

NICHOLS

APPENDICES TO

CONTRACT REPORT

PLUME MONITORING OF RAPPAHANNOCK AND YORK SPIT CHANNELS,
BALTIMORE HARBOR AND CHANNELS

(PHASE 1)

by

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Department of the Army
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August 1987

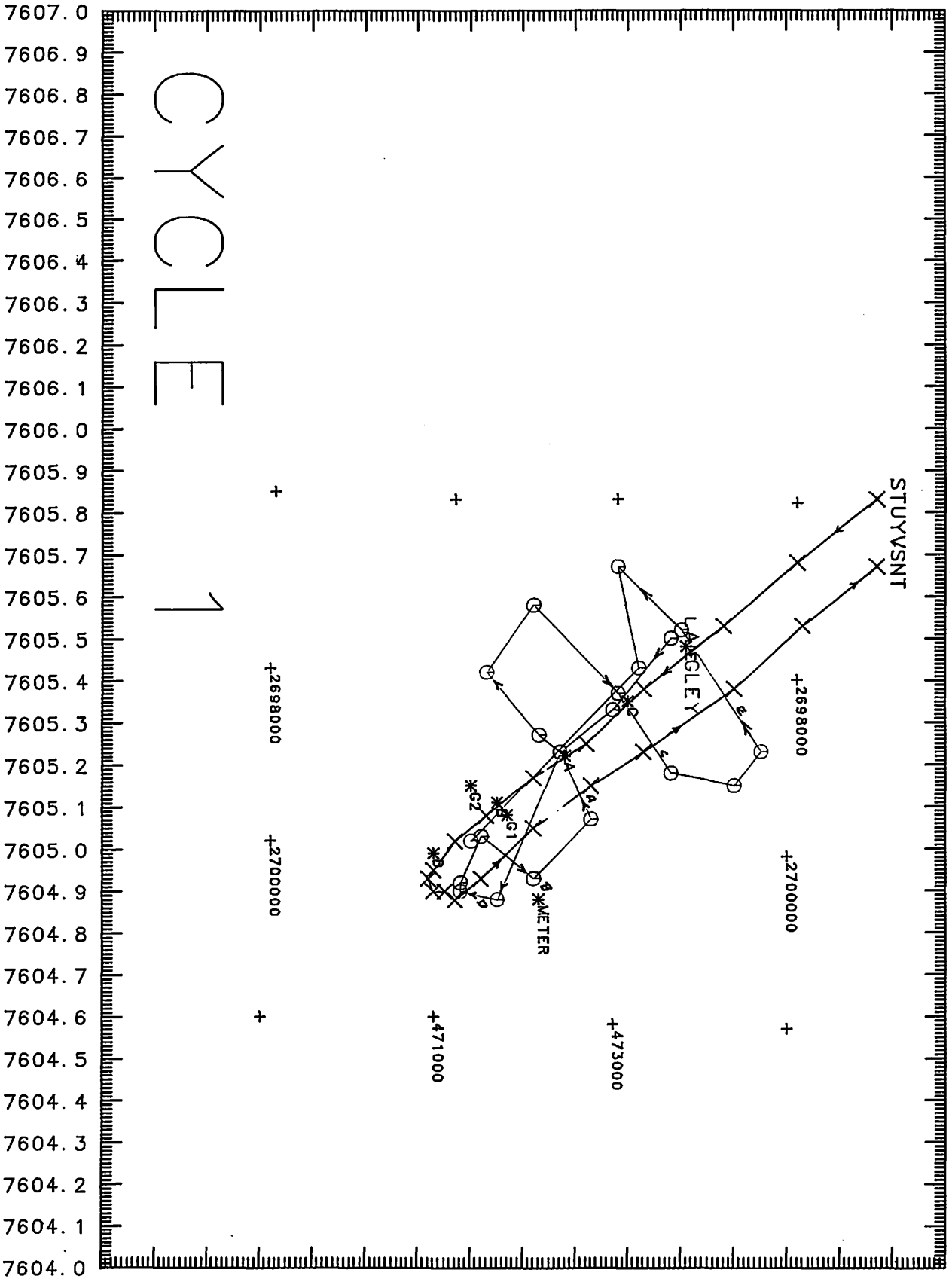
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Appendix I

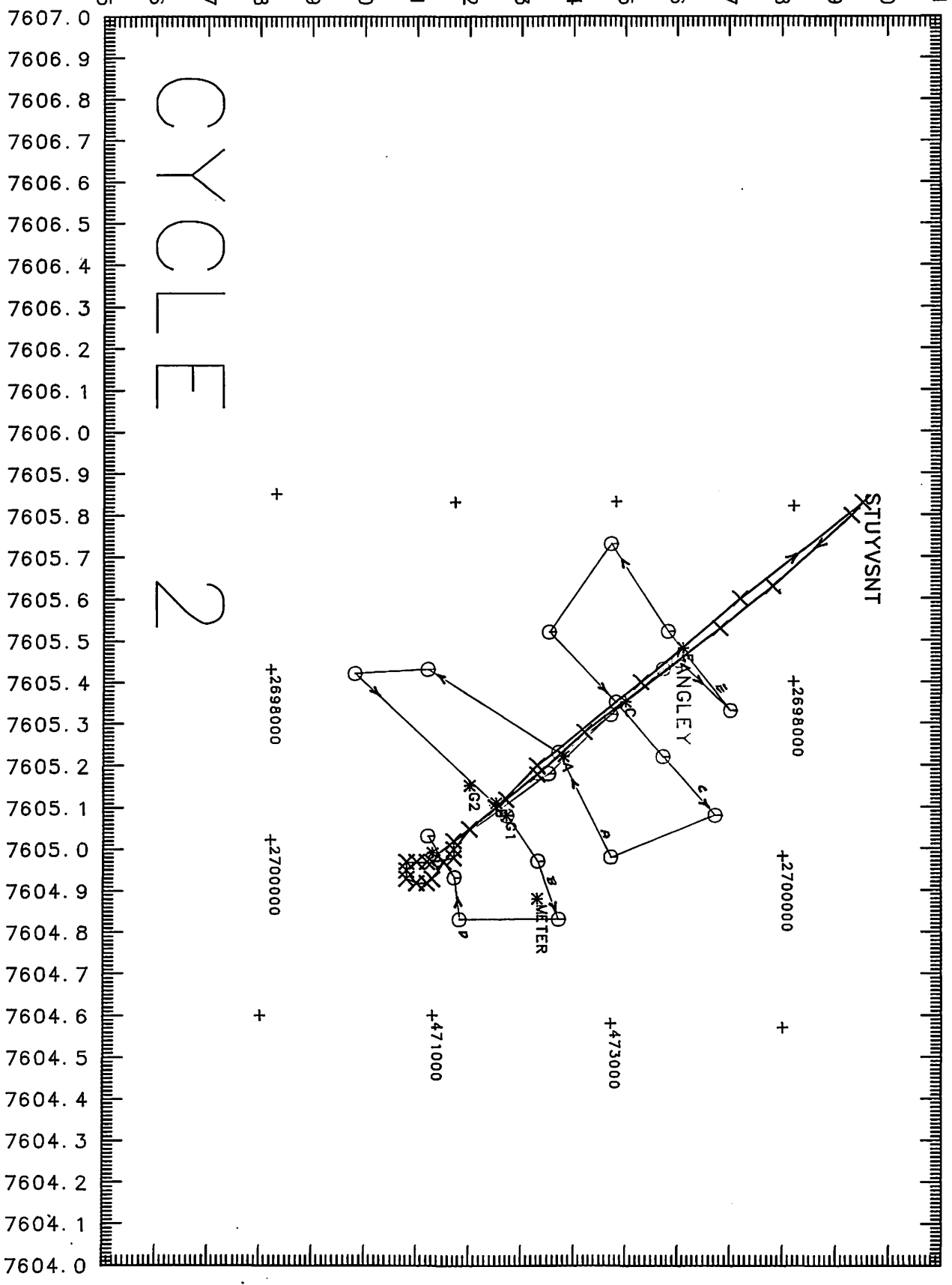
Plots of the dredge track and tracking vessel "R/V Langley"
in relation to fixed stations and current station
by dredge cycle 1 through 6. Scale 1:20,000.

3737.1
 3737.0
 3736.9
 3736.8
 3736.7
 3736.6
 3736.5
 3736.4
 3736.3
 3736.2
 3736.1
 3736.0
 3735.9
 3735.8
 3735.7
 3735.6
 3735.5



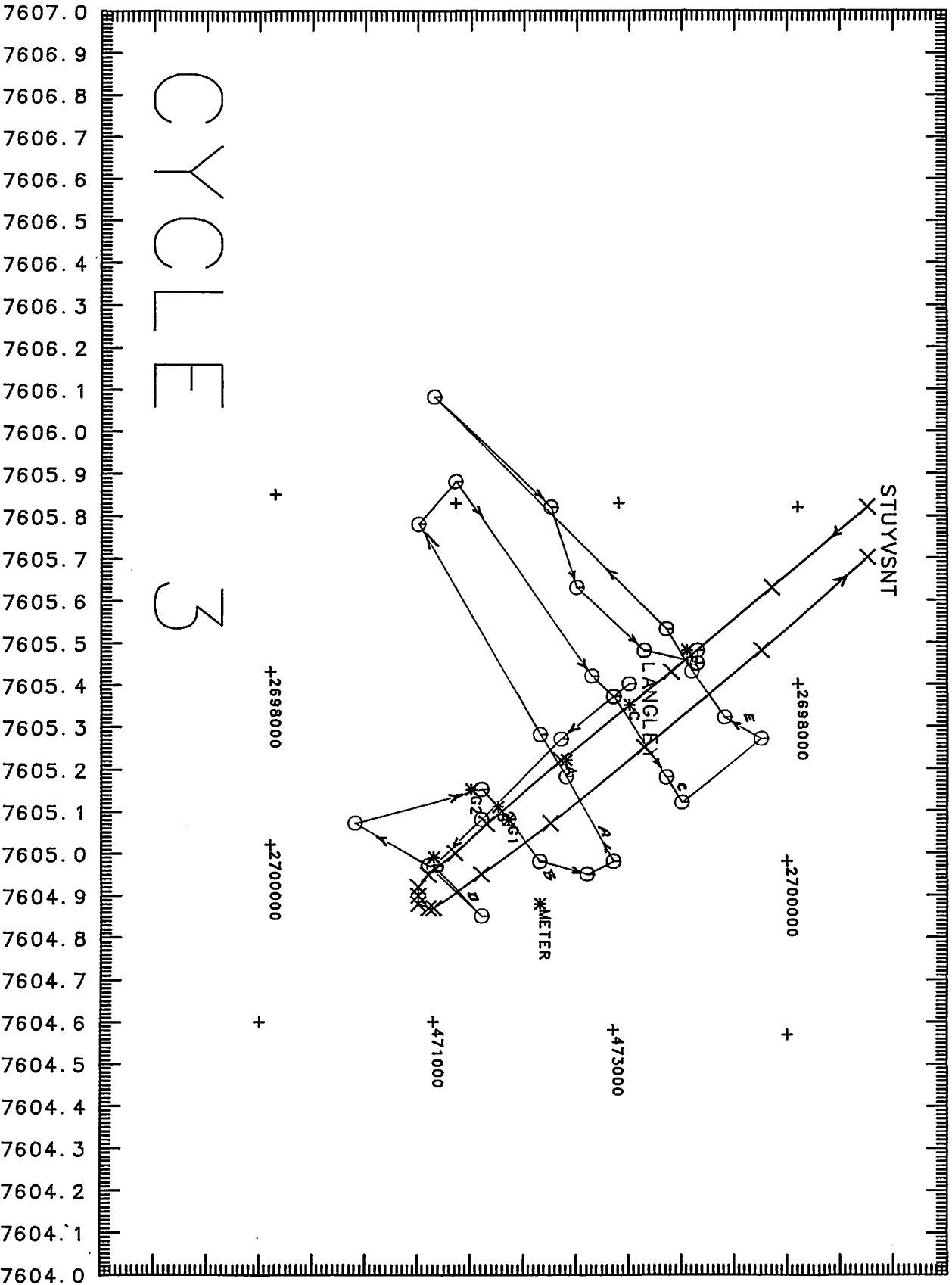
CYCLE 1

3737.1
 3737.0
 3736.9
 3736.8
 3736.7
 3736.6
 3736.5
 3736.4
 3736.3
 3736.2
 3736.1
 3736.0
 3735.9
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 3735.7
 3735.6
 3735.5

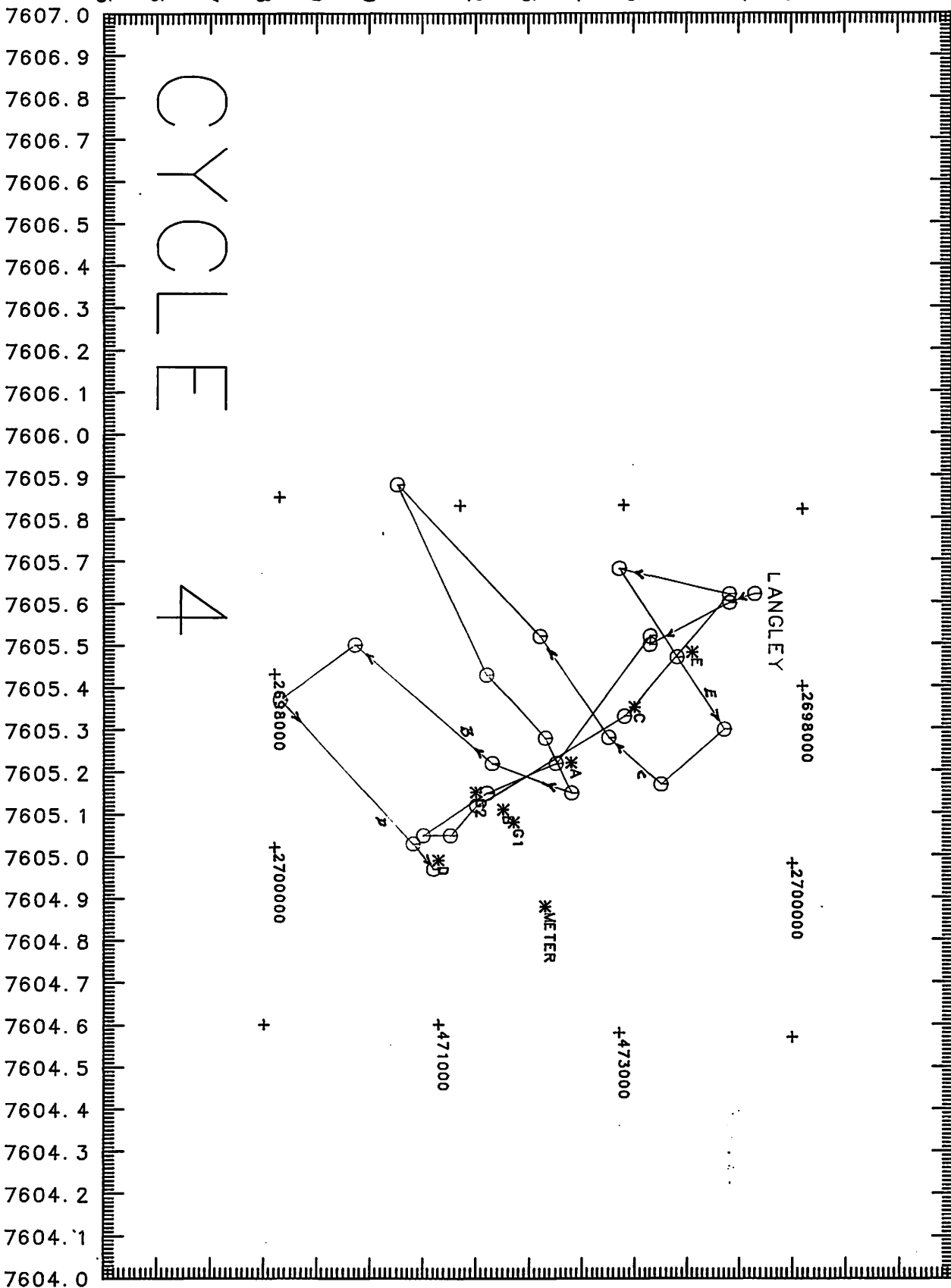


CYCLE
 2

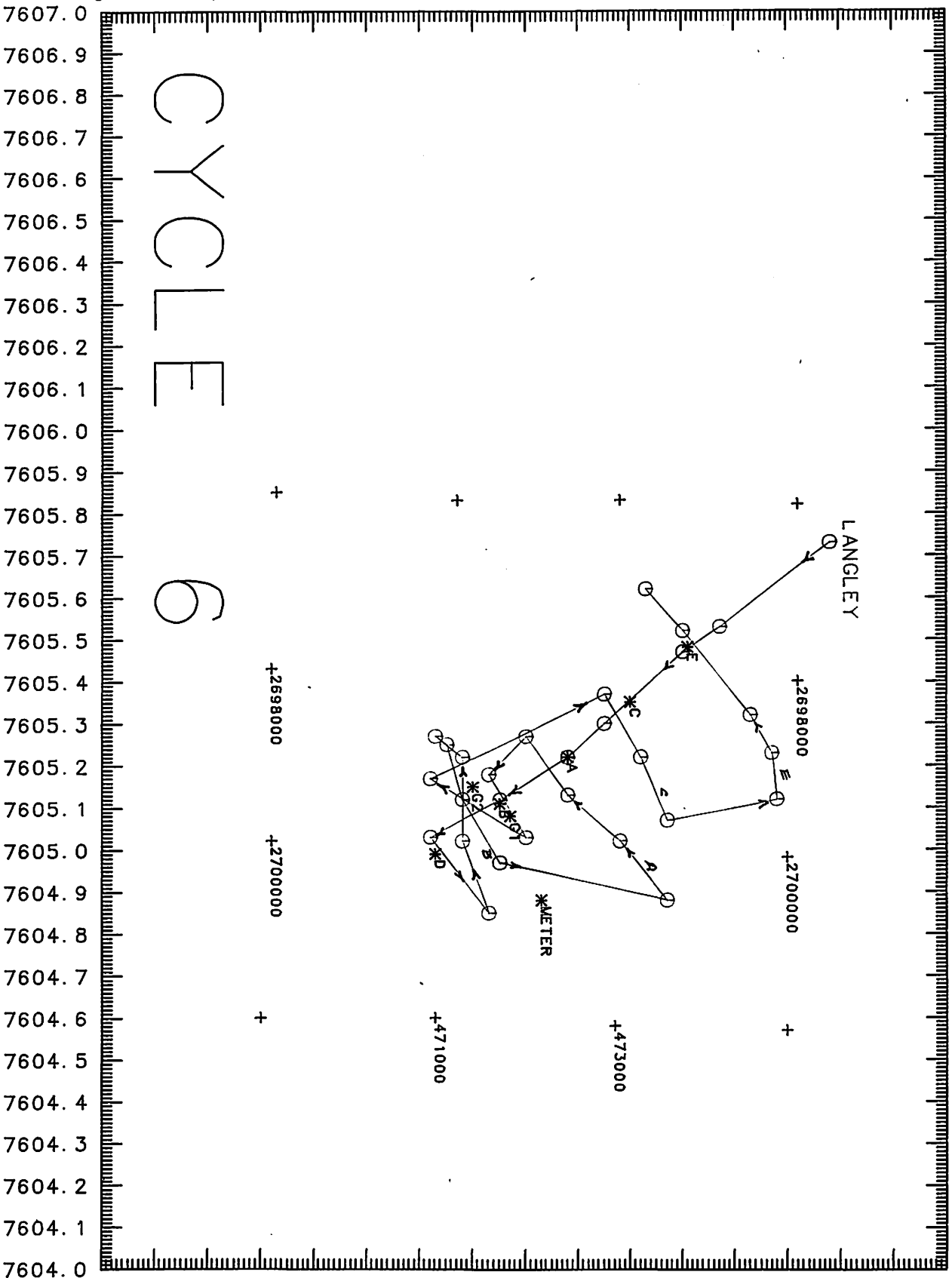
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3737.0
3736.9
3736.8
3736.7
3736.6
3736.5
3736.4
3736.3
3736.2
3736.1
3736.0
3735.9
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3735.6
3735.5



3737.1
3737.0
3736.9
3736.8
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3736.5
3736.4
3736.3
3736.2
3736.1
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3735.9
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3735.5



3737. 1
3737. 0
3736. 9
3736. 8
3736. 7
3736. 6
3736. 5
3736. 4
3736. 3
3736. 2
3736. 1
3736. 0
3735. 9
3735. 8
3735. 7
3735. 6
3735. 5



Appendix II

Computerized list of dredge locations for M/V Stuyvesant,
dredge cycles 1 through 3; coordinates in Virginia grid units
and latitude and longitude. Cycles 4 through 6 unavailable.
Time in Eastern Daylight Time; coordinates in Lambert Projection;
May 14, 1987.

Appendix II

Time	Virginia Grid*		Virginia Grid**		
	E	N	E	N	
10:06:01	2690930.8	479261.5	0.0	0.0	+0
10:06:31	2691361.7	479278.3	0.0	0.0	+0
10:07:01	2691679.5	479334.9	0.0	0.0	+0
10:07:31	2691927.8	479378.2	0.0	0.0	+0
10:08:05	2692131.7	479362.9	0.0	0.0	+0
10:08:35	2692330.4	479319.0	0.0	0.0	+0
10:09:05	2692510.7	479306.4	0.0	0.0	+0
10:09:39	2692694.1	479257.8	0.0	0.0	+0
10:10:09	2692936.7	479195.9	2692880.5	479115.5	+1
10:10:39	2693083.5	479096.5	2693017.6	479023.8	+1
10:11:09	2693209.3	478980.5	2693141.5	478909.6	+1
10:11:43	2693328.4	478857.1	2693256.6	478790.2	+1
10:12:13	2693425.9	478744.8	2693351.6	478680.8	+1
10:12:43	2693537.9	478598.7	2693463.7	478534.6	+1
10:13:13	2693666.3	478437.4	2693592.0	478373.3	+1
10:13:43	2693787.0	478286.5	2693713.8	478221.2	+1
10:14:13	2693908.7	478145.8	2693836.6	478079.1	+1
10:14:43	2694031.4	478007.6	2693959.1	477941.3	+1
10:15:13	2694147.3	477876.5	2694075.0	477810.2	+1
10:15:43	2694277.6	477730.4	2694205.1	477664.4	+1
10:16:13	2694396.6	477597.1	2694324.0	477531.0	+1
10:16:43	2694507.8	477466.2	2694435.0	477400.4	+1
10:17:17	2694628.4	477322.8	2694559.6	477252.9	+1
10:17:48	2694743.8	477208.7	2694672.6	477141.2	+1
10:18:18	2694848.0	477091.6	2694775.6	477025.4	+1
10:18:48	2694955.8	476968.1	2694883.5	476901.8	+1
10:19:18	2695066.6	476841.1	2694994.0	476775.1	+1
10:19:48	2695180.2	476712.6	2695107.9	476646.3	+1
10:20:18	2695297.2	476579.3	2695224.6	476513.3	+1
10:20:48	2695413.1	476444.8	2695340.7	476378.6	+1
10:21:18	2695528.9	476310.7	2695456.6	476244.4	+1
10:21:48	2695653.3	476172.3	2695581.0	476106.1	+1
10:22:18	2695783.8	476027.9	2695711.6	475961.5	+1
10:22:48	2695920.0	475879.5	2695848.2	475812.6	+1
10:23:18	2696059.5	475727.3	2695987.8	475660.3	+1
10:23:48	2696202.1	475573.5	2696130.1	475506.8	+1
10:24:18	2696331.7	475430.6	2696259.4	475364.2	+1
10:24:48	2696451.6	475295.3	2696378.6	475229.7	+1
10:25:18	2696563.2	475164.2	2696487.5	475101.6	+1
10:25:48	2696660.3	475038.5	2696587.3	474972.9	+1
10:26:18	2696763.9	474913.2	2696693.4	474845.0	+1
10:26:48	2696879.3	474787.6	2696809.4	474718.7	+1
10:27:18	2696999.0	474657.9	2696929.0	474589.2	+1
10:27:48	2697122.4	474525.2	2697050.4	474458.5	+1
10:28:18	2697250.9	474386.3	2697178.8	474319.7	+1
10:28:48	2697385.3	474239.3	2697313.5	474172.5	+1
10:29:22	2697538.3	474078.4	2697465.1	474013.0	+1
10:29:52	2697667.4	473936.0	2697592.2	473872.9	+1
10:30:22	2697788.4	473794.4	2697711.6	473733.3	+1
10:30:52	2697903.1	473653.3	2697825.3	473593.5	+1
10:31:22	2698010.3	473507.6	2697933.2	473446.8	+1
10:31:52	2698118.5	473367.0	2698042.9	473304.5	+1

* Ship Antenna

**Draghead

Appendix II (cont'd.)

10:32:22	2698232.2	473231.9	2698158.1	473167.6	+1
10:32:56	2698354.6	473080.2	2698276.7	473020.5	+1
10:33:26	2698461.3	472954.1	2698384.3	472893.4	+1
10:33:56	2698567.6	472834.1	2698490.6	472773.3	+1
10:34:26	2698669.1	472715.8	2698591.9	472655.3	+1
10:34:56	2698771.6	472595.6	2698694.3	472535.2	+1
10:35:30	2698891.9	472448.9	2698814.1	472389.0	+1
10:36:00	2698999.7	472316.8	2698922.0	472257.0	+1
10:36:30	2699108.0	472185.7	2699029.4	472126.9	+1
10:37:00	2699210.7	472055.6	2699131.3	471998.0	+1
10:37:30	2699311.2	471928.9	2699230.9	471872.5	+1
10:38:00	2699411.5	471791.5	2699331.1	471735.3	+1
10:38:30	2699515.3	471644.8	2699437.5	471584.9	+1
10:39:00	2699629.5	471498.1	2699557.2	471431.8	+1
10:39:30	2699756.6	471360.2	2699691.5	471286.8	+1
10:40:04	2699947.3	471199.0	2699877.7	471129.9	+1
10:40:34	2700116.4	471041.3	2700045.3	470973.7	+1
10:41:04	2700257.8	470900.1	2700236.6	470804.3	+1
10:41:34	2700400.3	470856.9	2700443.8	470768.9	+1
10:42:04	2700507.3	470906.3	2700591.6	470856.2	+1
10:42:34	2700565.0	471021.1	2700662.9	471015.3	+1
10:43:04	2700574.1	471174.8	2700660.2	471221.7	+1
10:43:34	2700488.6	471323.3	2700560.9	471389.5	+1
10:44:09	2700341.9	471488.5	2700410.1	471559.1	+1
10:44:39	2700195.9	471624.3	2700265.5	471693.5	+1
10:45:09	2700056.9	471761.5	2700128.0	471829.2	+1
10:45:39	2699924.0	471894.2	2699996.3	471960.6	+1
10:46:13	2699775.3	472040.4	2699856.1	472096.0	+1
10:46:43	2699669.9	472174.1	2699755.3	472222.4	+1
10:47:13	2699581.0	472307.5	2699666.4	472355.7	+1
10:47:43	2699491.4	472448.9	2699576.5	472497.6	+1
10:48:13	2699398.6	472599.8	2699482.7	472650.4	+1
10:48:47	2699280.0	472780.1	2699361.6	472834.6	+1
10:49:17	2699171.0	472932.1	2699253.4	472985.5	+1
10:49:47	2699063.2	473083.8	2699145.9	473136.4	+1
10:50:17	2698954.8	473233.3	2699035.1	473289.7	+1
10:50:47	2698851.1	473374.1	2698926.8	473436.5	+1
10:51:21	2698711.3	473537.0	2698785.2	473601.5	+1
10:51:51	2698588.7	473681.8	2698663.8	473745.0	+1
10:52:21	2698466.2	473831.3	2698543.2	473892.1	+1
10:52:51	2698343.1	473987.0	2698420.4	474047.4	+1
10:53:29	2698192.6	474176.2	2698268.0	474239.0	+1
10:53:59	2698075.9	474317.0	2698150.5	474380.7	+1
10:54:29	2697957.3	474449.0	2698031.4	474513.4	+1
10:54:59	2697842.7	474577.6	2697917.4	474641.3	+1
10:55:29	2697731.1	474706.6	2697805.6	474770.4	+1
10:55:59	2697623.4	474831.7	2697696.9	474896.7	+1
10:56:29	2697515.6	474953.3	2697588.8	475018.6	+1
10:56:59	2697409.0	475075.0	2697482.4	475140.1	+1
10:57:29	2697307.9	475183.5	2697381.8	475248.0	+1
10:57:59	2697180.2	475335.1	2697254.1	475399.5	+1
10:58:29	2697064.0	475469.3	2697137.9	475533.8	+1
10:58:59	2696952.8	475599.4	2697026.7	475663.9	+1
10:59:29	2696853.4	475713.3	2696927.4	475777.7	+1
11:00:03	2696719.5	475868.1	2696793.5	475932.5	+1
11:00:33	2696604.1	476007.1	2696677.9	476071.8	+1
11:01:03	2696491.6	476137.7	2696565.0	476202.8	+1
11:01:33	2696392.8	476245.3	2696464.5	476312.3	+1
11:02:03	2696276.3	476371.7	2696344.5	476442.2	+1

Appendix II (cont'd.)

11:02:33	2696150.4	476502.9	2696217.8	476574.2	+1
11:03:03	2696022.6	476625.7	2696091.7	476695.4	+1
11:03:33	2695896.2	476762.8	2695966.8	476830.9	+1
11:04:03	2695776.6	476896.1	2695848.3	476963.1	+1
11:04:33	2695654.9	477034.8	2695726.7	477101.7	+1
11:05:03	2695526.0	477185.8	2695598.4	477252.1	+1
11:05:33	2695426.2	477296.5	2695499.2	477362.1	+1
11:06:03	2695301.3	477441.5	2695374.2	477507.1	+1
11:06:33	2695165.8	477599.5	2695239.2	477664.6	+1
11:07:03	2695049.2	477737.6	2695122.9	477802.3	+1
11:07:33	2694934.9	477867.3	2695008.1	477932.6	+1
11:08:03	2694818.6	477998.7	2694891.5	478064.4	+1
11:08:34	2694703.9	478123.4	2694776.9	478189.0	+1
11:09:04	2694593.9	478247.0	2694667.1	478312.4	+1
11:09:34	2694481.0	478374.6	2694554.7	478439.3	+1
11:10:04	2694366.1	478508.4	2694440.4	478572.5	+1
11:10:34	2694249.3	478645.3	2694323.3	478709.8	+1
11:11:04	2694135.5	478775.7	2694202.1	478847.7	+1
11:11:34	2694015.3	478892.1	2694079.0	478966.8	+1
11:12:08	2693865.6	479023.6	2693930.5	479097.2	+1
11:12:38	2693733.2	479142.9	2693798.5	479216.1	+1
11:13:08	2693604.8	479263.8	2693670.1	479337.0	+1
11:13:38	2693475.4	479385.7	2693539.1	479460.3	+1
11:14:08	2693407.5	479483.8	0.0	0.0	+0
11:14:42	2693258.2	479649.0	0.0	0.0	+0
11:15:12	2693126.3	479817.8	0.0	0.0	+0
11:15:42	2692963.1	479962.6	0.0	0.0	+0
11:16:12	2692754.4	480068.7	0.0	0.0	+0
11:16:42	2692506.2	480163.6	0.0	0.0	+0
11:17:12	2692220.8	480272.9	0.0	0.0	+0
11:17:42	2691908.1	480398.5	0.0	0.0	+0
11:18:12	2691560.8	480536.3	0.0	0.0	+0
11:18:42	2691178.4	480684.7	0.0	0.0	+0
11:19:12	2690775.7	480842.8	0.0	0.0	+0
11:19:42	2690344.0	481010.1	0.0	0.0	+0
11:20:12	2689913.1	481162.4	0.0	0.0	+0
11:20:42	2689436.0	481352.1	0.0	0.0	+0
11:21:12	2688962.1	481531.8	0.0	0.0	+0
11:21:42	2688484.1	481690.0	0.0	0.0	+0
11:22:12	2687983.7	481803.4	0.0	0.0	+0
11:22:42	2687475.2	481916.8	0.0	0.0	+0
11:23:12	2686967.3	482040.2	0.0	0.0	+0
11:23:42	2686446.2	482170.7	0.0	0.0	+0
11:24:12	2685922.3	482299.1	0.0	0.0	+0
11:24:42	2685396.8	482428.0	0.0	0.0	+0
11:25:12	2684882.4	482554.6	0.0	0.0	+0
11:25:42	2684378.6	482680.4	0.0	0.0	+0
11:26:12	2683877.3	482802.0	0.0	0.0	+0
11:26:42	2683381.7	482926.6	0.0	0.0	+0
11:27:12	2682888.7	483047.9	0.0	0.0	+0
11:27:42	2682400.3	483167.5	0.0	0.0	+0
11:28:12	2681915.4	483288.1	0.0	0.0	+0
11:28:42	2681429.4	483405.7	0.0	0.0	+0
11:29:12	2680932.6	483522.4	0.0	0.0	+0
11:29:42	2680430.1	483642.0	0.0	0.0	+0
11:30:12	2679920.4	483751.3	0.0	0.0	+0
11:30:42	2679409.7	483863.6	0.0	0.0	+0
11:31:13	2678895.7	483976.4	0.0	0.0	+0
11:31:43	2678370.8	484076.3	0.0	0.0	+0

Appendix II (cont'd.)

11:32:13	2677838.0	484175.9	0.0	0.0	+0
11:32:43	2677298.1	484280.9	0.0	0.0	+0
11:33:13	2676753.7	484384.3	0.0	0.0	+0
11:33:43	2676201.3	484492.0	0.0	0.0	+0
11:34:13	2675643.6	484600.1	0.0	0.0	+0
11:34:43	2675084.7	484712.6	0.0	0.0	+0
11:35:13	2674517.0	484818.7	0.0	0.0	+0
11:35:43	2673953.9	484931.3	0.0	0.0	+0
11:36:13	2673394.1	485038.4	0.0	0.0	+0
11:36:43	2672857.7	485146.7	0.0	0.0	+0
11:37:13	2672352.0	485257.6	0.0	0.0	+0
11:37:43	2671872.0	485359.8	0.0	0.0	+0
11:38:13	2671431.4	485460.5	0.0	0.0	+0
11:38:43	2671088.9	485383.6	0.0	0.0	-1
11:39:13	2670959.6	485167.8	0.0	0.0	-1
11:39:43	2670977.2	484967.9	0.0	0.0	+0
11:40:13	2671017.4	484818.8	0.0	0.0	+0
11:40:43	2671048.1	484701.8	0.0	0.0	+0
11:41:13	2671120.8	484570.3	0.0	0.0	+0
11:41:43	2671219.8	484471.1	0.0	0.0	+0
11:42:13	2671389.4	484374.4	0.0	0.0	+0
11:42:43	2671638.9	484310.5	0.0	0.0	+0
11:43:13	2672033.6	484248.3	0.0	0.0	+0
11:43:43	2672489.5	484209.6	0.0	0.0	+0
11:44:13	2673005.5	484152.1	0.0	0.0	+0
11:44:43	2673557.1	484087.6	0.0	0.0	+0
11:45:13	2674115.2	484031.4	0.0	0.0	+0
11:45:43	2674680.4	483940.7	0.0	0.0	+0
11:46:13	2675226.2	483788.4	0.0	0.0	+0
11:46:43	2675735.2	483590.2	0.0	0.0	+0
11:47:13	2676262.1	483336.1	0.0	0.0	+0
11:47:43	2676769.3	483060.8	0.0	0.0	+0
11:48:13	2677274.6	482779.8	0.0	0.0	+0
11:48:43	2677781.7	482521.4	0.0	0.0	+0
11:49:13	2678269.2	482289.0	0.0	0.0	+0
11:49:43	2678748.2	482065.0	0.0	0.0	+0
11:50:13	2679213.3	481854.4	0.0	0.0	+0
11:50:43	2679702.5	481692.1	0.0	0.0	+0
11:51:13	2680199.5	481586.2	0.0	0.0	+0
11:51:43	2680695.9	481492.9	0.0	0.0	+0
11:52:13	2681203.8	481416.6	0.0	0.0	+0
11:52:43	2681716.1	481334.7	0.0	0.0	+0
11:53:13	2682233.0	481254.3	0.0	0.0	+0
11:53:43	2682751.2	481170.9	0.0	0.0	+0
11:54:13	2683270.3	481091.0	0.0	0.0	+0
11:54:43	2683797.1	481008.9	0.0	0.0	+0
11:55:13	2684326.6	480928.0	0.0	0.0	+0
11:55:43	2684861.5	480847.2	0.0	0.0	+0
11:56:13	2685402.1	480763.8	0.0	0.0	+0
11:56:43	2685945.9	480678.4	0.0	0.0	+0
11:57:13	2686496.6	480590.9	0.0	0.0	+0
11:57:43	2687054.7	480504.0	0.0	0.0	+0
11:58:13	2687628.4	480416.0	0.0	0.0	+0
11:58:43	2688234.6	480316.5	0.0	0.0	+0
11:59:13	2688843.1	480218.5	0.0	0.0	+0
11:59:47	2689543.0	480111.1	0.0	0.0	+0
12:00:17	2690161.1	479980.0	0.0	0.0	+0
12:00:51	2690851.1	479837.4	0.0	0.0	+0
12:01:21	2691369.2	479726.4	0.0	0.0	+0

Appendix II (cont'd.)

12:01:51	2691759.6	479630.6	0.0	0.0	+0
12:02:21	2692063.5	479575.0	0.0	0.0	+0
12:02:55	2692339.8	479529.6	0.0	0.0	+0
12:03:25	2692522.3	479413.2	0.0	0.0	+0
12:03:55	2692694.3	479294.4	0.0	0.0	+0
12:04:25	2692857.4	479192.1	0.0	0.0	+0
12:04:55	2693020.7	479104.6	0.0	0.0	+0
12:05:25	2693263.1	478975.2	2693188.8	478911.1	+1
12:05:55	2693390.5	478842.6	2693308.7	478788.5	+1
12:06:25	2693486.0	478702.3	2693403.2	478649.7	+1
12:06:55	2693564.9	478571.9	2693487.0	478512.2	+1
12:07:26	2693633.0	478459.2	2693570.7	478383.4	+1
12:07:56	2693744.0	478367.8	2693683.7	478290.4	+1
12:08:26	2693846.6	478286.2	2693782.8	478211.6	+1
12:08:56	2693985.9	478171.5	2693915.4	478103.2	+1
12:09:26	2694127.2	478032.7	2694051.6	477970.2	+1
12:10:00	2694276.8	477852.9	2694198.8	477793.4	+1
12:10:30	2694400.3	477691.6	2694319.9	477635.4	+1
12:11:00	2694509.4	477534.9	2694428.6	477479.2	+1
12:11:30	2694611.0	477385.7	2694532.3	477327.2	+1
12:12:00	2694710.4	477246.4	2694636.3	477182.0	+1
12:12:30	2694816.3	477124.7	2694745.1	477057.2	+1
12:13:00	2694924.4	477015.5	2694852.1	476949.1	+1
12:13:30	2695029.9	476897.4	2694956.5	476832.3	+1
12:14:00	2695142.7	476773.1	2695068.4	476709.0	+1
12:14:30	2695251.2	476649.4	2695176.6	476585.6	+1
12:15:00	2695357.8	476525.1	2695284.1	476460.4	+1
12:15:30	2695485.6	476382.2	2695412.2	476317.1	+1
12:16:00	2695595.4	476264.2	2695520.8	476200.5	+1
12:16:30	2695687.6	476161.6	2695613.4	476097.5	+1
12:17:00	2695806.1	476027.3	2695730.2	475965.1	+1
12:17:30	2695923.5	475894.7	2695846.0	475834.6	+1
12:18:00	2696043.0	475748.9	2695964.8	475689.7	+1
12:18:30	2696133.7	475637.4	2696055.5	475578.2	+1
12:19:00	2696249.9	475490.7	2696172.3	475430.6	+1
12:19:30	2696350.9	475366.6	2696273.9	475305.8	+1
12:20:00	2696452.1	475244.0	2696378.1	475179.5	+1
12:20:30	2696559.0	475125.3	2696486.2	475059.5	+1
12:21:00	2696677.2	475007.0	2696604.4	474941.2	+1
12:21:30	2696793.2	474891.4	2696719.5	474826.6	+1
12:22:00	2696901.7	474771.9	2696827.7	474707.4	+1
12:22:34	2697022.8	474639.0	2696949.1	474574.3	+1
12:23:04	2697134.4	474514.7	2697060.1	474450.6	+1
12:23:34	2697264.8	474369.7	2697188.7	474307.9	+1
12:24:04	2697387.2	474226.1	2697310.9	474164.4	+1
12:30:00	2698657.2	472670.5	0.0	0.0	+0
12:30:30	2698761.1	472537.9	0.0	0.0	+0
12:31:00	2698858.9	472411.0	0.0	0.0	+0
12:31:30	2698976.9	472287.1	0.0	0.0	+0
12:32:00	2699095.6	472174.7	0.0	0.0	+0
12:32:30	2699204.3	472068.4	0.0	0.0	+0
12:33:00	2699304.7	471962.7	0.0	0.0	+0
12:33:30	2699403.1	471857.6	0.0	0.0	+0
12:34:00	2699499.1	471759.7	0.0	0.0	+0
12:34:30	2699590.0	471669.5	0.0	0.0	+0
12:35:00	2699672.2	471579.8	0.0	0.0	+0
12:35:30	2699748.7	471485.7	0.0	0.0	+0
12:36:02	2699836.3	471380.0	0.0	0.0	+0
12:36:32	2699928.8	471277.6	0.0	0.0	+0

Appendix II (cont'd.)

