04/95	178667.8	1378514.0	8.4	24.2	6	Unbottomed
1E-9	20/04/95	179205.7	1378479.0	7.1	19.2	5	Unbottomed
1E-10	20/04/95	180033.3	1378068.0	6.6	17.0	6	Unbottomed
1E-11	21/04/95	179152.7	1377901.0	8.2	16.9	6	Unbottomed
1E-12	21/04/95	178757.2	1378043.0	8.4	12.0	4	Unbottomed
1E-13	22/04/95	176996.0	1378003.0	10.9	20.0	7	Unbottomed
1E-14	26/04/95	178248.6	1377284.0	10.7	15.0	5	Unbottomed
1E-15	25/04/95	178511.5	1377256.0	10.5	14.6	5	Unbottomed
1E-16	25/04/95	178802.6	1377253.0	10.4	15.3	5	Unbottomed
1E-17	25/04/95	178979.4	1377282.0	10.0	16.5	5	Unbottomed
1E-18	25/04/95	179262.8	1377277.0	10.0	17.7	6	Shale



**Table B5 : DRILLING RESULTS OF SUB-AREA 1-E, 1995 (continued)**

DRILL HOLE NUMBER	DATE OF DRILLING (D/M/Y)	DRILLING GRID UTM		WATER DEPTH LSL (m)	DRILLING DEPTH (m)	NUMBER OF SAMPLES	TYPE OF BEDROCK
		EAST	NORTH				
1E-19	29/04/95	179976.4	1377004.0	10.0	15.1	6	Shale
1E-20	29/04/95	179237.6	1376991.0	10.3	19.1	5	Shale
1E-21	28/04/95	178922.4	1376910.0	10.5	33.9	11	Shale
1E-22	27/04/95	178761.1	1377004.0	11.0	15.2	5	Shale
1E-23	26/04/95	178469.6	1376971.0	11.0	15.5	5	Shale
1E-24	26/04/95	178189.6	1376968.0	11.0	12.7	5	Unbottomed
1E-25	22/04/95	176967.1	1376993.0	11.0	14.3	5	Shale
1E-26	30/04/95	178615.0	1376881.0	10.8	22.5	7	Shale
1E-27	27/04/95	178764.2	1376905.0	11.0	18.5	5	Unbottomed
1E-28	27/04/95	178914.9	1376889.0	11.1	30.4	10	Shale
1E-29	29/04/95	179268.1	1376734.0	10.6	15.8	5	Unbottomed
1E-30	29/04/95	179003.7	1376822.0	11.0	27.4	7	Shale
1E-31	30/04/95	178807.8	1376770.0	11.0	17.0	6	Shale
1E-32	30/04/95	178514.4	1376756.0	11.2	16.2	6	Shale
1E-33	01/05/95	178354.9	1376629.0	11.0	17.0	6	Shale
1E-34	01/05/95	178515.4	1376522.0	11.0	13.0	5	Shale
1E-35	01/05/95	178798.3	1376504.0	11.0	16.4	5	Shale
1E-36	02/05/95	178988.5	1376499.0	11.0	17.4	5	Shale
1E-37	02/05/95	179976.3	1376283.0	10.2	20.1	5	Shale
1E-38	02/05/95	179227.6	1376277.0	11.3	15.0	5	Shale
1E-39	03/05/95	178236.8	1376221.0	11.3	14.3	5	Unbottomed
1E-40	03/05/95	176988.0	1375793.0	12.6	22.0	8	Unbottomed
1E-41	04/05/95	178246.6	1375756.0	12.1	15.0	6	Unbottomed
1E-42	04/05/95	178714.5	1375746.0	11.9	12.8	5	Unbottomed
1E-43	04/05/95	179319.0	1375779.0	11.9	15.6	6	Unbottomed
1E-44	05/05/95	179999.3	1375727.0	11.9	17.6	5	Shale
1E-45	06/05/95	178567.2	1375382.0	13.0	15.7	5	Unbottomed
1E-46	07/05/95	177822.6	1375418.0	11.7	10.7	4	Unbottomed
1E-47	07/05/95	177663.4	1375174.0	12.4	18.0	7	Unbottomed
1E-48	07/05/95	177836.5	1375139.0	12.2	16.4	5	Unbottomed
1E-49	06/05/95	178102.7	1375172.0	12.6	23.6	7	Unbottomed

Table B5 : DRILLING RESULTS OF SUB-AREA 1-E, 1995 (continued)

DRILL HOLE NUMBER	DATE OF DRILLING (D/M/Y)	DRILLING GRID		WATER DEPTH LSL (m)	DRILLING DEPTH (m)	NUMBER OF SAMPLES	TYPE OF BEDROCK
		UTM					
		EAST	NORTH				
1E-50	06/05/95	178396.2	1375151.0	12.0	16.0	5	Unbottomed
1E-51	05/05/95	179994.0	1375012.0	12.0	17.0	6	Shale
1E-52	05/05/95	178770.0	1375003.0	12.9	10.9	4	Sandstone
1E-53	07/05/95	177335.1	1374958.0	12.4	18.2	4	Unbottomed
1E-54	08/05/95	177096.5	1374927.0	12.8	15.8	5	Unbottomed
1E-57	08/05/95	177111.1	1374671.0	12.9	17.5	6	Unbottomed
1E-58	09/05/95	177733.0	1374665.0	12.7	15.5	5	Unbottomed
1E-59	12/05/95	178121.5	1374667.0	13.7	18.7	6	Shale
1E-60	12/05/95	178572.7	1374648.0	13.2	14.8	5	Shale
1E-61	12/05/95	178042.3	1374411.0	13.2	16.2	5	Shale
1E-62	08/05/95	177124.2	1374431.0	13.1	15.0	5	Unbottomed
1E-63	27/05/95	176475.2	1374224.0	15.0	23.0	8	Shale
1E-64	08/05/95	177220.0	1374171.0	12.2	24.4	8	Shale
1E-65	07/05/95	177559.3	1374174.0	12.7	19.0	6	Unbottomed
1E-66	13/05/95	178074.1	1374146.0	13.5	12.9	4	Unbottomed
1E-67	12/05/95	178606.3	1374151.0	13.2	14.0	5	Shale
1E-68	26/05/95	177561.6	1373858.0	13.9	27.0	9	Unbottomed
1E-69	26/05/95	177051.6	1373908.0	14.2	18.0	6	Shale
1E-70	27/05/95	176042.4	1373489.0	15.0	11.4	4	Unbottomed
1E-71	27/05/95	176573.2	1373437.0	14.6	14.8	5	Shale
1E-72	27/05/95	177026.0	1373441.0	14.8	11.5	3	Unbottomed
1E-73	16/05/95	178004.7	1373423.0	13.4	8.3	3	Shale
1E-74	11/05/95	180021.8	1373997.0	12.8	14.5	5	Shale
1E-75	11/5/95	183530.9	1374039.0	9.1	29.0	9	Shale
1E-76	24/05/95	183535.4	1377979.0	2.6	24.0	7	Shale
1E-77	17/05/95	177027.3	1380407.0	6.6	12.5	3	Shale
1E-78	22/05/95	176237.3	1380507.0	8.8	7.6	3	Shale
1E-79	22/05/95	175222.3	1380458.0	10.0	22.4	7	Shale
1E-81	17/05/95	176255.5	1381494.0	6.5	27.0	9	Shale
1E-82	17/05/95	177026.3	1381802.0	5.8	22.2	7	Shake

**Table B5 : DRILLING RESULTS OF SUB-AREA 1-E, 1995 (continued)**

DRILL HOLE NUMBER	DATE OF DRILLING (D/M/Y)	DRILLING GRID		WATER DEPTH LSL (m)	DRILLING DEPTH (m)	NUMBER OF SAMPLES	TYPE OF BEDROCK
		UTM					
		EAST	NORTH				
1E-83	17/05/95	177012.9	1382527.0	2.2	10.5	3	Unbottomed
1E-84	23/05/95	177034.3	1383506.0	6.2	13.0	4	Unbottomed
1E-85	23/05/95	175246.2	1383509.0	6.2	27.0	8	Unbottomed
1E-96	23/05/96	174299.5	1384499.0	6.0	23.2	7	Shale
<b>96 Holes</b>			<b>Total</b>		<b>1786.3</b>	<b>567</b>	
			<b>Minimum</b>	<b>2.2</b>			
			<b>Maximum</b>	<b>15.0</b>			

**Table B6 : DRILLING RESULTS OF SUB-AREA 1-A, 1996**

DRILL HOLE NUMBER	DATE OF DRILLING (D/M/Y)	DRILLING GRID		WATER DEPTH LSL.(m)	DRILLING DEPTH (m)	NUMBER OF SAMPLES	TYPE OF BEDROCK
		UTM					
		EAST	NORTH				
1A-1	11/12/96	738938.0	1397550.0	8.9	7.0	7	Unbottomed
1A-2	11/12/96	738932.0	1397186.0	10.1	5.5	6	Unbottomed
1A-3	06/12/96	739506.2	1397221.0	12.5	6.0	6	Unbottomed
1A-4	06/12/96	739405.3	1396981.8	13.1	5.0	5	Unbottomed
1A-5	06/12/96	739793.0	1397031.0	12.8	8.0	8	Unbottomed
1A-6	06/12/96	740596.4	1397028.4	11.9	6.0	6	Unbottomed
1A-7	05/12/96	741222.9	1397060.5	11.7	6.0	6	Unbottomed
1A-8	05/12/96	741070.0	1396808.0	11.4	11.0	11	Unbottomed
1A-9	05/12/96	741677.1	1396796.8	11.3	7.0	7	Unbottomed
1A-10	02/12/96	742281.3	1396797.1	11.2	10.0	10	Unbottomed
1A-11	13/12/96	742282.2	1396375.4	12.1	6.0	6	Unbottomed
1A-12	13/12/96	742912.4	1396375.8	12.0	4.0	4	Unbottomed
1A-13	02/12/96	743029.0	1396812.7	10.5	14.7	15	Unbottomed
1A-14	01/12/96	743524.2	1396401.8	11.1	11.0	11	Unbottomed
1A-15	12/12/96	743473.2	1395999.8	11.4	10.0	10	Unbottomed
1A-16	12/12/96	744194.6	1395981.9	11.1	6.5	7	Unbottomed
1A-17	01/12/96	744171.7	1396416.1	10.9	14.5	15	Unbottomed
1A-18	01/12/96	744776.9	1396404.6	10.6	5.0	5	Unbottomed
1A-19	12/12/96	744764.9	1395974.1	11.0	9.0	9	Unbottomed
1A-20	30/11/96	745038.6	1396008.0	11.0	7.3	8	Unbottomed
1A-21	29/11/96	745146.4	1396800.6	10.1	4.0	4	Unbottomed
1A-22	29/11/96	745181.4	1397114.6	9.8	9.0	8	Unbottomed
1A-23	28/11/96	744841.1	1397607.2	9.2	4.0	4	Unbottomed
1A-24	28/11/96	744566.3	1398385.6	9.3	9.0	9	Unbottomed
1A-25	27/11/96	745154.1	1398383.5	9.4	13.0	13	Unbottomed
1A-26	26/11/96	745234.0	1397897.0	9.4	4.0	4	Unbottomed
1A-27	29/11/96	745593.1	1396794.5	11.5	4.0	4	Unbottomed
1A-28	30/11/96	745705.5	1396394.4	10.3	7.0	6	Unbottomed
1A-29	30/11/96	745606.1	1396003.2	11.0	6.5	7	Unbottomed
1A-30	14/12/96	746234.1	1395406.5	12.8	10.0	10	Unbottomed
1A-31	14/12/96	746194.1	1395988.0	12.0	13.0	13	Unbottomed

**Table B6 : DRILLING RESULTS OF SUB-AREA 1-A, 1996 (continued)**

DRILL HOLE NUMBER	DATE OF DRILLING (D/M/Y)	DRILLING GRID		WATER DEPTH LSL (m)	DRILLING DEPTH (m)	NUMBER OF SAMPLES	TYPE OF BEDROCK
		UTM					
		EAST	NORTH				
1A-32	13/12/96	746212.7	1396376.4	11.2	6.0	6	Unbottomed
1A-34	15/12/96	746780.1	1395981.8	12.0	9.0	9	Unbottomed
1A-35	14/12/96	746586.1	1395406.5	12.8	6.0	6	Unbottomed
1A-36	15/12/96	746817.6	1395194.9	13.0	7.0	7	Unbottomed
1A-37	15/12/96	746778.2	1395607.1	12.5	7.0	7	Unbottomed
1A-38	15/12/96	747210.6	1395996.8	12.0	15.0	15	Unbottomed
1A-39	15/12/96	747631.7	1395587.8	12.7	7.0	7	Unbottomed
1A-40	15/12/96	747387.8	1395511.9	12.8	10.0	10	Unbottomed
1A-41	15/12/96	747903.1	1395198.9	12.3	7.0	7	Unbottomed
1A-42	15/12/96	748450.6	1395182.6	12.3	7.0	7	Unbottomed
1A-43	16/12/96	748893.6	1395193.7	12.2	10.0	10	Unbottomed
1A-44	16/12/96	749316.8	1395200.1	10.7	11.0	11	Unbottomed
1A-45	16/12/96	749209.9	1394403.8	10.3	12.0	12	Unbottomed
1A-46	17/12/96	749103.1	1394786.8	10.5	15.0	14	Unbottomed
1A-47	17/12/96	749673.2	1394786.3	10.0	8.0	8	Unbottomed
1A-48	17/12/96	749574.4	1394594.5	10.2	11.0	11	Unbottomed
1A-49	17/12/96	749269.9	1394612.4	10.1	13.1	14	Unbottomed
1A-50	17/12/96	749651.4	1394203.9	10.1	17.0	17	Unbottomed
1A-51	18/12/96	749977.8	1394214.4	10.2	7.0	7	Unbottomed
1A-52	19/12/96	750250.8	1394408.0	10.0	12.0	12	Unbottomed
1A-53	17/12/96	749394.2	1393999.6	10.4	15.0	15	Unbottomed
1A-54	19/12/96	750353.7	1393996.5	10.4	13.0	13	Unbottomed
1A-55	19/12/96	751182.9	1393976.4	10.1	10.0	10	Unbottomed
1A-56	18/12/96	749542.1	1393596.4	11.1	11.0	11	Unbottomed
1A-57	18/12/96	749956.0	1393595.1	11.1	9.0	9	Unbottomed
1A-58	18/12/96	749772.4	1393209.9	11.5	10.0	10	Unbottomed
1A-59	19/12/96	753180.8	1392484.3	10.0	9.0	9	Unbottomed
1A-60	19/12/96	752879.7	1392508.8	10.0	8.0	8	Unbottomed
60 Holes	<b>Total</b>				<b>526.1</b>	<b>535</b>	
	<b>Minimum</b>			<b>8.9</b>	<b>4.0</b>		
	<b>Maximum</b>			<b>13.1</b>	<b>17.0</b>		