12:37:02	2700018.0	471180.5	0.0	0.0	+0
12:37:32	2700133.0	471095.8	0.0	0.0	+0
12:38:02	2700191.6	470976.1	0.0	0.0	+0
12:38:32	2700175.2	470867.2	0.0	0.0	+0
12:39:02	2700178.5	470758.4	0.0	0.0	+0
12:39:32	2700220.7	470686.3	0.0	0.0	+0
12:40:02	2700287.6	470662.3	0.0	0.0	+0
12:40:32	2700365.3	470676.3	0.0	0.0	+0
12:41:03	2700425.5	470727.6	0.0	0.0	+0
12:41:33	2700452.0	470806.9	0.0	0.0	+0
12:42:03	2700449.7	470869.1	0.0	0.0	+0
12:42:33	2700414.5	470921.2	0.0	0.0	+0
12:43:03	2700341.3	470970.4	0.0	0.0	+0
12:43:33	2700215.2	471030.6	0.0	0.0	+0
12:44:03	2700087.4	471094.5	0.0	0.0	+0
12:44:33	2699951.0	471184.4	0.0	0.0	+0
12:45:03	2699846.0	471289.2	0.0	0.0	+0
12:45:33	2699744.7	471397.0	0.0	0.0	+0
12:46:05	2699648.7	471515.0	0.0	0.0	+0
12:46:35	2699561.3	471626.3	0.0	0.0	+0
12:47:05	2699474.4	471738.8	0.0	0.0	+0
12:47:35	2699382.0	471848.1	0.0	0.0	+0
12:48:05	2699281.0	471956.6	0.0	0.0	+0
12:48:35	2699174.4	472065.0	0.0	0.0	+0
12:49:05	2699060.1	472174.2	0.0	0.0	+0
12:49:35	2698946.9	472297.1	0.0	0.0	+0
12:50:05	2698821.9	472442.3	0.0	0.0	+0
12:50:35	2698710.9	472591.0	0.0	0.0	+0
12:51:05	2698521.9	472768.4	2698597.8	472830.5	+1
12:51:35	2698418.3	472885.4	2698492.4	472949.7	+1
12:52:05	2698296.6	473022.6	2698369.5	473088.2	+1
12:52:35	2698175.7	473154.3	2698249.1	473219.4	+1
12:53:05	2698060.6	473280.4	2698134.3	473345.1	+1
12:53:35	2697946.4	473410.2	2698019.9	473475.2	+1
12:54:05	2697835.2	473535.5	2697909.0	473600.2	+1
12:54:35	2697730.5	473660.2	2697804.8	473724.3	+1
12:55:05	2697632.7	473780.3	2697706.7	473844.6	+1
12:55:35	2697532.3	473898.5	2697605.5	473963.9	+1
12:56:05	2697441.2	474001.7	2697514.0	474067.5	+1
12:56:35	2697331.1	474128.0	2697404.0	474193.7	+1
12:57:07	2697225.0	474248.0	2697299.3	474312.0	+1
12:57:37	2697097.6	474399.0	2697172.1	474462.8	+1
12:58:07	2696977.8	474541.6	2697052.9	474604.7	+1
12:58:37	2696851.8	474691.0	2696925.8	474755.3	+1
12:59:07	2696729.9	474835.9	2696802.5	474901.9	+1
12:59:37	2696610.7	474971.6	2696681.9	475039.1	+1
13:00:07	2696496.9	475094.9	2696567.5	475163.0	+1
13:00:37	2696383.1	475218.3	2696454.9	475285.2	+1
13:01:07	2696267.7	475346.8	2696342.2	475410.6	+1
13:01:37	2696150.7	475486.3	2696225.9	475549.3	+1
13:02:07	2696030.0	475628.0	2696104.9	475691.4	+1
13:02:37	2695905.3	475775.6	2695979.4	475840.0	+1
13:03:07	2695778.8	475922.3	2695851.6	475988.0	+1
13:03:37	2695652.1	476067.1	2695723.7	476134.1	+1
13:04:07	2695527.5	476202.5	2695598.9	476269.8	+1
13:04:37	2695409.0	476329.6	2695481.6	476395.6	+1
13:05:07	2695297.6	476450.2	2695371.6	476514.7	+1
13:05:37	2695193.7	476570.9	2695269.7	476633.0	+1
13:06:07	2695096.4	476685.0	2695172.7	476746.7	+1

Appendix II (cont'd.)

13:06:37	2695000.9	476799.1	2695077.6	476860.3	+1
13:07:09	2694900.9	476920.7	2694976.3	476983.5	+1
13:07:39	2694804.2	477035.9	2694878.5	477100.0	+1
13:08:09	2694704.2	477148.8	2694777.6	477214.0	+1
13:08:39	2694601.6	477264.4	2694674.2	477330.4	+1
13:09:09	2694497.1	477377.9	2694569.3	477444.3	+1
13:09:39	2694393.2	477488.6	2694465.2	477555.2	+1
13:10:09	2694295.6	477594.6	2694368.0	477660.8	+1
13:10:39	2694197.8	477699.4	2694270.4	477765.4	+1
13:11:09	2694090.1	477813.1	2694164.1	477877.6	+1
13:11:39	2693976.4	477939.9	2694051.6	478002.9	+1
13:12:09	2693858.3	478077.5	2693935.0	478138.7	+1
13:12:39	2693734.7	478223.8	2693813.0	478283.0	+1
13:13:09	2693614.1	478372.9	2693692.7	478431.6	+1
13:13:39	2693494.1	478526.3	2693571.9	478586.1	+1
13:14:09	2693374.9	478678.3	2693450.1	478741.3	+1
13:14:39	2693253.1	478817.4	2693323.7	478885.5	+1
13:15:09	2693139.0	478940.3	2693206.8	479011.2	+1
13:15:39	2693017.4	479051.7	2693084.9	479122.9	+1
13:16:11	2692969.7	479149.9	0.0	0.0	+0
13:16:41	2692859.7	479294.6	0.0	0.0	+0
13:17:11	2692713.1	479433.8	0.0	0.0	+0
13:17:41	2692526.4	479498.9	0.0	0.0	+0
13:18:11	2692350.3	479476.3	0.0	0.0	+0
13:18:41	2692231.4	479344.1	0.0	0.0	+0
13:19:11	2692078.5	479182.3	0.0	0.0	+0
13:19:41	2691862.6	479028.0	0.0	0.0	+0
13:20:11	2691579.8	478927.0	0.0	0.0	+0
13:20:41	2691265.2	478825.8	0.0	0.0	+0
13:21:11	2690903.2	478746.2	0.0	0.0	+0
13:21:41	2690513.5	478657.6	0.0	0.0	+0
13:22:11	2690083.8	478573.1	0.0	0.0	+0
13:22:41	2689631.7	478486.0	0.0	0.0	+0
13:23:11	2689158.0	478394.7	0.0	0.0	+0
13:23:41	2688664.4	478306.6	0.0	0.0	+0
13:24:11	2688174.0	478217.2	0.0	0.0	+0
13:24:41	2687670.5	478126.4	0.0	0.0	+0
13:25:11	2687157.4	478031.3	0.0	0.0	+0
13:25:41	2686640.7	477938.4	0.0	0.0	+0
13:26:11	2686118.6	477842.4	0.0	0.0	+0
13:26:41	2685593.1	477743.9	0.0	0.0	+0
13:27:11	2685063.2	477649.1	0.0	0.0	+0
13:27:41	2684528.6	477550.6	0.0	0.0	+0
13:28:11	2683991.5	477453.1	0.0	0.0	+0
13:28:41	2683446.8	477351.4	0.0	0.0	+0
13:29:11	2682900.9	477252.6	0.0	0.0	+0
13:29:41	2682344.0	477156.5	0.0	0.0	+0
13:30:11	2681792.7	477067.7	0.0	0.0	+0
13:30:41	2681236.9	476975.7	0.0	0.0	+0
13:31:11	2680678.4	476884.4	0.0	0.0	+0
13:31:41	2680116.9	476792.4	0.0	0.0	+0
13:32:11	2679557.1	476702.2	0.0	0.0	+0
13:32:41	2678998.5	476610.1	0.0	0.0	+0
13:33:11	2678435.8	476523.0	0.0	0.0	+0
13:33:41	2677876.1	476427.2	0.0	0.0	+0
13:34:11	2677312.7	476332.9	0.0	0.0	+0
13:34:41	2676751.2	476235.5	0.0	0.0	+0
13:35:11	2676205.6	476127.5	0.0	0.0	+0
13:35:41	2675628.0	476046.7	0.0	0.0	+0

Appendix II (cont'd.)

13:36:11	2675058.5	475962.1	0.0	0.0	+0
13:36:41	2674495.1	475875.1	0.0	0.0	+0
13:37:11	2673931.0	475784.3	0.0	0.0	+0
13:37:41	2673373.7	475697.2	0.0	0.0	+0
13:38:11	2672815.2	475607.3	0.0	0.0	+0
13:38:41	2672265.4	475518.4	0.0	0.0	+0
13:39:11	2671728.6	475418.5	0.0	0.0	+0
13:39:41	2671283.7	475495.5	0.0	0.0	+0
13:40:11	2671086.7	475756.4	0.0	0.0	-1
13:40:42	2671079.4	475998.8	0.0	0.0	-1
13:41:12	2671206.1	476144.5	0.0	0.0	-1
13:41:42	2671300.9	476273.6	0.0	0.0	+0
13:42:11	2671368.0	476406.8	0.0	0.0	+0
13:42:42	2671458.9	476519.1	0.0	0.0	+0
13:43:12	2671541.5	476644.1	0.0	0.0	+0
13:43:42	2671662.6	476748.1	0.0	0.0	+0
13:44:12	2671872.0	476845.1	0.0	0.0	+0
13:44:42	2672147.3	476927.9	0.0	0.0	+0
13:45:12	2672455.7	477029.3	0.0	0.0	+0
13:45:42	2672792.1	477143.9	0.0	0.0	+0
13:46:12	2673166.5	477266.0	0.0	0.0	+0
13:46:42	2673564.6	477391.8	0.0	0.0	+0
13:47:12	2673977.8	477525.5	0.0	0.0	+0
13:47:42	2674431.2	477639.5	0.0	0.0	+0
13:48:12	2674884.6	477784.0	0.0	0.0	+0
13:48:42	2675386.4	477905.0	0.0	0.0	+0
13:49:12	2675900.8	478009.5	0.0	0.0	+0
13:49:42	2676443.0	478091.5	0.0	0.0	+0
13:50:12	2676997.4	478180.1	0.0	0.0	+0
13:50:42	2677577.9	478258.4	0.0	0.0	+0
13:51:12	2678169.6	478340.1	0.0	0.0	+0
13:51:42	2678768.5	478422.6	0.0	0.0	+0
13:52:12	2679381.2	478494.7	0.0	0.0	+0
13:52:42	2679983.2	478569.0	0.0	0.0	+0
13:53:12	2680573.2	478656.0	0.0	0.0	+0
13:53:42	2681193.6	478719.5	0.0	0.0	+0
13:54:12	2681815.1	478787.8	0.0	0.0	+0
13:54:42	2682436.7	478854.5	0.0	0.0	+0
13:55:12	2683056.8	478920.5	0.0	0.0	+0
13:55:42	2683675.4	478982.9	0.0	0.0	+0
13:56:12	2684292.8	479045.5	0.0	0.0	+0
13:56:42	2684915.8	479110.4	0.0	0.0	+0
13:57:12	2685510.8	479116.8	0.0	0.0	+0
13:57:42	2686151.1	479232.7	0.0	0.0	+0
13:58:12	2686768.5	479297.1	0.0	0.0	+0
13:58:42	2687386.1	479359.1	0.0	0.0	+0
13:59:12	2688005.6	479420.3	0.0	0.0	+0
13:59:42	2688623.1	479482.1	0.0	0.0	+0
14:00:12	2689254.9	479532.8	0.0	0.0	+0
14:00:42	2689827.1	479610.5	0.0	0.0	+0
14:01:12	2690305.1	479662.2	0.0	0.0	+0
14:01:44	2690716.1	479715.7	0.0	0.0	+0
14:02:14	2691032.6	479751.7	0.0	0.0	+0
14:02:44	2691278.1	479763.5	0.0	0.0	+0
14:03:14	2691489.8	479779.9	0.0	0.0	+0
14:03:44	2691712.2	479807.5	0.0	0.0	+0
14:04:14	2691930.3	479815.9	0.0	0.0	+0
14:04:44	2692137.7	479807.1	0.0	0.0	+0
14:05:14	2692307.0	479755.4	0.0	0.0	+0

Appendix II (cont'd.)

14:05:44	2692477.5	479673.0	0.0	0.0	+0
14:06:14	2692703.0	479520.6	2692642.7	479443.2	+1
14:06:44	2692861.9	479400.6	2692800.5	479324.0	+1
14:07:16	2693025.6	479270.5	2692962.9	479195.1	+1
14:07:46	2693172.7	479149.2	2693100.9	479082.3	+1
14:08:16	2693294.7	479019.3	2693217.6	478958.5	+1
14:08:46	2693404.2	478885.1	2693325.1	478827.1	+1
14:09:16	2693498.4	478752.3	2693419.3	478694.2	+1
14:09:46	2693594.8	478612.9	2693516.0	478554.5	+1
14:10:16	2693688.0	478476.4	2693613.3	478412.7	+1
14:10:46	2693796.2	478340.5	2693722.5	478275.7	+1
14:11:16	2693917.1	478200.7	2693844.1	478135.0	+1
14:11:46	2694039.2	478061.8	2693966.4	477996.1	+1
14:12:16	2694161.3	477924.3	2694088.3	477858.7	+1
14:12:46	2694283.3	477783.1	2694209.9	477718.0	+1
14:13:18	2694413.4	477634.3	2694339.6	477569.6	+1
14:13:48	2694536.9	477492.8	2694463.2	477428.1	+1
14:14:18	2694665.0	477345.7	2694591.6	477280.6	+1
14:14:48	2694792.6	477196.5	2694719.7	477130.9	+1
14:15:18	2694919.4	477045.8	2694843.6	476983.4	+1
14:15:48	2695040.3	476894.3	2694966.4	476829.8	+1
14:16:18	2695158.5	476750.3	2695087.9	476682.1	+1
14:16:50	2695289.6	476610.0	2695219.0	476541.8	+1
14:17:20	2695407.7	476480.2	2695335.7	476413.5	+1
14:17:50	2695525.0	476351.0	2695450.7	476286.9	+1
14:18:20	2695634.7	476221.6	2695558.8	476159.4	+1
14:18:50	2695742.5	476086.4	2695666.9	476023.9	+1
14:19:20	2695854.5	475947.6	2695779.1	475884.8	+1
14:19:52	2695973.5	475800.1	2695900.2	475735.0	+1
14:20:22	2696090.2	475665.3	2696018.8	475598.1	+1
14:20:52	2696208.0	475537.1	2696136.9	475469.5	+1
14:21:22	2696329.7	475406.4	2696258.1	475339.4	+1
14:21:52	2696452.2	475270.2	2696380.5	475203.2	+1
14:22:22	2696571.4	475134.3	2696498.8	475068.3	+1
14:22:52	2696686.5	475003.0	2696610.6	474940.9	+1
14:23:22	2696794.4	474865.6	2696718.6	474803.2	+1
14:23:52	2696898.4	474725.1	2696824.7	474660.4	+1
14:24:24	2697024.2	474572.4	2696952.0	474506.0	+1
14:24:54	2697138.2	474446.3	2697069.2	474376.6	+1
14:25:24	2697262.9	474316.2	2697192.1	474248.4	+1
14:25:54	2697394.2	474175.2	2697321.8	474108.9	+1
14:26:24	2697512.0	474042.1	2697439.8	473975.7	+1
14:26:54	2697637.0	473900.6	2697565.8	473833.1	+1
14:27:24	2697766.1	473759.1	2697695.0	473691.5	+1
14:27:55	2697907.7	473599.3	2697837.1	473531.2	+1
14:28:24	2698030.0	473461.1	2697959.7	473392.6	+1
14:28:54	2698162.2	473316.0	2698092.3	473247.2	+1
14:29:26	2698311.9	473150.4	2698241.9	473081.6	+1
14:29:56	2698453.3	472996.9	2698383.3	472928.2	+1
14:30:26	2698592.5	472842.4	2698520.8	472775.3	+1
14:30:56	2698726.0	472687.5	2698652.5	472622.5	+1
14:31:26	2698853.6	472529.5	2698779.7	472465.0	+1
14:31:56	2698978.3	472371.7	2698904.0	472307.6	+1
14:32:27	2699104.8	472217.2	2699029.4	472154.4	+1
14:32:56	2699224.3	472058.2	2699148.7	471995.7	+1
14:33:29	2699347.3	471897.9	2699273.8	471832.9	+1
14:33:59	2699463.3	471754.1	2699391.6	471687.1	+1
14:34:29	2699571.8	471621.3	2699503.2	471551.3	+1
14:34:59	2699684.3	471499.2	2699618.1	471426.8	+1

Appendix II (cont'd.)

14:35:29	2699793.7	471380.5	2699729.4	471306.3	+1
14:35:59	2699910.7	471264.3	2699845.7	471190.8	+1
14:36:29	2700041.5	471134.4	2699976.0	471061.4	+1
14:36:59	2700182.2	470990.3	2700116.9	470917.1	+1
14:37:29	2700312.1	470857.0	2700269.1	470768.8	+1
14:37:59	2700441.7	470762.1	2700449.3	470664.3	+1
14:38:29	2700562.8	470743.4	2700620.5	470664.1	+1
14:38:59	2700643.0	470771.0	2700732.0	470729.7	+1
14:39:31	2700681.5	470844.5	2700779.2	470854.1	+1
14:40:03	2700670.1	470945.6	2700757.5	470990.3	+1
14:40:33	2700596.8	471055.0	2700681.1	471105.2	+1
14:41:03	2700498.1	471184.9	2700581.7	471236.2	+1
14:41:33	2700391.7	471318.5	2700475.7	471369.2	+1
14:42:03	2700285.2	471455.9	2700370.3	471504.6	+1
14:42:33	2700181.6	471593.0	2700267.4	471640.7	+1
14:43:03	2700088.1	471723.3	2700173.5	471771.6	+1
14:43:33	2699993.5	471853.5	2700078.4	471902.7	+1
14:44:03	2699897.5	471978.7	2699982.2	472028.2	+1
14:44:33	2699802.5	472097.6	2699887.8	472146.0	+1
14:45:05	2699705.2	472218.2	2699791.1	472265.7	+1
14:45:35	2699629.0	472316.6	2699714.1	472365.4	+1
14:46:05	2699533.2	472440.8	2699618.1	472489.9	+1
14:46:35	2699433.3	472572.3	2699517.1	472623.2	+1
14:47:05	2699336.4	472689.1	2699419.5	472741.2	+1
14:47:35	2699250.0	472786.2	2699333.2	472838.2	+1
14:48:05	2699149.7	472905.2	2699233.0	472957.2	+1
14:48:35	2699050.9	473023.8	2699134.1	473075.7	+1
14:49:05	2698943.7	473156.0	2699026.6	473208.3	+1
14:49:35	2698844.7	473274.8	2698927.6	473327.2	+1
14:50:05	2698746.2	473388.8	2698828.0	473443.0	+1
14:50:37	2698641.2	473513.0	2698721.1	473569.9	+1
14:51:07	2698536.1	473625.9	2698615.9	473683.0	+1
14:51:37	2698436.3	473724.4	2698516.6	473780.8	+1
14:52:07	2698315.4	473859.7	2698395.5	473916.4	+1
14:52:37	2698202.9	473988.4	2698282.5	474045.7	+1
14:53:07	2698087.9	474114.6	2698167.5	474172.0	+1
14:53:37	2697971.0	474243.5	2698050.3	474301.3	+1
14:54:07	2697850.8	474370.2	2697930.2	474427.8	+1
14:54:37	2697731.6	474498.2	2697811.1	474555.6	+1
14:55:09	2697605.2	474635.9	2697684.6	474693.5	+1
14:55:39	2697510.7	474737.4	2697590.3	474794.8	+1
14:56:09	2697403.2	474857.2	2697482.7	474914.5	+1
14:56:39	2697274.9	475005.6	2697354.7	475062.7	+1
14:57:09	2697175.4	475117.5	2697255.4	475174.2	+1
14:57:39	2697070.7	475240.4	2697151.0	475296.8	+1
14:58:09	2696944.2	475395.5	2697024.2	475452.2	+1
14:58:39	2696831.4	475528.7	2696911.0	475586.1	+1
14:59:09	2696693.5	475691.8	2696772.8	475749.5	+1
14:59:39	2696580.9	475820.2	2696660.3	475877.8	+1
15:00:11	2696473.6	475938.8	2696553.5	475995.8	+1
15:00:41	2696358.9	476068.4	2696438.7	476125.5	+1
15:01:11	2696246.7	476197.6	2696326.0	476255.4	+1
15:01:41	2696142.5	476312.9	2696221.8	476370.7	+1
15:02:11	2696030.0	476437.8	2696109.3	476495.5	+1
15:02:41	2695924.9	476551.6	2696004.5	476608.9	+1
15:03:11	2695822.4	476664.2	2695903.0	476720.1	+1
15:03:41	2695729.8	476769.8	2695809.7	476826.7	+1
15:04:11	2695635.9	476877.8	2695715.2	476935.6	+1
15:04:41	2695539.9	476985.2	2695619.5	477042.5	+1

Appendix II (cont'd.)

15:05:11	2695456.0	477079.2	2695535.8	477136.3	+1
15:05:41	2695358.6	477194.8	2695438.0	477252.5	+1
15:06:13	2695254.6	477317.9	2695333.5	477376.3	+1
15:06:43	2695155.5	477432.1	2695234.1	477490.8	+1
15:07:13	2695051.7	477546.8	2695130.6	477605.1	+1
15:07:43	2694952.8	477656.2	2695032.1	477714.0	+1
15:08:13	2694850.1	477775.0	2694929.7	477832.4	+1
15:08:43	2694756.5	477886.3	2694835.9	477944.0	+1
15:09:13	2694641.9	478018.0	2694721.5	478075.3	+1
15:09:43	2694553.7	478123.0	2694633.6	478180.0	+1
15:10:14	2694462.8	478228.7	2694543.2	478285.0	+1
15:10:44	2694375.2	478335.0	2694456.0	478390.7	+1
15:11:14	2694282.5	478447.1	2694363.1	478503.1	+1
15:11:44	2694189.6	478554.4	2694269.9	478610.8	+1
15:12:16	2694094.3	478666.4	2694171.8	478726.5	+1
15:12:46	2694004.4	478760.3	2694079.5	478823.4	+1
15:13:16	2693910.0	478848.8	2693984.0	478913.2	+1
15:13:46	2693818.5	478934.7	2693893.1	478998.4	+1
15:14:16	2693810.1	478987.3	0.0	0.0	+0
15:14:48	2693705.3	479084.1	0.0	0.0	+0
15:15:18	2693593.8	479185.0	0.0	0.0	+0
15:15:48	2693474.8	479293.5	0.0	0.0	+0
15:16:18	2693344.3	479401.3	0.0	0.0	+0
15:16:48	2693224.7	479529.1	0.0	0.0	+0
15:17:18	2693061.9	479650.5	0.0	0.0	+0
15:17:48	2692847.5	479662.5	0.0	0.0	+0
15:18:18	2692644.6	479551.7	0.0	0.0	+0
15:18:48	2692460.4	479364.8	0.0	0.0	+0
15:19:18	2692306.6	479110.2	0.0	0.0	+0
15:19:48	2692123.7	478858.0	0.0	0.0	+0
15:20:18	2691906.7	478602.7	0.0	0.0	+0
15:20:48	2691667.7	478326.8	0.0	0.0	+0
15:21:18	2691400.9	478046.4	0.0	0.0	+0
15:21:48	2691122.3	477753.7	0.0	0.0	+0
15:22:18	2690827.2	477448.9	0.0	0.0	+0
15:22:48	2690520.1	477139.0	0.0	0.0	+0
15:23:18	2690186.2	476834.8	0.0	0.0	+0
15:23:48	2689851.1	476514.0	0.0	0.0	+0
15:24:18	2689491.2	476187.8	0.0	0.0	+0
15:24:48	2689162.4	475859.7	0.0	0.0	+0
15:25:18	2688803.4	475543.4	0.0	0.0	+0
15:25:48	2688429.5	475232.3	0.0	0.0	+0
15:26:18	2688061.2	474907.9	0.0	0.0	+0
15:26:48	2687653.5	474650.1	0.0	0.0	+0
15:27:18	2687224.5	474461.8	0.0	0.0	+0
15:27:48	2686800.4	474390.9	0.0	0.0	+0
15:28:18	2686397.4	474289.6	0.0	0.0	+0
15:28:48	2685998.0	474157.3	0.0	0.0	+0
15:29:18	2685583.1	474031.4	0.0	0.0	+0
15:29:48	2685143.1	473899.0	0.0	0.0	+0
15:30:18	2684680.2	473757.6	0.0	0.0	+0
15:30:48	2684201.0	473612.3	0.0	0.0	+0
15:31:18	2683711.7	473459.1	0.0	0.0	+0
15:31:48	2683211.1	473309.6	0.0	0.0	+0
15:32:18	2682721.7	473138.4	0.0	0.0	+0
00:00:00	0.0	0.0	0.0	0.0	+0
00:00:00	0.0	0.0	0.0	0.0	+0
15:35:42	2679200.0	472143.2	0.0	0.0	+0
15:36:20	2678537.5	471957.7	0.0	0.0	+0

Appendix II (cont'd.)

15:36:50	2678015.2	471810.3	0.0	0.0	+0
15:37:20	2677501.4	471656.3	0.0	0.0	+0
15:37:50	2676972.1	471519.8	0.0	0.0	+0
15:38:20	2676451.6	471375.2	0.0	0.0	+0
15:38:50	2675929.2	471227.7	0.0	0.0	+0
15:39:20	2675407.5	471077.3	0.0	0.0	+0
15:39:50	2674885.7	470929.2	0.0	0.0	+0
15:40:20	2674362.8	470780.0	0.0	0.0	+0
15:40:50	2673838.8	470623.6	0.0	0.0	+0
15:41:20	2673322.5	470477.4	0.0	0.0	+0
15:41:50	2672833.8	470341.2	0.0	0.0	+0
15:42:20	2672359.7	470230.8	0.0	0.0	+0
15:42:50	2671931.0	470091.5	0.0	0.0	+0
15:43:20	2671536.1	470013.1	0.0	0.0	-1
15:43:50	2671264.6	470159.8	0.0	0.0	-1
15:44:20	2671152.0	470376.4	0.0	0.0	+0
15:44:50	2671110.1	470556.7	0.0	0.0	+0
15:45:20	2671105.2	470704.0	0.0	0.0	+0
15:45:50	2671126.8	470870.1	0.0	0.0	+0
15:46:20	2671209.1	471054.1	0.0	0.0	+0
15:46:50	2671363.3	471221.5	0.0	0.0	+0
15:47:20	2671584.4	471311.9	0.0	0.0	+0
15:47:50	2671843.9	471305.5	0.0	0.0	+0
15:48:20	2672086.3	471173.0	0.0	0.0	+0
15:48:50	2672256.7	470948.3	0.0	0.0	+0
15:49:20	2672281.3	470677.8	0.0	0.0	+0
15:49:50	2672225.3	470392.3	0.0	0.0	+0
15:50:20	2672274.9	470096.0	0.0	0.0	+0
15:50:50	2672453.3	469860.8	0.0	0.0	+0
15:51:20	2672698.9	469751.5	0.0	0.0	+0
15:51:50	2672958.0	469790.3	0.0	0.0	+0
15:52:20	2673226.5	469946.6	0.0	0.0	+0
15:52:50	2673568.7	470092.4	0.0	0.0	+0
15:53:20	2673941.7	470262.2	0.0	0.0	+0
15:53:50	2674335.5	470446.5	0.0	0.0	+0
15:54:20	2674741.8	470626.9	0.0	0.0	+0
15:54:50	2675153.2	470812.5	0.0	0.0	+0
15:55:20	2675580.8	471003.5	0.0	0.0	+0

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RCP

V1 OF 31 MAR 1987

Program started at 11:28:28 on 17 Jul 1987

Survey Constant File: YS_SC23

Loaded DREDGE No. 44

21:21:51	2686042.5	481702.7	0.0	0.0	+0
21:22:21	2685630.2	481935.4	0.0	0.0	+0
21:22:51	2685214.9	482169.4	0.0	0.0	+0
21:23:21	2684799.1	482400.7	0.0	0.0	+0
21:23:51	2684388.7	482637.6	0.0	0.0	+0
21:24:21	2683973.3	482868.3	0.0	0.0	+0
21:24:51	2683558.4	483103.2	0.0	0.0	+0
21:25:21	2683143.4	483339.1	0.0	0.0	+0
21:25:51	2682728.3	483573.9	0.0	0.0	+0
21:26:21	2682316.2	483807.7	0.0	0.0	+0
21:26:51	2681905.7	484039.9	0.0	0.0	+0
21:27:21	2681492.7	484276.3	0.0	0.0	+0
21:27:51	2681078.3	484510.9	0.0	0.0	+0
21:28:21	2680665.3	484745.7	0.0	0.0	+0

Appendix II (cont'd.)

21:28:51	2680251.5	484981.9	0.0	0.0	+0
21:29:21	2679833.9	485211.4	0.0	0.0	+0
21:29:51	2679421.0	485446.4	0.0	0.0	+0
21:30:21	2679004.4	485678.4	0.0	0.0	+0
21:30:51	2678585.8	485915.7	0.0	0.0	+0
21:31:21	2678163.9	486145.4	0.0	0.0	+0
21:31:51	2677737.6	486378.5	0.0	0.0	+0
21:32:21	2677312.5	486614.9	0.0	0.0	+0
21:32:51	2676881.0	486836.9	0.0	0.0	+0
21:33:21	2676454.2	487064.1	0.0	0.0	+0
21:33:51	2676025.1	487291.5	0.0	0.0	+0
21:34:21	2675596.9	487513.2	0.0	0.0	+0
21:34:51	2675188.2	487733.1	0.0	0.0	+0
21:35:21	2674799.1	487942.6	0.0	0.0	+0
21:35:51	2674420.4	488147.0	0.0	0.0	+0
21:36:21	2674051.2	488348.8	0.0	0.0	+0
21:36:51	2673688.2	488540.2	0.0	0.0	+0
21:37:21	2673333.5	488736.9	0.0	0.0	+0
21:37:51	2672984.0	488920.2	0.0	0.0	+0
21:38:21	2672660.1	489101.2	0.0	0.0	+0
21:38:51	2672355.6	489259.0	0.0	0.0	+0
21:39:21	2672085.1	489396.0	0.0	0.0	+0
21:39:51	2671794.6	489547.1	0.0	0.0	+0
21:40:21	2671540.9	489685.7	0.0	0.0	+0
21:40:51	2671307.2	489812.2	0.0	0.0	+0
21:41:21	2671088.0	489930.8	0.0	0.0	+0
21:41:51	2670875.4	490039.6	0.0	0.0	+0
21:42:21	2670673.6	490144.2	0.0	0.0	+0
21:42:51	2670478.4	490242.0	0.0	0.0	+0
21:43:21	2670295.7	490339.3	0.0	0.0	+0
21:43:51	2670126.1	490431.3	0.0	0.0	+0
21:44:21	2669963.1	490521.2	0.0	0.0	+0
21:44:51	2669795.0	490603.5	0.0	0.0	+0
21:45:21	2669601.4	490677.4	0.0	0.0	+0
21:45:51	2669462.6	490807.8	0.0	0.0	+0
21:46:21	2669398.0	490963.8	0.0	0.0	+0
21:46:51	2669381.7	491120.3	0.0	0.0	+0
21:47:21	2669401.0	491276.0	0.0	0.0	+0
21:47:51	2669440.8	491449.5	0.0	0.0	+0
21:48:21	2669535.7	491601.7	0.0	0.0	-1
21:48:51	2669664.7	491690.5	0.0	0.0	-1
21:49:21	2669794.1	491710.5	0.0	0.0	-1
21:49:51	2669919.1	491683.9	0.0	0.0	-1
21:50:21	2670037.1	491679.5	0.0	0.0	+0
21:50:51	2670162.3	491703.1	0.0	0.0	+0
21:51:21	2670286.1	491731.7	0.0	0.0	+0
21:51:51	2670414.5	491749.9	0.0	0.0	+0
21:52:21	2670550.8	491773.9	0.0	0.0	+0
21:52:51	2670701.6	491814.7	0.0	0.0	+0
21:53:21	2670861.4	491859.1	0.0	0.0	+0
21:53:51	2671030.1	491906.6	0.0	0.0	+0
21:54:21	2671204.9	491954.6	0.0	0.0	+0
21:54:51	2671389.9	492002.2	0.0	0.0	+0
21:55:21	2671644.7	492063.3	0.0	0.0	+0
21:55:51	2671957.3	492132.4	0.0	0.0	+0
21:56:21	2672327.1	492217.1	0.0	0.0	+0
21:56:51	2672755.8	492303.6	0.0	0.0	+0
21:57:21	2673211.9	492401.2	0.0	0.0	+0

Appendix II (cont'd.)

Selected dredge positions, M/V Stuyvesant, for sampling times.

Dredge Cycle	Sample Time	Latitude	Longitude	Virginia Grid	
				Easting (ft)	Northing (ft)
1	- 4	37°36'24.6"	76°05'15.3"	2,698,772	472,596
	0	37°36'13.6"	76°05'05.0"	2,699,630	471,498
	+ 5	37°36'13.3"	76°04'56.2"	2,700,342	471,488
	+ 10	37°36'26.3"	76°05'09.0"	2,699,280	472,780
	+ 15	37°36'41.8"	76°05'23.4"	2,698,076	474,317
	+ 30	37°36'26.9"	76°06'11.0"	2,694,136	478,776
	+ 45	37°38'09.2"	76°08'17.2"	2,683,877	482,802
	+ 60	37°38'29.8"	76°10'55.2"	2,671,121	484,570
	+ 75	37°37'48.7"	76°07'58.9"	2,685,402	480,764
	+ 90	37°37'14.5"	76°06'06.7"	2,694,509	477,535
2	- 15	37°36'46.6"	76°05'37.9"	2,696,902	474,772
	0	37°36'16.2"	76°05'06.6"	2,699,499	471,760
	+ 5	37°36'06.1"	76°04'58.4"	2,700,178	470,758
	+ 10	37°36'09.5"	76°04'59.5"	2,700,087	471,094
	+ 15	37°36'20.4"	76°05'11.9"	2,699,060	472,174
	+ 30	37°37'01.1"	76°05'54.5"	2,695,528	476,202
	+ 45	37°37'31.4"	76°06'36.4"	2,692,078	479,182
	+ 60	37°37'06.9"	76°09'40.8"	2,677,313	476,333
	+ 75	37°37'23.8"	76°09'57.8"	2,675,901	478,010
	+ 90	37°37'37.7"	76°06'38.1"	2,691,930	479,816
3	- 15	37°36'57.0"	76°05'49.1"	2,695,974	475,800
	0	37°36'13.6"	76°05'04.4"	2,699,684	471,499
	+ 5	37°36'07.9"	76°04'52.3"	2,700,670	470,946
	+ 10	37°36'20.7"	76°05'03.9"	2,699,705	472,218
	+ 15	37°36'32.5"	76°05'15.4"	2,698,746	473,389
	+ 30	37°37'09.8"	76°05'55.1"	2,695,456	477,079
	+ 45	37°37'28.2"	76°06'36.0"	2,692,124	478,858
	+ 60	37°36'25.0"	76°09'18.6"	2,679,200	472,143
	+ 75	37°36'09.4"	76°10'45.8"	2,672,225	470,392
	+ 90	*			
+105	*				

* No position data recorded.

Appendix III

Dredge operation data for the draghead and pump
May 14, 1987, dredge cycles 1 through 6, i.e. 745-750.

Appendix III

Dredge operation data for the draghead and pump
 May 14, 1987, dredge cycles 1 through 6, 745-750

Dredge Cycle # VIMS/Stuyvesant	Time ¹	Draghead			Pump		
		Depth ² ft.	Angle ³ Degrees	Pressure psi	Speed ⁴	% Capacity ⁵	
1/745	1010	50.0	26.0	600	1300	90	
	1014	51.0	20.0	550	1350	90	
	1018	51.0	20.5	550	1350	85	
	1021	overflow began					
	1022	51.0	17.0	550	1200	85	
	1026	52.0	17.0	550	1200	82	
	1030	52.5	18.5	550	1200	80	
	1034	51.5	19.0	550	1200	82	
	1037	48.0	16.0	525	1200	85	
		starboard draghead lifted					
	1040	draghead off bottom					
	1043	draghead on bottom					
	1044	52.0	18.5	550	1250	85	
	1046	52.0	19.0	550	1200	87	
	1050	50.0	18.5	550	1250	87	
	1054	50.0	18.5	550	1200	85	
	1114	draghead off bottom					

¹Time - the time of day for above synchronized with the Stuyvesant Del Norte clock.

²Depth - is the average of the depths for the port and starboard draghead.

³Angle - is the average angle the port and starboard dredge heads make at the point of pivot. On a flat bottom this is also the angle that the arms make with the bottom.

⁴Speed - is the power supplied to the pump motors in KW.

⁵% Capacity - is the percent material being pumped relative to the capability of the pumping system.

Appendix III (cont'd.)

Dredge Cycle # VIMS/Stuyvesant	Time ¹	Draghead			Pump		
		Depth ² ft.	Angle ³ Degrees	Pressure psi	Speed ⁴	% Capacity ⁵	
2/746	1206	51.5	24.5	525	1300	95	
	1210	52.5	21.5	525	1300	85	
	1214	52.0	18.0	525	1300	87	
	1218	53.0	18.5	525	1300	85	
			overflow began				
	1222	52.0	17.5	525	1250	85	
	1226	53.0	18.5	525	1200	85	
	1230	51.5	15.5	525	1225	85	
	1234	53.0	20.0	525	1200	87	
	1237		draghead off bottom				
	1243		draghead to bottom				
	1244	52.5	20.5	525	1200	88	
	1248	51.5	20.0	525	1200	87	
	1252	52.5	20.5	525	1200	87	
	1256	52.0	19.5	525	1200	90	
	1258	53.0	20.0	525	1200	90	
	1316		draghead off bottom				
	3/747	1406	51.5	24.0	550	1200	90
		1410	52.5	24.0	550	1250	88
1414		52.5	21.0	550	1200	80	
1416			overflow began				
1418		52.5	17.5	525	1200	85	
1422		52.0	21.0	525	1350	90	
1426		51.0	19.5	550	1350	85	
1430		52.5	21.5	550	1300	85	
1434		49.0	19.0	550	1350	85	
1437			draghead off bottom				
1441			draghead on bottom				
1442		52.0	18.5	550	1350	90	
1446		52.0	18.5	550	1300	88	
1450		50.5	18.0	525	1350	85	
1514			draghead off bottom				
4/748	1616	48.5	23.0	550	1350	95	
	1620	52.5	23.0	550	1250	90	
	1624	53.0	23.0	525	1300	80	
	1627		overflow began				
	1628	52.5	22.0	525	1300	85	
	1632	52.0	23.5	525	1300	90	
	1636	52.5	24.5	525	1300	85	
	1640	51.5	23.0	525	1300	90	
	1644	50.0	21.0	525	1300	90	

Appendix III (cont'd.)

Dredge Cycle # VIMS/Stuyvesant	Time ¹	Draghead			Pump		
		Depth ² ft.	Angle ³ Degrees	Pressure psi	Speed ⁴	% Capacity ⁵	
	1646	draghead off bottom					
	1653	draghead on bottom					
	1654	49.0	20.0	525	1300	82	
	1658	51.0	23.5	525	1300	85	
	1700	53.0	25.5	525	1300	85	
	1712	draghead off bottom					
5/749	1819	50.5	27.0	525	1200	95	
	1823	51.0	25.0	525	1300	95	
	1827	51.0	22.5	525	1350	88	
	1828	overflow began					
	1829	52.0	20.0	525	1350	90	
	1833	51.5	21.5	500	1350	88	
	1837	52.0	25.0	525	1300	82	
	1841	51.5	23.5	525	1300	85	
	1845	51.5	21.5	550	1300	87	
	1849	52.5	23.0	550	1300	85	
		1850	draghead off bottom				
		1855	draghead on bottom				
		1855	51.0	20.0	550	1300	85
		1859	51.5	21.5	550	1300	80
		1903	47.0	20.5	525	1300	85
		1907	51.0	24.0	600	1300	87
		1911	50.0	25.0	550	1300	88
		1915	draghead off bottom				
	6/750	2014	50.0	28.0	550	1200	95
2018		52.0	26.5	550	1250	90	
2022		52.5	25.0	550	1300	85	
2026		53.0	21.0	550	1300	87	
2027		overflow began					
2028		52.0	22.0	550	1300	88	
2032		50.5	22.0	550	1300	87	
2036		53.0	23.0	550	1300	85	
2040		51.5	18.5	550	1300	87	
2042		52.5	20.0	550	1300	87	
		2043	draghead off bottom				
		2047	draghead on bottom				
		2048	51.5	19.0	550	1300	87
		2052	53.0	22.0	550	1250	80
		2056	52.5	12.0	550	1300	87
		2100	53.0	20.0	550	1300	88
		2107	draghead off bottom				

Appendix IV

Daily report of dredge operation data for M/V Stuyvesant dredge cycles 745 through 746, i.e. monitoring cycles 1 and 2, for May 14, 1987. Reports for cycles 3 through 6 unavailable.

Appendix IV
 Sulphurport Dredging Company

3625 N. CAUSEWAY BLVD.
 METAIRIE, LOUISIANA 70002

MASTER: X DATE: 5-11-81

PIPEMAN: X

DREDGE:

CONTRACT: DAW-87-C-0028

JOB'S NAME: RAPPAHANNOCK, VA

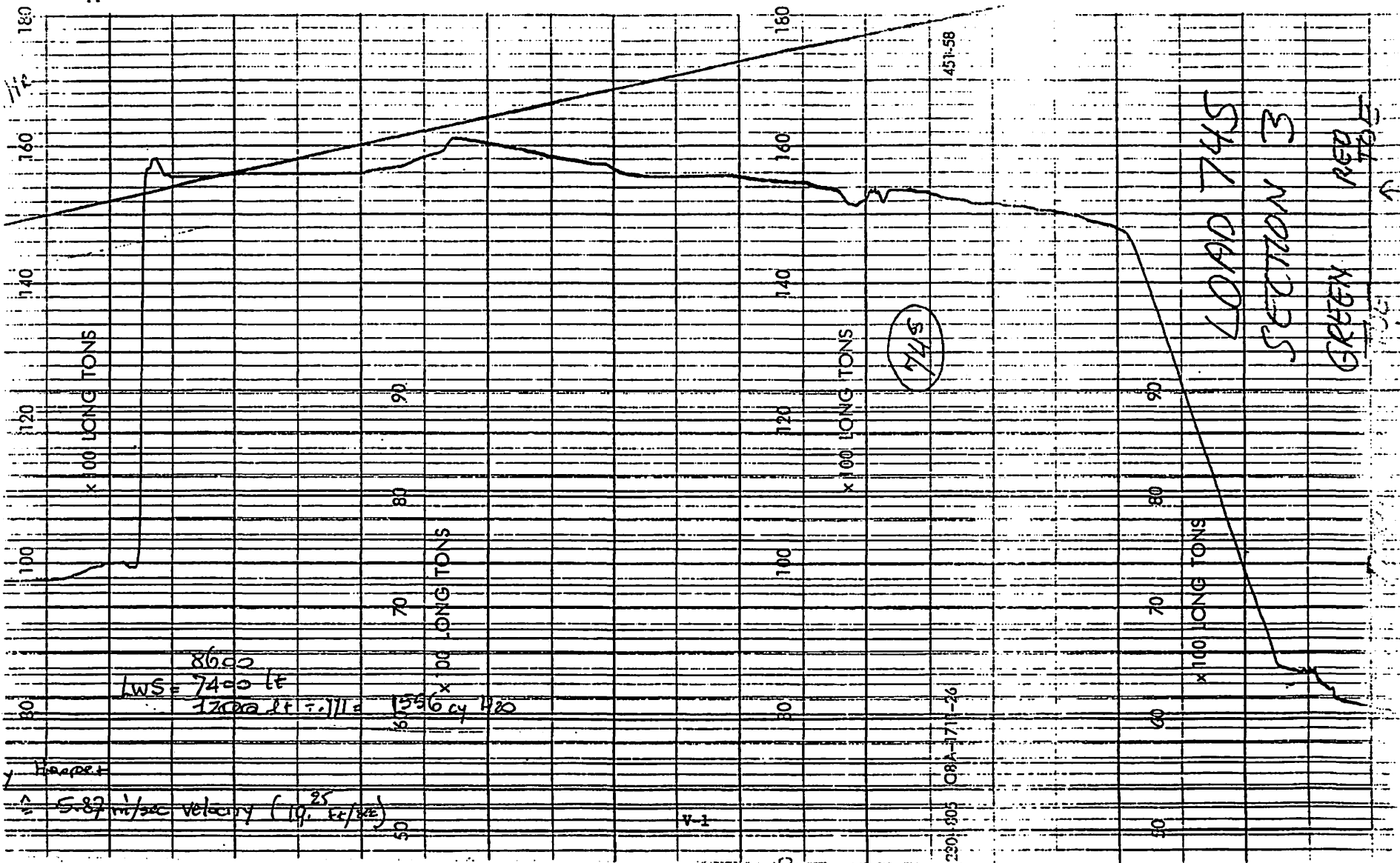
DAILY REPORT Sheet # 1 OF 1

LOAD NUMBER	740	741	742	743	744	745	746	TOTAL
START TIME	0000							
DEPARTURE BERTH								
DEPARTURE DUMP		0135	0330	0525	0740	0945	1145	
ARRIVE CUT		0155	0350	0550	0755	1010	1205	
BEGIN LOADING		0155	0350	0550	0755	1010	1205	
END LOADING	0110	0305	0506	0705	0920	1115	1315	
DEPART CUT	0110	0305	0500	0705	0920	1145	1315	
ARRIVE DUMP	0130	0325	0520	0735	0940	1140	1340	
DEPART DUMP	0135	0330	0525	0740	0945	1145	1345	
ARRIVE BERTH								
FINISH WORKING								
DELAYS								
1. BUNKER & SUPPLY								
2. SAILING NON-EFFECT								
3. ENGINE ROOM								
4. DECK-WINCHES, ETC.								
5. PUMPS								
6. PIPE & DRAGHEAD								
7. BLOCKAGE - OBSTR.								
8. FOG/WEATHER								
9. SWELL								
10. TRAFFIC	5		5					
11. POSITIONING								
12. MISCELLANEOUS								
13. TURNS	5	5	5	5	10	05	:05	
14. TIME W/ DRAG.								
TOTAL DELAYS	5		5					
NET DREDGING	1:05	1:05	1:05	1:10	1:15	1:00	1:05	
NET SAILING	15	40	35	1:00	:45	:55	:50	
NET DUMPING	5	5	5	:05	:05	:05	:05	
WORKING PERIOD	1:35	1:55	1:55	2:15	2:05	2:00	2:00	
DREDGING AREA	1/2				1/2	3		
LENGTH OF CUT	ft.	ft.	ft.	ft.	ft.	ft.	ft.	
DREDGING DEPTH	51 ft.							
SOIL TYPE	SSC							
DUMP GROUND	1	1	2	1	2	2	4	
OVERFLOW CAPACITY	8000 CY						8000 CY	
% SILT SETTLED SAMPLE	40 %	40 %	30 %	11 %	15 %	66 %	48 %	
SILT QUANTITY	1808 CY	1705 CY	1,352 CY	427 CY	698 CY	1,811 CY	1,738 CY	
SOLID MATERIAL	3477 CY	3735 CY	2,818 CY	4121 CY	3345 CY	4981 CY	4388 CY	
TOTAL LOAD	5,285 CY	5,440 CY	4,370 CY	4,548 CY	4,043 CY	6,792 CY	6,119 CY	
WEIGHT OF SAMPLE (WT)	1060	1075	1190	1145	1060	1150	1210	
TONNAGE AFTER LOAD	16100	16200	15500	16000	15200	15700	16400	AVER. 3
TONNAGE BEFORE LOAD	7500	7500	7500	7500	7500	7500	7500	TOTAL 7
DIFF. AFTER/BEFORE LT.	8600	8700	8000	8500	7700	8200	8900	LT
DRAFT AFTER LOAD								
DRAFT BEFORE LOAD								
DIFF AFT/BEF. ft./in.								AVER. 7
PROD/LOAD MIN: CY/MIN.								
PROD/CYCLE HR. CY/HR.								
REMARKS: HW: LW: HW: LW:								

Appendix V

Graphs of water level in the hopper versus time recorded on the M/V Stuyvesant for dredge cycles 745 through 750, i.e. monitoring cycles 1 through 6.

Appendix V



LWS = 7400 LF
8600
17000 ft. dia

536 x 100 LONG TONS
536 cy 420

7/4/58

2301 805 OBA-1711-26

451-58

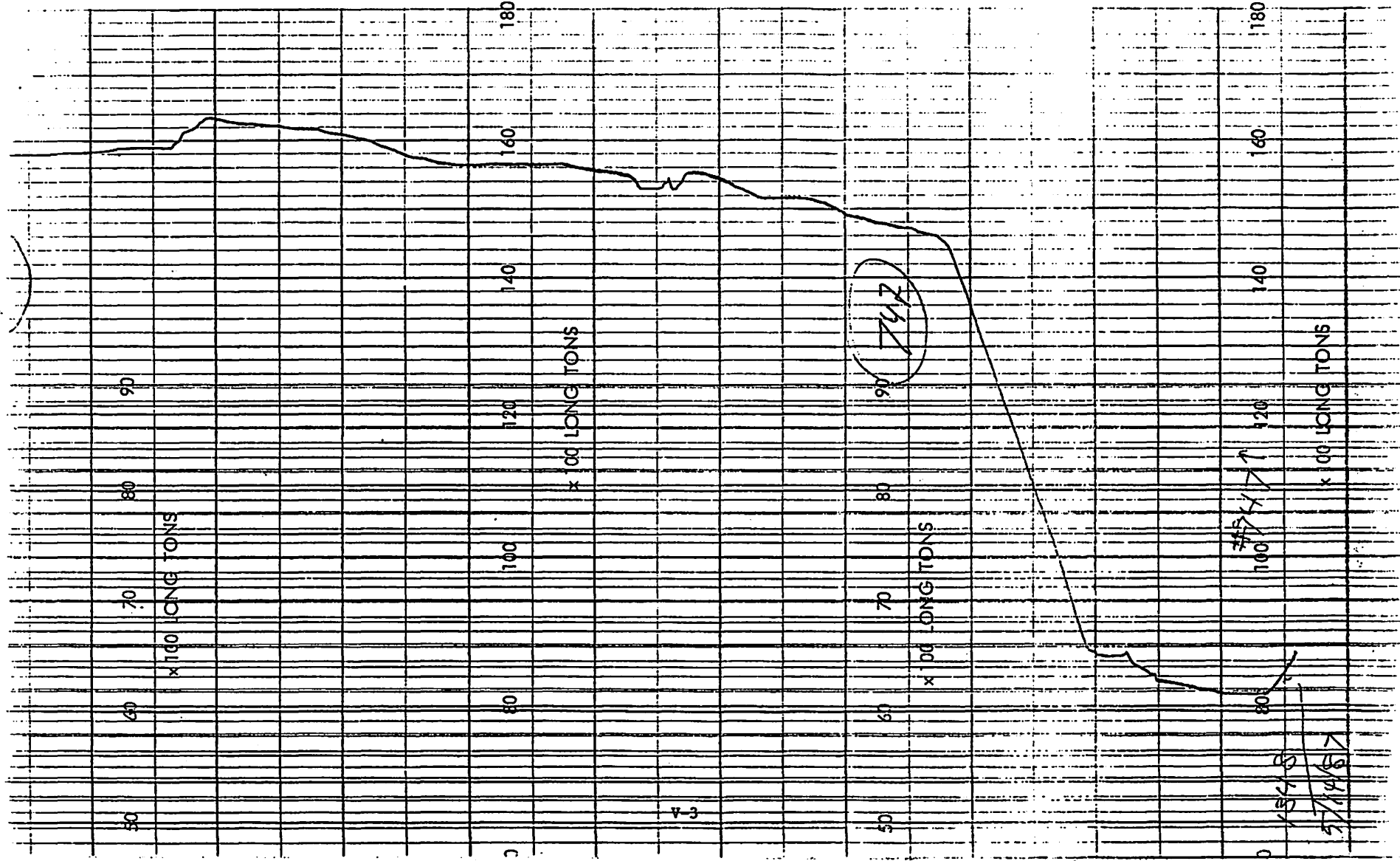
LOAD 745
SECTION 3
GREEN REEF

Harper

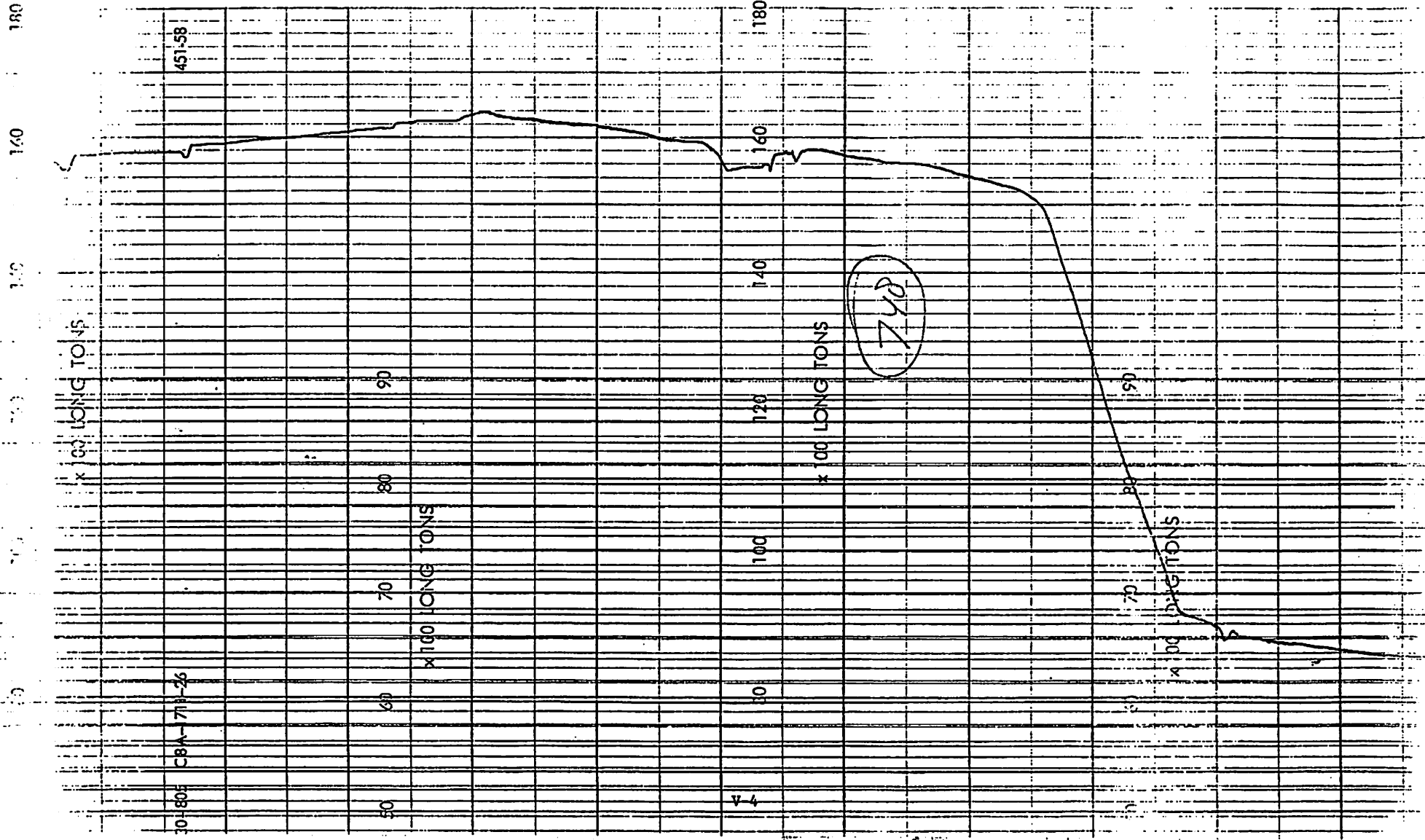
5.87 mi/sec velocity (19.25 ft/sec)

V-1

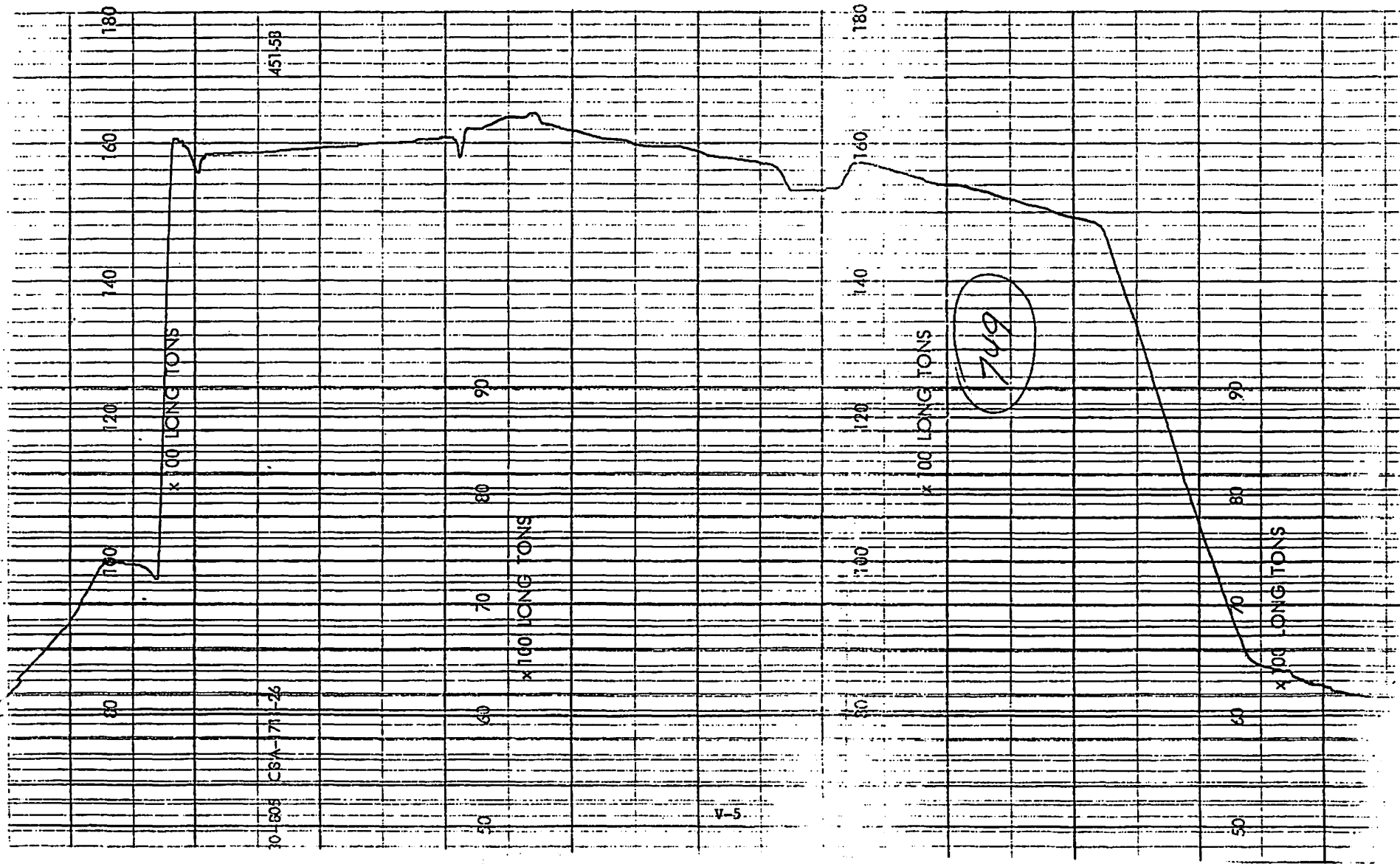
Appendix V



Appendix V



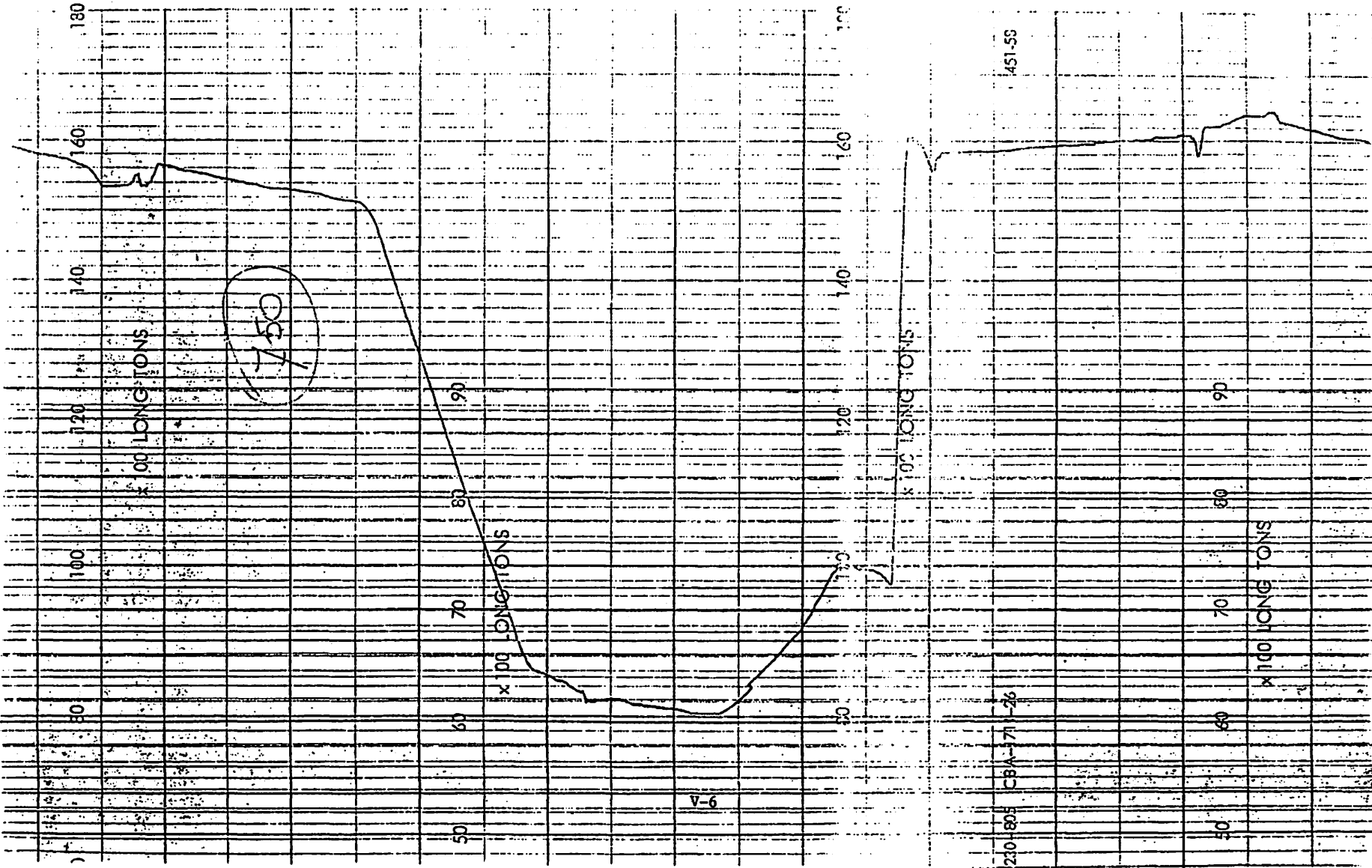
Appendix V



10-805 CSA-171-26

V-5

Appendix V



Appendix VI

List of sediment concentrations from the hopper overflow and bin
May 14, 1987, dredge cycles 1 through 6, 745-750.

Appendix VI

List of sediment concentrations from the hopper overflow and bin
 May 14, 1987, dredge cycles 1 through 6, 745-750

Dredge Cycle Number VIMS/Stuyvesant	Time	Depth m	Solids Concentration (g/l)	
			Surface Overflow	Hopper Bin
1/745	10:25	0	75.2	
	10:30	0	112.1	
	10:35	0	109.6	
	10:40	0	192.8	
	10:45	0	140.4	<i>Av. 124</i>
	10:50	0	114.7	<i>747</i>
	11:20	7.0		350.5
	11:30	3.7		274.5
	11:34	0		221.2
	2/746	12:22	0	102.4
12:27		0	111.0	
12:32		0	176.0	
12:37		0	100.7	
12:42		0	75.1	
12:47		0	126.1	
12:52		0	165.0	
12:57		0	152.9	<i>1008</i>
13:25		7.0		390.9
13:28		3.7		286.4
13:30	0		74.0	
3/747	14:20	0	97.5	
	14:25	0	96.0	
	14:30	0	106.4	
	14:35	0	77.5	<i>Av. 150</i>
	14:40	0	276.0	
	14:45	0	252.0	<i>905</i>
	15:15	6.7		405.8
	15:20	3.4		397.4
	15:25	0		89.3

Appendix VI (cont'd.)

Dredge Cycle Number VIMS/Stuyvesant	Time	Depth m	Solids Concentration (g/l)	
			Surface Overflow	Hopper Bin
4/748	16:28	0	82.9	
	16:32	0	239.3	
	16:37	0	286.1	
	16:42	0	274.2	
	16:47	0	273.8	
	16:52	0	264.7	
	17:30	6.1		404.4
	17:34	3.0		364.1
	17:39	0		83.9
	5/749	18:34	0	205.4
18:39		0	230.9	
18:44		0	257.8	
18:49		0	181.2	
18:54		0	148.1	
18:59		0	237.4	
19:27		6.1		334.7
19:28		3.0		369.3
19:30		0		315.5
6/750		20:26	0	201.7
	20:31	0	204.1	
	20:36	0	216.5	
	20:41	0	178.5	
	20:46	0	74.6	
	20:51	0	221.9	
	20:28	6.1		509.6
	20:30	3.0		460.5
	20:32	0		146.6

Av. 169.2/38

Appendix VII

Monitoring data for temperature in degrees C
and total suspended material (solids) in mg/l
by dredge cycle and vessels, May 14, 1987.

Appendix VII

Cycle 1

Time Sample Period	Clock EDT	Garvey 1 (G1)		Garvey 2 (G2)		Ulysses			Langley	
		Depth m	S.S. mg/1	Depth m	S.S. mg/1	Depth m	S.S. mg/1	Temp °C	Depth m	S.S. mg/1
- 4	1035	0	11	0	14	1.0	7	16.0	*	*
		7.0	6	7.0	10	7.0	6	14.5	*	*
		15.5	16	12.0	16	11.8	16	13.5	*	*
0	1039	0	20	0	10	1.0	20	-	*	*
		7.0	8	7.0	10	7.0	22	15.0	*	*
		15.5	7200	12.0	13	12.4	15	13.5	*	*
+ 5	1044	*	*	0	12	*	*	*	*	*
		*	*	7.0	8	*	*	*	*	*
		*	*	12.0	13	*	*	*	*	*
+ 10	1049	*	*	0	11	*	*	*	*	*
		*	*	7.0	15	*	*	*	*	*
		*	*	12.0	19	*	*	*	*	*
+ 15	1054	0	13	0	15	1.0	10	16.0	*	*
		7.0	115	7.0	20	7.0	18	15.0	*	*
		15.5	56	12.0	12	12.4	13	12.5	*	*
+ 30	1111	0	14	0	12	1.0	15	16.0	*	*
		7.0	10	7.0	13	7.0	20	14.5	*	*
		15.5	16	12.0	-	12.7	16	13.5	*	*
+ 45	1126	0	13	0	14	1.0	15	16.5	0	13
		7.0	8	7.0	9	7.0	10	14.0	6.0	10
		15.5	14	12.0	8	12.4	7	-	11.7	16
+ 60	1141	0	10	0	14	1.0	13	16.5	0	10
		7.0	11	7.0	8	7.0	11	14.5	6.0	10
		15.0	9	12.0	12	14.2	15	13.5	15.2	17
+ 75	1156	0	10	0	12	1.0	13	16.5	*	*
		7.0	8	7.0	10	7.0	9	14.0	*	*
		15.0	10	12.0	12	13.3	7	13.5	*	*
+ 90	1211	0	12	0	12	*	*	*	*	*
		7.0	6	7.0	11	*	*	*	*	*
		15.0	12	12.0	13	*	*	*	*	*

* No data taken.

Appendix VII (cont'd.)

Cycle 2

Time Sample Period	Clock EDT	Garvey 1 (G1)		Garvey 2 (G2)		Ulysses			Langley	
		Depth m	S.S. mg/l	Depth m	S.S. mg/l	Depth m	S.S. mg/l	Temp °C	Depth m	S.S. mg/l
- 15	1222	0	11	0	13	1.0	13	16.5	*	*
		7.0	5	7.0	8	7.0	10	14.5	*	*
		16.5	10	12.0	11	11.5	8	13.5	*	*
0	1234	1.0	10	0	10	1.0	11	-	*	*
		7.0	8	7.0	10	7.0	6	14.5	*	*
		16.5	712	12.0	9	12.4	1324	13.5	*	*
+ 5	1239	1.0	10	0	9	*	*	*	*	*
		7.0	838	7.0	6	*	*	*	*	*
		16.5	1021	12.0	9	*	*	*	*	*
+ 10	1244	1.0	16	0	9	*	*	*	*	*
		7.0	14	7.0	9	*	*	*	*	*
		16.5	587	12.0	14	*	*	*	*	*
+ 15	1249	1.0	11	0	12	*	*	*	*	*
		7.0	406	7.0	11	*	*	*	*	*
		16.5	1564	12.0	14	*	*	*	*	*
+ 30	1304	0	12	0	37	*	*	*	*	*
		7.0	205	7.0	8	*	*	*	*	*
		16.5	252	12.0	14	*	*	*	*	*
+ 45	1319	*	*	0	14	*	*	*	*	*
		*	*	7.0	11	*	*	*	*	*
		*	*	12.0	10	*	*	*	*	*
+ 60	1334	*	*	0	12	*	*	*	*	*
		*	*	7.0	10	*	*	*	*	*
		*	*	12.0	16	*	*	*	*	*
+ 75	1349	0	10	0	10	*	*	*	0	17
		7.0	6	7.0	12	*	*	*	7.0	11
		16.5	9	12.0	12	*	*	*	12.7	12
+ 90	1404	0	13	0	16	1.0	11	17.5	0	12
		7.0	10	7.0	9	7.0	13	-	7.0	10
		16.5	11	12.0	21	11.5	11	13.5	14.2	100

* No data taken.

Appendix VII (cont'd.)

Cycle 3

Time Sample Period	Clock EDT	Garvey 1(G1)		Garvey 2(G2)		Ulysses			Langley	
		Depth m	S.S. mg/1	Depth m	S.S. mg/1	Depth m	S.S. mg/1	Temp °C	Depth m	S.S. mg/1
- 15	1420	0	10	0	9	1.0	10	17.0	*	*
		7.0	11	7.0	13	7.0	5	14.5	*	*
		15.8	11	12.0	15	11.2	8	13.5	*	*
0	1435	0	9	0	18	1.0	15	16.0	*	*
		7.0	9	7.0	10	7.0	20	14.5	*	*
		15.8	10	12.0	8	11.2	20	13.5	*	*
+ 5	1440	0	10	0	109	*	*	*	*	*
		7.0	7	7.0	14	*	*	*	*	*
		15.8	810	12.0	10	*	*	*	*	*
+ 10	1445	0	9	0	19	*	*	*	*	*
		7.0	7	7.0	10	*	*	*	*	*
		15.8	557	11.5	12	*	*	*	*	*
+ 15	1450	0	11	0	12	1.0	20	17.0	*	*
		7.0	7	7.0	11	7.0	7	14.0	*	*
		15.8	238	11.5	372	11.8	292	13.5	*	*
+ 30	1505	0	10	0	13	1.0	10	17.0	*	*
		7.0	6	7.0	24	7.0	21	14.0	*	*
		15.5	156	11.5	46	12.4	124	13.5	*	*
+ 45	1520	1.0	10	0	13	1.0	9	17.0	*	*
		7.0	45	7.0	15	7.0	15	14.0	*	*
		15.5	168	11.5	38	14.2	56	13.5	*	*
+ 60	1535	1.0	11	0	10	1.0	34	18.0	*	*
		7.0	26	7.0	20	7.0	17	14.0	*	*
		15.5	80	11.5	104	12.1	126	13.5	*	*
+ 75	1550	1.0	9	0	7	1.0	10	17.0	0	10
		7.0	37	7.0	16	7.0	11	14.0	7.0	22
		15.5	38	11.5	68	12.1	30	13.5	14.2	69
+ 90	1605	1.0	10	0	16	1.0	7	17.0	0	11
		7.0	11	7.0	16	7.0	37	14.0	7.0	19
		15.5	29	11.5	39	12.1	39	13.5	12.7	12
+105	1620	1.0	8	0	10	*	*	*	*	*
		7.0	10	7.0	26	*	*	*	*	*
		15.5	38	11.5	22	*	*	*	*	*

* No data taken.

Appendix VII (cont'd.)

Cycle 4

Time Sample Period	Clock EDT	Garvey 1 (G1)		Garvey 2 (G2)		Ulysses			Langley	
		Depth m	S.S. mg/1	Depth m	S.S. mg/1	Depth m	S.S. mg/1	Temp °C	Depth m	S.S. mg/1
- 15	1628	0	12	0	9	1.0	10	17.0	*	*
		7.0	8	7.0	42	7.0	27	14.0	*	*
		14.9	22	11.0	37	12.2	22	14.0	*	*
0	1645	0	9	0	-	*	*	*	*	*
		7.0	7	7.0	21	*	*	*	*	*
		14.9	24	11.5	22	*	*	*	*	*
+ 5	1650	0	8	0	34	1.0	21	16.5	*	*
		7.0	10	7.0	120	7.0	9	15.5	*	*
		14.9	1150	11.5	23	11.2	80	14.0	*	*
+ 10	1655	0	10	0	12	*	*	*	*	*
		7.0	5	7.0	32	*	*	*	*	*
		14.9	368	11.5	332	*	*	*	*	*
+ 15	1700	0	9	0	32	1.0	14	15.5	*	*
		7.0	10	7.0	303	7.0	51	14.5	*	*
		15.5	1000	11.5	310	11.5	485	14.0	*	*
+ 30	1715	0	11	0	9	1.0	11	17.5	*	*
		7.0	8	7.0	13	7.0	7	14.5	*	*
		15.5	209	11.5	21	12.1	143	13.5	*	*
+ 45	1730	0	19	0	10	1.0	14	18.5	*	*
		7.0	15	7.0	23	7.0	14	14.5	*	*
		15.5	115	11.5	43	12.1	98	13.5	*	*
+ 60	1745	0	12	0	10	1.0	11	19.0	*	*
		7.0	9	7.0	7	7.0	7	14.5	*	*
		14.9	63	12.0	50	12.1	68	13.5	*	*
+ 75	1800	0	12	0	11	1.0	15	19.0	0	15
		7.0	11	7.0	10	7.0	16	14.5	7.0	16
		14.9	28	12.0	41	12.4	32	13.5	11.6	74
+ 90	1815	0	10	0	11	1.0	12	17.5	0	14
		7.0	2	7.0	8	7.0	10	14.5	7.0	13
		14.9	14	12.0	23	11.8	39	14.0	11.9	30
+105	1830	0	15	0	12	*	*	*	*	*
		7.0	10	7.0	6	*	*	*	*	*
		14.7	22	12.0	20	*	*	*	*	*

* No data taken.

Appendix VII (cont'd.)

Cycle 5

Time Sample Period	Clock EDT	Garvey 1 (G1)		Garvey 2 (G2)		Ulysses			Langley	
		Depth m	S.S. mg/l	Depth m	S.S. mg/l	Depth m	S.S. mg/l	Temp °C	Depth m	S.S. mg/l
- 15	1834	0	9	0	13	1.0	14	16.5	*	*
		7.0	10	7.0	6	7.0	7	14.5	*	*
		14.6	25	12.0	20	10.6	26	14.0	*	*
0	1848	0	10	0	12	*	*	*	*	*
		7.0	9	7.0	13	*	*	*	*	*
		15.5	15	12.0	19	*	*	*	*	*
+ 5	1853	1.0	12	0	10	1.0	11	17.5	*	*
		7.0	9	7.0	306	7.0	5	15.0	*	*
		15.0	750	12.0	13	11.8	-	14.0	*	*
+ 10	1858	0	10	0	8	1.0	14	-	*	*
		7.0	7	7.0	5	7.0	30	14.5	*	*
		14.6	186	12.0	356	11.8	620	14.5	*	*
+ 15	1903	0	8	0	9	1.0	8	16.0	*	*
		7.0	8	7.0	7	7.0	16	14.0	*	*
		14.6	17	12.0	340	11.8	211	14.0	*	*
+ 30	1918	0	9	0	21	1.0	580	16.5	*	*
		7.0	133	7.0	146	7.0	48	15.0	*	*
		14.6	360	12.0	54	11.8	151	14.0	*	*
+ 45	1933	0	7	0	10	1.0	9	17.0	*	*
		7.0	9	7.0	10	7.0	10	15.0	*	*
		14.6	110	12.0	61	11.5	80	14.0	*	*
+ 60	1948	0	8	0	14	1.0	16	16.5	0	10
		7.0	19	7.0	6	7.0	22	16.0	7.0	10
		14.7	50	12.0	86	11.5	53	14.0	13.9	92
+ 75	2003	0	16	0	11	1.0	11	16.5	0	11
		7.0	15	7.0	13	7.0	22	16.0	7.0	9
		14.9	10	12.0	52	12.1	63	14.0	14.8	100
+ 90	2018	0	10	0	11	1.0	11	17.0	*	*
		7.0	10	7.0	10	7.0	12	16.0	*	*
		14.9	38	11.5	39	12.7	62	14.0	*	*

* No data taken.

Appendix VII (cont'd.)

Cycle 6

Time Sample Period	Clock EDT	Garvey 1(G1)		Garvey 2(G2)		Ulysses			Langley	
		Depth m	S.S. mg/l	Depth m	S.S. mg/l	Depth m	S.S. mg/l	Temp °C	Depth m	S.S. mg/l
- 15	2027	1.0	10	0	10	1.0	30	18.0	*	*
		7.0	8	7.0	7	7.0	10	16.5	*	*
		14.9	36	11.5	36	11.5	44	14.0	*	*
0	2041	0	8	0	10	*	*	*	*	*
		7.0	5	7.0	7	*	*	*	*	*
		14.9	27	11.5	29	*	*	*	*	*
+ 5	2046	0	13	0	9	1.0	129	18.5	*	*
		7.0	6	7.0	6	7.0	310	16.0	*	*
		15.0	1360	11.5	20	13.3	107	14.0	*	*
+ 10	2051	1.0	12	0	10	1.0	30	-	*	*
		7.0	640	7.0	61	7.0	192	16.0	*	*
		15.0	980	11.5	22	12.4	150	14.5	*	*
+ 15	2056	0	10	0	13	1.0	25	18.0	*	*
		7.0	136	7.0	122	7.0	185	16.0	*	*
		15.0	525	11.5	27	12.4	66	14.0	*	*
+ 30	2111	0	11	0	43	1.0	25	17.5	*	*
		7.0	206	7.0	8	7.0	68	15.0	*	*
		15.0	118	11.5	20	13.0	61	14.0	*	*
+ 45	2126	0	11	0	15	1.0	24	17.5	*	*
		7.0	55	7.0	15	7.0	101	15.5	*	*
		15.0	74	11.5	39	12.1	62	14.0	*	*
+ 60	2141	0	11	0	15	1.0	9	17.5	*	*
		7.0	27	7.0	8	7.0	12	15.5	*	*
		15.0	36	11.5	28	12.1	40	14.0	*	*
+ 80	2201	*	*	*	*	*	*	*	0	88
		*	*	*	*	*	*	*	7.0	34
		*	*	*	*	*	*	*	13.4	11
+ 94	2215	*	*	*	*	*	*	*	0	34
		*	*	*	*	*	*	*	7.0	12
		*	*	*	*	*	*	*	11.9	21

* No data taken.

Appendix VIII

Monitoring data for salinity in ppt ($^{\circ}/\text{oo}$)
by dredge cycle and vessel, May 14, 1987.

Appendix VIII

Cycle 1

Time Sample Period	Clock EDT	Garvey 1 (G1)		Garvey 2 (G2)		Ulysses		Langley	
		Depth m	Sal. ppt	Depth m	Sal. ppt	Depth m	Sal. ppt	Depth m	Sal. ppt
- 4	1035	0	13.87	0	13.91	1.0	13.83	*	*
		7.0	18.56	7.0	18.07	7.0	18.01	*	*
		15.5	20.65	12.0	20.17	11.8	20.61	*	*
0	1039	0	13.89	0	13.92	1.0	13.91	*	*
		7.0	19.51	7.0	17.94	7.0	18.48	*	*
		15.5	19.38	12.0	20.70	12.4	20.62	*	*
+ 5	1044	*	*	0	13.92	*	*	*	*
		*	*	7.0	18.08	*	*	*	*
		*	*	12.0	20.73	*	*	*	*
+ 10	1049	*	*	0	13.91	*	*	*	*
		*	*	7.0	17.67	*	*	*	*
		*	*	12.0	20.75	*	*	*	*
+ 15	1054	0	13.91	0	13.97	1.0	13.92	*	*
		7.0	20.63	7.0	17.75	7.0	17.67	*	*
		15.5	17.24	12.0	20.69	12.4	20.61	*	*
+ 30	1111	0	13.88	0	13.92	1.0	13.85	*	*
		7.0	19.08	7.0	16.72	7.0	18.37	*	*
		15.5	20.66	12.0	20.66	12.7	20.60	*	*
+ 45	1126	0	13.86	0	14.03	1.0	13.86	0	13.95
		7.0	19.12	7.0	16.85	7.0	20.58	6.0	17.02
		15.5	20.55	12.0	20.49	12.4	18.72	11.7	20.54
+ 60	1141	0	13.94	0	13.96	1.0	13.78	0	14.02
		7.0	18.99	7.0	18.07	7.0	20.53	6.0	16.31
		15.0	20.58	12.0	20.58	14.2	19.33	15.2	20.83
+ 75	1156	0	13.96	0	14.08	1.0	13.98	*	*
		7.0	18.81	7.0	18.11	7.0	20.61	*	*
		15.0	20.55	12.0	20.54	13.3	19.23	*	*
+ 90	1211	0	13.95	0	14.07	*	*	*	*
		7.0	20.72	7.0	18.31	*	*	*	*
		15.0	20.93	12.0	20.51	*	*	*	*

* No data taken.

Appendix VIII (cont'd.)

Cycle 2

Time Sample Period	Clock EDT	Garvey 1 (G1)		Garvey 2 (G2)		Ulysses		Langley	
		Depth m	Sal. ppt	Depth m	Sal. ppt	Depth m	Sal. ppt	Depth m	Sal. ppt
- 15	1222	0	13.90	0	14.02	1.0	13.93	*	*
		7.0	18.81	7.0	18.51	7.0	19.71	*	*
		16.5	20.59	12.0	20.47	11.5	20.46	*	*
0	1234	1.0	13.97	0	14.06	1.0	13.85	*	*
		7.0	18.80	7.0	18.57	7.0	18.92	*	*
		16.5	20.48	12.0	20.45	12.4	20.39	*	*
+ 5	1239	1.0	13.92	0	14.06	*	*	*	*
		7.0	18.55	7.0	18.77	*	*	*	*
		16.5	20.05	12.0	20.47	*	*	*	*
+ 10	1244	1.0	13.94	0	14.07	*	*	*	*
		7.0	18.92	7.0	18.80	*	*	*	*
		16.5	20.21	12.0	20.50	*	*	*	*
+ 15	1249	1.0	13.92	0	14.08	*	*	*	*
		7.0	19.23	7.0	18.79	*	*	*	*
		16.5	20.02	12.0	20.50	*	*	*	*
+ 30	1304	0	13.94	0	14.06	*	*	*	*
		7.0	18.97	7.0	18.86	*	*	*	*
		16.5	20.49	12.0	20.45	*	*	*	*
+ 45	1319	*	*	0	13.95	*	*	*	*
		*	*	7.0	18.91	*	*	*	*
		*	*	12.0	20.49	*	*	*	*
+ 60	1334	*	*	0	13.97	*	*	*	*
		*	*	7.0	19.00	*	*	*	*
		*	*	12.0	20.49	*	*	*	*
+ 75	1349	0	14.09	0	13.96	*	*	0	14.10
		7.0	19.01	7.0	18.97	*	*	7.0	19.35
		16.5	20.75	12.0	20.66	*	*	12.7	20.90
+ 90	1404	0	13.99	0	13.96	1.0	13.98	0	13.99
		7.0	19.01	7.0	18.98	7.0	20.17	7.0	18.96
		16.5	20.78	12.0	20.69	11.5	20.67	14.2	20.59

* No data taken.

Appendix VIII (cont'd.)