**Table B7 : DRILLING RESULTS OF SUB-AREA 1-E, 1997**

DRILL HOLE NUMBER	DATE OF DRILLING (D/M/Y)	DRILLING GRID UTM		WATER DEPTH LSL (m)	DRILLING DEPTH SAMPLES	TYPE OF BEDROCK
		EAST	NORTH			
1E-1	12/01/97	178385.5	1379659.0	5.0	14.7	Sandstone
1E-2	11/01/97	179019.3	1379635.0	4.0	29.0	Siltstone
1E-3	12/01/97	178997.4	1378383.0	6.8	21.7	Unbottommed
1E-4	13/01/97	178780.2	1376880.0	9.5	23.0	Unbottommed
1E-4/1	13/01/97	178775.6	1376858.0	9.6	23.0	Unbottommed
1E-4/3	15/01/97	178524.8	1376897.0	9.5	9.0	Unbottommed
1E-4/4	14/05/97	178977.1	1376882.0	9.5	20.0	Unbottommed
1E-5	15/06/97	177771.7	1374909.0	12.0	15.0	Unbottommed
1E-6	16/01/97	177598.3	1373659.0	13.0	17.7	Unbottommed
1E-7	16/01/97	178031.7	1373661.0	12.8	4.5	Siltstone
1E-8	17/01/97	177818.6	1372421.0	13.5	14.7	Unbottommed
1E-9	25/01/97	176667.8	1371682.0	14.0	22.5	Unbottommed
1E-10	17/01/97	175446.2	1370211.0	14.8	11.0	Unbottommed
1E-11	26/01/97	177339.9	1370172.0	14.2	11.2	Unbottommed
1E-12	20/01/95	178129.8	1370156.0	14.0	10.5	Siltstone
1E-13	17/01/97	176717.1	1368691.0	15.1	23.2	Unbottommed
1E-14	19/01/97	178204.9	1368652.0	14.8	26.2	Unbottommed
1E-15	30/01/97	180502.5	1368610.0	13.9	14.0	Unbottommed
1E-18	18/01/97	179118.5	1367642.0	14.8	18.0	Unbottommed
1E-19	18/01/97	177910.7	1366673.0	14.0	16.8	Unbottommed
1E-24	20/01/97	181020.3	1369848.0	9.0	13.5	Siltstone
1E-25	30/01/97	180716.7	1369318.0	11.0	8.5	Siltstone
1E-31	22/01/97	180228.6	1376215.0	9.5	20.0	Unbottommed
1E-33	23/01/97	179320.7	1378275.0	6.7	18.0	Sandstone
1E-34	24/01/97	179251.2	1377424.0	8.3	20.5	Siltstone
1E-35	25/01/97	178131.1	1376125.0	11.0	14.7	Siltstone
1E-36	28/01/97	175279.2	1377520.0	11.8	18.2	Unbottommed
1E-37	28/01/97	175278.2	1377275.0	12.0	19.5	Unbottommed
1E-38	29/01/97	175183.8	1376565.0	12.5	16.0	Unbottommed
1E-39	29/01/97	174204.4	1375494.0	14.0	19.0	Unbottommed
30 Holes			Total		513.6	
			Minimum	4.0		
			Maximum	15.1		

**Appendix C**

**Selected Seismic Profiles near the Drill Sites**

มหาวิทยาลัยเชียงใหม่  
Chiang Mai University

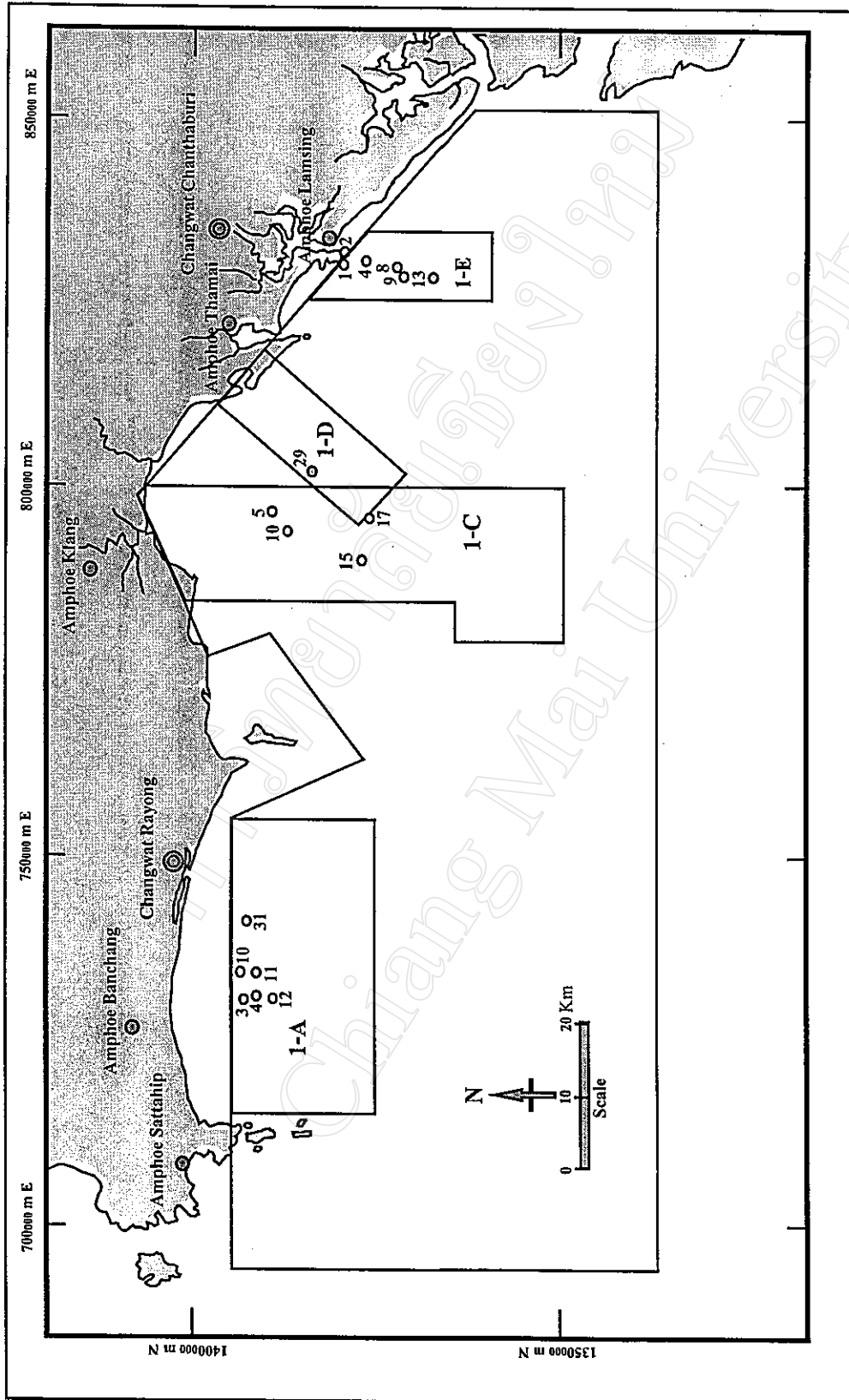


Figure C Map showing locations of selected drill hole data used in this study



Table C1

## DRILL LOG, SUB-AREA 1-A, 1994

SECTION (m)	LITHOLOGY	COLOR	SHELL	PLANT REMAINS	LATERITE PEBBLES	CHARACTERISTICS				CONSI- TENCY	OTHERS	ENV. OF DEPOSITION
						FINE	MED.	SAND	COARSE			
0.0-4.0	Marine mud	olive gray	abd. frag.							v. friable		Marine
4.0-4.9	Peaty clay	dark brown		stem, root						"		Est. swamp
4.9-10.6	Sandy clay	gray yellowish brown mottled								friable firm		Albuvium
10.6-16.2	Clay	gray, reddish yellowish brown mottled								very firm		Albuvium

HOLE NO.....3      GRID REF:      E: 731518.4      N: 1393427.6      W.D. 15.7 m      DRILLING      DEPTH .....16.2 m

Sub-area 1-A, 1994

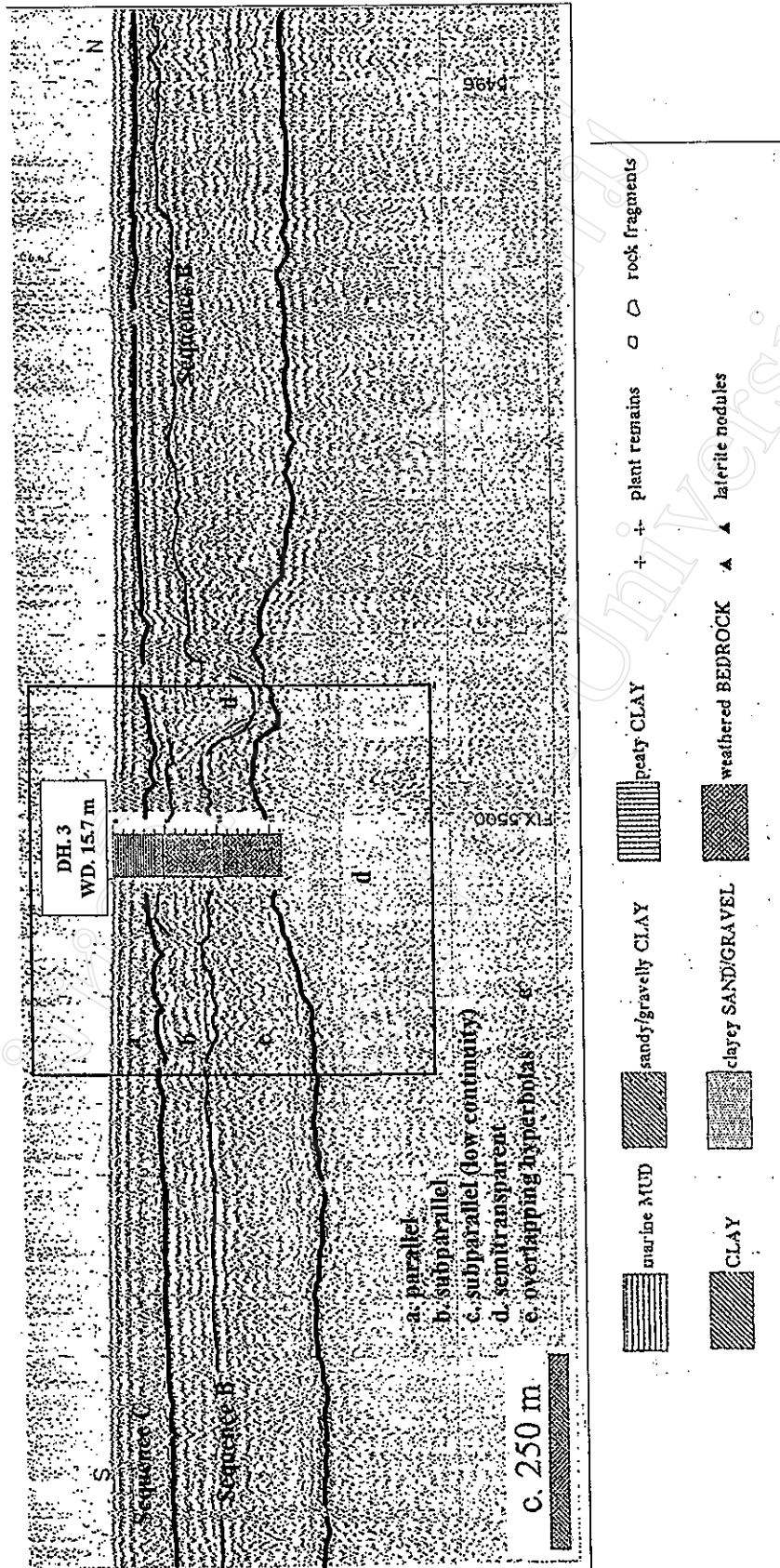


Figure C1

Table C2

## DRILL LOG, SUB-AREA 1-A, 1994

SECTION (m)	LITHOLOGY	COLOR	SHELL	PLANT REMAINS	LATERITE PEBBLES	CHARACTERISTICS			CONSI- TENCY	OTHERS	ENV. OF DEPOSITION
						FINE	MED.	COARSE			
0.0-6.4	Marine mud	olive gray	abd. frag.						v. friable		Marine
6.4-16.1	Sandy clay	yellowish gray, yellowish brown			most hard		medium		friable firm		Allostrata

HOLE NO.....4      GRID REF:      E: 731745.2      N: 1391707.8      W.D. 14.0 m      DRILLING      DEPTH      .....16.1 m

Sub-area 1-A, 1994

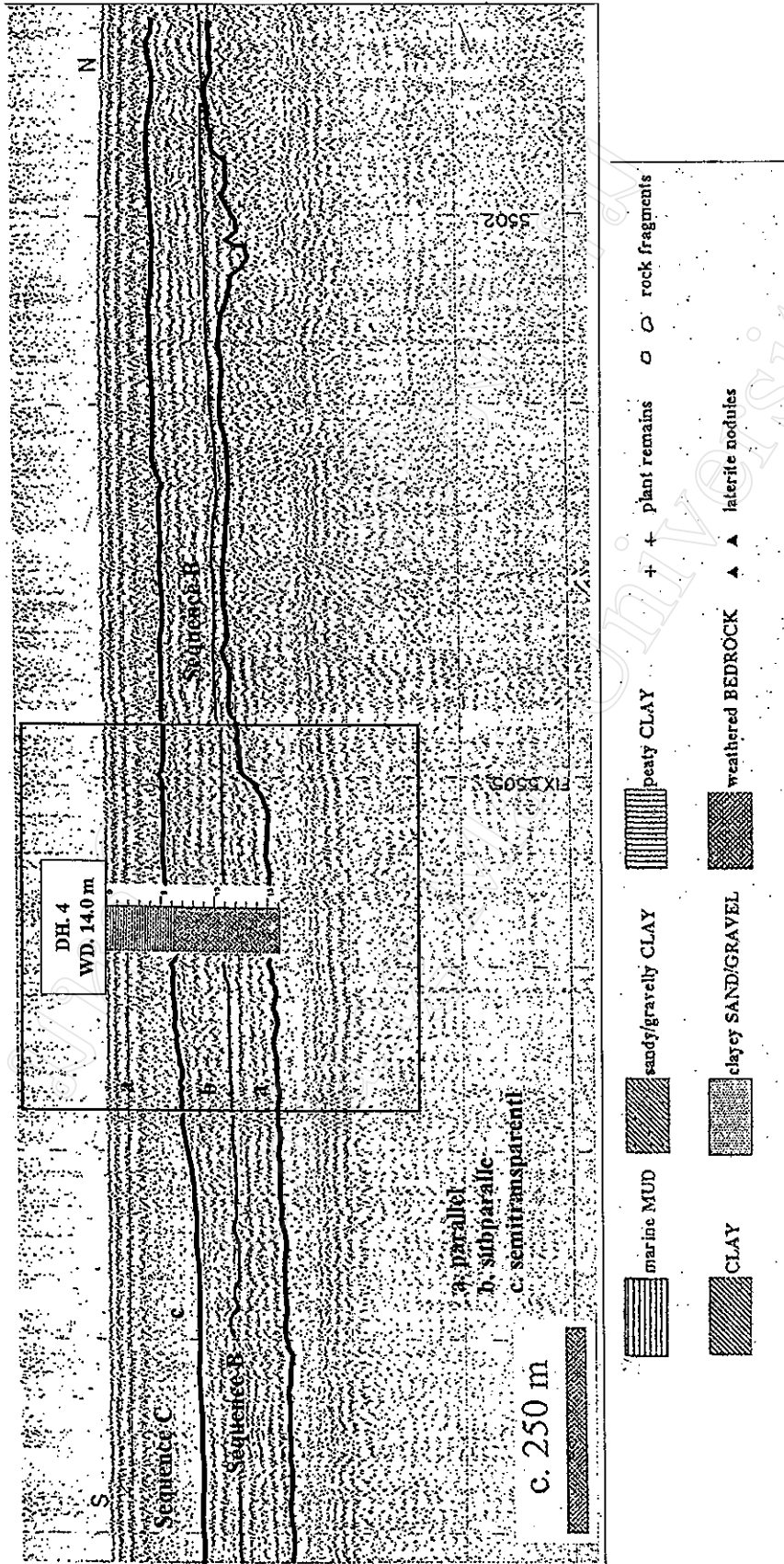


Figure C2

DRILL LOG, SUB-AREA 1-A, 1994

Table C3

SECTION (m)	LITHOLOGY	COLOR	SHELL	PLANT REMAINS	LATERITE PEBBLES	CHARACTERISTICS			CONSI- TENCY	OTHERS	ENV. OF DEPOSITION
						FINE	MED.	COARSE			
0.0-3.6	Marine mud	olive gray	abd. frag.						v. friable		Marine
3.6-8.3	Sandy clay	gray, yellowish brown mottle			nodules	slightly	medium	coarse	firm		Aluvium
8.3-12.8	Clayey sand	light gray				"	"	"	loose		Flu. chan
12.8-17.0	Peaty clay	dark gray		stem, root					friable		Est. swamp
17.0-19.4	Clayey sand	grayish brown			slightly		medium	coarse	loose		Flu. chan
19.4-28.5	Sandy clay	light gray				"	"	"	firm	rock frag.	W. granitic