Cycle 3

Time Sample Period	Clock EDT	Garvey 1 (G1)		Garvey 2 (G2)		Ulysses		Langley	
		Depth m	Sal. ppt	Depth m	Sal. ppt	Depth m	Sal. ppt	Depth m	Sal. ppt
- 15	1420	0	14.06	0	13.97	1.0	13.98	*	*
		7.0	18.97	7.0	18.93	7.0	20.18	*	*
		15.8	20.72	12.0	20.73	11.2	20.22	*	*
0	1435	0	19.02	0	13.97	1.0	13.98	*	*
		7.0	-	7.0	18.92	7.0	19.62	*	*
		15.8	20.68	12.0	20.74	11.2	20.63	*	*
+ 5	1440	0	-	0	14.05	*	*	*	*
		7.0	18.95	7.0	18.90	*	*	*	*
		15.8	20.63	12.0	20.74	*	*	*	*
+ 10	1445	0	13.99	0	14.04	*	*	*	*
		7.0	18.96	7.0	18.90	*	*	*	*
		15.8	20.61	11.5	20.63	*	*	*	*
+ 15	1450	0	13.99	0	13.96	1.0	14.05	*	*
		7.0	19.00	7.0	18.96	7.0	19.58	*	*
		15.8	20.66	11.5	20.61	11.8	20.45	*	*
+ 30	1505	0	14.07	0	13.97	1.0	14.05	*	*
		7.0	19.08	7.0	18.95	7.0	18.92 [?]	*	*
		15.5	20.54	11.5	20.57	12.4	13.99 [?]	*	*
+ 45	1520	1.0	14.02	0	13.98	1.0	13.96	*	*
		7.0	19.08	7.0	19.00	7.0	19.78	*	*
		15.5	20.56	11.5	20.54	14.2	20.42	*	*
+ 60	1535	1.0	14.04	0	13.94	1.0	13.94	*	*
		7.0	19.24	7.0	18.97	7.0	19.90	*	*
		15.5	20.56	11.5	20.52	12.1	20.38	*	*
+ 75	1550	1.0	14.10	0	13.97	1.0	13.89	0	14.02
		7.0	20.23	7.0	18.98	7.0	20.21	7.0	18.82
		15.5	20.66	11.5	20.54	12.1	20.52	14.2	20.61
+ 90	1605	1.0	14.05	0	13.98	1.0	13.97	0	14.04
		7.0	20.23	7.0	18.91	7.0	20.17	7.0	19.46
		15.5	20.59	11.0	20.55	12.1	20.55	12.7	20.76
+105	1620	1.0	14.11	0	14.02	*	*	*	*
		7.0	19.90	7.0	18.90	*	*	*	*
		15.5	20.59	11.5	20.56	*	*	*	*

* No data taken.

Appendix VIII (cont'd.)

Cycle 4

Time Sample Period	Clock EDT	Garvey 1 (G1)		Garvey 2 (G2)		Ulysses		Langley	
		Depth m	Sal. ppt	Depth m	Sal. ppt	Depth m	Sal. ppt	Depth m	Sal. ppt
- 15	1628	0	14.12	0	14.03	1.0	14.01	*	*
		7.0	19.91	7.0	18.93	7.0	19.80	*	*
		14.9	20.54	11.0	20.55	12.2	19.80	*	*
0	1645	0	14.88	0	14.08	*	*	*	*
		7.0	19.20	7.0	18.93	*	*	*	*
		14.9	20.48	11.5	20.45	*	*	*	*
+ 5	1650	0	14.09	0	14.07	1.0	13.97	*	*
		7.0	20.06	7.0	18.89	7.0	17.56	*	*
		14.9	20.35	11.5	20.51	11.2	20.17	*	*
+ 10	1655	0	14.18	0	14.09	*	*	*	*
		7.0	19.25	7.0	19.30	*	*	*	*
		14.9	20.46	11.5	19.79	*	*	*	*
+ 15	1700	0	14.23	0	14.16	1.0	14.09	*	*
		7.0	19.31	7.0	18.81	7.0	19.12	*	*
		15.5	20.27	11.5	20.49	11.5	18.34	*	*
+ 30	1715	0	13.91	0	14.15	1.0	14.11	*	*
		7.0	19.14	7.0	19.08	7.0	18.95	*	*
		15.5	20.32	11.5	20.40	12.1	20.21	*	*
+ 45	1730	0	14.31	0	14.26	1.0	14.23	*	*
		7.0	19.26	7.0	19.09	7.0	19.04	*	*
		15.5	20.24	11.5	20.38	12.1	20.27	*	*
+ 60	1745	0	14.43	0	14.28	1.0	14.48	*	*
		7.0	19.35	7.0	19.00	7.0	18.92	*	*
		14.9	20.18	12.0	20.29	12.1	20.18	*	*
+ 75	1800	0	14.64	0	14.46	1.0	14.64	0	16.30
		7.0	19.19	7.0	18.88	7.0	19.17	7.0	19.62
		14.9	20.21	12.0	20.27	12.4	18.49	11.6	20.37
+ 90	1815	0	15.45	0	15.00	1.0	15.17	0	15.33
		7.0	19.99	7.0	18.92	7.0	19.26	7.0	19.15
		14.9	20.18	12.0	20.23	11.8	20.12	11.9	20.20
+105	1830	0	15.52	0	15.40	*	*	*	*
		7.0	19.89	7.0	19.07	*	*	*	*
		14.7	20.21	12.0	20.21	*	*	*	*

* No data taken.

Appendix VIII (cont'd.)

Cycle 5

Time Sample Period	Clock EDT	Garvey 1(G1)		Garvey 2(G2)		Ulysses		Langley	
		Depth m	Sal. ppt	Depth m	Sal. ppt	Depth m	Sal. ppt	Depth m	Sal. ppt
- 15	1834	0	15.58	0	15.55	1.0	15.47	*	*
		7.0	19.99	7.0	19.16	7.0	18.53	*	*
		14.6	20.12	12.0	20.18	10.6	20.09	*	*
0	1848	0	16.13	0	15.79	*	*	*	*
		7.0	19.85	7.0	18.91	*	*	*	*
		15.5	20.06	12.0	20.17	*	*	*	*
+ 5	1853	1.0	16.10	0	16.19	1.0	15.84	*	*
		7.0	19.89	7.0	19.42	7.0	18.80	*	*
		15.0	20.12	12.0	20.16	11.8	19.75	*	*
+ 10	1858	0	16.01	0	15.96	1.0	15.97	*	*
		7.0	19.27	7.0	19.02	7.0	17.94	*	*
		14.6	20.07	12.0	20.13	11.8	19.75	*	*
+ 15	1903	0	16.29	0	16.11	1.0	16.09	*	*
		7.0	19.63	7.0	18.81	7.0	18.82	*	*
		14.6	20.05	12.0	19.82	11.8	19.79	*	*
+ 30	1918	0	16.54	0	16.49	1.0	16.67	*	*
		7.0	19.04	7.0	18.07	7.0	18.40	*	*
		14.6	19.84	12.0	19.98	11.8	19.84	*	*
+ 45	1933	0	16.69	0	16.58	1.0	16.70	*	*
		7.0	19.32	7.0	17.26	7.0	18.13	*	*
		14.6	19.91	12.0	19.89	11.5	19.85	*	*
+ 60	1948	0	16.70	0	16.55	1.0	16.82	0	14.43
		7.0	19.26	7.0	16.53	7.0	16.66	7.0	16.88
		14.7	19.89	12.0	19.58	11.5	19.21	13.9	19.89
+ 75	2003	0	16.68	0	16.57	1.0	16.80	0	16.75
		7.0	18.05	7.0	16.52	7.0	16.66	7.0	17.50
		14.9	29.85?	12.0	19.54	12.1	19.84	14.8	19.87
+ 90	2018	0	16.73	0	14.30	1.0	16.77	*	*
		7.0	18.69	7.0	16.56	7.0	16.69	*	*
		14.9	19.81	11.5	19.63	12.7	19.80	*	*

* No data taken.

Appendix VIII (cont'd.)

Cycle 6

Time Sample Period	Clock EDT	Garvey 1(G1)		Garvey 2(G2)		Ulysses		Langley	
		Depth m	Sal. ppt	Depth m	Sal. ppt	Depth m	Sal. ppt	Depth m	Sal. ppt
- 15	2027	1.0	16.54	0	14.25	1.0	14.41	*	*
		7.0	19.10	7.0	16.56	7.0	16.67	*	*
		14.9	19.77	11.5	19.47	11.5	19.83	*	*
0	2041	0	14.30	0	14.35	*	*	*	*
		7.0	19.45	7.0	16.58	*	*	*	*
		14.9	19.84	11.5	19.71	*	*	*	*
+ 5	2046	0	14.29	0	14.35	1.0	16.20	*	*
		7.0	19.18	7.0	16.55	7.0	17.04	*	*
		15.0	19.44	11.5	19.80	13.3	19.90	*	*
+ 10	2051	1.0	14.36	0	14.39	1.0	14.51	*	*
		7.0	18.71	7.0	16.65	7.0	16.64	*	*
		15.0	19.66	11.5	19.94	12.4	19.98	*	*
+ 15	2056	0	14.43	0	14.28	1.0	14.69	*	*
		7.0	19.42	7.0	16.31	7.0	17.25	*	*
		15.0	19.78	11.5	19.91	12.4	20.09	*	*
+ 30	2111	0	14.39	0	16.61	1.0	14.58	*	*
		7.0	19.16	7.0	16.61	7.0	18.39	*	*
		15.0	19.98	11.5	19.96	13.0	19.93	*	*
+ 45	2126	0	-	0	14.29	1.0	15.88	*	*
		7.0	19.46	7.0	16.61	7.0	17.62	*	*
		15.0	19.95	11.5	20.08	12.1	20.07	*	*
+ 60	2141	0	14.30	0	14.28	1.0	14.70	*	*
		7.0	19.45	7.0	16.62	7.0	16.81	*	*
		15.0	20.03	11.5	20.07	12.1	20.15	*	*

End Cycle 6

+ 80	2201	*	*	*	*	*	*	0	14.27
		*	*	*	*	*	*	7.0	19.17
		*	*	*	*	*	*	13.4	20.10
+ 94	2215	*	*	*	*	*	*	0	14.44
		*	*	*	*	*	*	7.0	17.75
		*	*	*	*	*	*	11.9	20.25

* No data taken.

Appendix IX

Navigation position data for fixed stations and "dip" stations.
Corresponds to data in Appendices VII and VIII.

Appendix IX

Navigation position data for fixed stations and "dip" stations.
Corresponds to data in Appendices VII and VIII.

Fixed & Dip Stations	Latitude	Longitude	Virginia Grid	
			Easting (ft)	Northing (ft)
Garvey 1 (cycle 1)	37°36'16.9"	76°05'04.8"	2,699,643	471,829
Garvey 1 (cycle 2-6)	37°36'16.4"	76°05'05.2"	2,699,609	471,779
Garvey 2	37°36'11.8"	76°05'09.0"	2,699,318	471,315
Current Meter	37°36'20.1"	76°04'53.0"	2,700,583	472,184
A	37°36'22.5"	76°05'13.5"	2,698,925	472,383
B	37°36'15.2"	76°05'06.5"	2,699,507	471,659
C	37°36'29.8"	76°05'21.0"	2,698,303	473,105
D	37°36'08.0"	76°04'59.2"	2,700,113	470,946
E	37°36'36.8"	76°05'28.5"	2,697,682	473,798

Appendix IX (cont'd.)

R/V Ulysses

Dredge Cycle	Sample Time	Latitude	Longitude	Virginia Grid	
				Easting (ft)	Northing (ft)
1	- 4	*			
	0	37°36'13.7"	76°05'07.4"	2,699,436	471,503
	+ 5	37°36'14.3"	76°05'08.4"	2,699,354	471,561
	+ 10	37°36'13.9"	76°05'08.9"	2,699,317	471,524
	+ 15	37°36'13.9"	76°05'08.5"	2,699,347	471,521
	+ 30	37°36'16.1"	76°05'12.6"	2,699,010	471,742
	+ 45	37°36'14.2"	76°05'08.0"	2,699,392	471,553
	+ 60	37°36'15.2"	76°05'11.6"	2,699,098	471,644
	+ 75	37°36'10.9"	76°05'01.9"	2,699,886	471,234
	+ 90	*			
2	- 15	37°36'12.8"	76°05'11.1"	2,699,147	471,403
	0	37°36'13.7"	76°05'07.4"	2,699,441	471,510
	+ 5	37°36'13.5"	76°05'07.6"	2,699,422	471,481
	+ 10	37°36'13.1"	76°05'10.3"	2,699,208	471,438
	+ 15	37°36'13.2"	76°05'08.1"	2,699,385	471,455
	+ 30	37°36'14.3"	76°05'07.6"	2,699,423	471,561
	+ 45	37°36'14.7"	76°05'06.8"	2,699,482	471,612
	+ 60	37°36'15.1"	76°05'06.4"	2,699,513	471,650
	+ 75	37°36'09.5"	76°05'07.8"	2,699,414	471,083
	+ 90	37°36'11.9"	76°05'11.1"	2,699,146	471,320
3	- 15	37°36'12.2"	76°05'10.6"	2,699,182	471,342
	0	37°36'14.1"	76°05'07.9"	2,699,400	471,545
	+ 5	37°36'13.4"	76°05'06.9"	2,699,478	471,475
	+ 10	37°36'13.6"	76°05'06.9"	2,699,478	471,499
	+ 15	37°36'13.6"	76°05'07.5"	2,699,432	471,497
	+ 30	37°36'17.2"	76°05'12.8"	2,698,997	471,850
	+ 45	37°36'10.7"	76°05'04.1"	2,699,711	471,206
	+ 60	37°36'13.6"	76°05'07.5"	2,699,431	471,494
	+ 75	37°36'13.6"	76°05'07.5"	2,699,431	471,494
	+ 90	37°36'13.8"	76°05'07.3"	2,699,445	471,514
+105	37°36'12.3"	76°05'10.4"	2,699,202	471,355	

* Position data not taken at these sampling times.

Appendix IX (cont'd.)

R/V Ulysses (cont'd.)

Dredge Cycle	Sample Time	Latitude	Longitude	Virginia Grid	
				Easting (ft)	Northing (ft)
4	- 15	37°36'12.4"	76°05'10.8"	2,699,169	471,367
	0	37°36'13.7"	76°05'07.8"	2,699,406	471,506
	+ 5	37°36'13.7"	76°05'07.4"	2,699,435	471,505
	+ 10	37°36'13.7"	76°05'07.2"	2,699,452	471,509
	+ 15	37°36'14.8"	76°05'06.5"	2,699,510	471,620
	+ 30	37°36'13.7"	76°05'07.4"	2,699,441	471,510
	+ 45	37°36'13.6"	76°05'07.4"	2,699,443	471,493
	+ 60	37°36'13.7"	76°05'07.4"	2,699,435	471,502
	+ 75	37°36'13.6"	76°05'06.9"	2,699,478	471,499
	+ 90	37°36'13.5"	76°05'07.0"	2,699,469	471,489
+105	37°36'12.8"	76°05'10.1"	2,699,227	471,410	
5	- 15	37°36'12.7"	76°05'10.1"	2,699,220	471,402
	0	37°36'13.4"	76°05'07.8"	2,699,408	471,478
	+ 5	37°36'13.7"	76°05'06.8"	2,699,490	471,505
	+ 10	37°36'13.6"	76°05'07.1"	2,699,466	471,492
	+ 15	37°36'13.5"	76°05'07.3"	2,699,445	471,484
	+ 30	37°36'13.7"	76°05'07.1"	2,699,459	471,510
	+ 45	37°36'13.7"	76°05'07.1"	2,699,463	471,501
	+ 60	37°36'13.8"	76°05'06.6"	2,699,499	471,516
	+ 75	37°36'13.5"	76°05'06.8"	2,699,486	471,482
	+ 90	37°36'13.5"	76°05'06.7"	2,699,498	471,483
6	- 15	37°36'12.9"	76°05'09.3"	2,699,286	471,424
	0	37°36'13.4"	76°05'06.9"	2,699,478	471,476
	+ 5	37°36'14.1"	76°05'06.7"	2,699,490	471,551
	+ 10	37°36'14.1"	76°05'07.1"	2,699,462	471,543
	+ 15	37°36'13.7"	76°05'08.0"	2,699,391	471,506
	+ 30	37°36'14.3"	76°05'06.1"	2,699,540	471,566
	+ 45	37°36'14.3"	76°05'07.6"	2,699,419	471,565
	+ 60	37°36'13.8"	76°05'06.9"	2,699,475	471,516

Appendix IX (cont'd.)

R/V Langley

Dredge Cycle	Sample Time	Latitude	Longitude	Virginia Grid	
				Easting (ft)	Northing (ft)
1	- 4	*			
	0	37°36'35.4"	76°05'30.0"	2,697,565	473,653
	+ 5	37°36'22.2"	76°05'13.8"	2,698,902	472,352
	+ 10	37°36'10.3"	76°04'55.2"	2,700,428	471,237
	+ 15	37°36'18.6"	76°04'56.4"	2,700,311	472,023
	+ 30	37°36'45.0"	76°05'14.4"	2,698,795	474,656
	+ 45	37°36'31.2"	76°05'25.8"	2,697,913	473,237
	+ 60	*			
	+ 75	*			
	+ 90	*			
2	- 15	*			
	0	37°36'34.2"	76°05'25.8"	2,697,906	473,540
	+ 5	37°36'21.0"	76°05'10.8"	2,699,146	472,236
	+ 10	37°36'07.8"	76°04'59.4"	2,700,098	470,925
	+ 15	37°36'19.8"	76°05'10.8"	2,699,149	472,115
	+ 30	*			
	+ 45	37°36'33.6"	76°05'12.6"	2,698,969	473,507
	+ 60	37°36'15.6"	76°05'04.8"	2,699,643	471,703
	+ 75	*			
	+ 90	*			
3	- 15	*			
	0	37°36'27.6"	76°05'21.6"	2,698,260	472,882
	+ 5	37°36'13.2"	76°05'04.8"	2,699,649	471,460
	+ 10	*			
	+ 15	37°36'06.6"	76°04'57.6"	2,700,245	470,808
	+ 30	37°36'19.8"	76°05'17.4"	2,698,618	472,102
	+ 45	37°36'33.6"	76°05'11.4"	2,699,065	473,509
	+ 60	37°36'07.8"	76°06'04.8"	2,694,836	470,791
	+ 75	37°36'37.8"	76°05'27.0"	2,697,800	473,902
	+ 90	*			
+105	*				

* Position data not taken at these sampling times.

Appendix IX (cont'd.)

R/V Langley (cont'd.)

Dredge Cycle	Sample Time	Latitude	Longitude	Virginia Grid	
				Easting (ft)	Northing (ft)
4	- 15	*			
	0	37°36'31.8"	76°05'30.6"	2,697,526	473,288
	+ 5	37°36'12.6"	76°05'09.0"	2,699,312	471,391
	+ 10	37°36'12.0"	76°05'07.2"	2,699,459	471,334
	+ 15	37°36'29.4"	76°05'20.4"	2,698,352	473,066
	+ 30	37°36'27.6"	76°05'40.8"	2,696,716	472,842
	+ 45	37°36'03.0"	76°05'52.8"	2,695,814	470,330
	+ 60	37°35'58.2"	76°05'30.0"	2,697,661	469,892
	+ 75	*			
	+ 90	*			
+105	*				
5	- 15	*			
	0	37°36'31.2"	76°05'28.8"	2,697,672	473,231
	+ 5	37°36'15.0"	76°05'07.8"	2,699,403	471,636
	+ 10	37°36'12.0"	76°04'53.4"	2,700,569	471,362
	+ 15	37°36'06.6"	76°05'01.8"	2,699,908	470,799
	+ 30	37°36'18.0"	76°05'25.8"	2,697,947	471,902
	+ 45	37°36'37.2"	76°05'27.6"	2,697,753	473,840
	+ 60	37°36'35.1"	76°05'23.4"	2,698,096	473,636
	+ 75	*			
	+ 90	*			
6	- 15	*			
	0	37°36'36.0"	76°05'27.6"	2,697,780	473,719
	+ 5	37°36'22.8"	76°05'12.6"	2,698,997	472,415
	+ 10	37°36'07.2"	76°05'01.8"	2,699,906	470,860
	+ 15	37°36'13.8"	76°04'51.0"	2,700,758	471,549
	+ 30	37°36'34.2"	76°04'52.8"	2,700,560	473,608
	+ 45	37°36'06.6"	76°05'09.6"	2,699,280	470,783
	+ 60	37°36'46.8"	76°05'06.6"	2,699,417	474,854

* Position data not taken at these sampling times.

Appendix X

Table of monitoring data for current speed and direction
from Endeco current meters at depths of 2.4 m and 9.1 m,
May 11 to May 18, 1987.

RAPPAHANOCK DREDGE CHANNEL SITE - CHESAPEAKE BAY

DATA DATE: MON 11 MAY 1987 JULIAN DATE: 131 TIME: EDT SPEEDS IN CM/S DIR REF. IS TRUE -9 DEG. FROM MAGNETIC

TIME	STATION 30'		STATION 8'	
	S/N 197	S/N 196	S/N 197	S/N 196
	SPEED	DIR	SPEED	DIR
1230		341		323
1300	19	325	47	195
1330	14	172	30	194
1400	23	165	27	194
1430	29	162	38	197
1500	33	157	30	194
1530	40	170	26	192
1600	36	170	21	187
1630	37	166	10	162
1700	36	169	4	155
1730	28	168	5	155
1800	18	177	15	10
1830	10	161	22	9
1900	2	91	27	9
1930	9	334	27	10
2000	23	338	31	10
2030	33	334	29	9
2100	40	327	29	1
2130	53	327	27	322
2200	56	333	30	312
2230	64	340	32	307
2300	61	25	29	310
2330	55	23	30	302
2400	40	29	29	296

RAPPAHANOCK DREDGE CHANNEL SITE - CHESAPEAKE BAY

DATA DATE: TUE 12 MAY 1987 JULIAN DATE: 132 TIME: EDT SPEEDS IN CM/S DIR REF. IS TRUE -9 DEG. FROM MAGNETIC

TIME	STATION 30'		STATION 8'	
	S/N 197	S/N 196	S/N 197	S/N 196
	SPEED	DIR	SPEED	DIR
30	28	36	23	278
100	25	42	22	261
130	19	61	24	244
200	22	104	22	224
230	26	136	21	213
300	29	146	25	206
330	41	153	24	199
400	41	152	22	191
430	41	152	21	176
500	40	155	22	176
530	36	175	14	169
600	36	168	11	119
630	31	187	12	110
700	22	201	12	85
730	19	236	13	49
800	21	283	20	39
830	17	294	18	39
900	28	317	17	30
930	28	321	17	23
1000	32	323	9	15
1030	27	344	7	11
1100	30	15	4	272
1130	23	358	8	270
1200	20	24	11	232
1230	9	55	15	220
1300	8	93	24	218
1330	19	120	30	207
1400	16	149	31	195
1430	24	175	29	190
1500	33	191	29	176
1530	39	171	26	173
1600	40	196	28	164
1630	43	196	26	159
1700	45	196	24	151
1730	47	197	21	141
1800	39	201	23	130
1830	30	197	17	107
1900	22	217	18	83
1930	13	213	15	55
2000	7	282	19	42
2030	15	326	19	49
2100	25	327	25	41
2130	41	327	20	21
2200	46	18	20	11
2230	56	19	22	1
2300	48	23	22	3
2330	48	17	15	318
2400	48	19	11	299

RAPPAHANOCK DREDGE CHANNEL SITE - CHESAPEAKE BAY

DATA DATE: WED 13 MAY 1987 JULIAN DATE: 133 TIME: EDT SPEEDS IN CM/S DIR REF. IS TRUE -9 DEG. FROM MAGNETIC

TIME	STATION 30'		STATION 8'	
	S/N 197	DIR	S/N 196	DIR
30	40	29	10	248
100	34	40	16	235
130	25	42	15	221
200	12	71	21	214
230	13	110	20	201
300	26	133	26	193
330	38	146	25	182
400	46	160	27	169
430	57	168	29	166
500	49	167	28	163
530	48	189	32	145
600	55	197	30	134
630	49	200	33	125
700	44	200	33	119
730	30	200	33	98
800	26	218	28	78
830	16	251	28	70
900	15	293	32	59
930	19	305	31	58
1000	33	317	29	62
1030	42	323	28	61
1100	45	332	28	54
1130	49	333	20	46
1200	43	28	14	41
1230	27	27	9	62
1300	24	41	6	66
1330	17	32	11	103
1400	15	19	11	171
1430	11	320	16	168
1500	10	299	25	168
1530	15	220	23	166
1600	20	202	21	163
1630	23	190	21	161
1700	24	193	20	152
1730	28	185	16	127
1800	24	193	11	92
1830	16	191	16	54
1900	11	209	21	43
1930	4	226	26	22
2000	8	21	32	11
2030	21	13	38	7
2100	30	15	48	5
2130	39	15	33	359
2200	73	19	38	330
2230	84	20	36	330
2300	71	19	43	326
2330	73	28	40	328
2400	65	23	35	325

RAPPAHANOCK DREDGE CHANNEL SITE - CHESAPEAKE BAY

DATA DATE: THU 14 MAY 1987 JULIAN DATE: 134 TIME: EDT SPEEDS IN CM/S DIR REF. IS TRUE -9 DEG. FROM MAGNETIC

TIME	STATION 30'		STATION 8'	
	S/N 197	SPEED DIR	S/N 196	SPEED DIR
30	56	30	32	320
100	49	36	35	314
130	33	27	32	311
200	27	22	29	298
230	19	38	26	279
300	9	67	22	264
330	13	155	20	254
400	23	167	16	237
430	30	169	18	232
500	42	176	19	226
530	44	169	19	218
600	42	188	16	203
630	48	185	10	183
700	47	187	7	168
730	40	175	6	166
800	30	161	8	169
830	29	169	14	25
900	18	167	22	15
930	12	165	25	8
1000	6	47	29	12
1030	19	338	24	15
1100	32	332	24	11
1130	29	324	26	5
1200	37	328	19	330
1230	33	319	18	326
1300	30	333	16	308
1330	25	333	12	281
1400	18	309	11	240
1430	9	253	11	216
1500	13	213	20	209
1530	19	183	20	198
1600	25	172	24	194
1630	36	176	27	194
1700	40	189	24	194
1730	45	191	29	195
1800	47	170	21	194
1830	37	153	27	186
1900	32	160	16	169
1930	37	172	9	159
2000	28	172	6	155
2030	13	162	18	12
2100	7	191	33	3
2130	9	319	34	3
2200	18	335	34	358
2230	28	346	36	358
2300	39	355	34	359
2330	50	354	38	359
2400	61	357	34	326

RAPPAHANOCK DREDGE CHANNEL SITE - CHESAPEAKE BAY

DATA DATE: FRI 15 MAY 1987 JULIAN DATE: 135 TIME: EDT SPEEDS IN CM/S DIR REF. IS TRUE -9 DEG. FROM MAGNETIC

TIME	STATION 30'		STATION 8'	
	S/N 197	DIR	S/N 196	DIR
30	62	10	32	330
100	64	9	29	327
130	54	12	25	313
200	45	15	25	306
230	35	17	21	292
300	25	22	21	266
330	18	66	22	256
400	24	116	18	242
430	32	112	24	228
500	35	135	26	220
530	40	144	25	214
600	48	150	26	211
630	59	154	23	201
700	46	168	23	190
730	53	178	21	177
800	53	174	16	166
830	47	171	9	150
900	45	178	10	131
930	42	168	4	131
1000	36	163	13	23
1030	26	159	20	10
1100	16	196	22	8
1130	11	240	21	12
1200	14	305	20	12
1230	20	312	22	10
1300	21	315	16	5
1330	26	318	11	3
1400	23	320	4	359
1430	20	319	3	357
1500	15	298	10	356
1530	11	277	18	189
1600	15	228	25	185
1630	20	219	24	177
1700	29	207	30	171
1730	36	201	32	167
1800	42	199	31	165
1830	41	178	32	160
1900	41	190	27	156
1930	45	196	27	150
2000	42	197	23	148
2030	35	189	17	111
2100	23	194	22	78
2130	17	205	15	43
2200	6	205	21	26
2230	8	224	27	14
2300	20	323	31	6
2330	26	322	29	6
2400	44	9	26	7

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RAPPAHANOCK DREDGE CHANNEL SITE - CHESAPEAKE BAY

DATA DATE: SAT 16 MAY 1987 JULIAN DATE: 136 TIME: EDT SPEEDS IN CM/S DIR REF. IS TRUE -9 DEG. FROM MAGNETIC

TIME	STATION 30'		STATION 8'	
	S/N 197	SPEED DIR	S/N 196	SPEED DIR
30	53	12	32	1
100	41	13	32	359
130	43	18	23	320
200	47	18	19	320
230	39	15	19	316
300	27	18	16	300
330	17	14	14	284
400	15	312	9	254
430	17	249	9	234
500	22	218	6	224
530	38	199	11	171
600	48	210	21	153
630	56	222	26	148
700	61	204	25	143
730	72	220	32	139
800	64	199	33	132
830	64	215	34	121
900	64	215	36	117
930	43	215	28	113
1000	36	219	23	87
1030	25	223	19	56
1100	15	222	24	38
1130	12	280	25	22
1200	14	310	30	20
1230	20	345	30	15
1300	26	346	26	9
1330	32	14	26	8
1400	36	12	19	0
1430	40	357	15	3
1500	31	11	12	304
1530	29	357	11	272
1600	11	334	9	240
1630	8	332	20	231
1700	3	352	23	227
1730	9	196	20	227
1800	20	168	22	219
1830	28	160	22	218
1900	37	169	14	214
1930	46	170	16	207
2000	40	186	11	191
2030	37	171	4	187
2100	37	187	2	184
2130	31	185	11	184
2200	19	169	25	326
2230	13	194	36	317
2300	3	172	35	357
2330	10	335	37	357
2400	16	15	39	357

RAPPAHANOCK DREDGE CHANNEL SITE - CHESAPEAKE BAY

DATA DATE: SUN 17 MAY 1987 JULIAN DATE: 137 TIME: EDT SPEEDS IN CM/S DIR REF. IS TRUE -9 DEG. FROM MAGNETIC

TIME	STATION 30'		STATION 8'	
	S/N 197	DIR	S/N 196	DIR
30	36	14	32	324
100	56	16	39	325
130	61	23	39	319
200	55	21	38	324
230	51	19	37	319
300	49	26	32	317
330	46	21	34	306
400	46	39	33	299
430	39	49	30	280
500	37	51	30	261
530	29	62	24	261
600	28	75	28	251
630	25	100	21	244
700	25	128	28	230
730	35	139	19	211
800	46	169	26	198
830	55	171	26	186
900	56	202	20	169
930	62	203	18	162
1000	56	210	14	169
1030	49	200	9	156
1100	38	193	7	146
1130	37	193	9	61
1200	31	196	14	36
1230	20	222	19	32
1300	17	279	18	37
1330	25	303	16	36
1400	24	309	16	38
1430	23	326	12	37
1500	25	312	10	39
1530	24	312	3	88
1600	21	317	2	89
1630	15	316	10	92
1700	6	253	16	187
1730	1	222	23	178
1800	19	204	30	176
1830	19	189	33	176
1900	25	187	36	171
1930	34	197	35	171
2000	47	207	34	171
2030	50	215	31	169
2100	39	210	36	168
2130	34	213	28	167
2200	40	207	21	157
2230	31	222	11	121
2300	23	204	9	92
2330	13	214	7	63
2400	7	223	13	51

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RAPPAHANOCK DREDGE CHANNEL SITE - CHESAPEAKE BAY

DATA DATE: MON 18 MAY 1987 JULIAN DATE: 138 TIME: EDT SPEEDS IN CM/S DIR REF. IS TRUE -9 DEG. FROM MAGNETIC

TIME	STATION 30'		STATION 8'	
	S/N 197	S/N 196	S/N 197	S/N 196
	SPEED	DIR	SPEED	DIR
30	16	339	21	10
100	22	344	25	10
130	19	339	28	5
200	29	325	30	2
230	36	332	19	326
300	43	15	19	330
330	43	15	13	317
400	47	13	11	306
430	39	18	15	278
500	37	10	14	260
530	24	12	15	256
600	20	17	19	232
630	12	32	14	222
700	12	91	21	214
730	15	139	18	206
800	25	159	22	193
830	42	169	26	191
900	48	177	25	183
930	47	188	24	176
1000	50	177	24	179
1030	47	190	18	158
1100	40	179	15	143
1130	41	200	14	128
1200	30	197	12	126
1230	23	199	10	47
1300	16	201	13	39
1330	10	252	17	27
1400	6	274	20	13
1430	9	312	21	16
1500	17	338	20	19
1530	19	334	17	21
1600	26	329	15	29
1630	33	339	12	29
1700	30	357	5	26
1730	23	355	2	23
1800	15	320	7	22
1830	8	333	15	24
1900	5	299	18	165

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Appendix XI

Weather observations from Garvey 2 station, May 14, 1987.

Appendix XI

Weather observations from Garvey 2 station, May 14, 1987.

Dredge Cycle	Sample Time	Wind		Wave		Prd (sec)	Remarks
		Dir (Mag)	Spd (Kts)	Dir (Mag)	Ht (m)		
1	+ 30	045	3	045	0.2	4-5	ovcst, small waves with ripples
1	+ 60	020	2-3	020	0.2	3	ovcst
2	- 15	010	2	010	0.1	4	ovcst
2	+ 60	000	0	000	0.1	0	calm winds confused waves
3	- 15	000	0	000	0	0	calm winds slight confused waves
3	+ 45	000	0	000	0	0	calm winds confused waves
4	- 15	000	0	000	0.1	0	calm winds ripples on small confused waves
4	+ 45	000	0	000	0	0	calm winds slight and confused waves
5	- 15	180	4	180	0.1	0	slight ripples
5	+ 45	140	4	180	0.2	2	
6	- 15	150	6	150	0.2	2	
6	+ 45	135	3	130	0.3	2	

Appendix XII

SPI Image Analysis Data

TABLE 12-1. AREA STATISTICS FROM SEDIMENT PROFILE IMAGES.

STATION	IMAGE AREAS IN CM ²					% IMAGE AREAS STAND. TO 10 CM				
	TOTAL	AERO	ANERO	VOIDS	DM	TOTAL	AERO	ANERO	VOIDS	DM
11A-B 6:51	225.9	0.2	225.7	0.0	47.4	162.4	0.1	99.9	0.0	34.1
11B-B 6:54	222.9	0.6	211.4	10.9	76.0	163.5	0.5	91.6	8.0	55.8
11C-B 6:56	256.9	0.3	253.4	3.1	88.9	185.9	0.2	97.5	2.3	64.3
12A-B 7:03	251.3	1.0	240.5	9.8	86.6	179.0	0.7	92.3	7.0	61.7
12B-B 7:05	245.5	0.1	243.7	1.7	109.1	174.9	0.1	98.7	1.2	77.7
12C-B 7:08	250.6	0.1	191.7	58.7	102.3	177.9	0.1	58.2	41.7	72.6
13A-B 7:17	249.9	0.4	246.4	3.0	122.8	178.0	0.3	97.5	2.2	87.5
13B-B 7:19	247.8	0.0	243.4	4.4	127.4	175.9	0.0	96.9	3.1	90.4
13C-A 7:21	176.3	0.0	174.2	2.1	91.9	127.2	0.0	98.5	1.5	66.3
14A-A 7:28	200.8	0.4	198.4	2.0	101.6	143.9	0.3	98.3	1.5	72.8
14B-A 7:31	189.9	0.0	188.4	1.5	100.2	136.6	0.0	98.9	1.1	72.1
14C-A 7:33	232.2	0.0	230.4	1.7	110.0	165.8	0.0	98.8	1.2	78.6
15A-A 3:44	207.1	0.2	206.9	0.0	120.4	148.0	0.1	99.9	0.0	86.1
15B-A 3:47	204.6	0.1	203.3	1.3	118.4	145.2	0.1	99.0	0.9	84.0
15C-A 3:49	204.1	0.1	204.0	0.0	119.4	145.8	0.0	100.0	0.0	85.3
16A-A 3:30	205.3	1.0	204.1	0.3	98.3	146.1	0.7	99.1	0.2	69.9
16B-A 3:37	184.5	0.0	183.7	0.7	98.1	131.9	0.0	99.4	0.5	70.1
16C-A 3:40	247.6	0.0	242.9	4.7	139.0	175.2	0.0	96.7	3.3	98.4
17A-A 3:15	107.7	1.3	105.8	0.6	44.1	76.6	0.9	98.7	0.4	31.4
17B-B 3:21	260.0	1.5	258.3	0.2	55.9	183.4	1.1	98.8	0.2	39.4
17C-B 3:23	235.8	2.7	232.6	0.4	79.2	165.2	1.9	97.8	0.3	55.5
18A-B 2:56	229.7	2.5	226.4	0.8	97.0	161.4	1.8	97.7	0.5	68.2
18B-B 3:03	239.8	3.1	231.9	4.8	110.6	168.6	2.2	94.4	3.4	77.8
18C-B 3:07	238.7	3.1	233.1	2.6	81.0	169.0	2.2	96.0	1.8	57.3
21A-B 6:40	227.0	0.0	222.8	4.1	74.0	162.7	0.0	97.0	3.0	53.1
21B-B 6:42	231.3	0.0	224.7	6.5	88.3	169.1	0.0	95.2	4.8	64.6
21C-B 6:44	254.0	0.2	251.8	2.1	98.8	184.5	0.1	98.4	1.5	71.8
22A-B 6:31	254.6	0.0	246.0	8.5	114.3	183.7	0.0	93.8	6.2	82.5
22B-B 6:33	242.5	0.2	239.2	3.1	103.4	175.0	0.2	97.6	2.2	74.6
22C-A 6:34	167.1	0.0	163.1	3.9	106.3	120.1	0.0	97.2	2.8	76.4
23A-A 6:09	214.9	0.0	209.7	5.1	140.0	153.5	0.0	96.3	3.6	100.0
23B-A 6:11	208.0	0.0	207.2	0.9	545.1	151.1	0.0	99.4	0.6	100.0
23C-A 6:13	194.3	0.0	194.3	0.0	136.0	138.9	0.0	100.0	0.0	97.2
24A-A 6:01	218.4	0.0	218.4	0.0	155.2	155.0	0.0	100.0	0.0	100.0
24B-A 6:03	218.9	0.0	207.6	11.3	165.3	158.5	0.0	91.8	8.2	100.0
24C-A 6:05	239.0	9.0	229.5	0.5	178.5	170.8	6.4	93.2	0.4	100.0
25A-A 4:32	201.2	0.0	200.7	0.4	141.9	143.3	0.0	99.7	0.3	100.0
25B-A 4:34	224.8	0.0	224.8	0.0	136.9	160.7	0.0	100.0	0.0	97.8
25C-A 4:36	196.6	0.0	195.7	0.9	115.5	140.4	0.0	99.4	0.6	82.5
26A-B 4:41	257.6	0.0	252.9	4.7	107.0	182.3	0.0	96.7	3.3	75.7
26B-B 4:43	270.2	0.0	262.5	7.7	104.1	191.8	0.0	94.5	5.5	73.9
27A-B 5:04	247.5	0.2	237.5	9.9	91.1	182.3	0.1	92.6	7.3	67.1
27B-B 5:07	253.5	0.0	252.5	1.0	81.1	184.1	0.0	99.3	0.7	58.9
28A-B 5:44	234.5	0.0	230.4	4.1	6.4	304.6	0.0	94.7	5.3	8.3
28B-B 5:47	186.2	0.0	186.2	0.0	4.5	134.4	0.0	100.0	0.0	3.2
28C-B 5:50	209.4	0.0	204.5	4.9	6.8	152.7	0.0	96.4	3.6	5.0
31A-B 12:04	247.8	0.1	233.1	14.6	108.5	178.2	0.1	89.5	10.5	78.0
31B-A 12:07	193.1	0.6	192.5	0.0	115.4	139.7	0.4	99.6	0.0	83.5
31C-B 12:11	241.0	0.7	223.5	16.8	137.6	172.1	0.5	87.5	12.0	98.3

STATION	IMAGE AREAS IN CM2					% IMAGE AREAS STAND. TO 15 CM				
	TOTAL	AERO	ANERO	VOIDS	DM	TOTAL	AERO	ANERO	VOIDS	DM
32A-A 11:48	212.1	0.0	211.4	0.7	132.5	152.6	0.0	99.5	0.5	95.3
32B-B 11:51	255.1	0.0	250.7	4.4	127.7	182.9	0.0	96.9	3.1	91.6
32C-A 11:53	194.5	0.3	194.0	0.2	119.5	139.4	0.2	99.7	0.2	85.7
33A-A 11:37	221.6	0.1	221.6	0.0	165.9	159.9	0.1	99.9	0.0	100.0
33B-A 11:39	238.1	0.0	238.1	0.0	171.3	171.8	0.0	100.0	0.0	100.0
33C-A 11:42	207.2	0.0	207.2	0.0	164.5	148.1	0.0	100.0	0.0	100.0
34A-A 11:22	224.5	0.1	223.9	0.5	199.4	161.5	0.1	99.6	0.4	100.0
34B-A 11:24	243.0	0.7	242.3	0.0	203.0	175.9	0.5	99.5	0.0	100.0
34C-A 11:27	240.4	0.6	239.9	0.0	192.2	175.2	0.4	99.6	0.0	100.0
35A-A 11:10	239.1	0.0	238.7	0.4	155.7	171.9	0.0	99.7	0.3	100.0
35B-A 11:13	228.6	0.0	227.1	1.4	151.0	164.4	0.0	99.0	1.0	100.0
36A-A 10:48	217.6	0.0	215.9	1.7	112.9	156.0	0.0	98.8	1.2	80.9
36B-A 10:52	193.3	0.0	193.3	0.0	90.6	139.1	0.0	100.0	0.0	65.2
36C-B 10:55	266.9	0.0	265.5	1.3	105.5	192.6	0.0	99.0	1.0	76.1
37A-B 10:12	228.0	0.1	225.2	2.7	72.1	164.5	0.1	98.0	2.0	52.0
37B-B 11:02	269.9	0.0	268.8	1.1	102.2	192.9	0.0	99.2	0.8	73.0
37C-B 11:06	274.9	0.0	272.2	2.7	71.7	197.1	0.0	98.0	2.0	51.4
38A-B 9:58	250.3	0.2	249.2	0.9	9.9	179.4	0.1	99.2	0.6	7.1
38B-B 10:02	252.6	0.0	251.8	0.8	9.9	181.1	0.0	99.4	0.6	7.1
38C-B 10:06	235.6	0.0	234.7	0.9	7.6	171.1	0.0	99.3	0.7	5.5

TABLE 12-2. LINEAR MEASUREMENTS FROM SEDIMENT PROFILE IMAGES.