HOLE NO. ....10      GRID REF:      E: 735096.6      N: 1393991.4      W.D. 16.0 m      DRILLING      DEPTH .....20.5 m

Sub-area 1-A, 1994

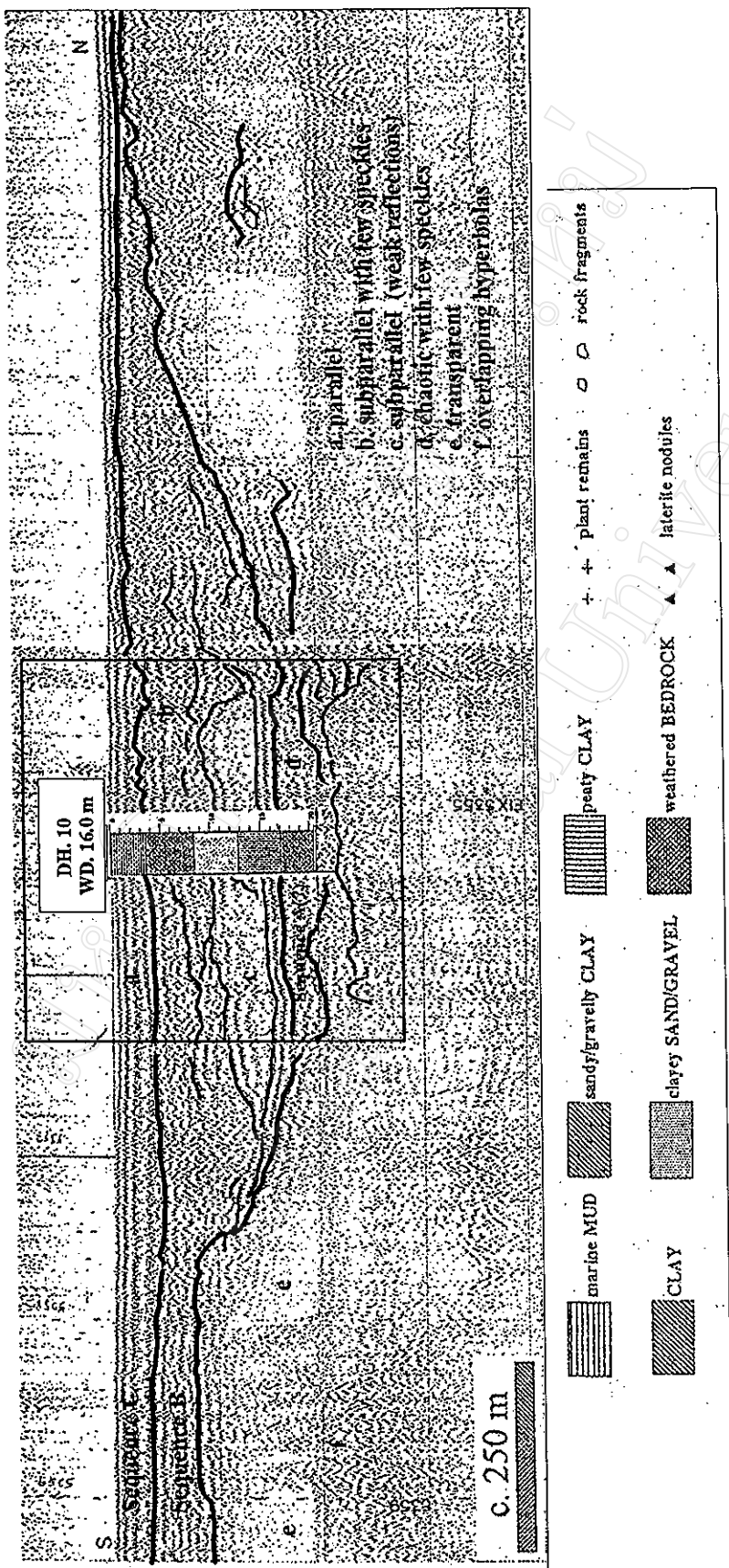


Figure C3

Table C4  
 DRILL LOG, SUB-AREA 1-A, 1994

SECTION (m)	LITHOLOGY	COLOR	SHELL	PLANT REMAINS	LATERITE	CHARACTERISTICS				DRILLING DEPTH	ENV. OF DEPOSITION
						GRAVEL/ PEBBLES	FINE	SAND MED. COARSE	CONSI- TENCY		
0.0-4.8	Marine mud	olive gray	abd. frag.						v. friable		Marine
4.8-5.8	Clayey sand	yellowish brown				slightly		medium	loose		Flu. chan.
5.8-11.8	Sandy clay	gray, yellowish brown oolitic			nodules				firm		Althorium
11.8-22.2	Clay	reddish brown			"	"	"	"	v. firm		"

HOLE NO.....11

GRID REF:

E: 734875.4

N: 1391451.6

W.D. 15.4 m

DRILLING

DEPTH

22.2 m

Sub-area 1-A, 1994

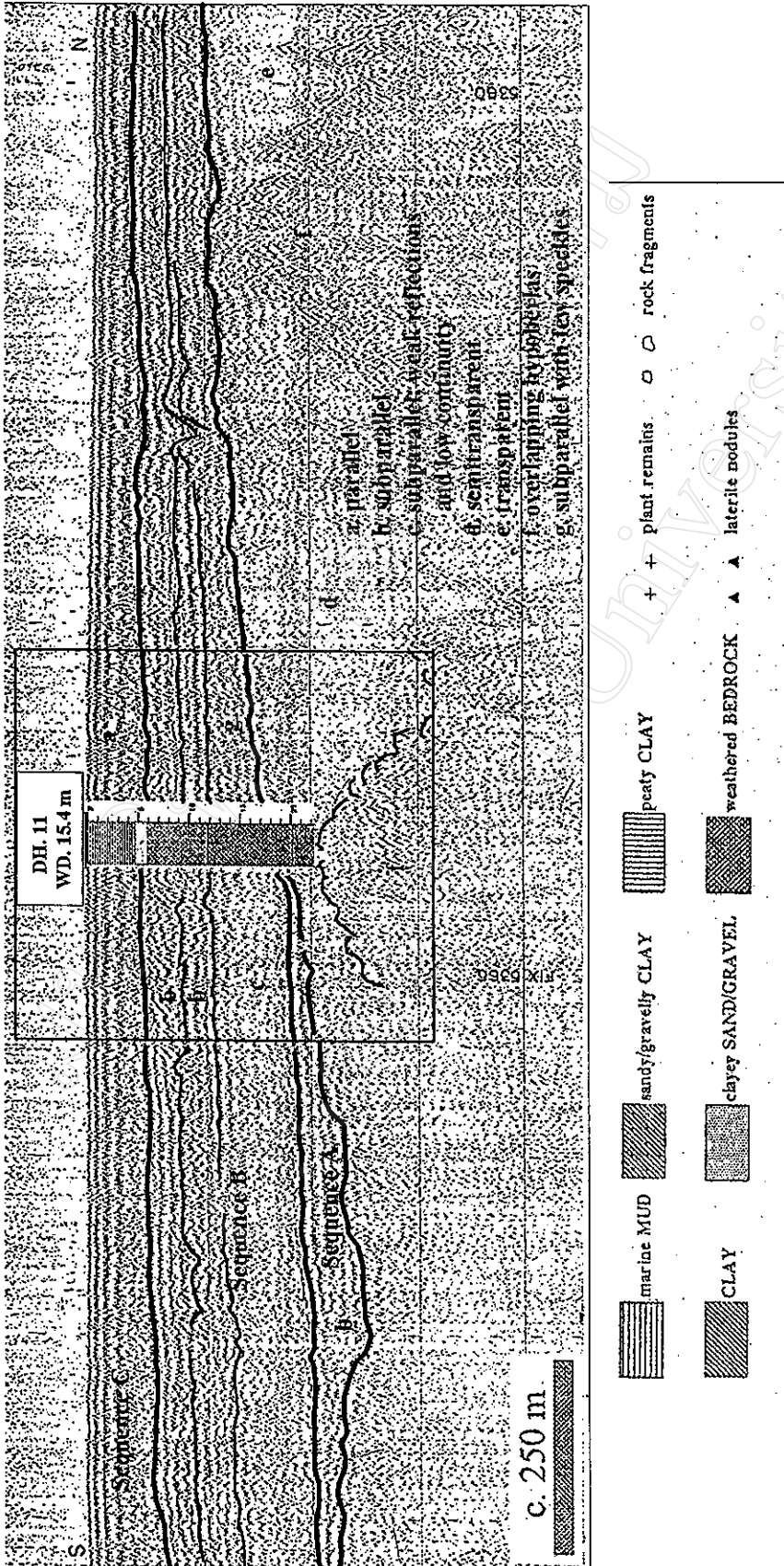


Figure C4



Table C5

## DRILL LOG, SUB-AREA 1-A, 1994

SECTION (m)	LITHOLOGY	COLOR	SHELL	PLANT REMAINS	LATERITE	GRAVEL/ PEBBLES	CHARACTERISTICS			CONSI- TENCY	OTHERS	ENV. OF DEPOSITION
							FINE	MED.	COARSE			
0.0-9.2	Marine mud	olive gray	abd. frag.							v. friable		Marine
9.2-12.6	Sandy clay	gray, reddish brown mottle				slightly		medium	coarse	friable		Alluvium
12.6-15.1	Clayey sand	yellowish brown							"	loose		Flu. chan.
15.1-18.7	Clay	yellowish brown			nodules					v. firm		Alluvium

Sub-area 1-A, 1994

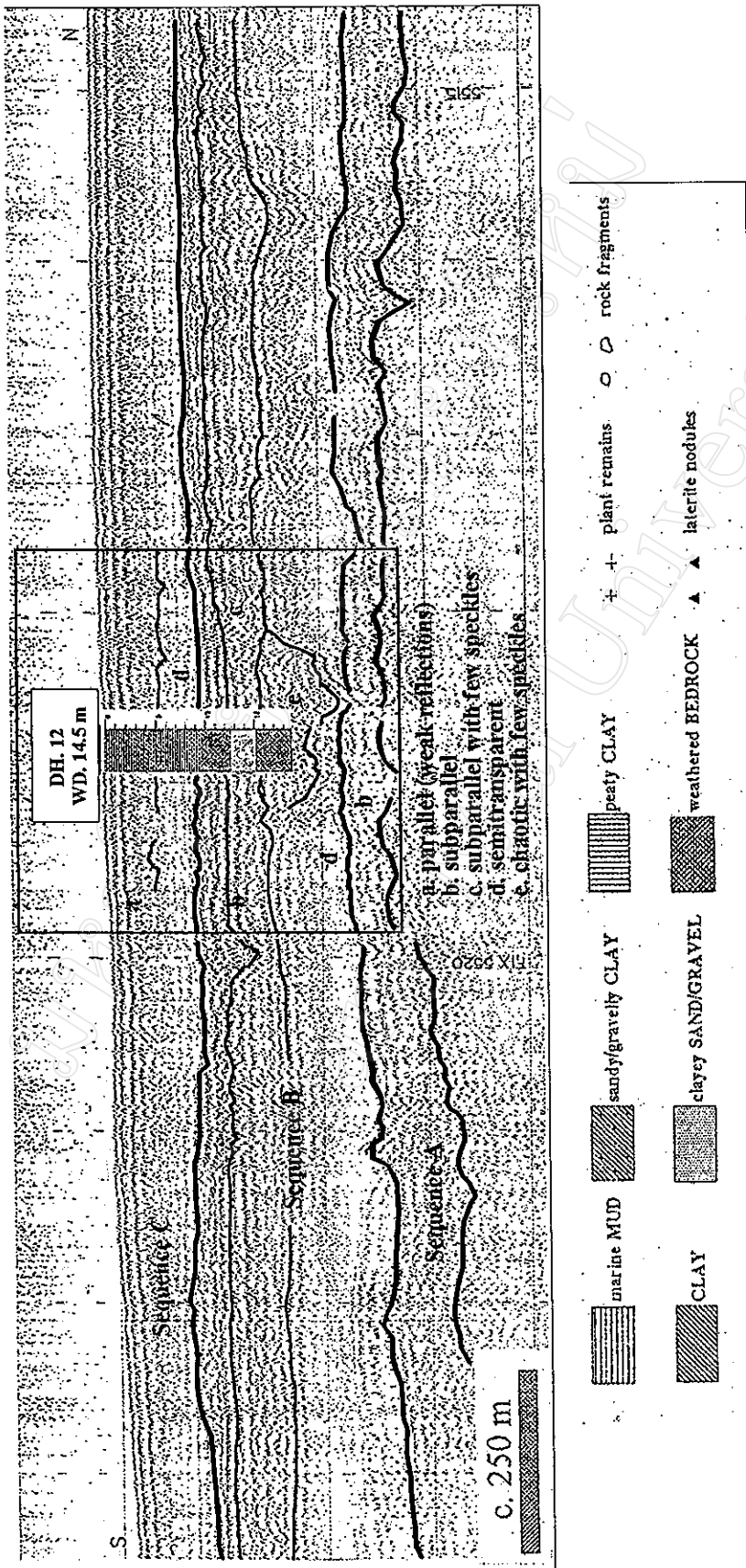


Figure C5

Table C6

## DRILL LOG, SUB-AREA I-A, 1995

SECTION (m)	LITHOLOGY	COLOR	SHELL	PLANT REMAINS	LATERITE	CHARACTERISTICS				CONSI- TENCY	OTHERS	ENV. OF DEPOSITION
						GRAVEL/ PEBBLES	FINE	MED.	COARSE			
0.0-3.5	Marine mud	olive gray	abd. frag.							v. friable		Marine
3.5-10.4	Clayey sand	light gray				slightly				medium coarse	loose	Flu. chan.
10.4-22.9	Clay	gray, reddish brown mottle									v. firm	Alluvium

HOLE NO.....31

GRID REF:

E: 741928.3

N: 1392905.0

W.D. 11.7 m

DRILLING DEPTH

.....22.9 m

Sub-area 1-A, 1995

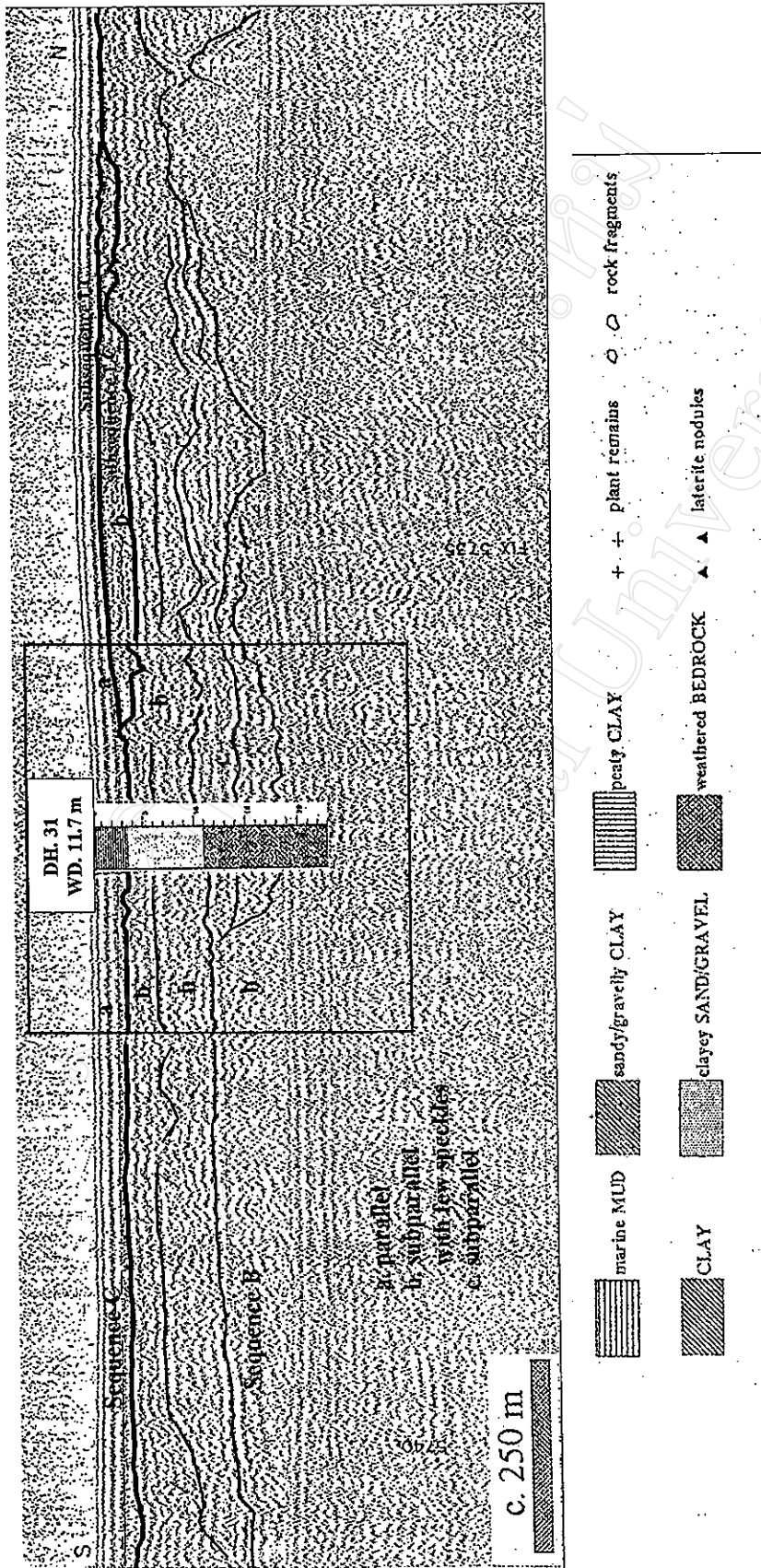


Figure C6

DRILL LOG, SUB-AREA 1-C, 1994

Table C7

SECTION (m)	LITHOLOGY	COLOR	GRID REF:	SHELL	PLANT REMAINS	LATERITE	GRAVEL/ PEBBLES	CHARACTERISTICS			CONSI- TENCY	OTHERS	ENV. OF DEPOSITION
								FINE	MED.	COARSE			
0.0-7.2	Marine mud	olive gray	E: 797348.0	abd. frag.							v. friable		Marine
7.2-12.2	Peaty clay	dark brown	N: 1389460.0		stem, wood						friable		Est. swamp
12.2-14.3	Sandy clay	gray						fine			firm		Flu. chan.
14.3-20.3	Clayey sand	gray, brownish					slightly				loose		Flu. chan.
		gray											

HOLE NO.....5      W.D. 12.9 m      DRILLING DEPTH ...20.3 m

Sub-area 1-C, 1994

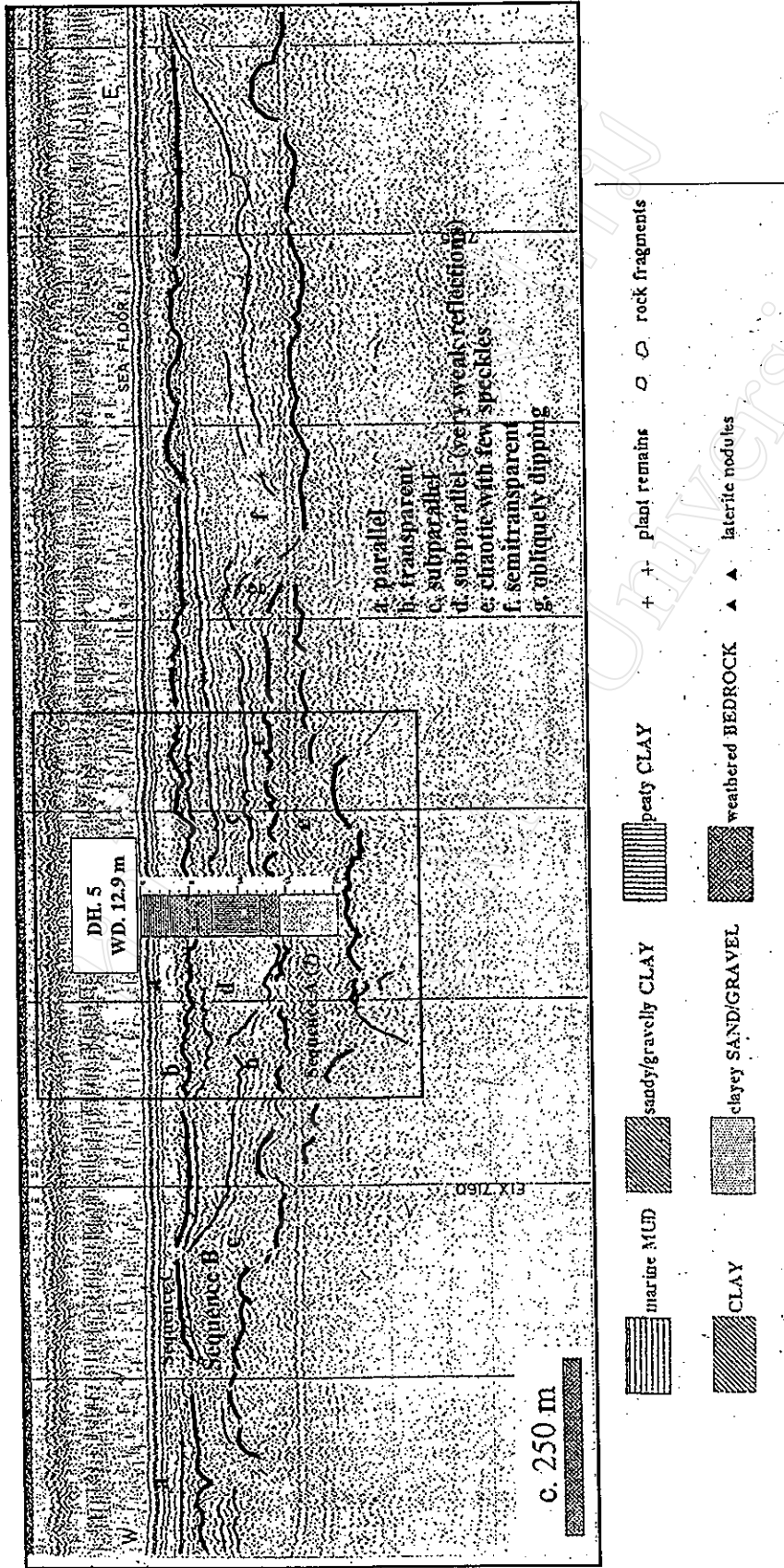


Figure C7

**DRILL LOG, SUB-AREA 1-C, 1994**

**Table C8**

SECTION (m)	LITHOLOGY	COLOR	SHELL	PLANT REMAINS	LATERITE PEBBLES	CHARACTERISTICS			CONSS- TENCY	OTHERS	ENV. OF DEPOSITION
						FINE	MED.	COARSE			
0.0-4.3	Marine mud	olive gray	abd. frag.						v. friable		Marine
4.3-8.3	Clay	gray, reddish brown mottle			nodules				firm		Alluvium
8.3-17.3	Sandy clay	gray, reddish brown mottle			slightly			coarse	firm	rock frag.	W. granitic

HOLE NO. ....10

GRID REF. E: 791455.4

N: 1387362.6

W.D. 15.8 m

DRILLING DEPTH ....17.3 m

Sub-area 1-C, 1994

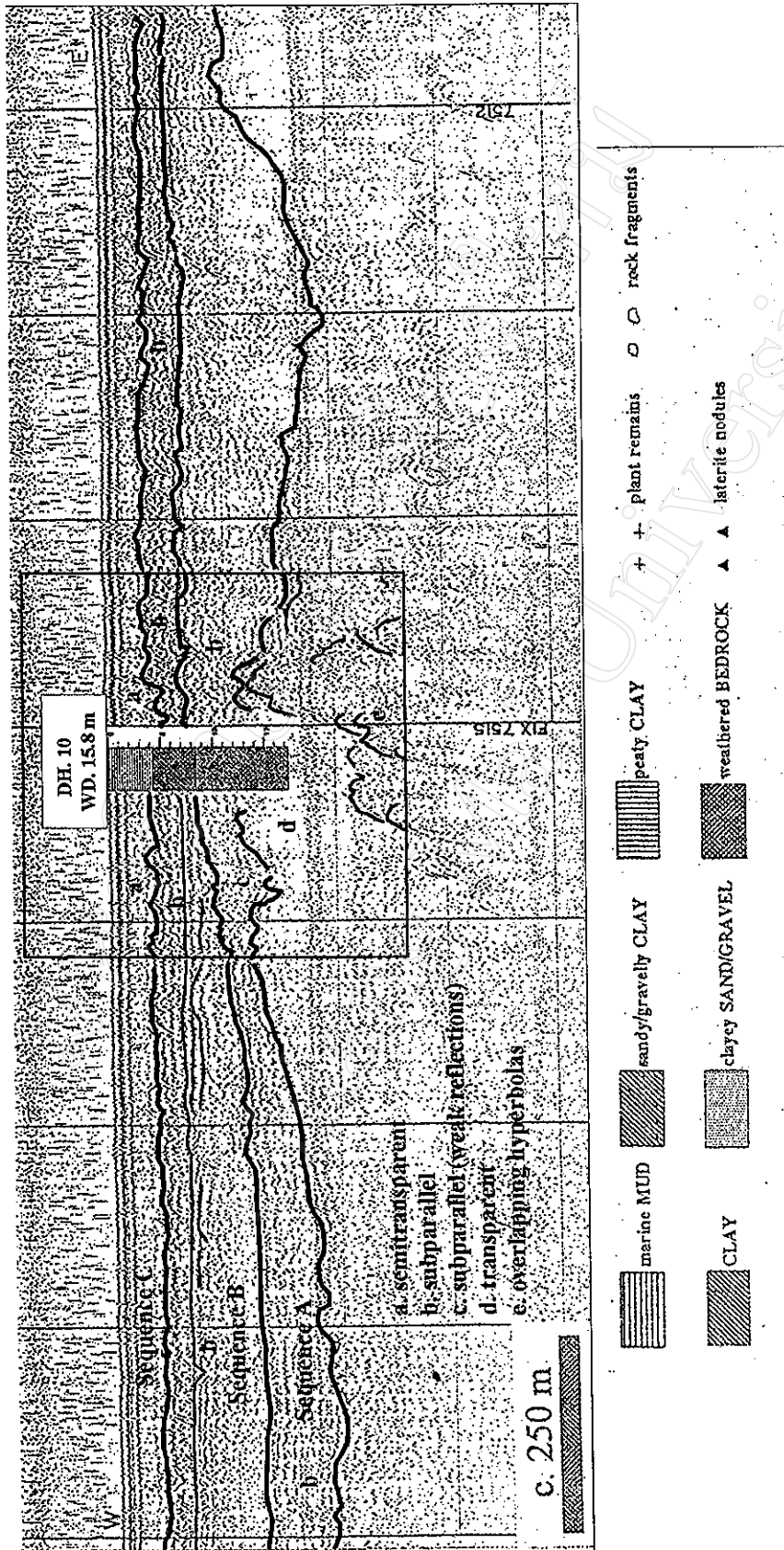


Figure C8



Table C9

## DRILL LOG, SUB-AREA 1-C, 1994

SECTION (m)	LITHOLOGY	COLOR	GRID REF:	SHELL	PLANT REMAINS	LATERITE	CHARACTERISTICS			CONSI- TENCY	OTHERS	ENV. OF DEPOSITION
							GRAVEL/ PEBBLES	FINE	SAND MED. COARSE			
0.0-5.6	Marline mud	olive gray	E: 790578.6	abd. frag.						v. friable		Marine
5.6-7.4	Peaty clay	dark brown	N: 1377018.6		stem, root					friable		Est. swamp
7.4-12.0	Clay	reddish brown	W.D. 21.9 m			nodules				firm		Alluvium
12.0-13.9	Sandy clay	yellowish brown	DRILLING DEPTH ...13.9 m							firm	rock frag.	w. granite