STATION	PENETRATION			SURFA. RELIEF	RPD		AVE. DEPTH	DM LAYER		
	MIN	MAX	AVE.		MIN	MAX		MIN	MAX	AVE.
11A-B 6:51	17.2	17.5	16.2	0.3	0.3	0.4	0.0	2.3	5.6	3.4
11B-B 6:54	16.5	17.7	16.4	1.2	0.1	0.7	0.0	3.3	4.6	5.6
11C-B 6:56	19.2	19.8	18.6	0.6	0.1	0.6	0.0	2.8	6.7	6.4
12A-B 7:03	18.3	19.6	17.9	1.3	0.0	0.6	0.1	2.8	5.4	6.2
12B-B 7:05	18.4	19.1	17.5	0.6	0.3	0.1	0.0	6.6	9.5	7.8
12C-B 7:08	18.5	19.7	17.8	1.2	0.0	0.2	0.0	7.9	10.7	7.3
13A-B 7:17	18.8	19.2	17.8	0.4	0.1	0.6	0.0	8.8	10.2	8.7
13B-B 7:19	18.8	19.1	17.6	0.3	0.0	0.1	0.0	2.9	5.7	9.0
13C-A 7:21			21.0	0.0	0.0	0.1	0.0	1.6	6.1	6.6
14A-A 7:28			21.5	1.4	0.0	0.2	0.0	3.5	8.4	7.3
14B-A 7:31			20.0	0.0	0.0	0.0	0.0	6.5	7.3	7.2
14C-A 7:33			22.5	0.0	0.0	0.1	0.0	8.4	9.9	7.9
15A-A 3:44			21.0	0.3	0.1	0.4	0.0	7.6	9.8	8.6
15B-A 3:47			21.0	0.3	0.2	0.4	0.0	7.9	10.1	8.4
15C-A 3:49			21.0	0.8	0.1	0.4	0.0	7.0	8.9	8.5
16A-A 3:30			21.0	1.0	0.1	0.4	0.1	2.3	7.6	7.0
16B-A 3:37	13.5	14.3	13.2	0.7	0.0	0.0	0.0	6.0	8.1	7.0
16C-A 3:40				1.8	0.0	0.0	0.0	7.8	12.5	9.8
17A-A 3:15				0.5	0.1	0.4	0.1	1.1	4.0	3.1
17B-B 3:21				0.4	0.1	0.9	0.1	2.8	4.4	3.9
17C-B 3:23	15.6	20.9	16.5	5.3	0.0	3.1	0.2	4.4	6.8	5.5
18A-B 2:56	15.0	16.5	16.1	1.6	0.0	1.6	0.2	4.8	7.6	6.8
18B-B 3:03	17.4	18.1	16.9	0.8	0.1	0.6	0.2	6.4	8.6	7.8
18C-B 3:07	17.5	18.3	16.9	0.7	0.1	0.4	0.2	5.9	8.3	5.7
21A-B 6:40	16.5	17.8	16.3	1.2	0.1	0.4	0.0	4.3	7.6	5.3
21B-B 6:42	17.0	18.3	16.9	1.3	0.1	0.3	0.0	4.4	7.9	6.5
21C-B 6:44	19.2	20.0	18.4	0.7	0.2	0.5	0.0	5.8	8.4	7.2
22A-B 6:31	19.5	19.8	18.4	0.3	0.0	0.0	0.0	6.3	9.7	8.2
22B-B 6:33	17.9	18.7	17.5	0.9	0.1	0.7	0.0	5.6	10.9	7.5
22C-A 6:34			20.0	0.5	0.1	0.3	0.0	5.6	8.7	7.6
23A-A 6:09			23.0	0.5	0.0	0.0	0.0	8.9	11.2	10.0
23B-A 6:11			20.5	0.0	0.0	0.0	0.0	9.2	11.5	39.6
23C-A 6:13				0.1	0.1	0.4	0.0	8.4	9.7	9.7
24A-A 6:01			21.0	1.3	0.0	0.0	0.0	9.1	11.9	11.0
24B-A 6:03			23.0	0.2	0.0	0.0	0.0	10.9	14.5	12.0
24C-A 6:05			21.0	0.4	0.0	0.6	0.6	11.4	14.7	12.8
25A-A 4:32			22.0	0.3	0.0	0.3	0.0	8.3	11.7	10.1
25B-A 4:34			21.5	1.1	0.0	0.0	0.0	6.7	11.6	9.8
25C-A 4:36			20.5	0.3	0.0	0.0	0.0	4.6	9.0	8.3
26A-B 4:41	19.1	19.2	18.2	0.1	0.0	0.0	0.0	6.8	9.1	7.6
26B-B 4:43	19.9	20.2	19.2	0.4	0.0	0.0	0.0	4.1	9.6	7.4
27A-B 5:04	19.0	19.4	18.2	0.4	0.2	1.0	0.0	5.2	9.2	6.7
27B-B 5:07	19.6	19.8	18.4	0.3	0.0	0.0	0.0	5.0	8.2	5.9
28A-B 5:44	17.5	18.0	30.5	0.6	13.9	0.0	0.0	0.1	0.8	0.8
28B-B 5:47	14.3	14.8	13.4	0.5	0.0	0.0	0.0	0.1	1.2	0.3
28C-B 5:50	15.8	16.5	15.3	0.6	0.1	0.0	0.0	0.1	0.5	0.5
31A-B 12:04	18.8	19.6	17.8	0.8	0.1	0.3	0.0	5.9	9.3	7.8
31B-A 12:07			22.0	0.5	0.1	1.0	0.0	6.6	10.0	8.4
31C-B 12:11	18.3	19.0	17.2	0.7	0.1	0.7	0.0	7.7	11.7	9.8

STATION	PENETRATION			SURFA. RELIEF	RPD		AVE. DEPTH	DM LAYER		
	MIN	MAX	AVE.		MIN	MAX		MIN	MAX	AVE.
32A-A 11:48			21.0	0.2	0.0	0.0	0.0	8.6	10.6	9.5
32B-B 11:51			21.0	0.7	0.0	0.0	0.0	7.2	9.6	9.2
32C-A 11:53	15.0	15.0	13.9	0.0	0.0	0.4	0.0	5.1	7.6	8.6
33A-A 11:37			21.0	0.3	0.1	0.4	0.0	10.7	14.4	12.0
33B-A 11:39			22.0	0.7	0.0	0.0	0.0	11.3	13.3	12.4
33C-A 11:42			20.5	1.0	0.1	0.0	0.0	8.8	13.4	11.8
34A-A 11:22			21.0	0.0	0.0	0.3	0.0	13.0	15.6	14.3
34B-A 11:24			22.0	0.3	0.6	0.7	0.1	14.2	15.2	14.7
34C-A 11:27			22.0	0.7	0.4	0.7	0.0	12.6	15.7	14.0
35A-A 11:10			23.0	0.4	0.0	0.0	0.0	9.7	13.8	11.2
35B-A 11:13			23.0	0.6	0.0	0.0	0.0	7.5	11.0	10.9
35C-A 11:15	DISTURBED									
36A-A 10:48			23.5	1.5	0.0	0.0	0.0	6.0	10.6	8.1
36B-A 10:52			23.0	0.5	0.0	0.0	0.0	4.7	8.4	6.5
36C-B 10:55	20.2	20.6	19.3	0.3	0.0	0.0	0.0	6.1	9.1	7.6
37A-B 10:12	17.0	18.1	16.5	1.1	0.0	0.0	0.0	3.5	6.6	5.2
37B-B 11:02	20.3	20.4	19.3	0.1	0.0	0.0	0.0	6.8	9.5	7.3
37C-B 11:06	20.2	21.1	19.7	0.9	0.0	0.0	0.0	3.3	7.2	5.1
38A-B 9:58	18.8	19.2	17.9	0.4	0.0	0.0	0.0	0.1	1.1	0.7
38B-B 10:02	19.0	19.2	18.1	0.2	0.0	0.0	0.0	0.1	1.1	0.7
38C-B 10:06	16.8	18.5	17.1	1.8	0.0	0.0	0.0	0.1	1.0	0.5

TABLE 12-3. PIXEL DENSITIES FROM DIGITIZED SEDIMENT PROFILE IMAGES.

STATION	TOTAL IMAGE AREA						AEROBIC IMAGE AREA						VOID IMAGE AREA						DM LAYER AREA					
	RED		GREEN		BLUE		RED		GREEN		BLUE		RED		GREEN		BLUE		RED		GREEN		BLUE	
	10	90	10	90	10	90	10	90	10	90	10	90	10	90	10	90	10	90	10	90	10	90	10	90
11A-B 6:51	46	98	43	98	52	114	105	156	62	98	47	76							86	120	84	121	102	131
11B-B 6:54	46	93	42	90	49	101	109	114	106	112	111	123	44	65	40	60	45	68	71	108	67	108	80	116
11C-B 6:56	47	95	44	94	52	112	109	113	104	109	112	124	48	110	45	110	54	122	74	110	71	109	86	124
12A-B 7:03	54	110	50	109	60	121	122	129	115	124	121	131	42	58	37	54	45	64	87	122	82	121	97	129
12B-B 7:05	47	102	43	99	50	113	114	123	101	111	103	121	39	57	35	52	40	60	73	111	68	109	83	121
12C-B 7:08	46	98	43	98	51	118	115	120	109	117	118	127	37	67	33	63	41	75	72	111	69	111	84	126
13A-B 7:17	44	98	39	97	49	113	113	117	108	114	116	125	42	49	38	45	46	53	66	108	63	107	78	120
13B-B 7:19	89	198	66	187	49	144	202	209	175	194	119	134	93	119	68	97	49	74	143	205	122	197	92	152
13C-A 7:21	58	146	57	159	50	120	178	195	131	169	127	144	73	99	72	100	57	74	99	166	103	182	84	132
14A-A 7:28	57	159	55	171	50	133	174	179	178	186	124	156	59	84	57	85	47	64	113	169	121	181	99	141
14B-A 7:31	57	140	55	150	51	122	174	193	105	155	87	125	66	86	64	85	52	68	95	156	99	168	88	133
14C-A 7:33	53	144	49	155	48	131	174	180	173	181	143	157	71	105	71	108	69	99	103	160	108	172	96	141
15A-A 3:44	71	131	73	137	87	136	156	160	158	164	137	153							98	139	103	145	114	140
15B-A 3:47	75	120	79	130	91	128	151	156	154	161	135	150	59	99	61	106	67	105	92	129	101	139	110	133
15C-A 3:49	72	128	75	137	88	138	156	159	162	165	146	157							95	135	103	145	114	141
16A-A 3:30	66	147	82	178	81	139	158	163	183	187	140	148	51	79	61	98	63	90	99	154	126	182	111	142
16B-A 3:37	68	129	74	140	85	132	145	165	43	77	34	52	59	91	63	100	72	101	21	147	20	156	22	140
16C-A 3:40	85	150	98	164	103	145	163	167	157	166	128	147	64	99	71	114	78	113	91	162	106	174	111	150
17A-A 3:15	71	128	84	151	87	132	148	162	167	180	138	153	57	87	62	100	66	94	86	145	104	168	103	141
17B-B 3:21	88	138	115	175	105	143	161	166	192	199	151	159	66	100	83	127	74	107	109	163	142	198	125	157
17C-B 3:23	89	129	111	160	103	136	116	149	139	179	122	146	67	107	82	130	81	113	111	141	139	172	124	142
18A-B 2:56	57	96	60	108	66	103	145	171	156	182	126	159	46	100	46	112	52	107	88	144	103	161	110	144
18B-B 3:03	94	144	117	174	110	145	165	176	189	201	149	165	73	90	91	113	92	107	116	152	144	181	129	150
18C-B 3:07	88	132	113	166	103	137	137	172	159	203	126	158	70	95	88	122	82	105	107	149	138	183	122	145
21A-B 6:40	48	96	42	93	42	81	112	117	104	110	82	90	38	53	33	47	36	45	72	114	66	114	63	90
21B-B 6:42	49	114	47	124	50	117	137	138	135	136	116	117	45	66	42	61	42	55	71	133	73	149	80	131
21C-B 6:44	52	112	50	121	52	117	135	138	143	150	126	140	47	64	45	61	47	61	77	130	77	144	81	129
22A-B 6:31	56	114	50	113	46	90	128	132	123	129	88	97	41	62	35	55	36	49	84	125	78	127	71	97
22B-B 6:33	45	100	39	95	38	80	111	116	101	109	78	87	40	51	34	44	34	42	67	110	59	107	56	86
22C-A 6:34	43	91	40	87	40	77	104	108	93	100	79	87	36	48	34	49	36	47	56	97	52	94	52	81
23A-A 6:09	60	186	61	203	48	141							119	152	130	171	93	118	101	198	110	209	81	152
23B-A 6:11	56	185	54	202	45	141							51	70	49	71	42	53	21	159	21	178	20	123
23C-A 6:13	50	165	49	184	46	135	186	187	195	196	143	160							80	175	84	193	71	142
24A-A 6:01	59	193	60	209	46	142													90	202	99	212	73	148
24B-A 6:03	66	203	68	211	52	152							54	91	52	96	43	66	101	208	112	212	81	158
24C-A 6:05	66	206	67	214	52	152	211	219	216	220	156	178	65	88	63	88	44	58	107	211	118	216	87	157
25A-A 4:32	70	150	72	160	88	146	156	160	153	162	126	156	59	81	61	88	74	99	87	155	93	166	106	149
25B-A 4:34	76	141	93	166	94	140	155	159	154	175	145	161							98	153	121	176	114	145
25C-A 4:36	70	141	81	158	88	139	146	155	139	149	130	133	45	74	48	88	58	91	90	150	106	167	108	144
26A-B 4:41	84	139	92	150	99	140	160	163	159	160	141	150	47	91	47	100	56	102	102	159	114	167	119	150
26B-B 4:43	87	146	97	156	101	143	164	171	152	168	138	148	66	99	69	108	76	107	109	163	119	171	121	151
27A-B 5:04	97	141	111	158	112	145	152	154	165	168	143	151	83	111	93	124	100	120	110	154	125	170	122	151
27B-B 5:07	100	137	104	140	113	140	139	143	136	139	131	137	100	114	103	114	110	118	122	143	127	146	128	143
28A-B 5:44	43	90	39	86	40	78	112	117	95	105	76	89	31	45	27	40	29	41	106	130	100	131	83	103
28B-B 5:47	48	77	44	71	45	68	102	107	87	92	70	82							102	118	95	117	79	95
28C-B 5:50	49	86	45	81	46	76	116	121	103	111	84	93	41	68	36	61	38	58	108	127	103	129	87	105

STATION	TOTAL IMAGE AREA						AEROBIC IMAGE AREA						VOID IMAGE AREA						DM LAYER AREA					
	RED		GREEN		BLUE		RED		GREEN		BLUE		RED		GREEN		BLUE		RED		GREEN		BLUE	
	10	90	10	90	10	90	10	90	10	90	10	90	10	90	10	90	10	90	10	90	10	90	10	90
31A-B 12:04	90	144	88	138	90	152	148	152	130	137	137	149	77	102	76	99	77	99	122	152	116	146	121	161
31B-A 12:07	60	130	61	122	74	129	137	141	123	127	127	137						77	137	77	128	93	134	
31C-B 12:11	68	130	68	124	82	134	131	142	111	125	114	127	59	73	60	71	73	85	87	137	85	133	99	141
32A-A 11:48	59	143	52	152	49	141	160	161	165	167	136	151	50	63	41	55	39	50	93	151	90	162	87	147
32B-B 11:51	71	148	64	156	61	148	157	161	151	156	136	138	54	87	45	81	45	79	105	157	104	166	107	154
32C-A 11:53	64	147	53	153	48	135	159	168	152	164	117	138	62	77	51	68	47	58	95	154	89	160	84	140
33A-A 11:37	55	147	49	158	48	146	159	161	162	167	137	156						80	151	77	163	77	150	
33B-A 11:39	55	146	48	154	47	147	155	157	157	160	137	150						87	150	83	160	84	150	
33C-A 11:42	56	125	52	142	56	136	141	144	145	151	140	145						76	130	77	148	79	139	
34A-A 11:22	56	141	50	144	54	142	148	151	145	149	131	148	49	56	41	50	45	52	70	143	65	146	71	144
34B-A 11:24	66	153	61	164	58	155	159	162	164	171	146	160						79	155	76	167	77	157	
34C-A 11:27	63	153	58	165	54	151	158	162	164	171	137	152						81	156	79	168	78	153	
35A-A 11:10	60	144	54	149	55	136	151	177	145	149	109	138	118	158	118	165	104	144	83	151	79	156	82	141
35B-A 11:13	57	142	51	149	52	149	148	150	145	150	140	147	69	80	63	75	62	72	83	149	80	157	85	155
36A-A 10:48	56	126	51	131	54	134	144	146	143	145	143	151	47	63	41	57	43	58	82	141	80	148	86	145
36B-A 10:52	51	124	45	130	50	134	138	141	130	138	127	132						84	137	82	145	91	145	
36C-B 10:55	59	134	54	140	56	139	150	151	136	137	122	123	51	68	45	61	48	63	96	147	96	154	104	149
37A-B 10:12	46	106	41	104	39	80	113	117	105	110	75	82	46	71	41	64	38	53	77	115	73	115	64	85
37B-B 11:02	61	137	56	143	56	131	148	151	147	149	127	129	92	129	92	132	89	126	99	150	98	157	100	141
37C-B 11:06	61	125	55	128	56	130	141	149	137	141	118	137	55	72	47	65	49	65	100	144	100	149	108	144
38A-B 9:58	52	91	50	91	42	66	108	113	103	111	67	73	44	57	40	55	36	45	104	121	105	126	69	79
38B-B 10:02	51	104	47	106	41	79	113	117	106	113	73	83	44	55	39	51	35	43	104	123	105	131	76	89
38C-B 10:06	49	95	43	88	41	74	120	121	93	94	73	74	41	54	35	48	35	43	115	129	108	127	82	93

TABLE 12-4. DEPTH OF VOIDS FROM SEDIMENT PROFILE IMAGES.

STATION	DEPTH TO VOIDS (CM)									
16A-A 3:30	12.4,									
17A-A 3:15	8.1,									
17B-B 3:21	12.5,									
17C-B 3:23	6.7,									
18A-B 2:56	12.9,	13.9,								
18B-B 3:03	14.7,	17.3,								
18C-B 3:07	12.4,	14.6,	11.6,							
11B-B 6:54	11.6,	12.2,	13.1,	6.8,	9.4,	10.3,	12.0,	6.8,		
11C-B 6:56	11.4,	18.1,	1.1,	18.8,	12.4,					
12A-B 7:03	16.7,	15.8,	13.5,	18.2,	13.8,	12.1,				
12B-B 7:05	14.0,	14.0,	17.0,							
12C-B 7:08	14.3,	11.5,								
13A-B 7:17	17.5,	14.6,								
13B-B 7:19	13.2,	12.5,	14.5,							
13C-A 7:21	8.9,	8.6,								
14A-A 7:28	11.6,	13.5,								
14B-A 7:31	14.6,									
14C-A 7:33	8.6,	8.7,								
16B-A 3:37	12.8,									
16C-A 3:40	14.4,	14.8,	17.7,							
15B-A 3:47	11.7,									
25A-A 4:32	9.9,									
25C-A 4:36	14.8,									
26A-B 4:41	17.0,	18.6,	17.1,	15.2,						
26B-B 4:43	14.3,	17.6,	18.3,	17.7,	16.5,	10.8,				
22A-B 6:31	14.6,	18.4,	15.5,	15.8,	17.9,	12.3,				
22B-B 6:33	14.5,	14.8,								
22C-A 6:34	10.5,	7.7,								
21A-B 6:40	12.6,	10.1,	16.6,							
21B-B 6:42	13.0,	13.3,	16.4,							
21C-B 6:44	15.9,	14.5,	16.8,							
37B-B 11:02	1.6,	4.1,								
37C-B 11:06	17.5,	14.5,	15.5,							
36A-A 10:48	16.0,									
36C-B 10:55	17.3,	15.7,	14.4,							
35A-A 11:10	1.2,									
35B-A 11:13	11.9,									
34A-A 11:22	16.9,									
32A-A 11:48	15.7,									
32B-B 11:51	11.9,	17.1,	17.5,	7.5,	8.2,					
32C-A 11:53	14.8,									
31A-B 12:04	14.1,	17.7,								
31C-B 12:11	16.4,	18.2,								
24B-A 6:03	14.1,									
24C-A 6:05	14.6,									
23A-A 6:09	5.1,	2.7,	2.9,							

STATION	DEPTH TO VOIDS (CM)				
23B-A 6:11	14.2,				
27A-B 5:04	13.0,	11.5,	13.6,		
27B-B 5:07	13.4,				
28C-B 5:50	14.8,	15.0,	12.1,	9.3,	8.6,
37A-B 10:12	3.0,	8.2,	9.4,	16.0,	14.6,
38A-B 9:58	11.7,	18.4,			
38B-B 10:02	16.6,				
38C-B 10:06	14.5,	16.0,	17.0,	15.1,	
28A-B 5:44	18.0,	15.9,	16.5,	15.3,	

Appendix XIII

Quantitative Box Core Data: Benthos and Sediments

NOTES ON CODING AND TAXONOMY

We found three species not listed on the print out of INVERT.LST. We coded them as follows as advised by Linda Schaffner.

Species Identified	Coded As
<u>Nephtys</u> cf. <u>cryptomma</u>	<u>Nephtys picta</u>
<u>Malmgreniella</u> sp. A	<u>Harmothoe lunulata</u>
<u>Prionospio</u> (<u>Minuspio</u>) <u>perkinsi</u>	4805020314 (new number)

Several binomen changes from the recent literature are presented below followed by a list of references. The names we used are listed on the left.

Polychaeta

<u>Macrocyllmene zonalis</u>	(= <u>Euclymene zonalis</u>) As reported by Fauchald (1977) <u>Euclymene</u> was originally described as having 18-20 setigers. The voucher specimen has 36 setigers which places it in the genus <u>Macrocyllmene</u> . We also believe, based on experience, that the relative lengths of anal cirri should not be relied upon at the generic level. We agree, therefore, with Wolf (1984) who recognizes <u>M. zonalis</u> .
<u>Pectinaria gouldii</u>	(= <u>Cistena gouldii</u> , see Melville, 1982)
<u>Podarkeopsis levifuscina</u>	(= <u>Gyptis brevipalpa</u> sensu Gardiner, 1976, see Perkins, 1984)
<u>Polydora cornuta</u>	(= <u>P. ligni</u> , see Blake and Maciolek, 1987)
<u>Prionospio</u> (<u>Minuspio</u>) <u>perkinsi</u>	(= <u>P. (Minuspio) cirrifera</u> voucher specimens, see Maciolek, 1985)
<u>Spiochaetopterus costarum</u>	(= <u>S. oculatus</u> , this is a subspecies name, see Gilbert, 1984)

Crustacea

<u>Erichthonius</u>	(not <u>Erichthonius</u> , see Myers and McGrath, 1984)
<u>Idunella barnardi</u>	(= <u>Listriella barnardi</u> , see Karaman, 1980)
<u>Idunella clymenellae</u>	(= <u>Listriella clymenellae</u> , see Karaman, 1980)

Ophiuroidea

<u>Microphioholis atra</u>	(= <u>Micropholis atra</u> , see Turner, 1985)
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References

- Blake, J. A. and N. J. Maciolek. 1987. A redescription of Polydora cornuta Bosc (Polychaeta: Spionidae) and designation of a neotype. Biol. Soc. Wash. Bull. No. 7. pp. 11-15.
- Fauchald, K. 1977. The Polychaete Worms. Definitions and Keys to the Orders, Families and Genera. Natural History Museum of Los Angeles County, Science Series 28:1-190.
- Gardiner, S. L. 1975. Errant polychaete annelids from North Carolina. J. Elisa Mitchell Sci. Soc. 91(3):1-220.
- Gilbert, K. M. 1984. Family Chaetopteridae in Uebelacker, J. M. and P. G. Johnson (eds.). Taxonomic Guide to the Polychaetes of the Northern Gulf of Mexico. Final Report to the Minerals Management Service. Vol. II. pp. 11-1 to 11-13.
- Karaman, G. S. 1980. Revision of the genus Idunella Sars with description of new species, I. sketi, n. sp. (Fam. Liljeborgiidae). Acta Adriat. 21:409-435.
- Maciolek, N. J. 1985. A revision of the genus Prionospio Malmgren, with special emphasis on species from the Atlantic Ocean, and new records of species belonging to the genera Apoprionospio Foster and Paraprionospio Caullery (Polychaeta, Annelida, Spionidae). Zool. J. Linn. Soc. 84:325-383.
- Melville, R. V. 1982. Opinion 1225. Pectinaria Lamarck, 1818, Nereis cylindraria belgica Pallas, 1766 and Lagis korei Malmgren, 1866 (Polychaeta): conserved. Bull. Zool. Nomencl. 39(3):186-191.
- Myers, A. A. and D. McGrath. 1984. A revision of the North-East Atlantic species of Ericthonius (Crustacea: Amphipoda). J. Mar. Biol. Ass. U. K. 64:379-400.
- Perkins, T. H. 1984. New species of Phyllodocidae and Hesionidae (Polychaeta) principally from Florida. Proc. Biol. Soc. Wash. 97(3):555-582.
- Turner, R. L. 1985. Microphiopholis, replacement name for Micropholis Thomas, 1966 (Ophiuroidea: Amphiuridae), non Huxley, 1859 (Amphibia: Dissorophidae). Proc. Biol. Soc. Wash. 98(4): 1028-1029.
- Wolf, P. S. 1984. Family Maldanidae in Uebelacker, J. M. and P. G. Johnson (eds.). Taxonomic Guide to the Polychaetes of the Northern Gulf of Mexico. Final Report to the Minerals Management Service. Vol. II pp. 15-1 to 15-21.

LIST OF MACROBENTHIC INVERTEBRATES COLLECTED
FROM THE RAPPAHANNOCK SHOALS ON MAY 27, 1987

POLYCHAETA

- Ampharetidae
 - Asabellides oculata
 - Melinna maculata
- Amphinomidae
 - Pseudeurythoe paucibranchiata
- Capitellidae
 - Capitella capitata
 - Mediomastus ambiseta
- Chaetopteridae
 - Chaetopterus variopedatus
 - Spiochaetopterus costarum
- Chrysopetalidae
 - Bhawania heteroseta
- Cirratulidae
 - Cirratulidae sp. (indeterminate)
 - Cirriformia grandis
- Glyceridae
 - Glycera americana
 - Glycera sp. (juvenile)
- Goniadidae
 - Glycinde solitaria
 - Goniadidae sp. (indeterminate)
- Hesionidae
 - Hesionidae sp. (indeterminate)
 - Podarkeopsis levifuscina
- Maldanidae
 - Asychis elongata
 - Clymenella torquata
 - Macroclymene zonalis
 - Maldanidae sp. (indeterminate)
- Nephtyidae
 - Nephtys cf. cryptomma
 - Nephtys sp. (juvenile)
- Nereididae
 - Nereis grayi
 - Nereis succinea
- Orbiniidae
 - Orbiniidae sp. (juvenile)
- Oweniidae
 - Owenia fusiformis
- Pectinariidae
 - Pectinaria gouldii
- Phyllodocidae
 - Eteone heteropoda
- Pilargiidae
 - Sigambra tentaculata

Polynoidae
 Lepidametria commensalis
 Malmgreniella sp. A
 Sabellariidae
 Sabellaria vulgaris
 Spionidae
 Paraprionospio pinnata
 Polydora cornuta
 Prionospio (Minuspio) perkinsi
 Spiophanes bombyx
 Streblospio benedicti
 Terebellidae
 Loimia medusa
PELECYPODA
 Arcidae
 Anadara ovalis
 Lasaeidae
 Aligena elevata
 Mactridae
 Mulinia lateralis
 Mytilidae
 Mytilidae sp. (juvenile)
 Nuculanidae
 Yoldia limatula
 Pelecypoda sp. (indeterminate)
 Tellinidae
 Macoma balthica
 Macoma tenta
 Tellinidae sp. (juvenile)
GASTROPODA
 Acteocinidae
 Acteocina canaliculata
 Columbellidae
 Anachis lafresnayi
 Pyramidellidae
 Odostomia cf. engonia
 Turbonilla interrupta
 Vitrinellidae
 Cyclostremiscus pentagonus
AMPHIPODA
 Ampeliscidae
 Ampelisca abdita
 Ampelisca sp. (juvenile)
 Caprellidae
 Paracaprella tenuis
 Corophiidae
 Corophium tuberculatum
 Ischryoceridae
 Erichthonius brasiliensis
 Liljeborgiidae
 Idunella barnardi
 Idunella clymenellae

Stenothoidae
 Parametopella cypris
 CUMACEA
 Diastylidae
 Oxyurostylis smithi
 Leuconidae
 Leucon americanus
 CIRRIPIEDIA
 Balanidae
 Balanus improvisus
 STOMATOPODA
 Squillidae
 Squilla empusa
 DECAPODA (Brachyura)
 Pinnotheridae
 Pinnixa retinens
 DECAPODA (Caridea)
 Ogyrididae
 Ogyrides alphaerostris
 MISCELLANEOUS TAXA
 Nemertinea
 Amphiporus bioculatus
 Cerebratulus lacteus
 Micrura rubra
 Nemertinea sp. A
 Tubulanus pellicidus
 Turbellaria
 Euplana gracilis
 Stylochus ellipticus
 Asciacea
 Mogula manhattensis
 Ophiuroidea
 Microphiopholis atra
 Oligochaeta
 Phoronida
 Phoronis sp.
 Hemichordata
 Saccoglossus kowalevskii

STA: 11

NUMBER OF VALID OBSERVATIONS (LISTWISE) =				2.00			
LABEL	MEAN	STD DEV	MINIMUM	MAXIMUM	VALID	N	SPECIES
SP1	1.500	.707	1	2	2	2	TURBONILLA INTERRUPTA
SP2	2.500	2.121	1	4	2	2	ANACHIS LAFRESNAYI
SP3	6.000	5.657	2	10	2	2	CYCLOSTREMISCUS PENTAGONA
SP4	2.500	3.536	0	5	2	2	ODOSTOMIA ENGONIA
SP5	4.000	2.828	2	6	2	2	ACTEOCINA CANALICULATA
SP6	3.000	1.414	2	4	2	2	YOLDIA LIMATULA
SP7	.500	.707	0	1	2	2	MYTILIDAE
SP8	1.000	1.414	0	2	2	2	MOLGULA MANHATTENSIS
SP9	12.500	6.364	8	17	2	2	TUBULANUS PELLUCIDUS
SP10	.500	.707	0	1	2	2	PHORONIS
SP11	.500	.707	0	1	2	2	OGYRIDES ALPHAEROSTRIS
SP12	7.000	9.899	0	14	2	2	IDUNELLA BARNARDI
SP13	.500	.707	0	1	2	2	LEUCON AMERICANUS
SP14	1.500	.707	1	2	2	2	AMPELISCA
SP15	3.500	2.121	2	5	2	2	PECTINARIA GOULDII
SP16	5.000	.000	5	5	2	2	ASABELLIDES OCULATA
SP17	12.000	12.728	3	21	2	2	PSEUDEURYTHOE PAUCIBRANCHIATA
SP18	6.000	2.828	4	8	2	2	POLYDORA CORNUTA
SP19	13.500	3.536	11	16	2	2	STREBLOSPID BENEDICTI
SP20	75.500	2.121	74	77	2	2	PARAPRIONOSPID PINNATA
SP21	1.500	.707	1	2	2	2	GLYCERA AMERICANA
SP22	2.000	2.828	0	4	2	2	BHAWANIA HETEROSETA
SP23	4.500	4.950	1	8	2	2	NEPHTYS CF. CRYPTOMMA
SP24	.500	.707	0	1	2	2	NEREIS SUCCINEA
SP25	3.000	.000	3	3	2	2	OLIGOCHAETA
SP26	55.000	11.314	47	63	2	2	MEDIOMASTUS AMBISETA
SP27	2.000	1.414	1	3	2	2	ETEONE HETEROPODA
SP28	1.000	.000	1	1	2	2	PRIONOSPID PERKINSI
SP29	2.500	2.121	1	4	2	2	SIGAMBRA TENTACULATA
SP30	.500	.707	0	1	2	2	MICRURA RUBRA
SP31	.500	.707	0	1	2	2	AMPELISCA ABDITA
SP32	.500	.707	0	1	2	2	OWENIA FUSIFORMIS
SP33	.500	.707	0	1	2	2	LOIMIA MEDUSA
SP34	1.000	1.414	0	2	2	2	NEREIS GRAYI
SP35	.500	.707	0	1	2	2	SPIOCHAETOPTERUS COSTARUM

STA: 13

NUMBER OF VALID OBSERVATIONS (LISTWISE) = LABEL	MEAN	STD DEV	MINIMUM	2.00		SPECIES
				MAXIMUM	VALID N	
SP1	.500	.707	0	1	2	TURBONILLA INTERRUPTA
SP2	7.000	4.243	4	10	22	ANACHIS LAFRESNAYI
SP3	8.500	4.950	5	12	22	CYCLOSTREMISCUS PENTAGONA
SP4	1.000	.000	1	1	22	ODOSTOMIA ENGONIA
SP5	1.000	.000	1	1	22	ACTEOCINA CANALICULATA
SP6	5.500	.707	5	6	22	YOLDIA LIMATULA
SP7	4.500	6.354	0	9	22	MYTILIDAE
SP9	7.000	4.243	4	10	22	TUBULANUS PELLUCIDUS
SP10	.500	.707	0	1	22	PHORONIS
SP12	1.500	.707	1	2	22	IDUNELLA BARNARDI
SP13	.500	.707	0	1	22	LEUCON AMERICANUS
SP14	.500	.707	0	1	22	AMPELISCA
SP15	3.500	.707	3	4	22	PECTINARIA GOULDII
SP16	3.000	2.828	1	5	22	ASABELLIDES OCVLATA
SP17	21.500	27.577	2	41	22	PSEUDEURYTHOE PAUCIBRANCHIATA
SP19	.500	.707	0	1	22	STREBLOSPIO BENEDICTI
SP20	36.500	30.406	15	58	22	PARAPRIONOSPIO PINNATA
SP21	.500	.707	0	1	22	GLYCERA AMERICANA
SP22	13.500	9.192	7	20	22	BHAWANIA HETEROSETA
SP23	4.000	2.828	2	6	22	NEPHTYS CF. CRYPTOMMA
SP26	.500	.707	0	1	22	MEDIOMASTUS AMBISETA
SP29	2.000	2.828	0	4	22	SIGAMBRA TENTACULATA
SP30	1.000	1.414	0	2	22	MICRURA RUBRA
SP33	3.000	1.414	2	4	22	LOIMIA MEDUSA
SP34	1.000	.000	1	1	22	NEREIS GRAYI
SP36	1.500	.707	1	2	22	MACOMA TENTA
SP37	.500	.707	0	1	22	ASYCHIS ELONGATA
SP38	.500	.707	0	1	22	CLYMENELLA TORQUATA
SP39	.500	.707	0	1	22	ORBINIIDAE
SP40	.500	.707	0	1	22	IDUNELLA CLYMENELLAE
SP41	.500	.707	0	1	22	PARACAPRELLA TENUIS
SP42	.500	.707	0	1	22	ERICHTHONIUS BRASILIENSIS
SP43	.500	.707	0	1	22	STYLOCHUS ELLIPTICUS
SP44	.500	.707	0	1	22	EUPLANA GRACILIS
SP45	.500	.707	0	1	22	CEREBRATULUS LACTEUS

STA: 15

LABEL	NUMBER OF VALID OBSERVATIONS (LISTWISE) =				2.00 MAXIMUM VALID N	SPECIES
	MEAN	STD DEV	MINIMUM			
SP1	1.000	1.414	0	0	2	TURBONILLA INTERRUPTA
SP2	9.000	9.899	2	2	16	ANACHIS LAFRESNAYI
SP3	5.500	7.778	0	0	11	CYCLOSTREMISCUS PENTAGONA
SP4	12.000	16.971	0	0	24	ODOSTOMIA ENGNIA
SP5	3.000	4.243	0	0	6	ACTEOCINA CANALICULATA
SP6	1.500	.707	1	1	2	YOLDIA LIMATULA
SP7	4.000	1.414	3	3	5	MYTILIDAE
SP9	4.500	3.536	2	2	7	TUBULANUS PELLUCIDUS
SP10	10.000	2.828	8	8	12	PHORONIS
SP11	.500	.707	0	0	1	OGYRIDES ALPHAEROSTRIS
SP15	.500	.707	0	0	1	PECTINARIA GOULDII
SP16	5.000	4.243	2	2	8	ASABELLIDES OCLULATA
SP17	11.500	12.021	3	3	20	PSEUDEURYTHOE PAUCIBRANCHIATA
SP18	1.000	1.414	0	0	2	POLYDORA CORNUTA
SP19	40.500	36.062	15	15	66	STREBLOSPID BENEDICTI
SP20	24.500	34.648	0	0	49	PARAPRIONOSPID PINNATA
SP21	.500	.707	0	0	1	GLYCERA AMERICANA
SP22	1.500	.707	1	1	2	BHAWANIA HETEROSETA
SP23	3.500	4.950	0	0	7	NEPHTYS CF. CRYPTOMMA
SP25	3.000	4.243	0	0	6	OLIGOCHAETA
SP26	12.500	13.435	3	3	22	MEDIOMASTUS AMBISETA
SP27	.500	.707	0	0	1	ETEONE HETEROPODA
SP28	6.000	8.485	0	0	12	PRIONOSPID PERKINSI
SP29	7.000	5.657	3	3	11	SIGAMBRA TENTACULATA
SP30	1.500	2.121	0	0	3	MICRURA RUBRA
SP34	.500	.707	0	0	1	NEREIS GRAYI
SP37	.500	.707	0	0	1	ASYCHIS ELONGATA
SP39	.500	.707	0	0	1	ORBINIIDAE
SP46	.500	.707	0	0	1	MACOMA BALTHICA
SP47	1.000	1.414	0	0	2	MICROPHIOPHOLIS ATRA
SP48	.500	.707	0	0	1	NEPHTYS
SP49	2.000	.000	2	2	2	CAPITELLA CAPITATA
SP50	.500	.707	0	0	1	MELINNA MACULATA
SP51	2.000	2.828	0	0	4	MALMGRENIELLA SP. A
SP52	.500	.707	0	0	1	GONIADIDAE
SP53	2.000	2.828	0	0	4	MULINIA LATERALIS
SP54	.500	.707	0	0	1	AMPHIPORUS BIOCULATUS
SP55	.500	.707	0	0	1	MACROCLYMENE ZONALIS

STA: 17

LABEL	NUMBER OF VALID OBSERVATIONS (LISTWISE) =			2.00 MAXIMUM	VALID N	SPECIES
	MEAN	STD DEV	MINIMUM			
SP1	1.500	.707	1	2	2	TURBONILLA INTERRUPTA
SP2	5.500	.707	5	6	2	ANACHIS LAFRESNAYI
SP3	3.500	.707	3	4	2	CYCLOSTREMISCUS PENTAGONA
SP4	2.500	3.536	0	5	2	ODOSTOMIA ENGONIA
SP5	2.000	.000	2	2	2	ACTEOCINA CANALICULATA
SP6	1.000	1.414	0	2	2	YOLDIA LIMATULA
SP7	5.500	7.778	0	11	2	MYTILIDAE
SP8	.500	.707	0	1	2	MOLGULA MANHATTENSIS
SP9	1.500	.707	1	2	2	TUBULANUS PELLUCIDUS
SP10	3.000	2.828	1	5	2	PHORONIS
SP12	3.500	.707	3	4	2	IDUNELLA BARNARDI
SP13	1.500	2.121	0	3	2	LEUCON AMERICANUS
SP14	2.000	2.828	0	4	2	AMPELISCA
SP15	3.500	.707	3	4	2	PECTINARIA GOULDII
SP16	1.000	.000	1	1	2	ASABELLIDES OCULATA
SP17	13.500	2.121	12	15	2	PSEUDEURYTHOE PAUCIBRANCHIATA
SP18	4.500	6.364	0	9	2	POLYDORA CORNUTA
SP19	1.500	.707	1	2	2	STREBLOSPIO BENEDICTI
SP20	76.500	30.406	55	98	2	PARAPRIONOSPPIO PINNATA
SP21	.500	.707	0	1	2	GLYCERA AMERICANA
SP22	8.000	2.828	6	10	2	BHAWANIA HETEROSETA
SP23	5.500	2.121	4	7	2	NEPHTYS CF. CRYPTOMMA
SP26	1.000	1.414	0	2	2	MEDIOMASTUS AMBISETA
SP27	.500	.707	0	1	2	ETEONE HETEROPODA
SP29	5.000	4.243	2	8	2	SIGAMBRA TENTACULATA
SP30	1.000	1.414	0	2	2	MICRURA RUBRA
SP31	.500	.707	0	1	2	AMPELISCA ABDITA
SP33	2.000	2.828	0	4	2	LOIMIA MEDUSA
SP36	.500	.707	0	1	2	MACOMA TENTA
SP38	.500	.707	0	1	2	CLYMENELLA TORQUATA
SP39	.500	.707	0	1	2	ORBINIIDAE
SP41	.500	.707	0	1	2	PARACAPRELLA TENUIS
SP43	.500	.707	0	1	2	STYLOCHUS ELLIPTICUS
SP47	1.000	1.414	0	2	2	MICROPHIOPHOLIS ATRA
SP51	1.000	1.414	0	2	2	MALMGRENIELLA SP. A
SP54	.500	.707	0	1	2	AMPHIPORUS BIOCULATUS
SP56	.500	.707	0	1	2	ALIGENA ELEVATA
SP57	.500	.707	0	1	2	COROPHIUM TUBERCULATUM
SP58	.500	.707	0	1	2	LEPIDAMETRIA COMMENSALIS
SP59	.500	.707	0	1	2	CHAETOPTERUS VARIOPEDATUS
SP60	1.500	.707	1	2	2	GLYCIDAE SOLITARIA
SP61	.500	.707	0	1	2	PINNIXA RETINENS
SP62	.500	.707	0	1	2	SACCOGLOSSUS KOWALEWSKII
SP63	.500	.707	0	1	2	RHYNCHOCOEL SP A