Sub-area 1-C, 1994

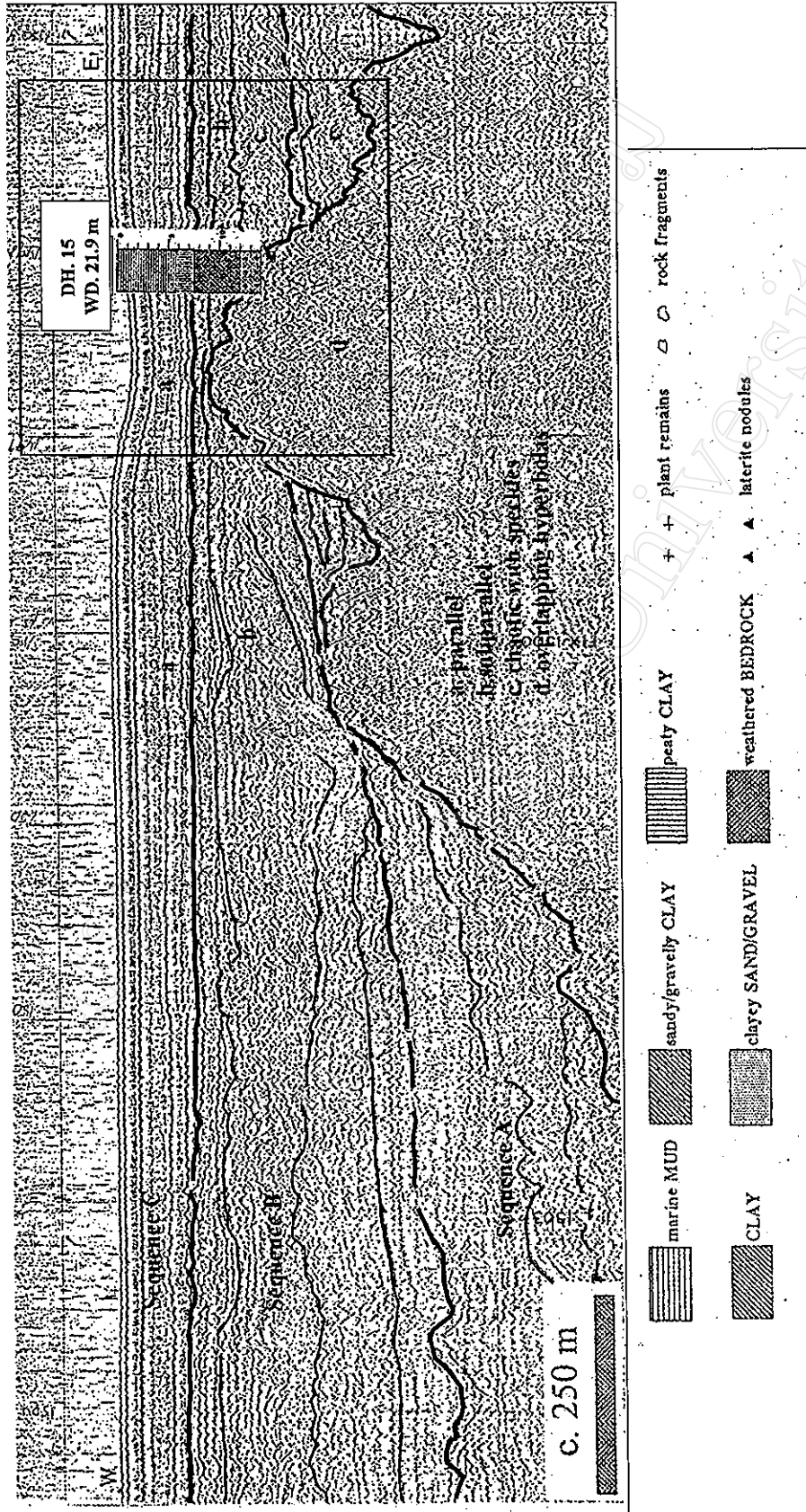


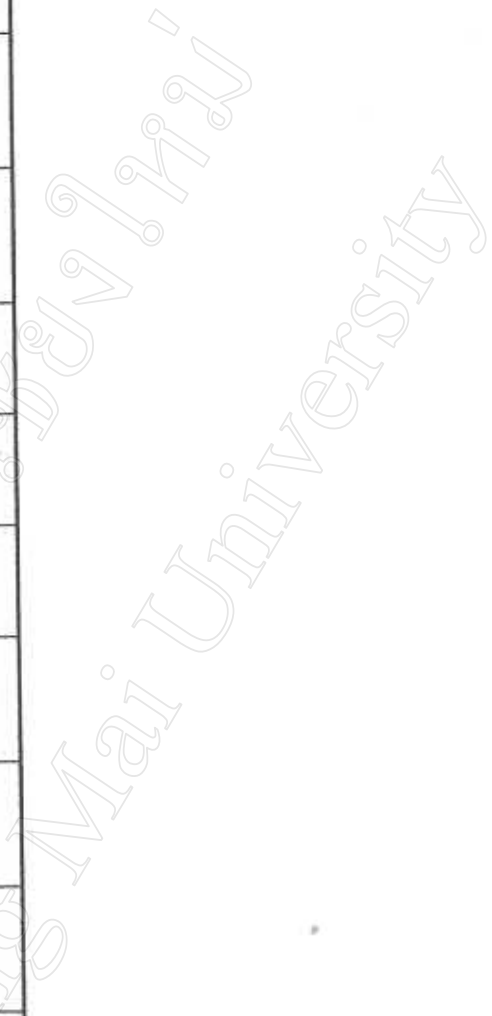
Figure C9

DRILL LOG, SUB-AREA 1-C, 1994

Table C10

SECTION (m)	LITHOLOGY	COLOR	SHELL	PLANT REMAINS	LATERITE	GRAVEL/ PEBBLES	CHARACTERISTICS			OTHERS	ENV. OF DEPOSITION
							FINE	SAND MED. COARSE	CONSIS- TENCY		
0.0-6.9	Marine mud	olive gray	abd. frag.							v. friable	Marine
6.9-16.6	Peaty clay	dark brown		stem, root						friable	Est. swamp
16.6-21.0	Clayey sand	brown					fine	medium		loose	Flu. chan.

HOLE NO.....17      GRID REF:      E: 796098.8      N: 1376044.6      W.D. 20.9 m      DRILLING DEPTH      ....21.0 m



Sub-area 1-C, 1994

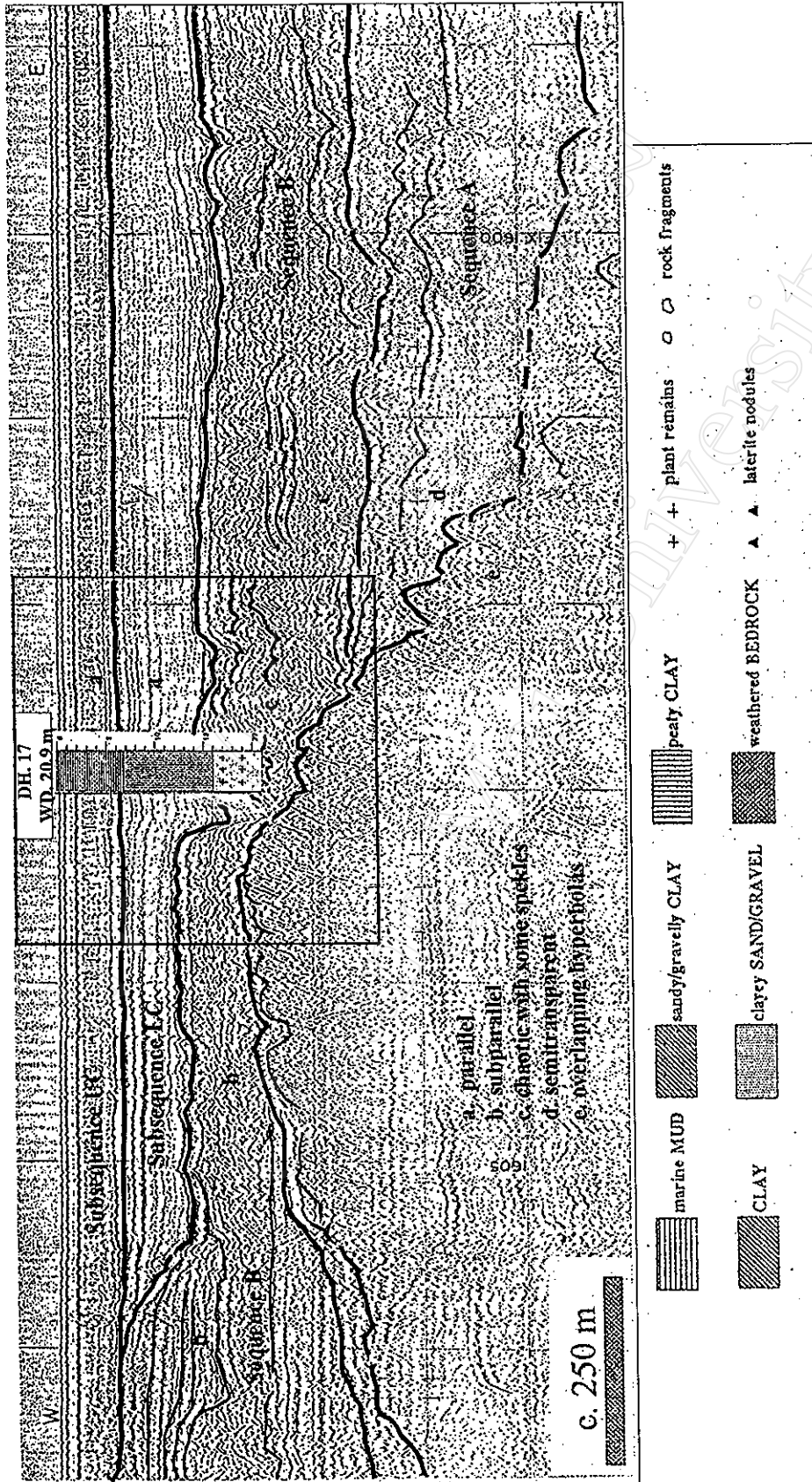


Figure C10

Table C11

DRILL LOG, SUB-AREA 1-D, 1994

SECTION (m)	LITHOLOGY	COLOR	SHELL	PLANT REMAINS	LATERITE PEBBLES	CHARACTERISTICS			CONSI- TENCY	OTHERS	ENV. OF DEPOSITION
						FINE	SAND MED.	COARSE			
0.0-6.9	Marine mud	olive gray	abd. frag.						v. friable		Marine
6.9-15.1	Peaty clay	dark gray		stem, root					friable		Est. swamp
15.1-20.8	Clayey sand	grey-dark gray			slightly				loose		Flu. chan.

HOLE NO .....29      GRID REF:      E: 802957.0      N: 1384402.0      W.D. 14.4 m      DRILLING DEPTH .....20.8 m

Sub-area 1-D, 1994

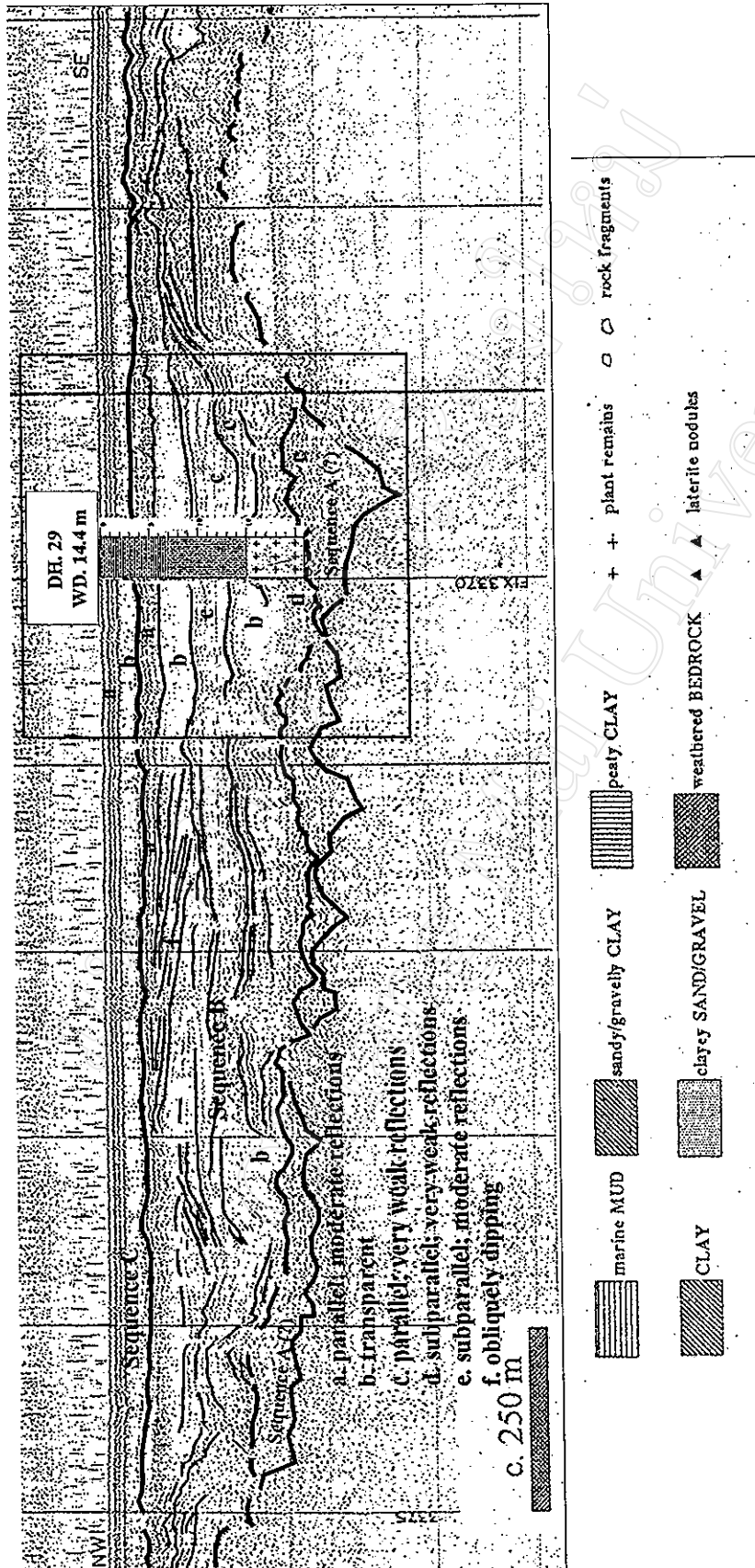


Figure C11

Table C12

## DRILL LOG, SUB-AREA 1-E, 1997

SECTION (m)	LITHOLOGY	COLOR	SHELL	PLANT REMAINS	LATERITE PEBBLES	CHARACTERISTICS			CONSI- TENCY	OTHERS	ENV. OF DEPOSITION
						GRAVEL/	FINE	SAND			
0.0-5.0	Marine mud	olive gray	abd. frag.						v. friable		Marine
5.0-8.0	Sandy clay	yellowish brown				fine			friable		Alluvium
8.0-11.7	Sandy clay	dark brown		organic mat.		fine			friable		Est. swamp.
11.7-12.0	Clay	yellowish brown							friable		Alluvium
12.0-12.1	Sandy clay	dark gray		organic mat.			medium	coarse	friable		Est. swamp.
12.1-14.5	Clay	yellowish brown			nodules				firm		Alluvium
14.5-14.7	W. sandstone	reddish brown							firm	rock frag.	W. bedrock

HOLE NO. .... 1

GRID REF: E: 830680.5

N: 1379761.7

W.D. 5.0 m

DRILLING DEPTH

..... 14.7 m

Table C13

## DRILL LOG, SUB-AREA 1-E, 1997

SECTION (m)	LITHOLOGY	COLOR	SHELL	PLANT REMAINS	LATERITE PEBBLES	CHARACTERISTICS			CONSI- TENCY	OTHERS	ENV. OF DEPOSITION
						FINE	MED.	COARSE			
0.0-4.0	Marine mud	olive gray	abd. frag.						v. friable		Marine
4.0-6.5	Clay	gray, reddish brown mottle			nodules				firm		Alluvium
6.5-6.8	Sandy clay	yellowish brown				fine			friable		Alluvium
6.8-7.4	Core lost										
7.4-8.0	Sandy clay	yellowish brown				fine			friable		Alluvium
8.0-8.7	Peaty clay	dark gray		organic mat.					friable		Est. swamp
8.7-11.5	Sandy clay	brownish yellow				fine			friable		Est. chop.
11.5-11.6	Peaty clay	dark gray		organic mat.					friable		Est. swamp
11.6-13.3	Sandy clay	gray, reddish brown mottle			nodules			medium	firm		Alluvium

HOLE NO. .... 2      GRID REF: E: 831314.7      N: 1379752.0      W.D. 4.0 m      DRILLING DEPTH ..... 29.0 m



Table C13 (continued) DRILL LOG, SUB-AREA 1-E, 1997

SECTION (m)	LITHOLOGY	COLOR	SHELL	PLANT REMAINS	LATERITE PEBBLES	CHARACTERISTICS				CONSI- TENCY	OTHERS	ENV. OF DEPOSITION
						FINE	MED.	COARSE	SAND			
13.3-18.0	Clay	light gray-gray								firm		Alluvium
18.4-18.4	Sandy clay	light gray-gray					medium			firm		Alluvium
18.4-19.2	Core lost											
19.2-20.8	Sandy clay	light gray-gray					fine	medium		firm		Flo. chan.
20.0-20.7	Core lost											
20.7-22.8	Sandy clay	light gray-gray					fine	medium		firm		Flo. chan.
23.8-24.8	Core lost											
24.8-26.8	Sandy clay	light gray-gray					fine	medium		firm		Flo. chan.
26.0-28.6	Core lost											
28.6-29.0	Sandy clay	light gray-gray					fine	medium		firm		Flo. chan.

HOLE NO. .... 2 (cont) GRID REF: E: 831314.7 N: 1379752.0 W.D. 4.0 m DRILLING DEPTH ..... 29.0 m

Sub-area 1-E, 1997

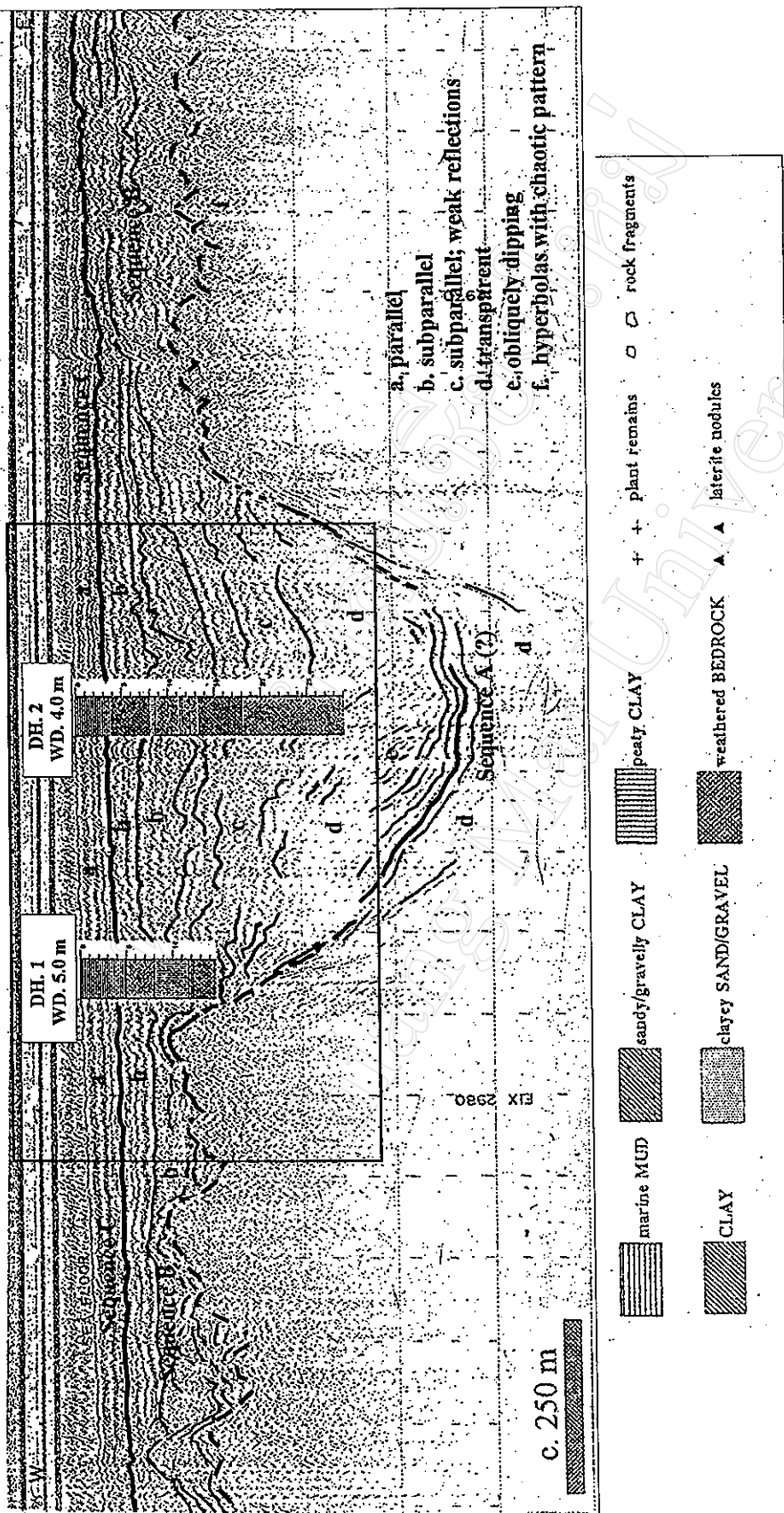


Figure C12\_13

Table C14

## DRILL LOG, SUB-AREA 1-E, 1997

SECTION (m)	LITHOLOGY	COLOR	SHELL	PLANT REMAINS	LATERITE PEBBLES	CHARACTERISTICS			CONSI- TENCY	OTHERS	ENV. OF DEPOSITION
						GRAVEL/ FINE	SAND MED.	COARSE			
0.0-2.0	Core lost										
2.0-2.1	Marine mud	olive gray	abd. frag.								Marine
2.1-3.7	Clay	yellowish brown			nodules				firm		Alluvium
3.7-6.8	Peaty clay	dark gray		organic mat.					friable		Est. swamp
6.8-8.4	Sandy clay	reddish brown			nodules			nodular	firm		Alluvium
8.4-9.9	Clay	yellowish brown			"				firm		Alluvium
9.9-13.5	Core lost										
13.5-17.5	Clay	yellowish brown							firm		Alluvium
17.5-19.5	Core lost										
19.5-21.5	Gravelly sand	brownish yellow			fine gravel				loose		Flu. chan.
21.5-23.0	Weathered shale	black							firm	Sh. frag.	W. bedrock

HOLE NO. .... 4      GRID REF.      E: 83H37.9      N: 1376991.5      W.D. 9.5 m      DRILLING      DEPTH      .....23.0 m

Sub-area 1-E, 1997

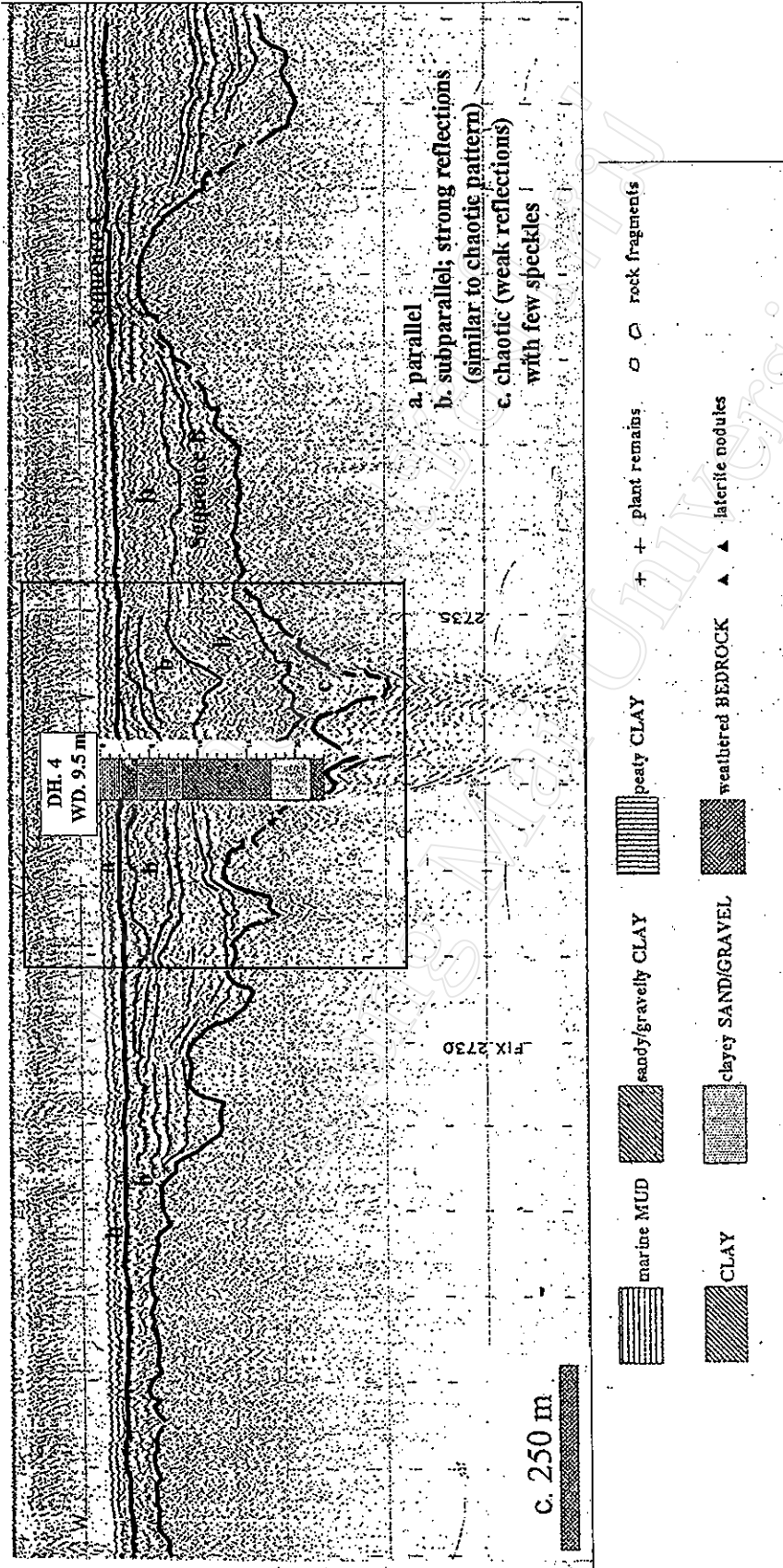


Figure C14

## DRILL LOG, SUB-AREA 1-E, 1997

Table C15

SECTION (m)	LITHOLOGY	COLOR	SHELL	PLANT REMAINS	LATERITE PEBBLES	CHARACTERISTICS			CONSI- TENCY	OTHERS	ENV. OF DEPOSITION
						GRAVEL	SAND				
							FINE	MED.			
0.0-1.0	Core lost										
1.0-2.15	Marine mud	olive gray	abd. frag.							v. friable	Marine
2.15-3.2	Clay	gray with reddish brown mottle			nodules					firm	Alluvium
3.2-3.5	Sandy clay	"								v. coarse	"
3.5-4.0	Clay	"			nodules					"	"
4.0-4.8	Core lost										
4.8-5.0	Sandy clay	reddish-brown			nodules					medium coarse	Alluvium
5.0-6.5	Clay	gray with reddish brown mottle								"	"
6.5-6.75	Peaty clay	dark gray	stem, root							friable	Est. chan.

HOLE NO. .... 8

GRID REF:

E: 830277.0

N: 1372512.0

W.D. 13.5 m

DRILLING

DEPTH

..... 14.7 m.

Table C15 (continued)  
 DRILL LOG, SUB-AREA 1-E, 1997

SECTION (m)	LITHOLOGY	COLOR	SHELL	PLANT REMAINS	LATERITE	GRAVEL/ PEBBLES	CHARACTERISTICS			CONSI- TENCY	OTHERS	ENV. OF DEPOSITION
							FINE	MED.	COARSE			
6.75-7.0	Sandy clay	gray							coarse	firm		"
7.0-9.5	Clayey sand	gray							coarse	loose		"
9.5-9.95	Clay	gray with reddish brown mottle								firm		Alluvium
9.95-14.5	Clayey sand	gray							coarse	loose		Flu. chan.
14.5-14.7	Sandy clay	gray, yellowish brown mottle							coarse	firm		Alluvium

HOLE NO. ....8 (cont)      GRID REF:      E: 830277.0      N: 1372512.0      W.D. 13.5 m      DRILLING      DEPTH      ..... 14.7 m.