STA: 22

LABEL	NUMBER OF VALID OBSERVATIONS (LISTWISE) =			2.00		SPECIES
	MEAN	STD DEV	MINIMUM	MAXIMUM	VALID N	
SP1	.500	.707	0	1	2	TURBONILLA INTERRUPTA
SP2	4.000	2.828	2	6	2	ANACHIS LAFRESNAYI
SP3	4.000	5.657	0	8	2	CYCLOSTREMISCUS PENTAGONA
SP4	1.500	2.121	0	3	2	ODOSTOMIA ENGONIA
SP5	1.000	1.414	0	2	2	ACTEOCINA CANALICULATA
SP6	3.000	4.243	0	6	2	YOLDIA LIMATULA
SP9	12.000	7.071	7	17	2	TUBULANUS PELLUCIDUS
SP10	2.000	2.828	0	4	2	PHORONIS
SP12	3.500	3.536	1	6	2	IDUNELLA BARNARDI
SP15	4.500	3.536	2	7	2	PECTINARIA GOULDII
SP17	25.500	23.335	9	42	2	PSEUDEURYTHOE PAUCIBRANCHIATA
SP18	2.000	1.414	1	3	2	POLYDORA CORNUTA
SP19	2.500	3.536	0	5	2	STREBLOSPIO BENEDICTI
SP20	76.500	16.263	65	88	2	PARAPRIONOSPIO PINNATA
SP22	4.000	5.657	0	8	2	BHAWANIA HETEROSETA
SP23	4.000	.000	4	4	2	NEPHTYS CF. CRYPTOMMA
SP24	.500	.707	0	1	2	NEREIS SUCCINEA
SP25	.500	.707	0	1	2	OLIGOCHAETA
SP26	1.000	1.414	0	2	2	MEDIOMASTUS AMBISETA
SP27	1.000	1.414	0	2	2	ETEONE HETEROPODA
SP29	1.500	2.121	0	3	2	SIGAMBRA TENTACULATA
SP36	.500	.707	0	1	2	MACOMA TENTA
SP37	1.000	.000	1	1	2	ASYCHIS ELONGATA
SP43	1.000	1.414	0	2	2	STYLOCHUS ELLIPTICUS
SP60	1.000	1.414	0	2	2	GLYCIDAE SOLITARIA
SP64	.500	.707	0	1	2	ANADARA OVALIS

STA: 24

NUMBER OF VALID OBSERVATIONS (LISTWISE) =				2.00		SPECIES
LABEL	MEAN	STD DEV	MINIMUM	MAXIMUM	VALID N	
SP1	1.000	.000	1	1	2	TURBONILLA INTERRUPTA
SP2	8.000	8.485	2	14	2	ANACHIS LAFRESNAYI
SP3	1.500	2.121	0	3	2	CYCLOSTREMISCUS PENTAGONA
SP5	5.500	4.950	2	9	2	ACTEOCINA CANALICULATA
SP6	2.000	1.414	1	3	2	YOLDIA LIMATULA
SP7	1.000	1.414	0	2	2	MYTILIDAE
SP9	6.500	2.121	5	8	2	TUBULANUS PELLUCIDUS
SP10	.500	.707	0	1	2	PHORONIS
SP12	3.000	2.828	1	5	2	IDUNELLA BARNARDI
SP13	1.000	.000	1	1	2	LEUCON AMERICANUS
SP14	1.000	.000	1	1	2	AMPELISCA
SP15	2.000	1.414	1	3	2	PECTINARIA GOULDII
SP16	1.000	1.414	0	2	2	ASABELLIDES OCVLATA
SP17	23.000	24.042	6	40	2	PSEUDEURYTHOE PAUCIBRANCHIATA
SP18	.500	.707	0	1	2	POLYDORA CORNUTA
SP19	15.500	21.920	0	31	2	STREBLOSPPIO BENEDICTI
SP20	35.000	11.314	27	43	2	PARAPRIONOSPPIO PINNATA
SP22	3.000	1.414	2	4	2	BHAWANIA HETEROSETA
SP23	2.500	2.121	1	4	2	NEPTYYS CF. CRYPTOMMA
SP25	3.000	4.243	0	6	2	OLIGOCHAETA
SP26	6.500	7.778	1	12	2	MEDIOMASTUS AMBISETA
SP27	1.500	2.121	0	3	2	ETEONE HETEROPODA
SP28	1.000	1.414	0	2	2	PRIONOSPPIO PERKINSI
SP29	6.000	5.657	2	10	2	SIGAMBRA TENTACULATA
SP30	1.000	1.414	0	2	2	MICRURA RUBRA
SP33	2.000	1.414	1	3	2	LOIMIA MEDUSA
SP37	1.000	.000	1	1	2	ASYCHIS ELONGATA
SP43	.500	.707	0	1	2	STYLOCHUS ELLIPTICUS
SP55	.500	.707	0	1	2	MACROCLYMENE ZONALIS
SP58	1.000	1.414	0	2	2	LEPIDAMETRIA COMMENSALIS
SP60	.500	.707	0	1	2	GLYCIDINE SOLITARIA
SP65	.500	.707	0	1	2	OXYUROSTYLIS SMITHI
SP66	.500	.707	0	1	2	SPIOPHANES BOMBYX
SP67	.500	.707	0	1	2	PODARKEOPSIS LEVIFUSCINA

STA: 26

LABEL	NUMBER OF VALID OBSERVATIONS (LISTWISE) =			2.00		SPECIES
	MEAN	STD DEV	MINIMUM	MAXIMUM	VALID N	
SP1	1.500	.707	1	2	2	TURBONILLA INTERRUPTA
SP2	7.500	4.950	4	11	2	ANACHIS LAFRESNAYI
SP3	12.500	16.263	1	24	2	CYCLOSTREMISCUS PENTAGONA
SP4	3.000	2.828	1	5	2	ODOSTOMIA ENGONIA
SP5	2.500	.707	2	3	2	ACTEOCINA CANALICULATA
SP6	5.000	1.414	4	6	2	YOLDIA LIMATULA
SP9	10.000	4.243	7	13	2	TUBULANUS PELLUCIDUS
SP10	1.000	1.414	0	2	2	PHORONIS
SP12	1.000	1.414	0	2	2	IDUNELLA BARNARDI
SP13	2.000	.000	2	2	2	LEUCON AMERICANUS
SP14	1.500	2.121	0	3	2	AMPELISCA
SP15	1.500	2.121	0	3	2	PECTINARIA GOULDII
SP16	10.500	6.364	6	15	2	ASABELLIDES OCLATA
SP17	35.000	35.355	10	60	2	PSEUDEURYTHOE PAUCIBRANCHIATA
SP18	1.500	.707	1	2	2	POLYDORA CORNUTA
SP19	35.500	7.778	30	41	2	STREBLOSPIO BENEDICTI
SP20	75.000	15.556	64	86	2	PARAPRIONOSPPIO PINNATA
SP21	.500	.707	0	1	2	GLYCERA AMERICANA
SP22	1.500	.707	1	2	2	BHAWANIA HETEROSETA
SP23	1.500	.707	1	2	2	NEPHTYS CF. CRYPTOMMA
SP25	12.500	13.435	3	22	2	OLIGOCHAETA
SP26	30.000	24.042	13	47	2	MEDIOMASTUS AMBISETA
SP27	2.000	2.828	0	4	2	ETEONE HETEROPODA
SP28	4.000	1.414	3	5	2	PRIONOSPPIO PERKINSI
SP29	9.500	.707	9	10	2	SIGAMBRA TENTACULATA
SP30	4.000	1.414	3	5	2	MICRURA RUBRA
SP31	.500	.707	0	1	2	AMPELISCA ABDITA
SP33	1.500	.707	1	2	2	LOIMIA MEDUSA
SP34	.500	.707	0	1	2	NEREIS GRAYI
SP36	2.000	.000	2	2	2	MACOMA TENTA
SP38	.500	.707	0	1	2	CLYMENELLA TORQUATA
SP39	1.500	.707	1	2	2	ORBINIIDAE
SP54	.500	.707	0	1	2	AMPHIPORUS BIOCULATUS
SP60	1.500	2.121	0	3	2	GLYCINDE SOLITARIA
SP62	.500	.707	0	1	2	SACCOGLOSSUS KOWALEWSKII
SP68	.500	.707	0	1	2	TELLINIDAE
SP69	.500	.707	0	1	2	HESIONIDAE
SP70	.500	.707	0	1	2	GLYCERA

STA: 28

NUMBER OF VALID OBSERVATIONS (LISTWISE) = LABEL	MEAN	STD DEV	MINIMUM	2.00		SPECIES
				MAXIMUM	VALID N	
SP1	1.500	.707	1	2	2	TURBONILLA INTERRUPTA
SP2	6.000	1.414	5	7	2	ANACHIS LAFRESNAYI
SP3	13.000	15.556	2	24	2	CYCLOSTREMISCUS PENTAGONA
SP4	.500	.707	0	1	2	ODOSTOMIA ENGONIA
SP5	1.000	.000	1	1	2	ACTEOCINA CANALICULATA
SP6	2.000	.000	2	2	2	YOLDIA LIMATULA
SP7	1.500	2.121	0	3	2	MYTILIDAE
SP9	6.000	1.414	5	7	2	TUBULANUS PELLUCIDUS
SP10	2.500	2.121	1	4	2	PHORONIS
SP11	1.000	1.414	0	2	2	OGYRIDES ALPHAEROSTRIS
SP12	1.000	1.414	0	2	2	IDUNELLA BARNARDI
SP14	2.500	3.536	0	5	2	AMPELISCA
SP15	2.500	.707	2	3	2	PECTINARIA GOULDII
SP16	3.000	2.828	1	5	2	ASABELLIDES OCLATA
SP17	21.000	22.627	5	37	2	PSEUDEURYTHOE PAUCIBRANCHIATA
SP18	3.000	.000	3	3	2	POLYDORA CORNUTA
SP19	19.000	26.870	0	38	2	STREBLOSPIO BENEDICTI
SP20	62.000	1.414	61	63	2	PARPRIONOSPIO PINNATA
SP21	.500	.707	0	1	2	GLYCERA AMERICANA
SP22	7.500	9.192	1	14	2	BHAWANIA HETEROSETA
SP23	5.500	6.354	1	10	2	NEPHTYS CF. CRYPTOMMA
SP25	.500	.707	0	1	2	OLIGOCHAETA
SP26	15.000	21.213	0	30	2	MEDIOMASTUS AMBISETA
SP27	1.500	.707	1	2	2	ETEONE HETEROPODA
SP29	5.000	4.243	2	8	2	SIGAMBRA TENTACULATA
SP30	1.500	2.121	0	3	2	MICRURA RUBRA
SP31	1.000	.000	1	1	2	AMPELISCA ABDITA
SP32	.500	.707	0	1	2	OWENIA FUSIFORMIS
SP33	2.500	3.536	0	5	2	LOIMIA MEDUSA
SP34	.500	.707	0	1	2	NEREIS GRAYI
SP35	.500	.707	0	1	2	SPIOCHAETOPTERUS COSTARUM
SP36	2.000	1.414	1	3	2	MACOMA TENTA
SP38	.500	.707	0	1	2	CLYMENELLA TORQUATA
SP43	1.000	.000	1	1	2	STYLOCHUS ELLIPTICUS
SP60	1.500	2.121	0	3	2	GLYCIDAE SOLITARIA
SP63	.500	.707	0	1	2	RHYNCHOCOEL SP A
SP71	.500	.707	0	1	2	PARAMETOPELLA CYPRIIS
SP72	.500	.707	0	1	2	CIRRIFORMIA GRANDIS
SP73	.500	.707	0	1	2	SQUILLA EMPUSA

STA: 31

NUMBER OF VALID OBSERVATIONS (LISTWISE) =				2.00			
LABEL	MEAN	STD DEV	MINIMUM	MAXIMUM	VALID	N	SPECIES
SP1	.500	.707	0	1	2	2	TURBONILLA INTERRUPTA
SP2	4.000	1.414	3	5	2	2	ANACHIS LAFRESNAYI
SP3	21.000	8.485	15	27	2	2	CYCLOSTREMISCUS PENTAGONA
SP4	1.500	.707	1	2	2	2	ODOSTOMIA ENGONIA
SP5	.500	.707	0	1	2	2	ACTEOCINA CANALICULATA
SP6	4.000	4.243	1	7	2	2	YOLDIA LIMATULA
SP9	6.000	1.414	5	7	2	2	TUBULANUS PELLUCIDUS
SP10	1.000	1.414	0	2	2	2	PHORONIS
SP12	1.500	2.121	0	3	2	2	IDUNELLA BARNARDI
SP13	.500	.707	0	1	2	2	LEUCON AMERICANUS
SP14	.500	.707	0	1	2	2	AMPELISCA
SP15	2.000	1.414	1	3	2	2	PECTINARIA GOULDII
SP17	5.000	5.657	1	9	2	2	PSEUDEURYTHOE PAUCIBRANCHIATA
SP18	.500	.707	0	1	2	2	POLYDORA CORNUTA
SP20	56.500	4.950	53	60	2	2	PARAPRIONOSPID PINNATA
SP21	.500	.707	0	1	2	2	GLYCERA AMERICANA
SP23	3.500	3.536	1	6	2	2	NEPHTYS CF. CRYPTOMMA
SP30	.500	.707	0	1	2	2	MICRURA RUBRA
SP33	1.000	.000	1	1	2	2	LOIMIA MEDUSA
SP34	.500	.707	0	1	2	2	NEREIS GRAYI
SP37	1.000	1.414	0	2	2	2	ASYCHIS ELONGATA
SP52	.500	.707	0	1	2	2	GONIADIDAE
SP62	.500	.707	0	1	2	2	SACCOGLOSSUS KOWALEWSKII
SP65	.500	.707	0	1	2	2	OXYUROSTYLIS SMITHI
SP68	.500	.707	0	1	2	2	TELLINIDAE
SP74	1.000	1.414	0	2	2	2	PELECYPODA

STA: 33

NUMBER OF VALID OBSERVATIONS (LISTWISE) =				2.00		
LABEL	MEAN	STD DEV	MINIMUM	MAXIMUM	VALID N	SPECIES
SP2	12.500	3.536	10	15	2	ANACHIS LAFRESNAYI
SP3	145.500	201.525	3	288	2	CYCLOSTREMISCUS PENTAGONA
SP4	.500	.707	0	1	2	ODOSTOMIA ENGONIA
SP5	.500	.707	0	1	2	ACTEOCINA CANALICULATA
SP6	7.000	1.414	6	8	2	YOLDIA LIMATULA
SP7	7.000	7.071	2	12	2	MYTILIDAE
SP8	1.500	.707	1	2	2	MOLGULA MANHATTENSIS
SP9	4.000	.000	4	4	2	TUBULANUS PELLUCIDUS
SP12	2.000	2.828	0	4	2	IDUNELLA BARNARDI
SP13	1.000	.000	1	1	2	LEUCON AMERICANUS
SP14	1.000	1.414	0	2	2	AMPELISCA
SP15	2.000	.000	2	2	2	PECTINARIA GOULDII
SP17	11.000	11.314	3	19	2	PSEUDEURYTHOE PAUCIBRANCHIATA
SP18	5.000	.000	5	5	2	POLYDORA CORNUTA
SP20	45.000	41.012	16	74	2	PARAPRIONOSPIO PINNATA
SP21	1.000	1.414	0	2	2	GLYCERA AMERICANA
SP22	11.500	3.536	9	14	2	BHAWANIA HETEROSETA
SP23	6.500	.707	6	7	2	NEPHTYS CF. CRYPTOMMA
SP24	.500	.707	0	1	2	NEREIS SUCCINEA
SP27	.500	.707	0	1	2	ETEONE HETEROPODA
SP29	1.500	.707	1	2	2	SIGAMBRA TENTACULATA
SP30	1.000	1.414	0	2	2	MICRURA RUBRA
SP33	.500	.707	0	1	2	LOIMIA MEDUSA
SP34	2.000	1.414	1	3	2	NEREIS GRAYI
SP36	.500	.707	0	1	2	MACOMA TENTA
SP43	2.000	1.414	1	3	2	STYLOCHUS ELLIPTICUS
SP51	.500	.707	0	1	2	MALMGRENIELLA SP. A
SP54	1.000	1.414	0	2	2	AMPHIPORUS BIOCULATUS
SP59	1.000	1.414	0	2	2	CHAETOPTERUS VARIOPEDATUS
SP62	1.500	.707	1	2	2	SACCOGLOSSUS KOWALEWSKII
SP64	1.000	1.414	0	2	2	ANADARA OVALIS
SP68	.500	.707	0	1	2	TELLINIDAE
SP73	.500	.707	0	1	2	SQUILLA EMPUSA
SP75	.500	.707	0	1	2	BALANUS IMPROVISUS

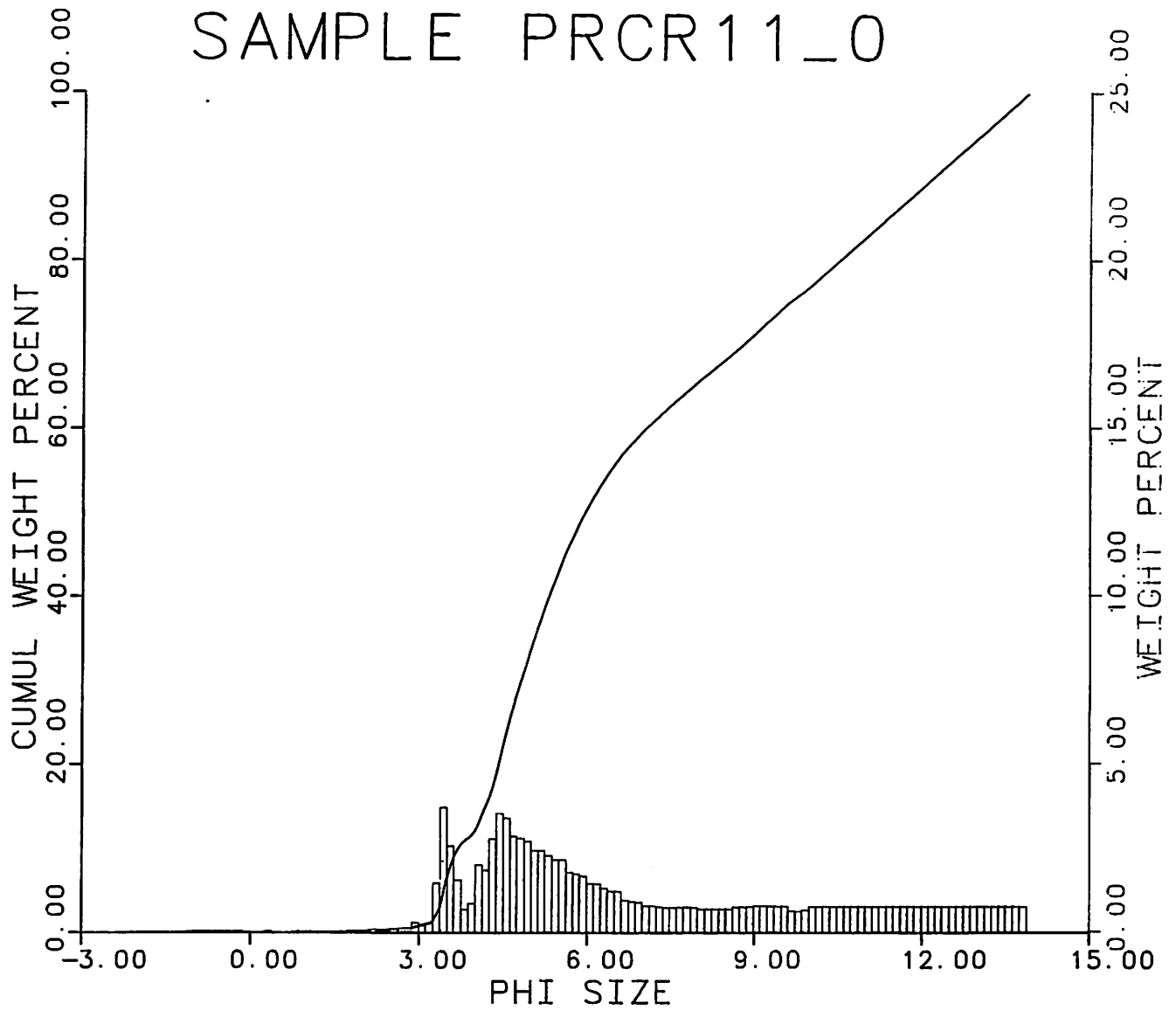
STA: 35

NUMBER OF VALID OBSERVATIONS (LISTWISE) =				2.00		
LABEL	MEAN	STD DEV	MINIMUM	MAXIMUM	VALID N	SPECIES
SP1	1.000	.000	1	1	2	TURBONILLA INTERRUPTA
SP2	10.000	2.828	8	12	2	ANACHIS LAFRESNAYI
SP3	5.000	5.657	1	9	2	CYCLOSTREMISCUS PENTAGONA
SP4	.500	.707	0	1	2	ODOSTOMIA ENGONIA
SP5	.500	.707	0	1	2	ACTEOCINA CANALICULATA
SP6	2.500	2.121	1	4	2	YOLDIA LIMATULA
SP7	3.000	2.828	1	5	2	MYTILIDAE
SP9	8.000	2.828	6	10	2	TUBULANUS PELLUCIDUS
SP10	3.500	4.950	0	7	2	PHORONIS
SP11	.500	.707	0	1	2	OGYRIDES ALPHAEROSTRIS
SP13	.500	.707	0	1	2	LEUCON AMERICANUS
SP15	4.500	2.121	3	6	2	PECTINARIA GOULDII
SP16	3.500	.707	3	4	2	ASABELLIDES OCLATA
SP17	9.500	12.021	1	18	2	PSEUDEURYTHOE PAUCIBRANCHIATA
SP19	14.000	8.485	8	20	2	STREBLOSPIO BENEDICTI
SP20	35.000	15.556	24	46	2	PARAPRIONOSPIO PINNATA
SP21	.500	.707	0	1	2	GLYCERA AMERICANA
SP22	5.500	2.121	4	7	2	BHAWANIA HETEROSETA
SP23	3.000	1.414	2	4	2	NEPHTYS CF. CRYPTOMMA
SP25	1.500	2.121	0	3	2	OLIGOCHAETA
SP26	17.000	12.728	8	26	2	MEDIOMASTUS AMBISETA
SP27	2.000	.000	2	2	2	ETEONE HETEROPODA
SP28	4.000	1.414	3	5	2	PRIONOSPIO PERKINSI
SP29	4.000	2.828	2	6	2	SIGAMBRA TENTACULATA
SP30	3.500	2.121	2	5	2	MICRURA RUBRA
SP32	.500	.707	0	1	2	OWENIA FUSIFORMIS
SP33	.500	.707	0	1	2	LOIMIA MEDUSA
SP34	1.000	.000	1	1	2	NEREIS GRAYI
SP36	.500	.707	0	1	2	MACOMA TENTA
SP39	1.500	.707	1	2	2	ORBINIIDAE
SP47	2.500	.707	2	3	2	MICROPHIOPHOLIS ATRA
SP49	.500	.707	0	1	2	CAPITELLA CAPITATA
SP51	2.500	.707	2	3	2	MALMGRENIELLA SP. A
SP60	1.000	.000	1	1	2	GLYCIDAE SOLITARIA
SP62	.500	.707	0	1	2	SACCOGLOSSUS KOWALEWSKII
SP68	.500	.707	0	1	2	TELLINIDAE
SP72	.500	.707	0	1	2	CIRRIFORMIA GRANDIS
SP76	2.000	1.414	1	3	2	CIRRATULIDAE

STA: 37

LABEL	MEAN	STD DEV	MINIMUM	2.00 MAXIMUM	VALID N	SPECIES
SP2	4.500	.707	4	5	2	ANACHIS LAFRESNAYI
SP3	.500	.707	0	1	2	CYCLOSTREMISCUS PENTAGONA
SP4	2.000	2.828	0	4	2	ODOSTOMIA ENGONIA
SP5	1.000	1.414	0	2	2	ACTEOCINA CANALICULATA
SP6	5.000	2.828	3	7	2	YOLDIA LIMATULA
SP7	2.500	3.536	0	5	2	MYTILIDAE
SP8	2.500	3.536	0	5	2	MOLGULA MANHATTENSIS
SP9	7.500	3.536	5	10	2	TUBULANUS PELLUCIDUS
SP10	2.000	2.828	0	4	2	PHORONIS
SP11	.500	.707	0	1	2	OGYRIDES ALPHAEROSTRIS
SP12	2.000	2.828	0	4	2	IDUNELLA BARNARDI
SP15	7.000	1.414	6	8	2	PECTINARIA GOULDII
SP16	.500	.707	0	1	2	ASABELLIDES OCVLATA
SP17	23.500	31.820	1	46	2	PSEUDEURYTHOE PAUCIBRANCHIATA
SP18	1.500	2.121	0	3	2	POLYDORA CORNUTA
SP20	69.500	17.678	57	82	2	PARAPRIONOSPIO PINNATA
SP22	26.000	28.284	6	46	2	BHAWANIA HETEROSETA
SP23	9.000	1.414	8	10	2	NEPHTYS CF. CRYPTOMMA
SP29	1.500	.707	1	2	2	SIGAMBRA TENTACULATA
SP30	1.000	.000	1	1	2	MICRURA RUBRA
SP33	3.500	3.536	1	6	2	LOIMIA MEDUSA
SP34	1.500	.707	1	2	2	NEREIS GRAYI
SP36	2.500	3.536	0	5	2	MACOMA TENTA
SP43	2.000	2.828	0	4	2	STYLOCHUS ELLIPTICUS
SP47	.500	.707	0	1	2	MICROPHIOPHOLIS ATRA
SP51	.500	.707	0	1	2	MALMGRENIELLA SP. A
SP68	.500	.707	0	1	2	TELLINIDAE
SP77	1.000	1.414	0	2	2	MALDANIDAE
SP78	.500	.707	0	1	2	SABELLARIA VULGARIS

SAMPLE PRCR11_0



Sample Location

LATITUDE _____ 0-0-0
 LONGITUDE _____ 0-0-0
 DEPTH (m) _____ 0.00

Gross Parameters

GRAVEL (%) _____ 0.0
 SAND (%) _____ 12.5
 SILT (%) _____ 49.6
 CLAY (%) _____ 37.9

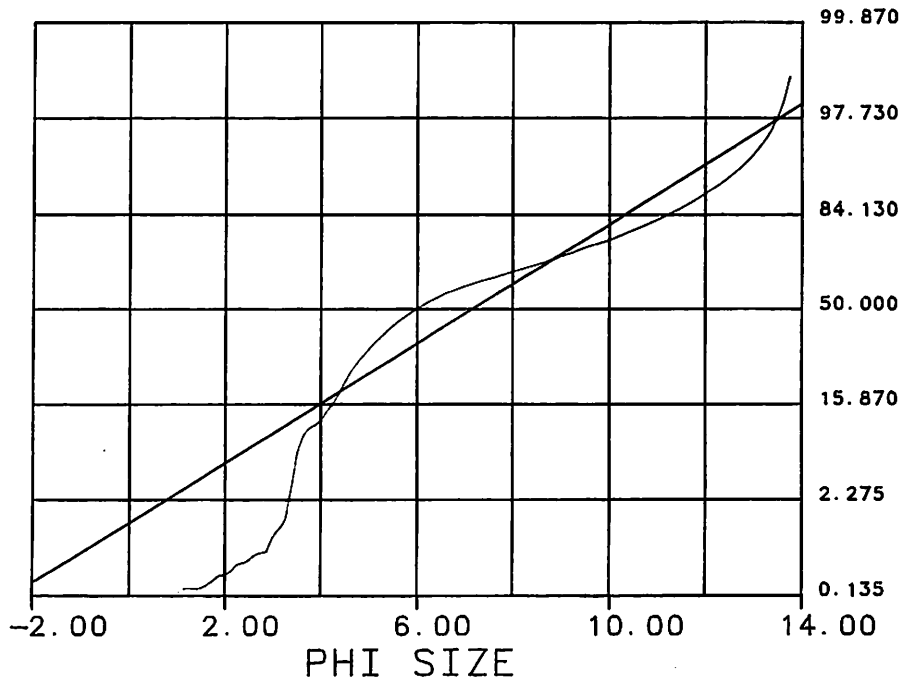
Graphic Measures

MODE _____ 5.968
 MEAN _____ 7.141
 STD. DEVIATION _____ 3.189
 INC. SKEWNESS _____ 0.491
 INC. KURTOSIS _____ 0.508

Moment Measures

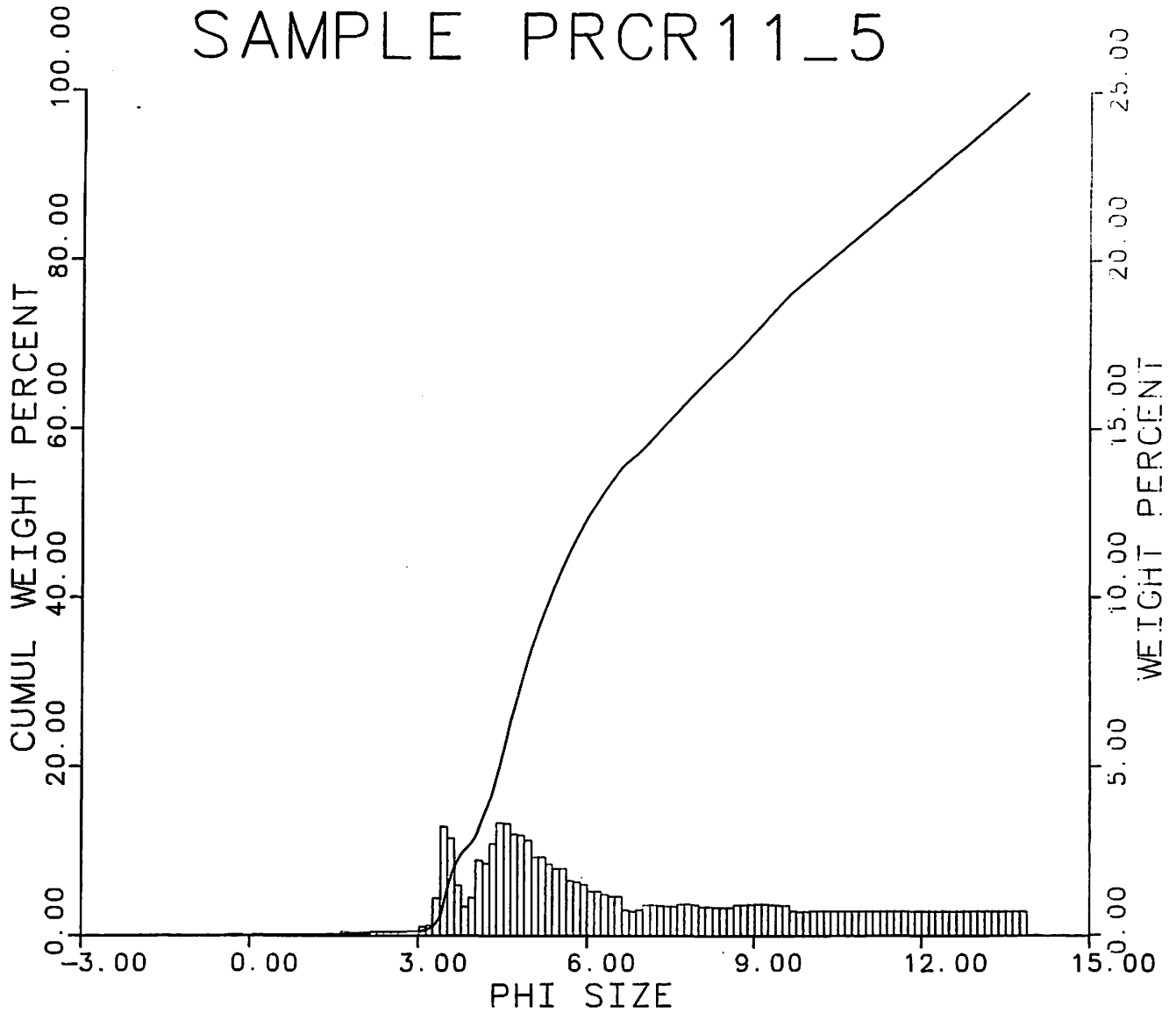
1st MOMENT _____ 7.122
 2nd MOMENT _____ 3.127
 3rd MOMENT _____ 0.647
 4th MOMENT _____ 2.149

PROBABILITY CURVE



OBSERVED SIZE DISTRIBUTION
 GAUSSIAN PROBABILITY Based on Graphic Mean and Std. Dev

SAMPLE PRCR11_5



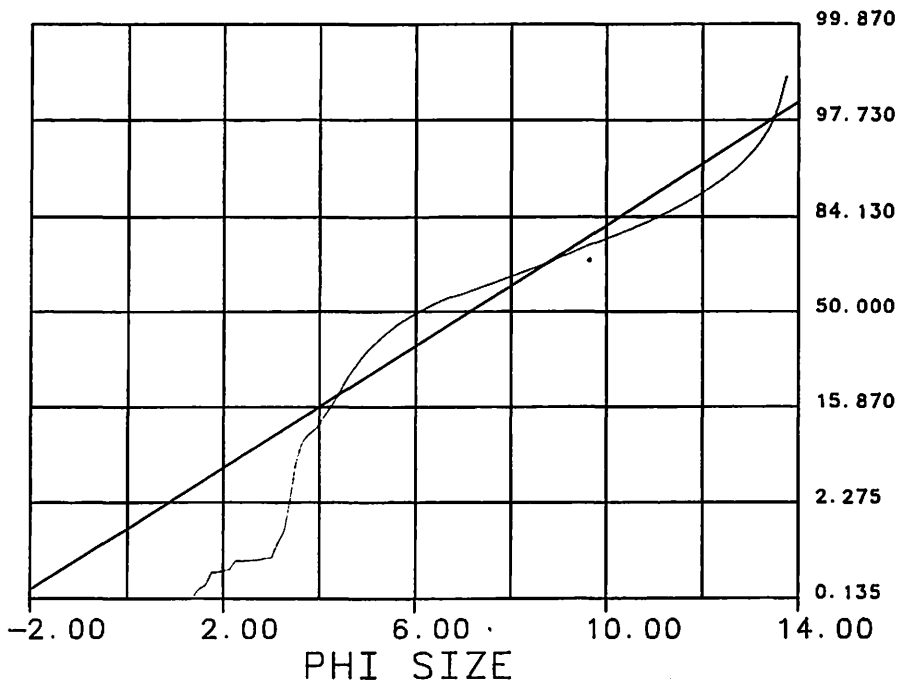
Sample Location
 LATITUDE _____ 0-0-0
 LONGITUDE _____ 0-0-0
 DEPTH (m) _____ 0.00

Gross Parameters
 GRAVEL (%) _____ 0.0
 SAND (%) _____ 11.8
 SILT (%) _____ 52.5
 CLAY (%) _____ 35.7

Graphic Measures
 MODE _____ 6.050
 MEAN _____ 7.115
 STD. DEVIATION _____ 3.139
 INC. SKEWNESS _____ 0.465
 INC. KURTOSIS _____ 0.513

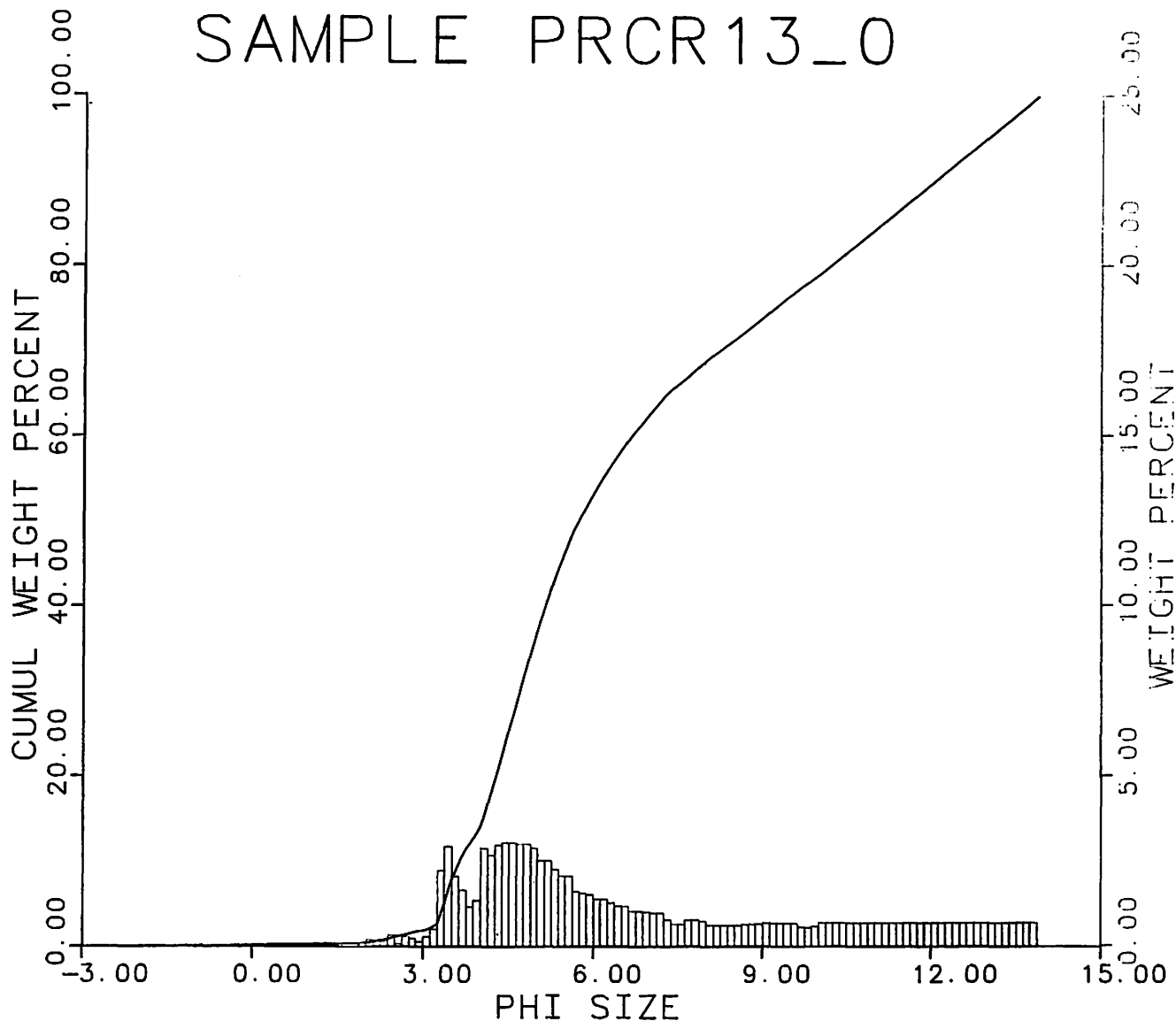
Moment Measures
 1st MOMENT _____ 7.129
 2nd MOMENT _____ 3.077
 3rd MOMENT _____ 0.631
 4th MOMENT _____ 2.174

PROBABILITY CURVE



OBSERVED SIZE DISTRIBUTION
 GAUSSIAN PROBABILITY Based on Graphic Mean and Std. Dev

SAMPLE PRCR13_0



Sample Location

LATITUDE _____ 0-0-0
 LONGITUDE _____ 0-0-0
 DEPTH (m) _____ 0.00

Gross Parameters

GRAVEL (%) _____ 0.0
 SAND (%) _____ 13.8
 SILT (%) _____ 52.0
 CLAY (%) _____ 34.2

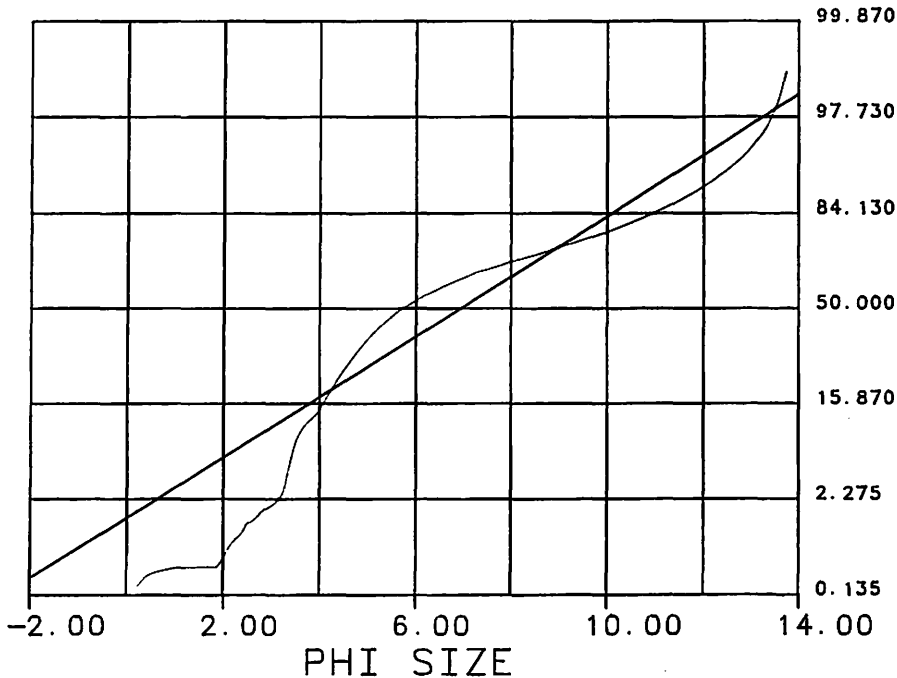
Graphic Measures

MODE _____ 5.727
 MEAN _____ 6.915
 STD. DEVIATION _____ 3.159
 INC. SKEWNESS _____ 0.515
 INC. KURTOSIS _____ 0.533

Moment Measures

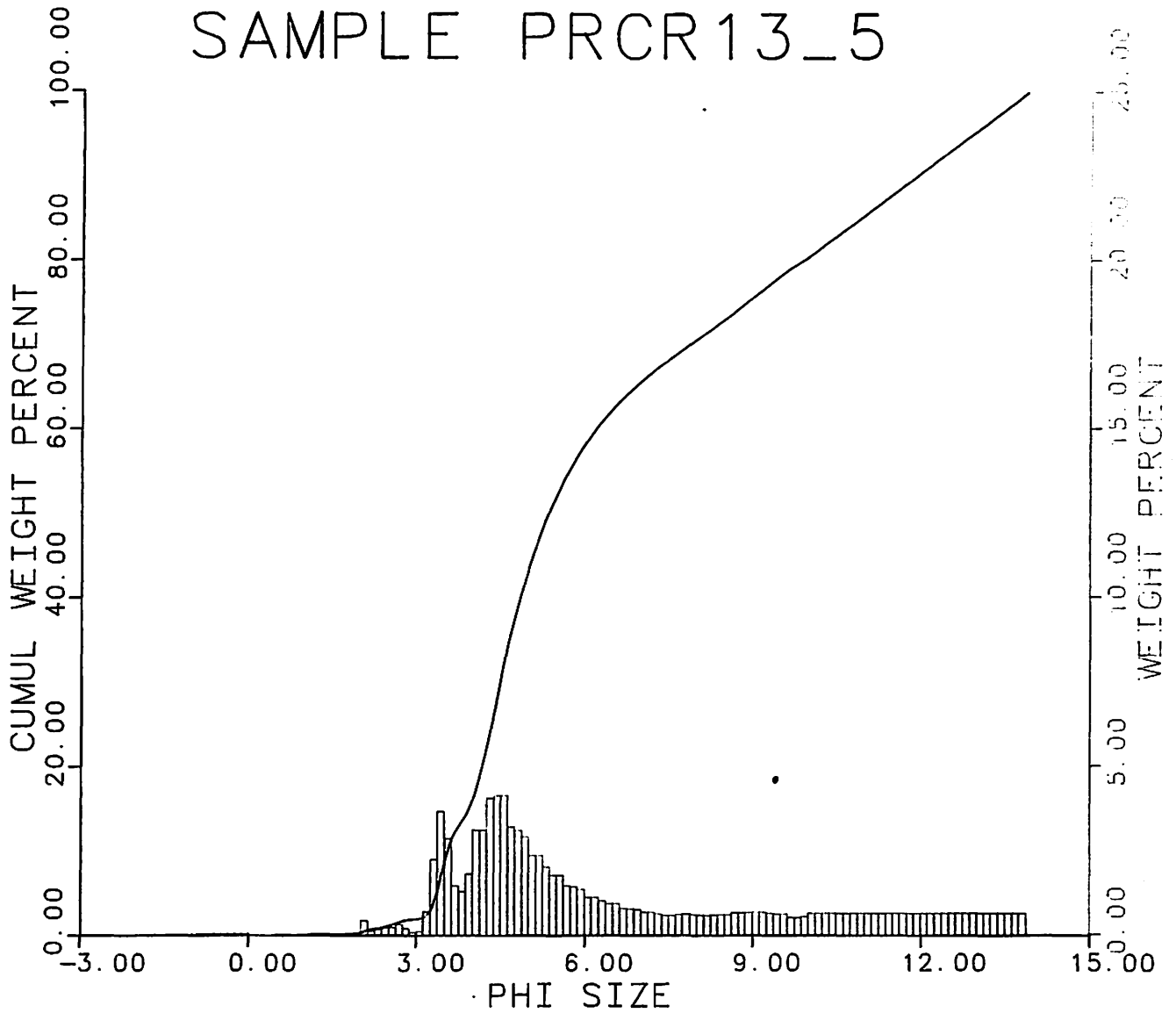
1st MOMENT _____ 6.875
 2nd MOMENT _____ 3.107
 3rd MOMENT _____ 0.726
 4th MOMENT _____ 2.352

PROBABILITY CURVE



OBSERVED SIZE DISTRIBUTION
 GAUSSIAN PROBABILITY Based on Graphic Mean and Std. Dev

SAMPLE PRCR13_5



Sample Location

LATITUDE _____ 0-0-0
 LONGITUDE _____ 0-0-0
 DEPTH (m) _____ 0.00

Gross Parameters

GRAVEL (%) _____ 0.0
 SAND (%) _____ 17.0
 SILT (%) _____ 51.3
 CLAY (%) _____ 31.7

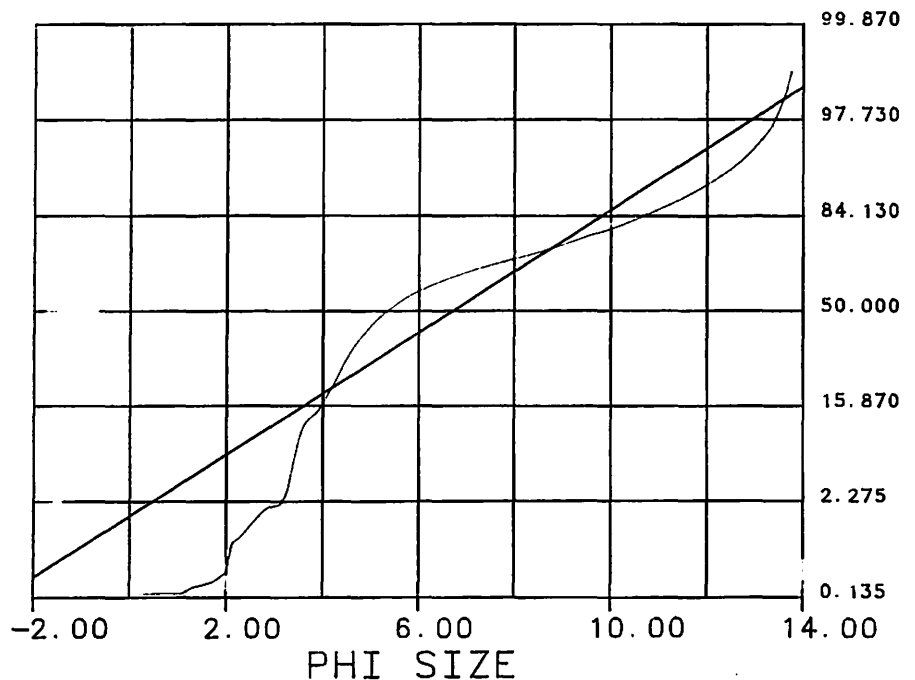
Graphic Measures

MODE _____ 5.340
 MEAN _____ 6.678
 STD. DEVIATION _____ 3.116
 INC. SKEWNESS _____ 0.593
 INC. KURTOSIS _____ 0.549

Moment Measures

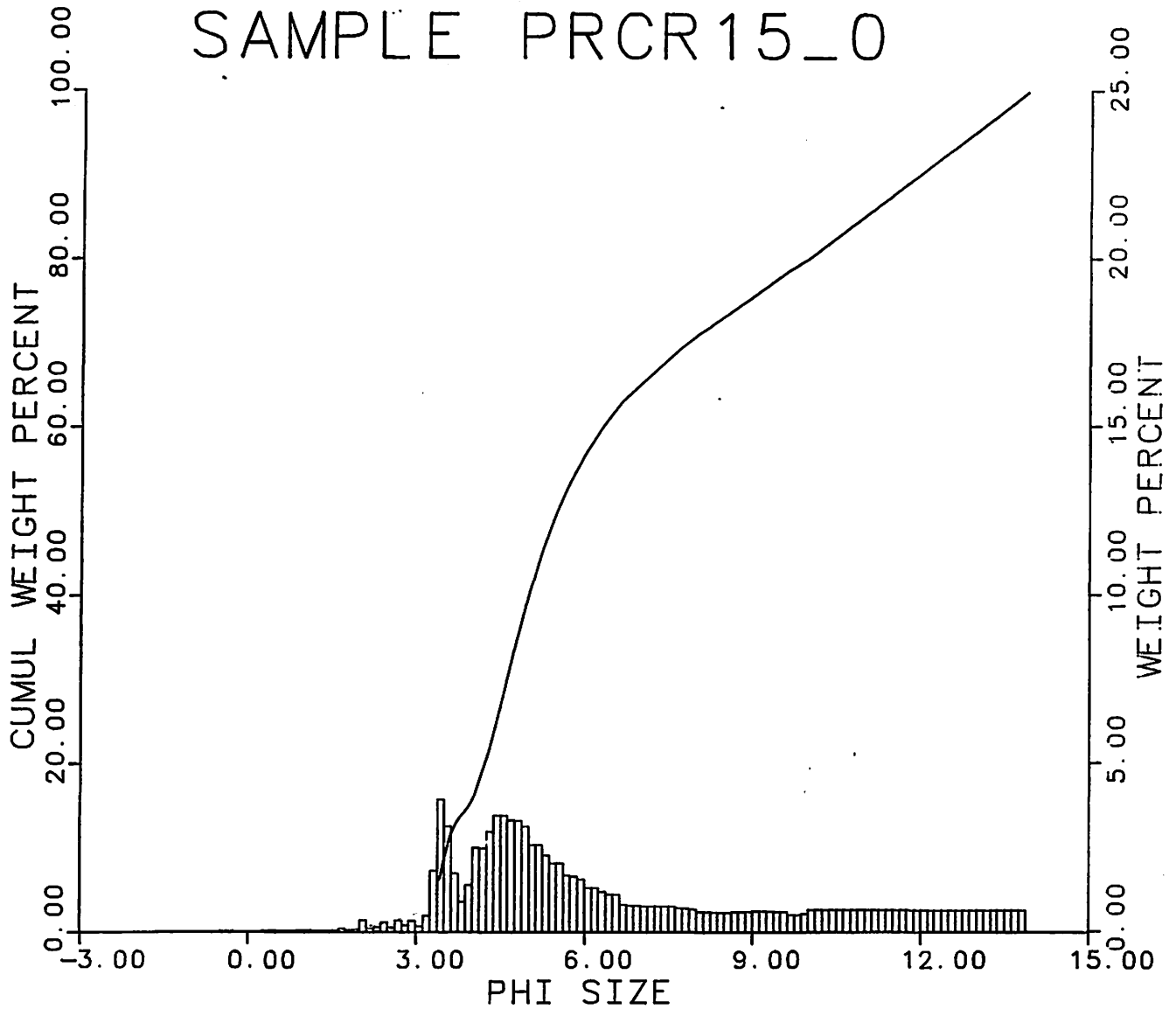
1st MOMENT _____ 6.637
 2nd MOMENT _____ 3.101
 3rd MOMENT _____ 0.842
 4th MOMENT _____ 2.486

PROBABILITY CURVE



OBSERVED SIZE DISTRIBUTION
 GAUSSIAN PROBABILITY Based on Graphic Mean and Std. Dev

SAMPLE PRCR15_0



Sample Location

LATITUDE _____ 0-0-0
 LONGITUDE _____ 0-0-0
 DEPTH (m) _____ 0.00

Gross Parameters

GRAVEL (%) _____ 0.0
 SAND (%) _____ 15.4
 SILT (%) _____ 52.5
 CLAY (%) _____ 32.1

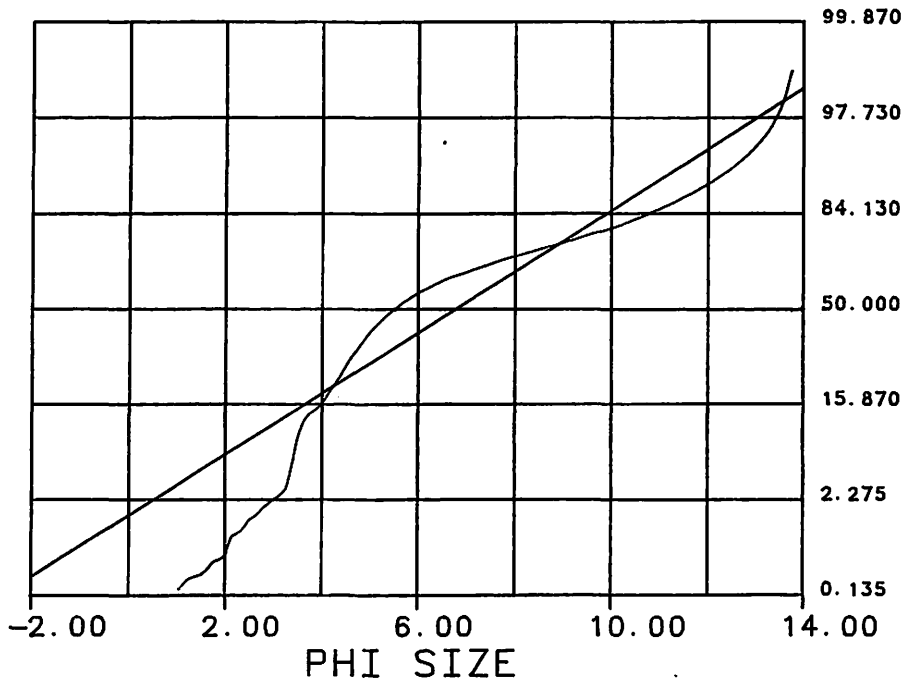
Graphic Measures

MODE _____ 5.500
 MEAN _____ 6.749
 STD. DEVIATION _____ 3.124
 INC. SKEWNESS _____ 0.556
 INC. KURTOSIS _____ 0.554

Moment Measures

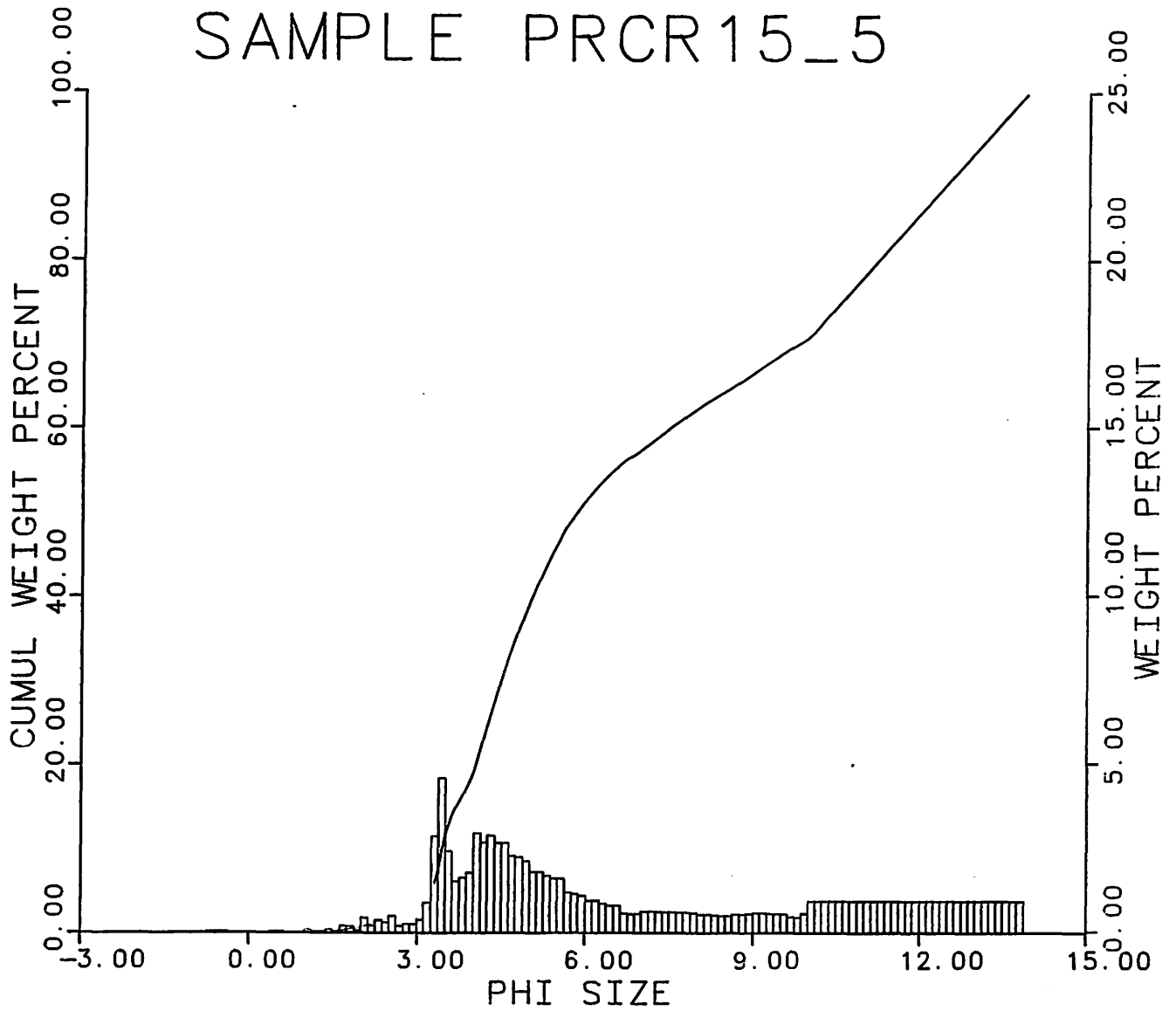
1st MOMENT _____ 6.697
 2nd MOMENT _____ 3.082
 3rd MOMENT _____ 0.827
 4th MOMENT _____ 2.485

PROBABILITY CURVE



OBSERVED SIZE DISTRIBUTION
 GAUSSIAN PROBABILITY Based on Graphic Mean and Std. Dev

SAMPLE PRCR15_5



Sample Location

LATITUDE _____ 0-0-0
 LONGITUDE _____ 0-0-0
 DEPTH (m) _____ 0.00

Gross Parameters

GRAVEL (%) _____ 0.0
 SAND (%) _____ 19.0
 SILT (%) _____ 32.9
 CLAY (%) _____ 48.1

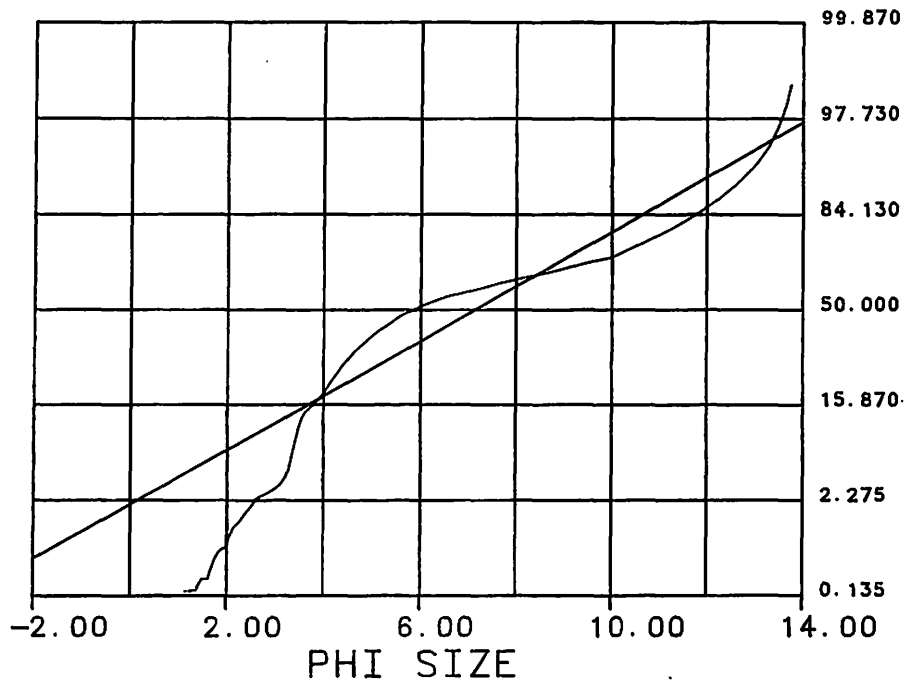
Graphic Measures

MODE _____ 5.827
 MEAN _____ 7.113
 STD. DEVIATION _____ 3.492
 INC. SKEWNESS _____ 0.486
 INC. KURTOSIS _____ 0.463

Moment Measures

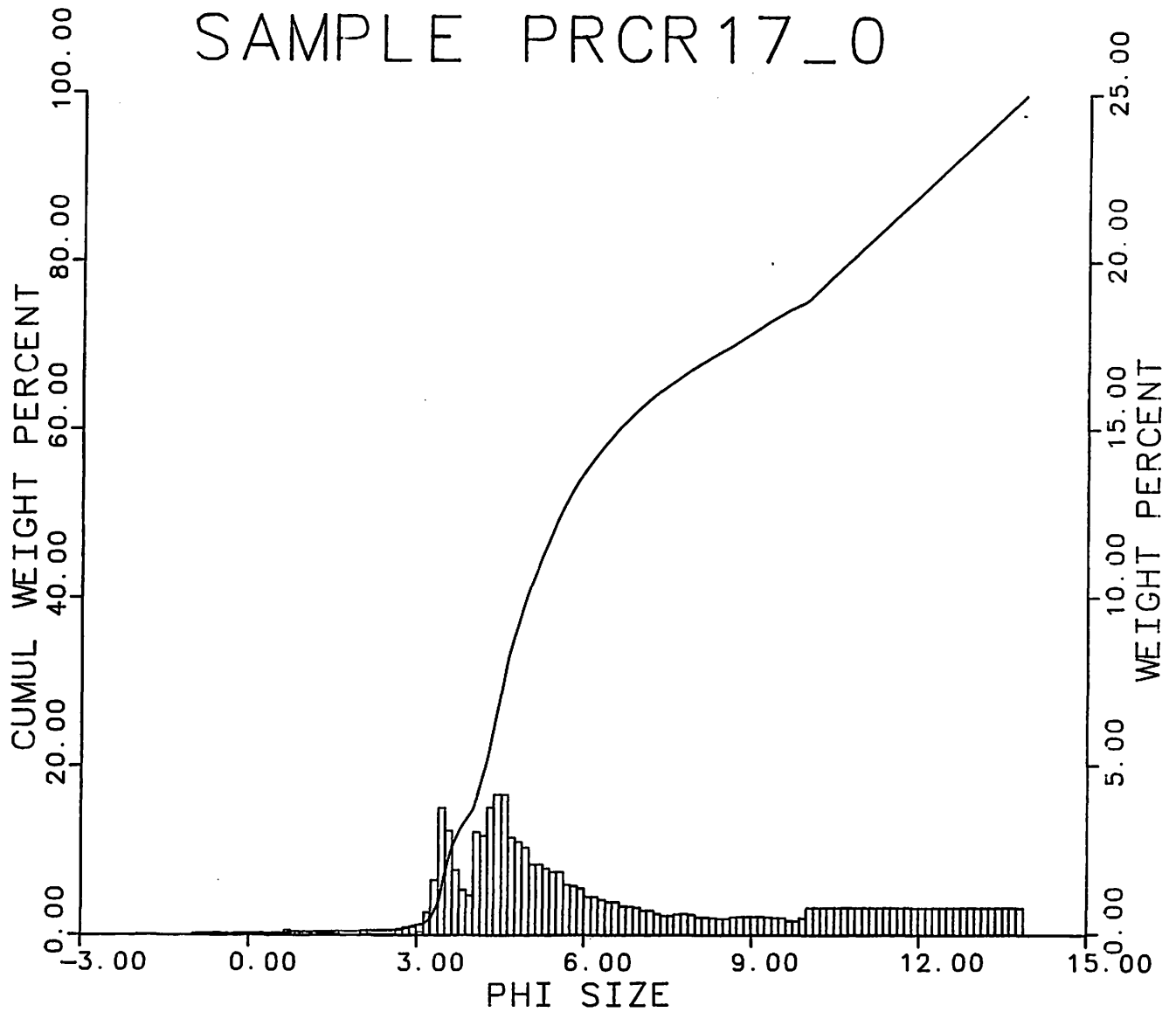
1st MOMENT _____ 7.185
 2nd MOMENT _____ 3.472
 3rd MOMENT _____ 0.483
 4th MOMENT _____ 1.800

PROBABILITY CURVE



OBSERVED SIZE DISTRIBUTION
 GAUSSIAN PROBABILITY Based on Graphic Mean and Std. Dev

SAMPLE PRCR17_0



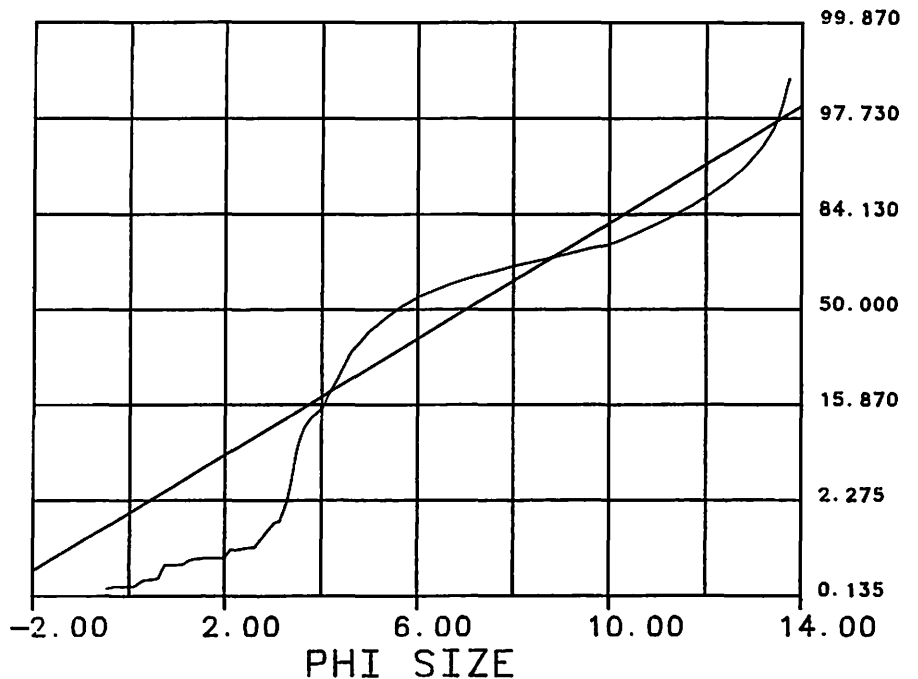
Sample Location
 LATITUDE _____ 0-0-0
 LONGITUDE _____ 0-0-0
 DEPTH (m) _____ 0.00

Gross Parameters
 GRAVEL (%) _____ 0.0
 SAND (%) _____ 15.1
 SILT (%) _____ 44.6
 CLAY (%) _____ 40.3

Graphic Measures
 MODE _____ 5.568
 MEAN _____ 6.987
 STD. DEVIATION _____ 3.288
 INC. SKEWNESS _____ 0.570
 INC. KURTOSIS _____ 0.490

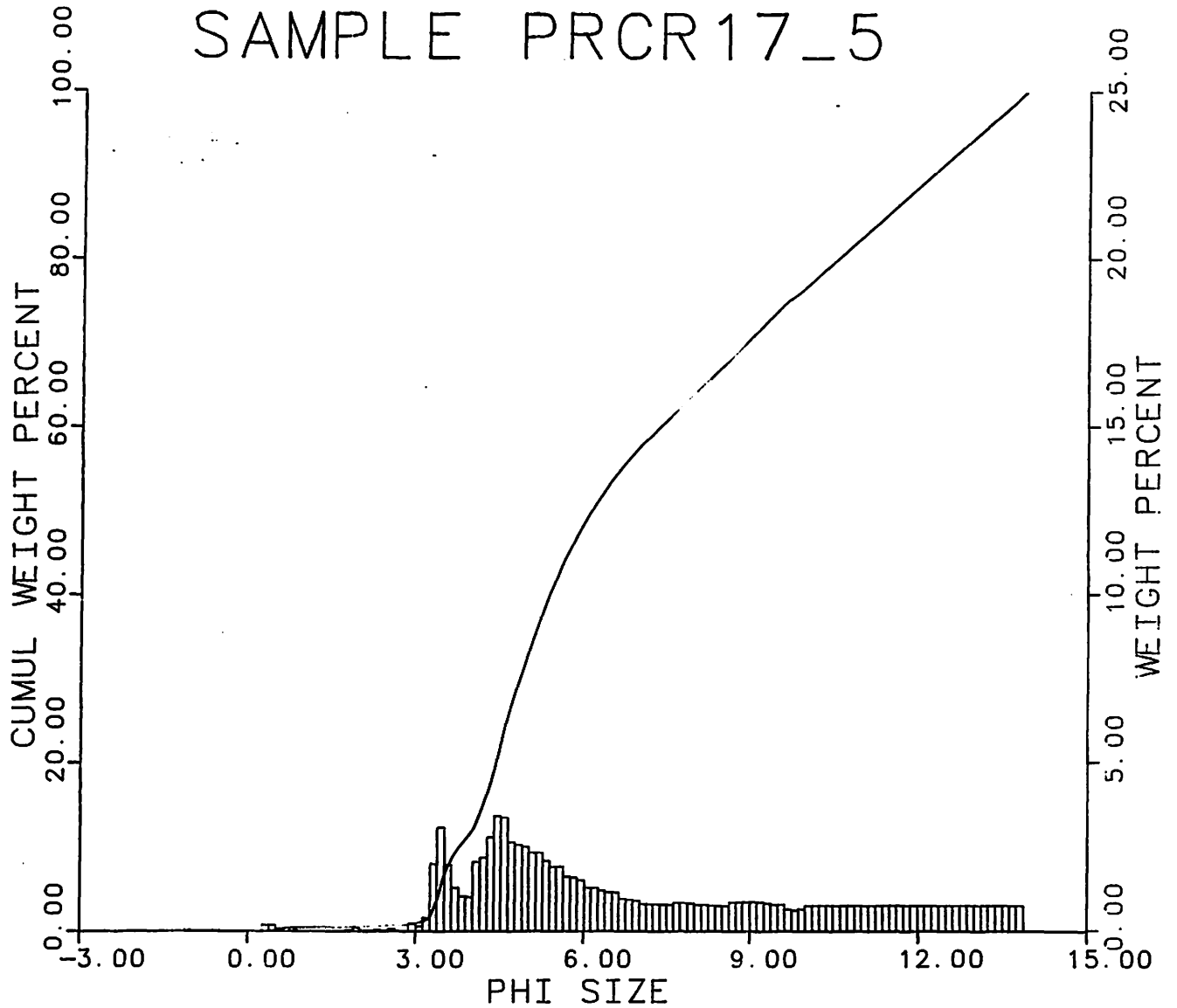
Moment Measures
 1st MOMENT _____ 6.937
 2nd MOMENT _____ 3.265
 3rd MOMENT _____ 0.694
 4th MOMENT _____ 2.148

PROBABILITY CURVE



OBSERVED SIZE DISTRIBUTION
 GAUSSIAN PROBABILITY Based on Graphic Mean and Std. Dev

SAMPLE PRCR17_5



Sample Location

LATITUDE _____ 0-0-0
 LONGITUDE _____ 0-0-0
 DEPTH (m) _____ 0.00

Gross Parameters

GRAVEL (%) _____ 0.0
 SAND (%) _____ 12.0
 SILT (%) _____ 50.1
 CLAY (%) _____ 37.9

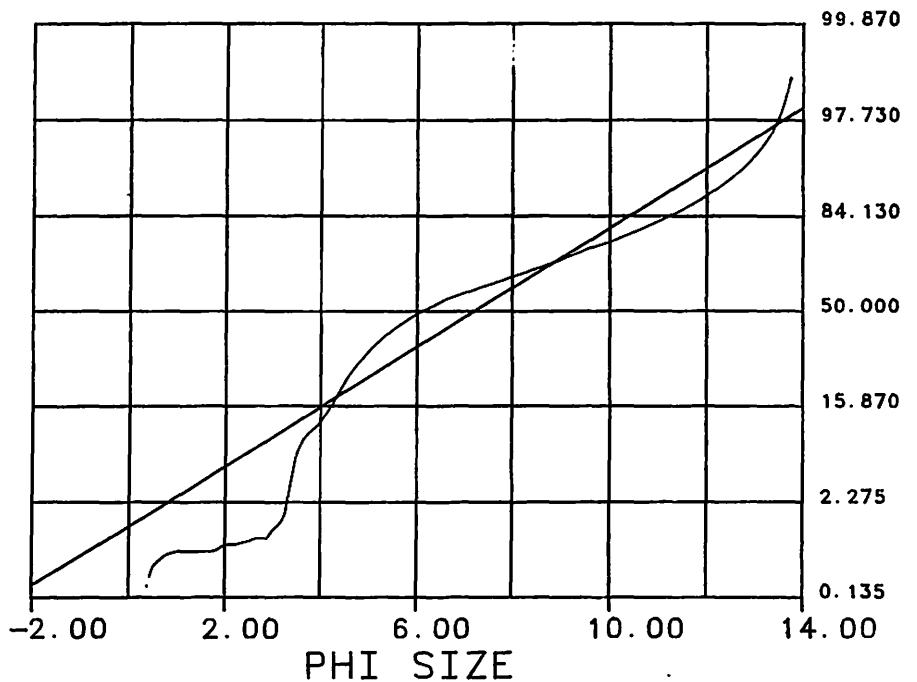
Graphic Measures

MODE _____ 6.111
 MEAN _____ 7.182
 STD. DEVIATION _____ 3.197
 INC. SKEWNESS _____ 0.452
 INC. KURTOSIS _____ 0.508

Moment Measures

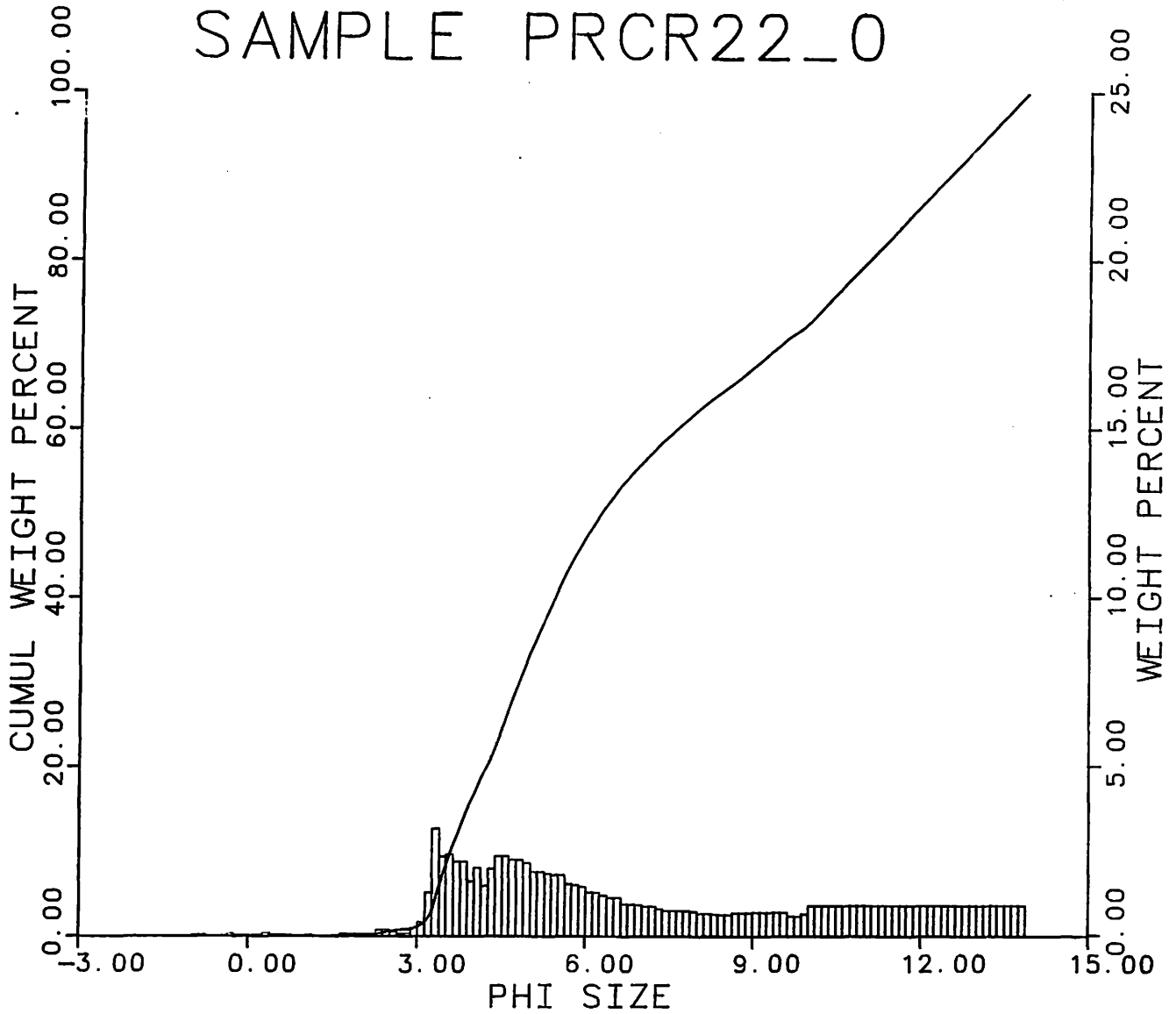
1st MOMENT _____ 7.165
 2nd MOMENT _____ 3.144
 3rd MOMENT _____ 0.571
 4th MOMENT _____ 2.140

PROBABILITY CURVE



OBSERVED SIZE DISTRIBUTION
 GAUSSIAN PROBABILITY Based on Graphic Mean and Std. Dev

SAMPLE PRCR22_0



Sample Location

LATITUDE _____ 0-0-0
 LONGITUDE _____ 0-0-0
 DEPTH (m) _____ 0.00

Gross Parameters

GRAVEL (%) _____ 0.0
 SAND (%) _____ 16.9
 SILT (%) _____ 37.8
 CLAY (%) _____ 45.2

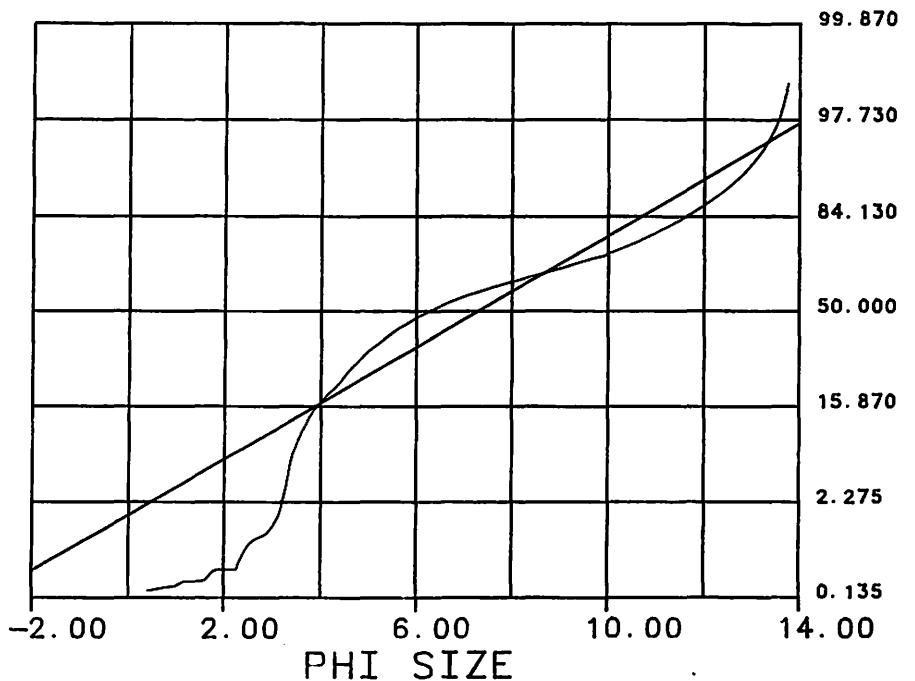
Graphic Measures

MODE _____ 6.257
 MEAN _____ 7.266
 STD. DEVIATION _____ 3.408
 INC. SKEWNESS _____ 0.400
 INC. KURTOSIS _____ 0.475

Moment Measures

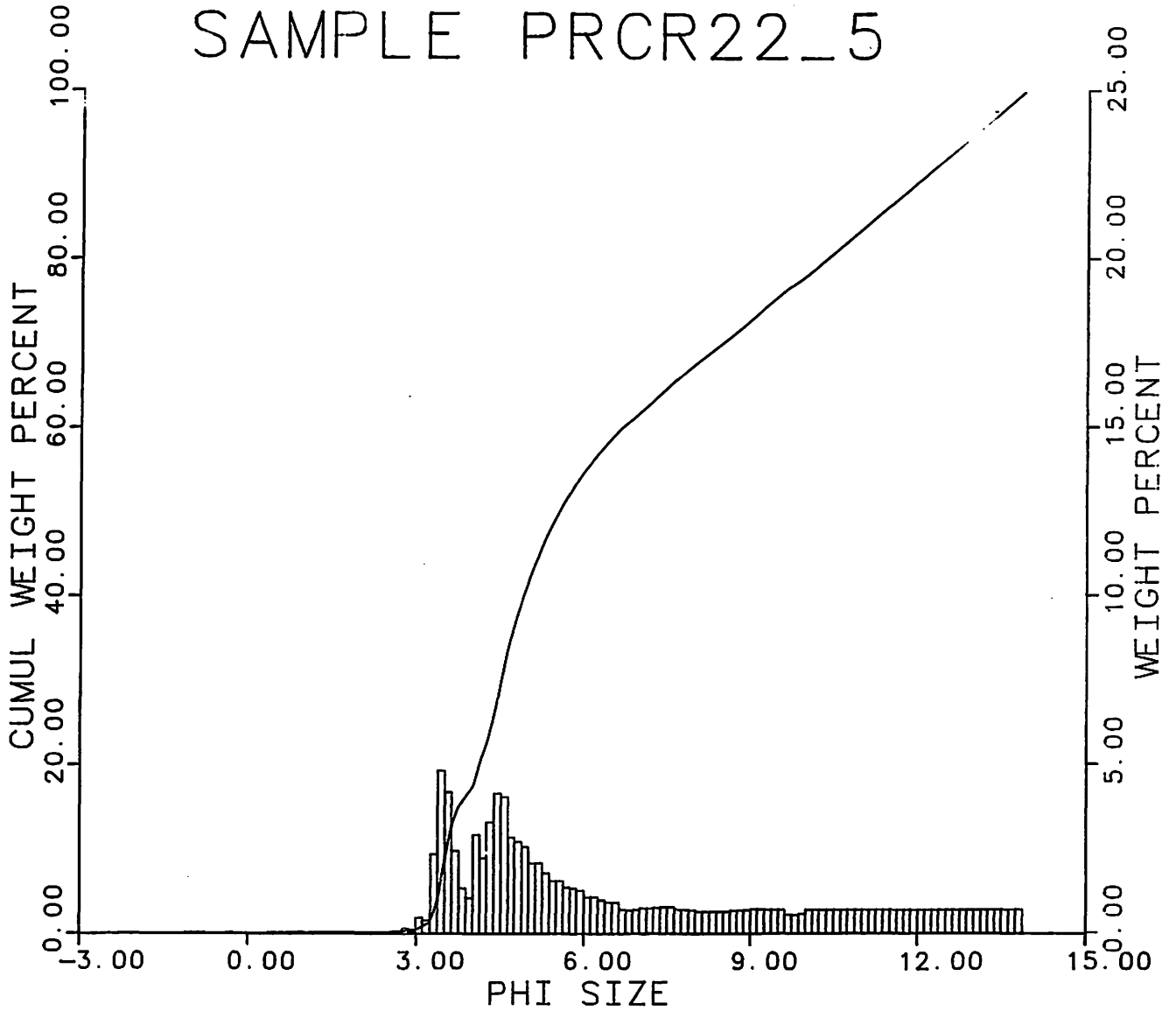
1st MOMENT _____ 7.311
 2nd MOMENT _____ 3.312
 3rd MOMENT _____ 0.477
 4th MOMENT _____ 1.893