Sub-area 1-E, 1997

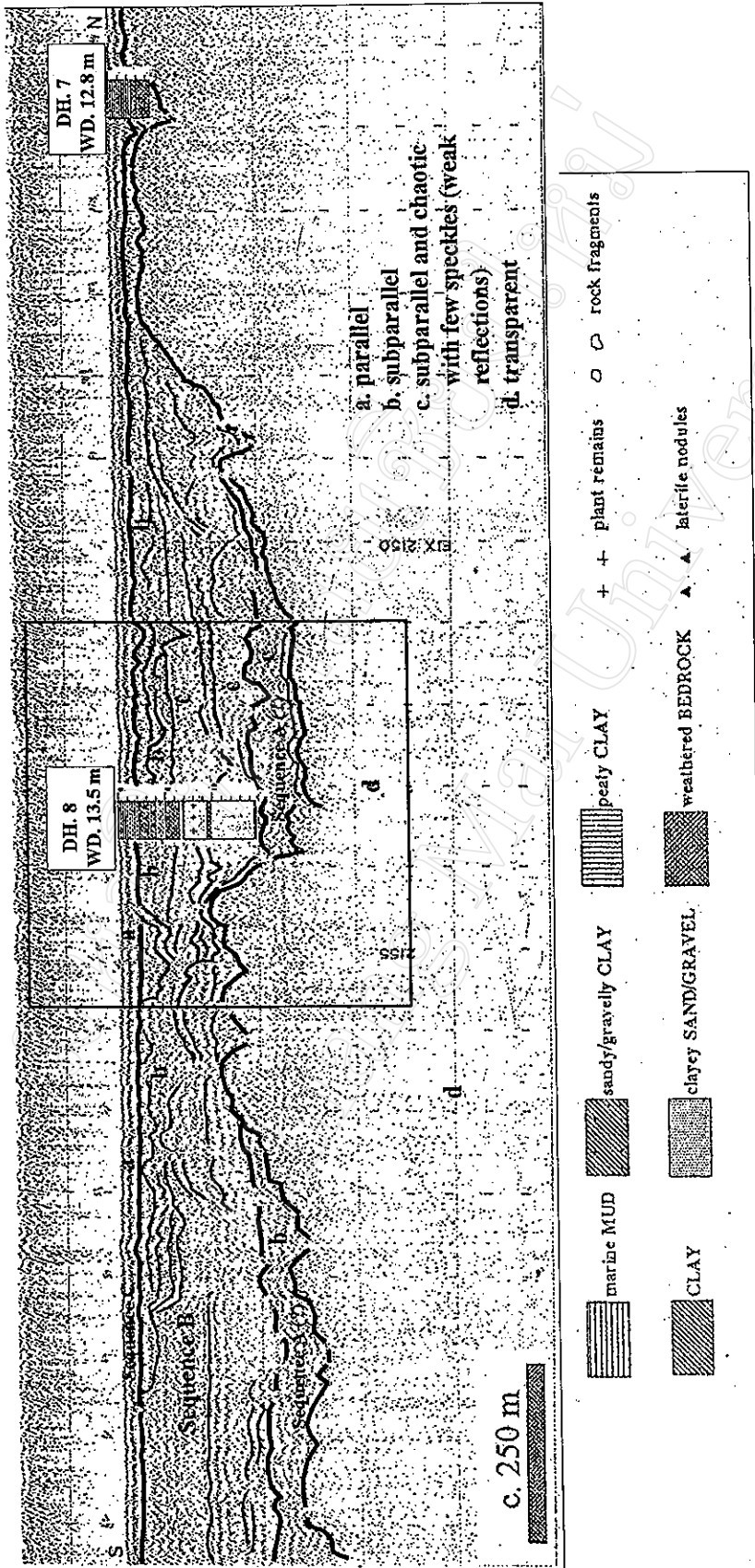


Figure C15

Table C16 DRILL LOG, SUB-AREA 1-E, 1997

SECTION (m)	LITHOLOGY	COLOR	SHELL	PLANT REMAINS	LATERITE	GRAVEL/ PEBBLES	CHARACTERISTICS				ENV. OF DEPOSITION	
							SAND			CONSI- TENCY		OTHERS
							FINE	MED.	COARSE			
0.0-1.0	Core lost											
1.0-2.3	Marine mud	greenish gray	abd. frag.						v. friable			Marine
2.3-3.0	Sandy clay	gray with reddish brown mottle					medium	coarse				Alluvium
3.0-3.55	Clayey sand	gray							v. coarse			Flu. chan.
3.55-7.5	Clay	gray with reddish & yellowish brown mottle			nodules							Alluvium
7.5-8.9	Core lost											
8.9-9.1	Gravelly clay	gray with reddish brown mottle										Alluvium

HOLE NO. ....9 GRID REF: E: 829143.0 N: 1371747.0 W.D. 14.0 m DRILLING DEPTH .....22.5 m.



DRILL LOG, SUB-AREA 1-E, 1997

Table C16 (continued)

SECTION (m)	LITHOLOGY	COLOR	SHELL	PLANT REMAINS	LATERITE GRAVEL/ PEBBLES	CHARACTERISTICS				CONSI- TENCY	OTHERS	ENV. OF DEPOSITION
						FINE	MED.	COARSE	SAND			
9.1-9.5	Clayey sand	gray								coarse		Flu. chan.
9.5-13.8	Clay	gray with reddish & yellowish brown mottle										
13.8-22.0	Sand	light brown								medium	firm	Flu. chan.
22.0-22.5	Clay	yellowish brown										Alluvium

HOLE NO...9      GRID REF:      E: 829/43.0      N:137/747.0      W.D. 14.0 m      DRILLING DEPTH .....22.5 m.

Sub-area 1-E, 1997

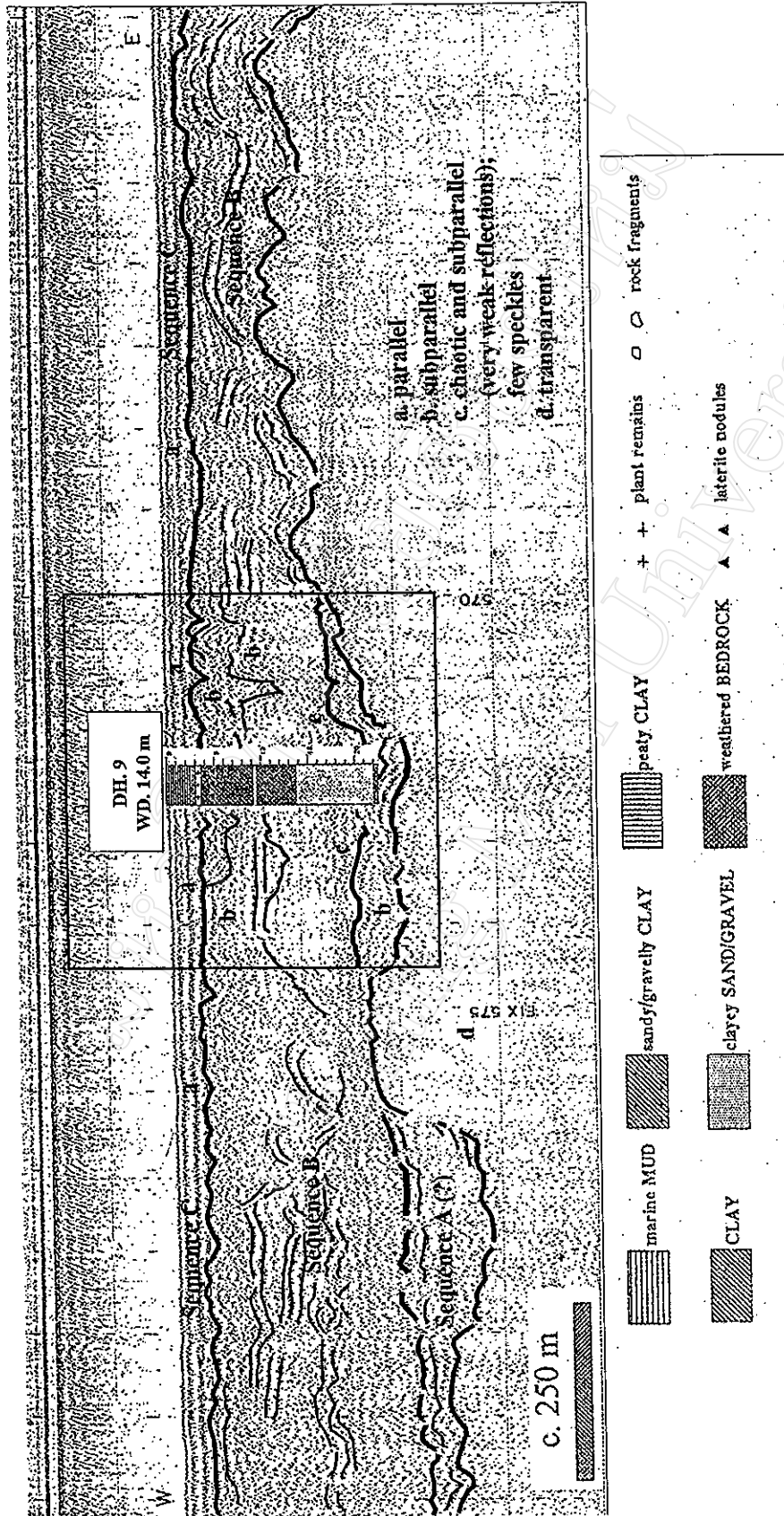


Figure C16

Table C17  
DRILL LOG, SUB-AREA 1-E, 1997

SECTION (m)	LITHOLOGY	COLOR	SHELL REMAINS	PLANT REMAINS	LATERITE GRAVEL/ PEBBLES	CHARACTERISTICS			CONSI- TENCY	OTHERS	ENV. OF DEPOSITION
						FINE	MED.	COARSE			
0.0-1.4	Marine mud	olive gray	abd. frag.						v. friable		Marine
1.4-3.2	Sandy clay	gray, reddish & yellowish brown mottle			nodules	fine			firm		Alluvium
3.2-4.2	Sand	yellowish brown				fine	medium		loose		Flu. chan.
4.2-5.1	Sandy clay	gray, reddish & yellowish brown mottle			nodules		medium		firm		Alluvium
5.1-8.0	Clay	gray, reddish brown mottle			"				"		Alluvium
8.0-8.9	Peaty clay	dark gray		organic mat.					friable		Est. swamp

HOLE NO. 13 GRID REF: E: 829259.5 N: 1368758.3 W.D. 15.1 m DRILLING DEPTH .....23.2 m.

DRILL LOG, SUB-AREA 1-E, 1997

Table C17 (continued)

SECTION (m)	LITHOLOGY	COLOR	SHELL	PLANT REMAINS	LATERITE PEBBLES	CHARACTERISTICS			CONSI- TENCY	OTHERS	ENV. OF DEPOSITION
						FINE	MED.	COARSE			
8.9-12.1	Clay	gray, yellowish brown mottle							firm		Alluvium
12.1-15.1	Peaty clay	dark gray		organic mat.					friable		Est. swamp
15.1-17.2	Clay	gray, yellowish brown mottle							firm		Alluvium
17.2-18.0	Sandy clay	gray, yellowish brown mottle					fine		friable		Alluvium
18.0-18.3	Peaty clay	dark gray		organic mat.					firm		Est. swamp
18.3-21.5	Clay	gray, reddish brown mottle			nodules				firm		Alluvium
21.5-23.2	Clay	"							firm		Alluvium

HOLE NO. 13 (cont)      GRID REF:      E: 829259.5      N: 1368758.3      W.D. 15.1 m      DRILLING DEPTH ..... 23.2 m.

Sub-area 1-E, 1997

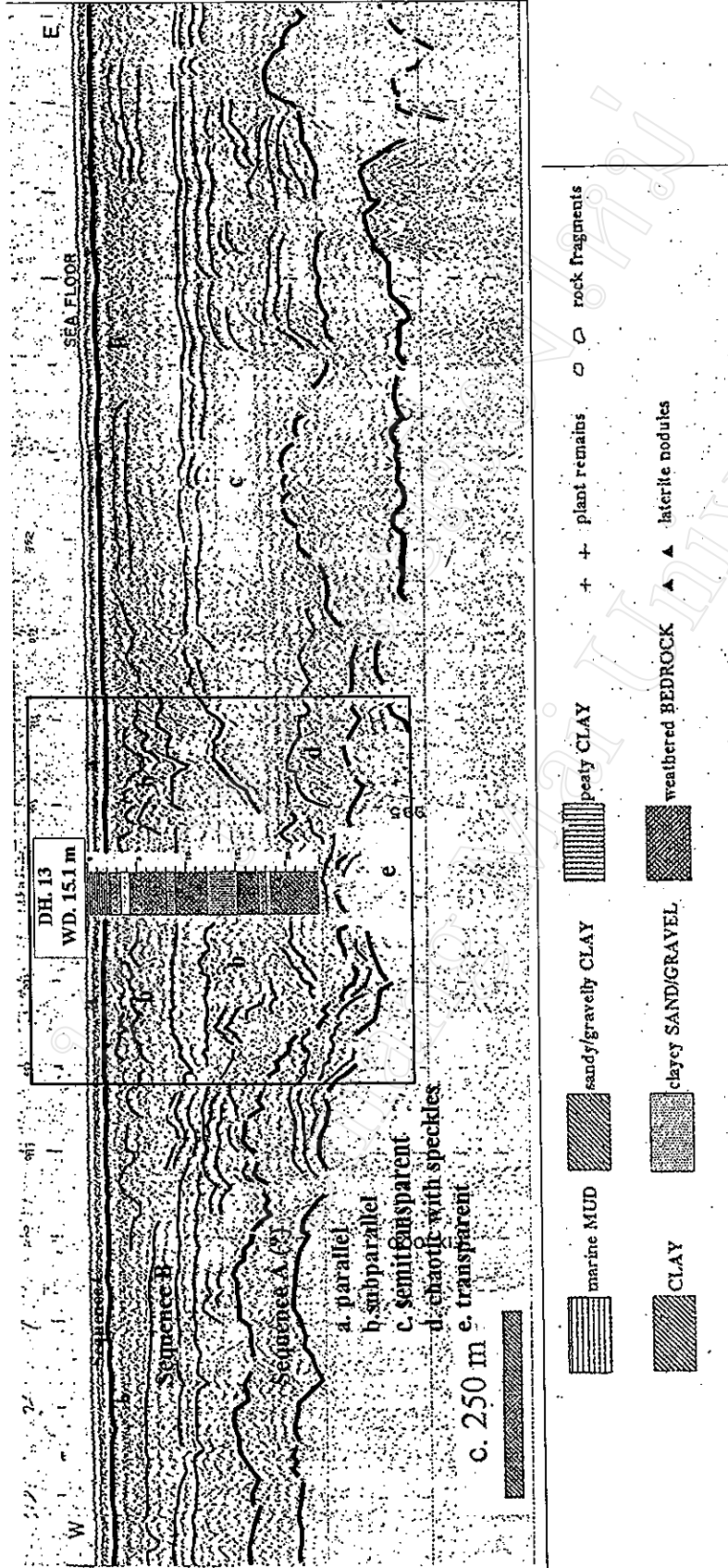


Figure C17

**Appendix D**

**Seismic Sections with Drilling Results Showing  
Corundum Deposits in Sub-area 1-E**

มหาวิทยาลัยเชียงใหม่  
Chiang Mai University

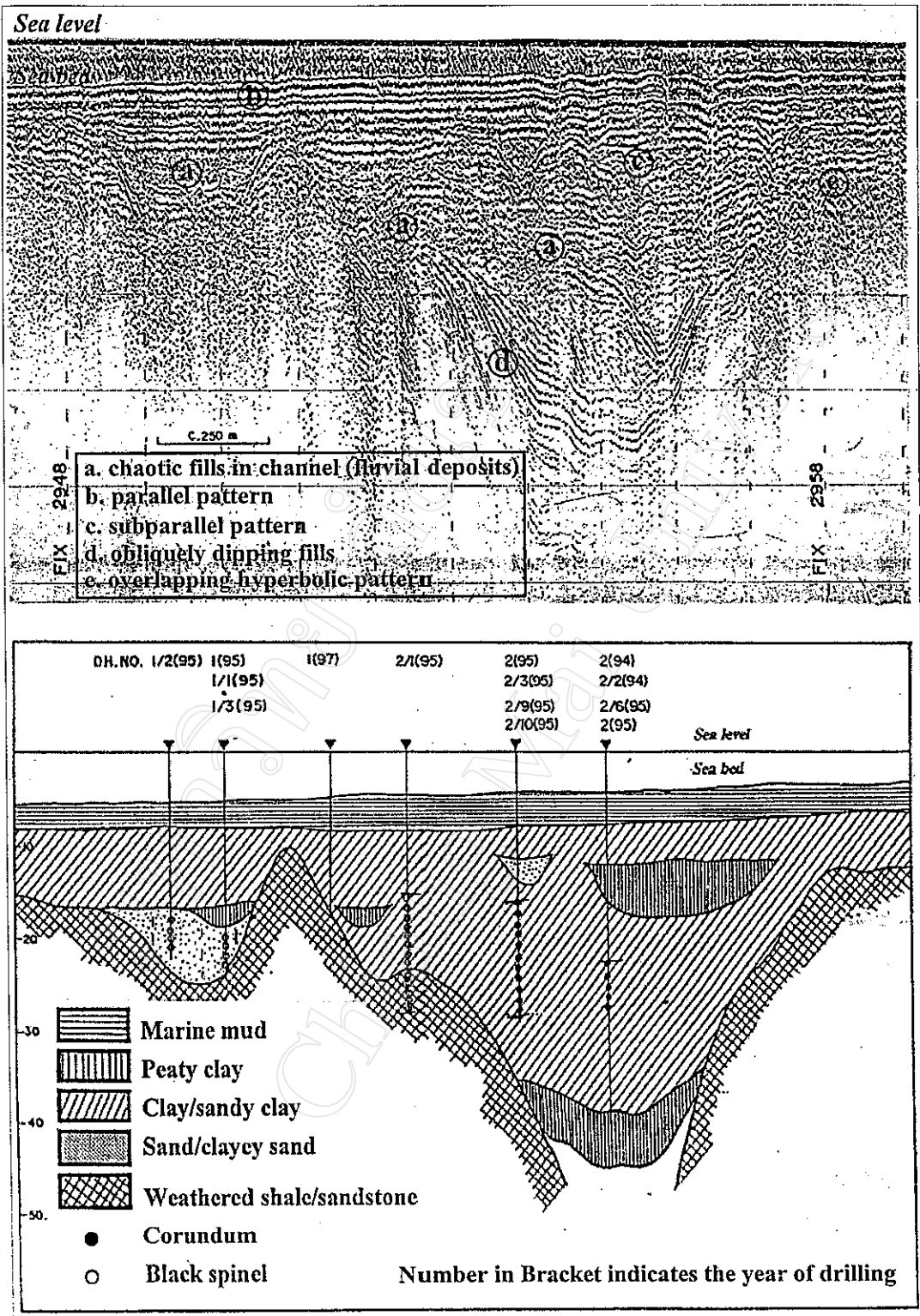


Figure D1 Seismic section with drilling results showing seismic facies/lithofacies associated with corundum deposits in sub-area 1-E.

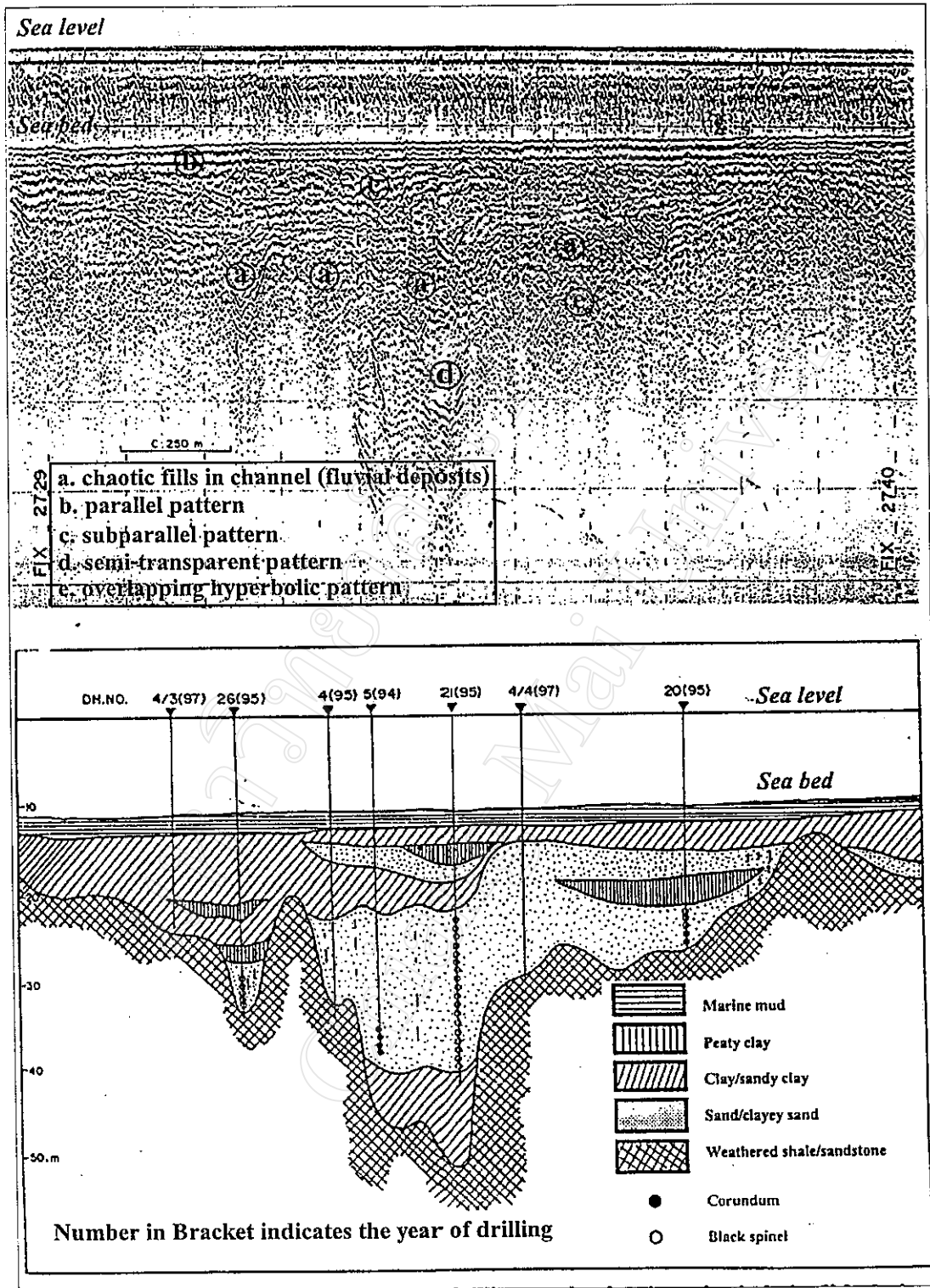


Figure D2 Seismic section with drilling results showing seismic facies/lithofacies associated with corundum deposits in sub-area 1-E.



## Curriculum Vitae

**Name :** Wisut Chotikasathien

**Date of birth :** August 28, 1956

**Nationality :** Thai

**Education :** (year, institute, degree, major field)

1974-1978 : Chiang Mai University, Chiang Mai, Thailand; Bachelor of  
Science in Geology

1987-1988 : International Institute for Aerospace Survey and Earth Sciences  
(ITC), Delft, Netherlands; Post-graduate Diploma in Exploration  
Geophysics

**Scholarship :** 1) The Netherlands Government Scholarship, 1987

2) The Petroleum Concession Scholarship of the Department of  
Mineral Resources, Thailand, 1992-1994

**Membership :** Geological Society of Thailand, Bangkok

**Working experiences :**

Since 1979 until now, he has engaged with the Department of Mineral Resources (DMR) of the Royal Thai Government, serving as an exploration geologist in the Marine Mineral Resources Section (formerly known as Offshore Mineral Exploration and Remote Sensing Section), Economic Geology Division. He participated in execution of two major

national projects of the DMR as follows : 1) Offshore exploration for tin and heavy minerals in the Andaman Sea project, during 1979-1986, and 2) Offshore exploration for heavy minerals and gems in the Gulf of Thailand project, during 1988-1996. He was responsible for the following tasks;

a) planning and conducting of shallow marine geophysical survey programs by using techniques of shallow marine seismic reflection profiling, high resolution sub-bottom profiling, depth sounding and marine magnetic measurement,

b) interpretation of geophysical data, particularly emphasized on seismic profiling data to delineate favorable targets for offshore mineral deposits, and mapping of sub-bottom geology to locate drill sites, and

c) compilation of coastal and offshore geological data in order to construct geological models and locate highly prospective targets for heavy mineral deposits along the coasts and their possible extents into the offshore areas.

**Training programs attended :**

- Practical training on shallow sea drilling technique, Singapore, Oct, 1980.
- Offshore prospecting course; Geological Survey of Japan (GSJ), Tsukuba, Japan, 13 May-14 Dec, 1982.
- Remote sensing and active faults for land-use management course; Institute of Volcanology and Seismology, Manila, Philippines, 6-17 Feb, 1990, sponsored by UNESCO.
- Applied remote sensing for coastal zone environmental planning

- program; Asian Institute of Technology (AIT), Bangkok, Thailand, 29 Aug-12 Dec, 1991, sponsored by Carl Duisberg Gesellschaft.
- Positioning for explorationists course, sponsored by Thai Shell Exploration and Production Co. Ltd., and presented by Hydrosearch Associates, Ltd., Bangkok, Thailand, March, 1994.

**Technical papers :**

1. Application of Landsat Imageries to Mineral Exploration of Eastern Thailand, 1980, in Proc. of the Seventeenth Session of the CCOP, Bangkok, Thailand, 4-7 Nov, 1980, p. 455-461.
2. Preliminary Geophysical Surveys for Detrital Tin Deposits in the Andaman Sea, 1983, Offshore Mineral Exploration in the Andaman Sea Project Report, Economic Geology Div., Dept. of Mineral Resources, Bangkok, 28 p.
3. Preliminary Report on Geophysical Results in Ao Phangnga, 1983, Offshore Mineral Exploration in the Andaman Sea Project Report, Economic Geology Div., Dept. of Mineral Resources, Bangkok, 12 p. (in Thai).
4. Drill-hole Recommendation Based on Semi-detailed Seismic Results in Ao Phangnga, Phangnga and Phuket Provinces, 1984, Offshore Mineral Exploration in the Andaman Sea Project Report, Economic Geology Div., Dept. of Mineral Resources, Bangkok, 8 p. (in Thai).
5. Semi-detailed Seismic Survey in Area Block AII, NE, off Phangnga-Ranong Provinces in the Andaman Sea, 1984, Offshore Mineral Exploration in the Andaman Sea Project Report, Economic Geology Div., Dept. of Mineral Resources, Bangkok, 24 p. (in Thai).

6. Geophysical Investigation for Heavy Minerals and Gems in the Area off the Ranong-Chanthaburi-Trat, East of Thailand, 1985, Offshore Mineral Exploration and Remote Sensing Section Report, Economic Geology Div., Dept. of Mineral Resources, Bangkok, 29 p.

7. Technical Assistance to the Metropolitan Electricity Authority (MEA) in Seismic Survey for Planning of Submerged High Voltage Cable Route Crossing Chaopraya River, between Klong Bang Jak and Klong Bang Fai, 1985; submitted to MEA, Bangkok, 7 p. (in Thai).

8. An Interpretation of Shallow Seismic Data in the Area Offshore Prachuapkhirikhan and Chumphon Provinces, 1987, Offshore Mineral Exploration and Remote Sensing Section Report, Economic Geology Div., Dept. of Mineral Resources, Bangkok, 19 p. (in Thai).

9. Geophysical Investigation in the Area Offshore Prachuapkhirikhan -Chumphon, Thailand, 1987 : in Journal of the Geological Society of Thailand, Bangkok, Vol. 9, No. 1-2, p.1-20.

10. Recommended Drill-holes Based on Semi-detailed Seismic Results in Area 1-B Offshore Phangnga, 1987, Offshore Mineral Exploration in the Andaman Sea Project Report, Economic Geology Div., Dept. of Mineral Resources, Bangkok, 74 p.

11. Coastal Quaternary Geology Based on Air-photo Interpretation in the East of Thailand, Rayong-Chanthaburi Provinces, 1989, Offshore Mineral Exploration in Gulf of Thailand Project Report, Economic Geology Div., Dept. of Mineral Resources, Bangkok, 33 p. (in Thai).

12. Coastal Quaternary Geology Based on Air-photo Interpretation along the Coast of Prachuapkhirikhan-Chumphon Provinces, 1989, Offshore Mineral Exploration in Gulf of Thailand Project Report, Economic Geology Div., Dept. of Mineral Resources, Bangkok, 21 p. (in Thai).

13. Coastal Quaternary Geology Based on Air-photo Interpretation along the Coast of Suratthani Province and vicinity, 1989, Offshore Mineral Exploration in Gulf of Thailand Project Report, Economic Geology Div., Dept. of Mineral Resources, Bangkok, 21 p. (in Thai).

14. Progress Report on Geological Investigation for Mineral Potentials in vicinities of Doi Tung Project Area, Chiang Rai Province, Economic Geology Report No. 15/1991 Economic Geology Div., Dept. of Mineral Resources, Bangkok, 72 p. (in Thai).

15. Quaternary Geology of Coastal Area, Suratthani Province and Vicinity, Southern Thailand, 1993 : in Journal of Southeast Asian Earth Sciences, Vol. 8, No. 1-4, p 313-320, Pergamon Press Ltd., printed in Great Britain.

16. Application of Lithofacies Concepts for Offshore Mineral Exploration in Area 1 : Rayong-Chanthaburi-Trat Provinces, 1994, Economic Geology Report No. 7/1994, Economic Geology Div., Dept. of Mineral Resources, Bangkok, 38 p.

17. Review on Utilization of Remote Sensing Techniques for Geological Survey and Earth Resources Development, 1994, Economic Geology Report No. 8/1994, Economic Geology Div., Dept. of Mineral Resources, Bangkok, 39 p.

18. Preliminary Study on Previous Geological Data for Determination of A Program for Diamond Exploration in Ranong, Phangnga and Phuket Provinces, Southeast Coast of Thailand, 1996, Marine Mineral Resources Section Report No. 3/1996, Economic Geology Div., Dept. of Mineral Resources, Bangkok, 56 p. (in Thai).

19. Shallow Marine Geophysical Surveys in the Gulf of Thailand Project's Areas, 1996, Marine Mineral Resources Section Report No. 5/1996, Economic Geology Div., Dept. of Mineral Resources, Bangkok, 42 p.

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