PROBABILITY CURVE



OBSERVED SIZE DISTRIBUTION
 GAUSSIAN PROBABILITY Based on Graphic Mean and Std. Dev

SAMPLE PRCR22_5



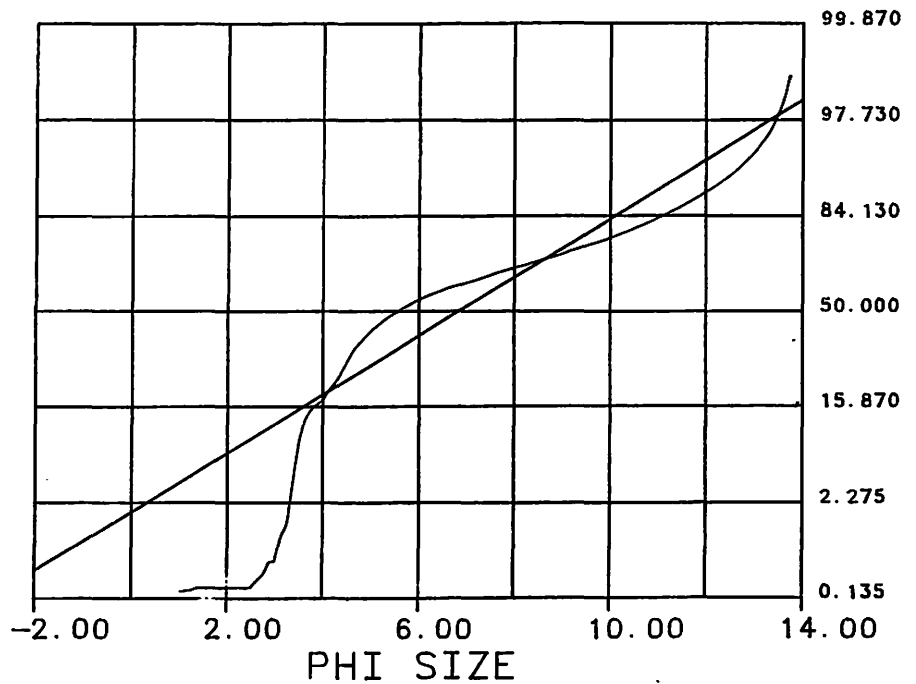
Sample Location
 LATITUDE _____ 0-0-0
 LONGITUDE _____ 0-0-0
 DEPTH (m) _____ 0.00

Gross Parameters
 GRAVEL (%) _____ 0.0
 SAND (%) _____ 18.6
 SILT (%) _____ 45.6
 CLAY (%) _____ 35.8

Graphic Measures
 MODE _____ 5.544
 MEAN _____ 6.808
 STD. DEVIATION _____ 3.250
 INC. SKEWNESS _____ 0.541
 INC. KURTOSIS _____ 0.518

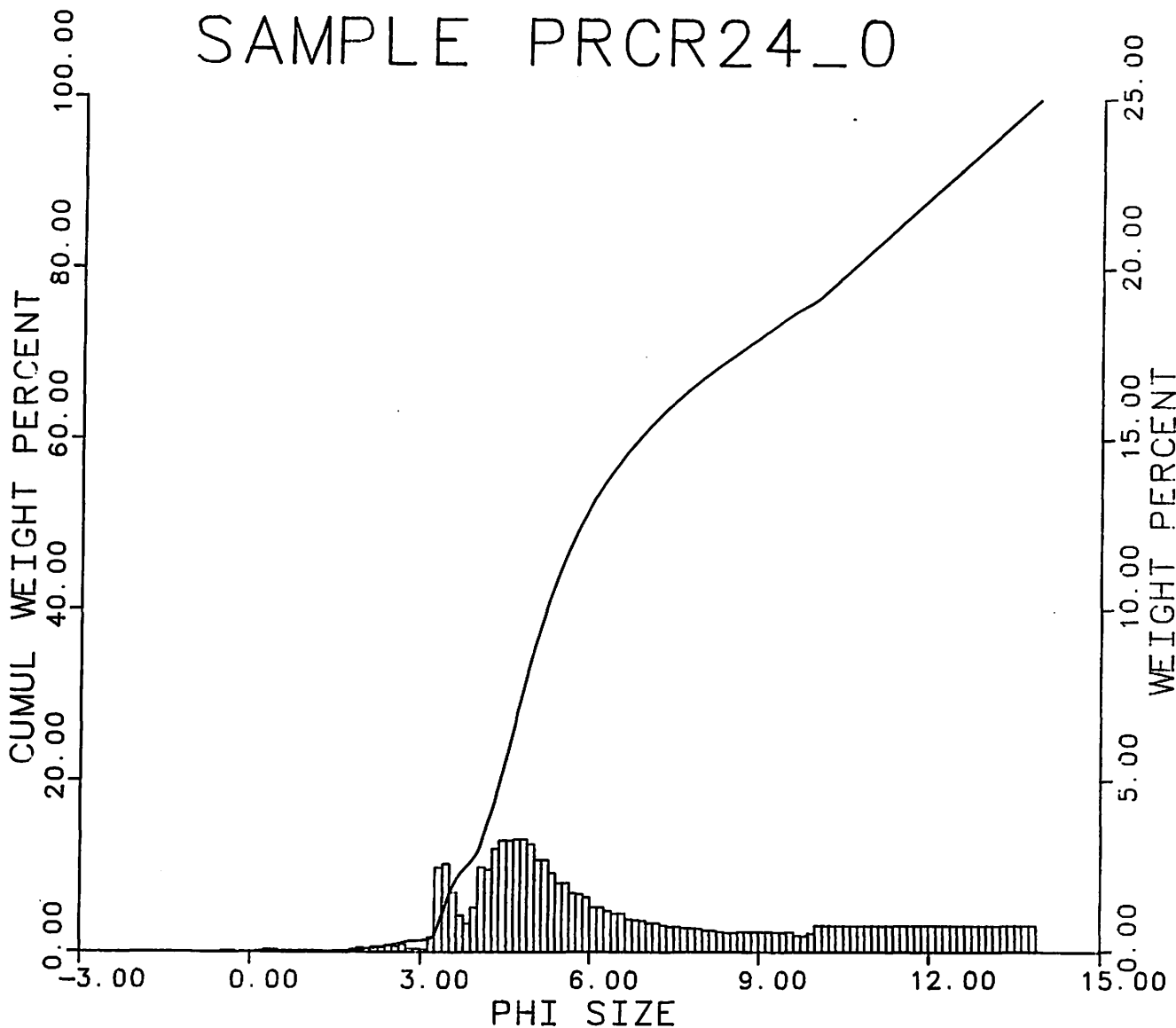
Moment Measures
 1st MOMENT _____ 6.849
 2nd MOMENT _____ 3.181
 3rd MOMENT _____ 0.733
 4th MOMENT _____ 2.208

PROBABILITY CURVE



OBSERVED SIZE DISTRIBUTION
 GAUSSIAN PROBABILITY Based on Graphic Mean and Std. Dev

SAMPLE PRCR24_0



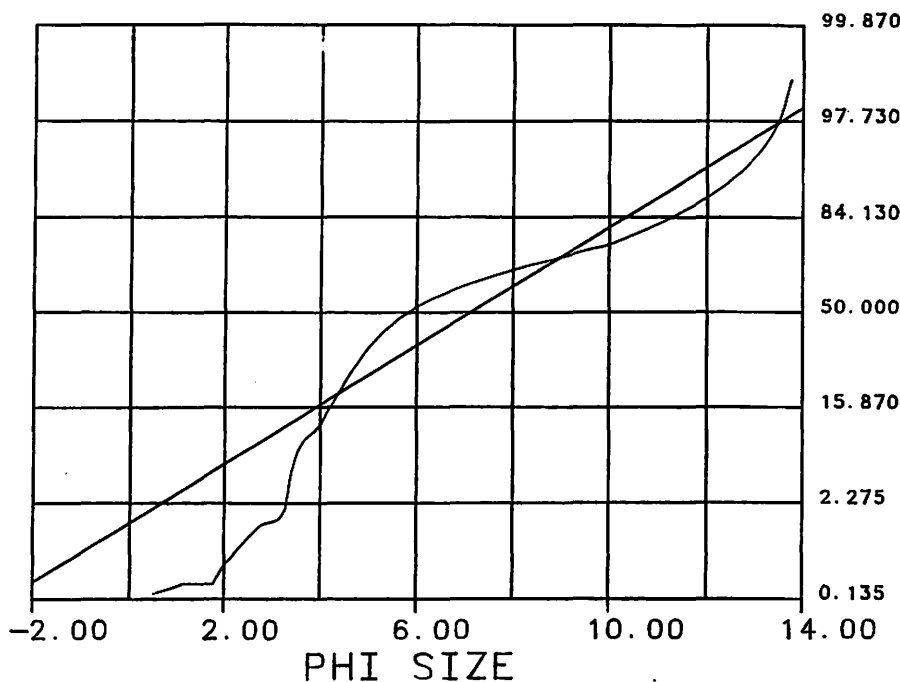
Sample Location
 LATITUDE _____ 0-0-0
 LONGITUDE _____ 0-0-0
 DEPTH (m) _____ 0.00

Gross Parameters
 GRAVEL (%) _____ 0.0
 SAND (%) _____ 11.5
 SILT (%) _____ 50.0
 CLAY (%) _____ 38.5

Graphic Measures
 MODE _____ 5.807
 MEAN _____ 7.087
 STD. DEVIATION _____ 3.218
 INC. SKEWNESS _____ 0.524
 INC. KURTOSIS _____ 0.510

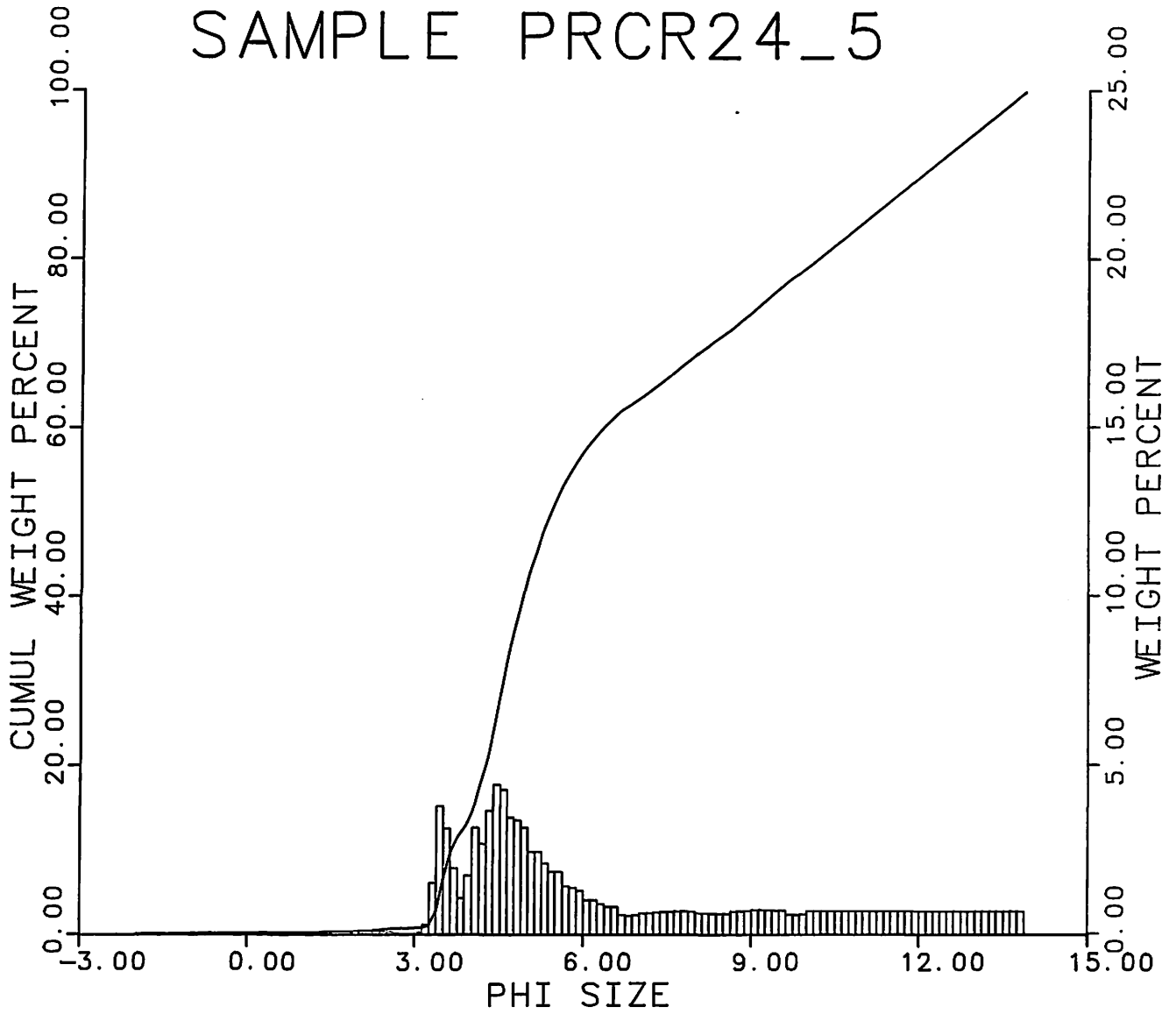
Moment Measures
 1st MOMENT _____ 7.038
 2nd MOMENT _____ 3.157
 3rd MOMENT _____ 0.691
 4th MOMENT _____ 2.196

PROBABILITY CURVE



OBSERVED SIZE DISTRIBUTION
 GAUSSIAN PROBABILITY Based on Graphic Mean and Std. Dev

SAMPLE PRCR24_5



Sample Location

LATITUDE _____ 0-0-0
 LONGITUDE _____ 0-0-0
 DEPTH (m) _____ 0.00

Gross Parameters

GRAVEL (%) _____ 0.0
 SAND (%) _____ 14.2
 SILT (%) _____ 51.8
 CLAY (%) _____ 34.0

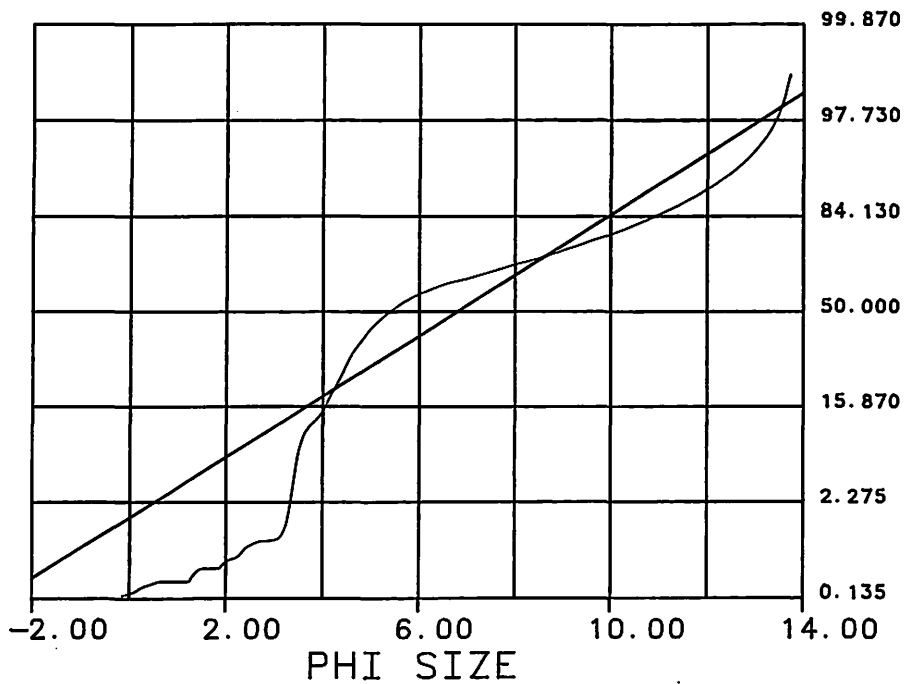
Graphic Measures

MODE _____ 5.401
 MEAN _____ 6.791
 STD. DEVIATION _____ 3.149
 INC. SKEWNESS _____ 0.599
 INC. KURTOSIS _____ 0.526

Moment Measures

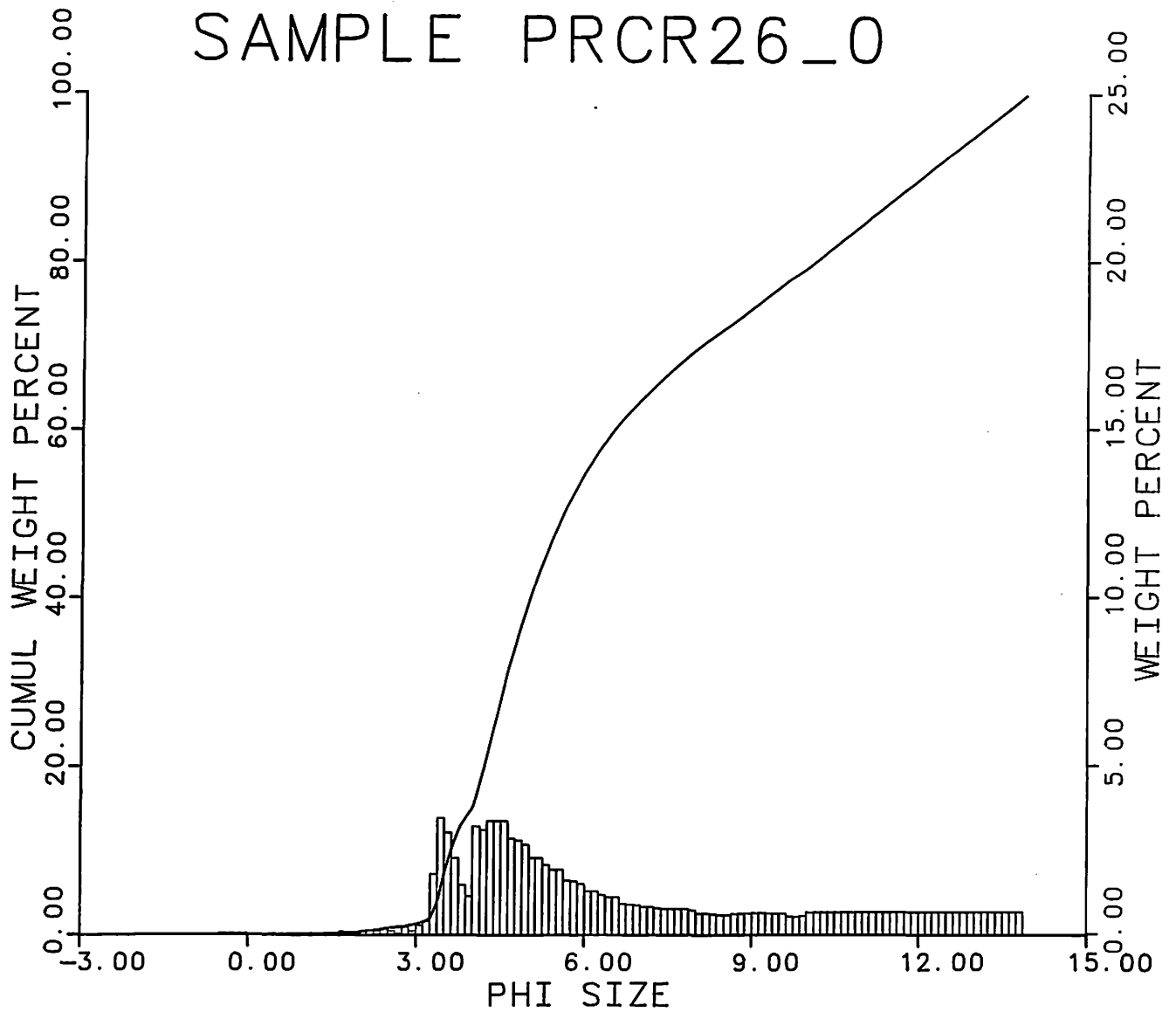
1st MOMENT _____ 6.784
 2nd MOMENT _____ 3.132
 3rd MOMENT _____ 0.785
 4th MOMENT _____ 2.346

PROBABILITY CURVE



OBSERVED SIZE DISTRIBUTION
 GAUSSIAN PROBABILITY Based on Graphic Mean and Std. Dev

SAMPLE PRCR26_0



Sample Location

LATITUDE _____ 0-0-0
 LONGITUDE _____ 0-0-0
 DEPTH (m) _____ 0.00

Gross Parameters

GRAVEL (%) _____ 0.0
 SAND (%) _____ 15.0
 SILT (%) _____ 51.7
 CLAY (%) _____ 33.3

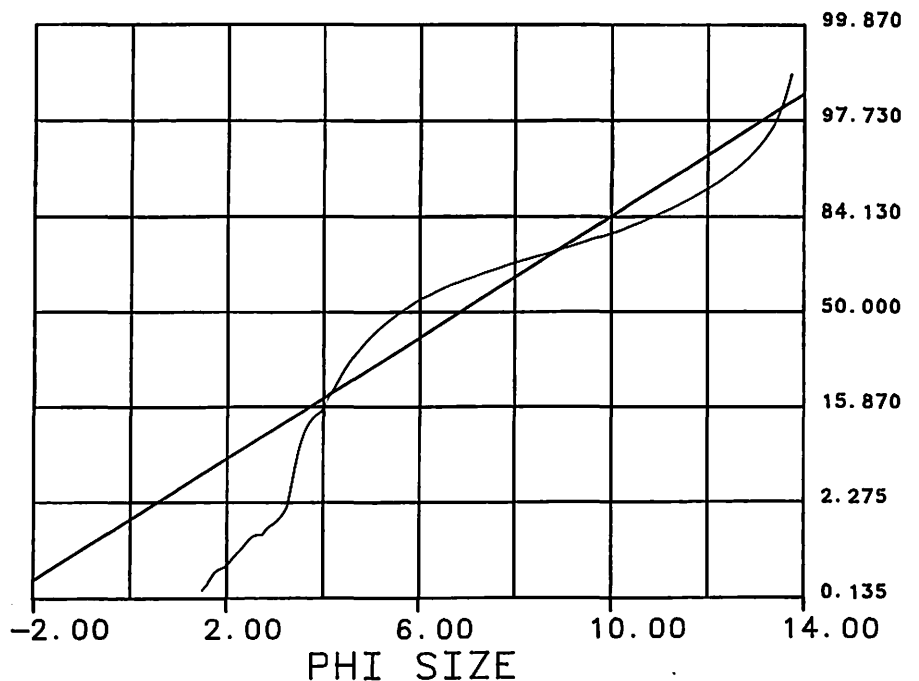
Graphic Measures

MODE _____ 5.599
 MEAN _____ 6.828
 STD. DEVIATION _____ 3.144
 INC. SKEWNESS _____ 0.541
 INC. KURTOSIS _____ 0.537

Moment Measures

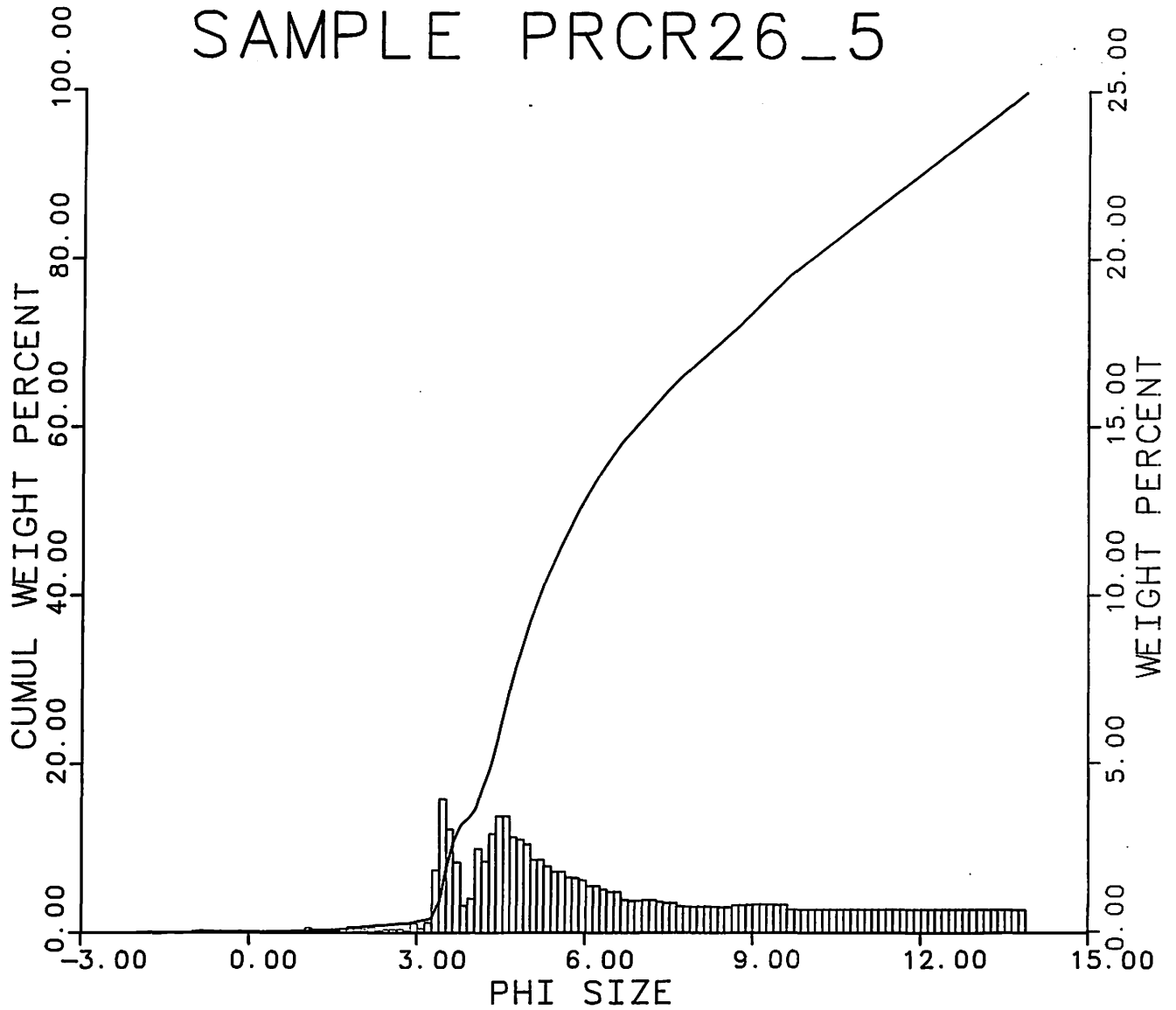
1st MOMENT _____ 6.791
 2nd MOMENT _____ 3.096
 3rd MOMENT _____ 0.791
 4th MOMENT _____ 2.381

PROBABILITY CURVE



OBSERVED SIZE DISTRIBUTION
 GAUSSIAN PROBABILITY Based on Graphic Mean and Std. Dev

SAMPLE PRCR26_5



Sample Location

LATITUDE _____ 0-0-0
 LONGITUDE _____ 0-0-0
 DEPTH (m) _____ 0.00

Gross Parameters

GRAVEL (%) _____ 0.0
 SAND (%) _____ 15.0
 SILT (%) _____ 52.3
 CLAY (%) _____ 32.7

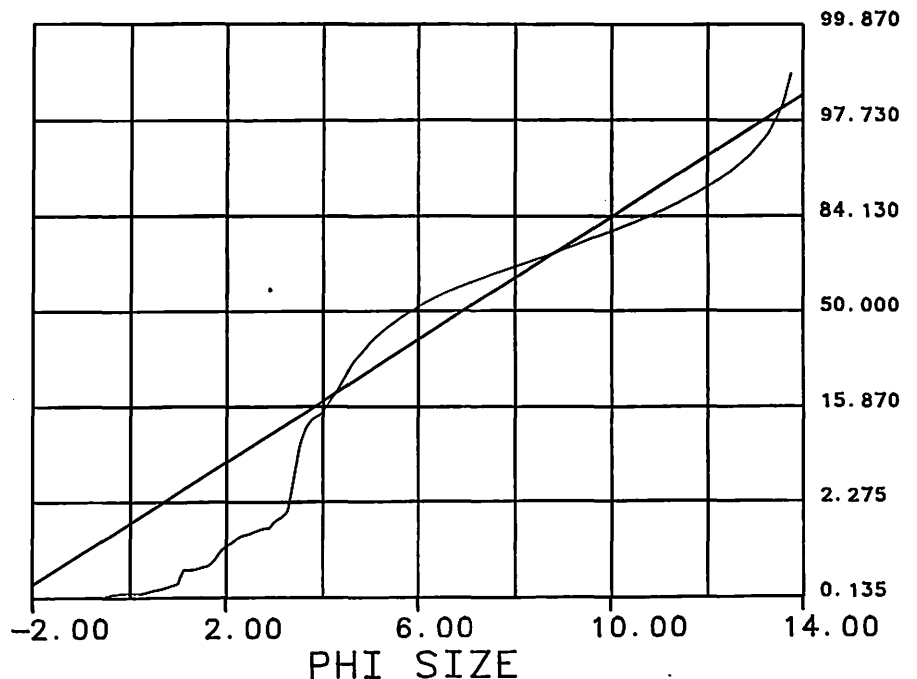
Graphic Measures

MODE _____ 5.860
 MEAN _____ 6.909
 STD. DEVIATION _____ 3.117
 INC. SKEWNESS _____ 0.477
 INC. KURTOSIS _____ 0.531

Moment Measures

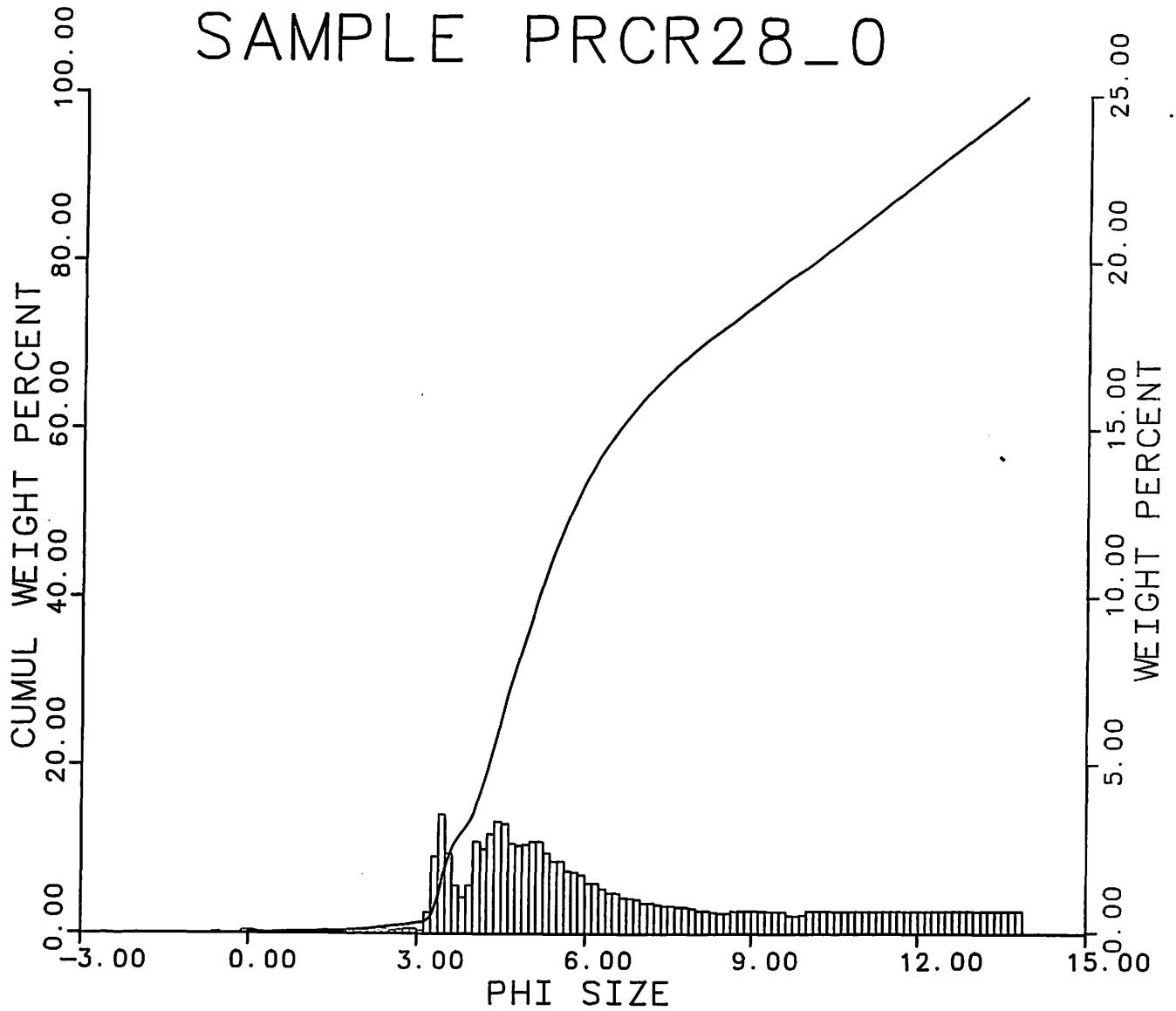
1st MOMENT _____ 6.903
 2nd MOMENT _____ 3.075
 3rd MOMENT _____ 0.686
 4th MOMENT _____ 2.346

PROBABILITY CURVE



OBSERVED SIZE DISTRIBUTION
 GAUSSIAN PROBABILITY Based on Graphic Mean and Std. Dev

SAMPLE PRCR28_0



Sample Location

LATITUDE _____ 0-0-0
 LONGITUDE _____ 0-0-0
 DEPTH (m) _____ 0.00

Gross Parameters

GRAVEL (%) _____ 0.0
 SAND (%) _____ 14.4
 SILT (%) _____ 52.6
 CLAY (%) _____ 33.0

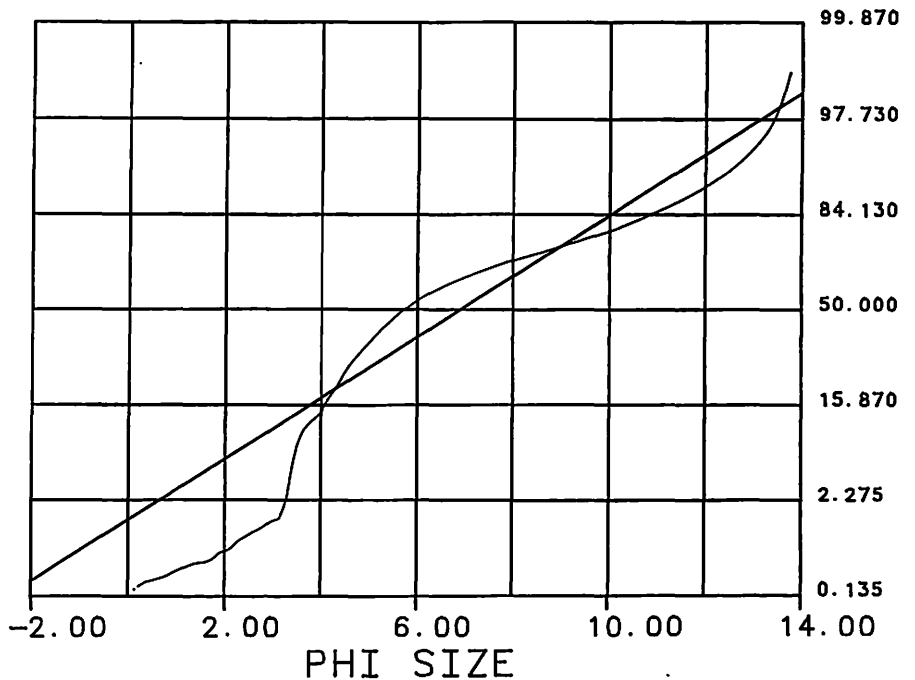
Graphic Measures

MODE _____ 5.725
 MEAN _____ 6.880
 STD. DEVIATION _____ 3.125
 INC. SKEWNESS _____ 0.513
 INC. KURTOSIS _____ 0.544

Moment Measures

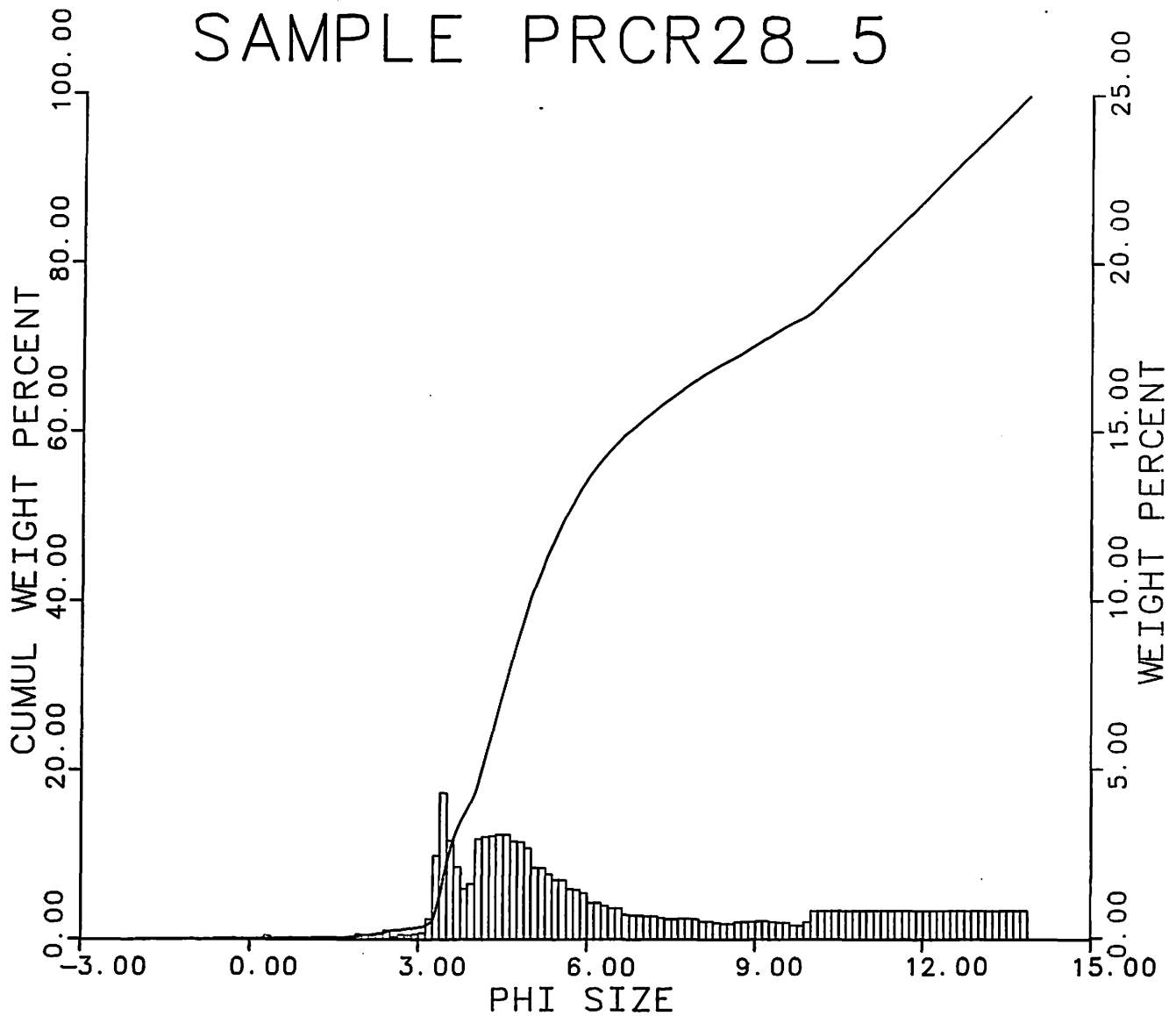
1st MOMENT _____ 6.835
 2nd MOMENT _____ 3.065
 3rd MOMENT _____ 0.766
 4th MOMENT _____ 2.433

PROBABILITY CURVE



OBSERVED SIZE DISTRIBUTION
 GAUSSIAN PROBABILITY Based on Graphic Mean and Std. Dev

SAMPLE PRCR28_5



Sample Location

LATITUDE _____ 0-0-0
 LONGITUDE _____ 0-0-0
 DEPTH (m) _____ 0.00

Gross Parameters

GRAVEL (%) _____ 0.0
 SAND (%) _____ 16.6
 SILT (%) _____ 41.0
 CLAY (%) _____ 42.4

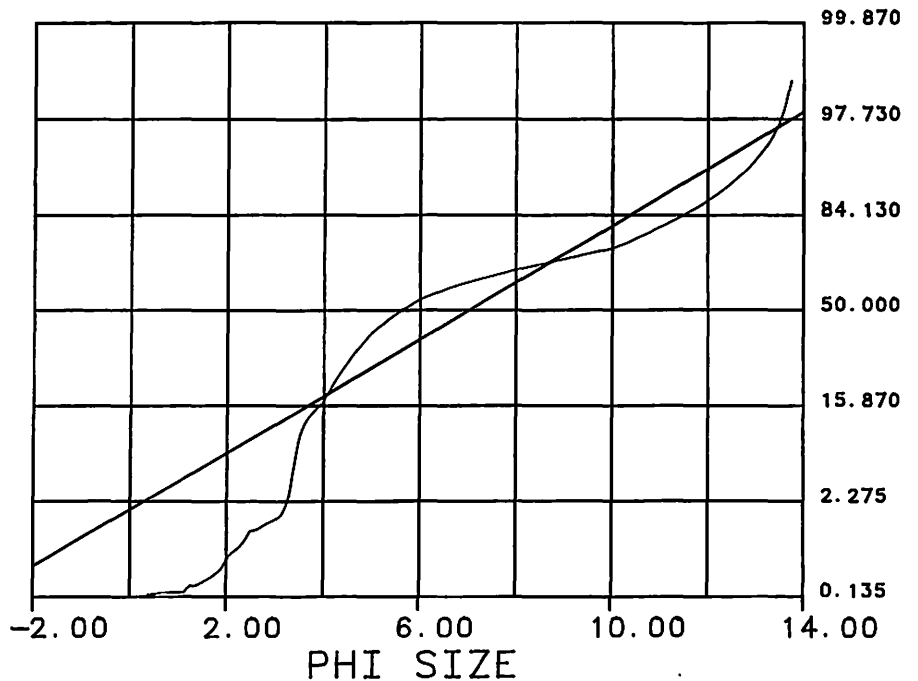
Graphic Measures

MODE _____ 5.604
 MEAN _____ 6.995
 STD. DEVIATION _____ 3.361
 INC. SKEWNESS _____ 0.549
 INC. KURTOSIS _____ 0.479

Moment Measures

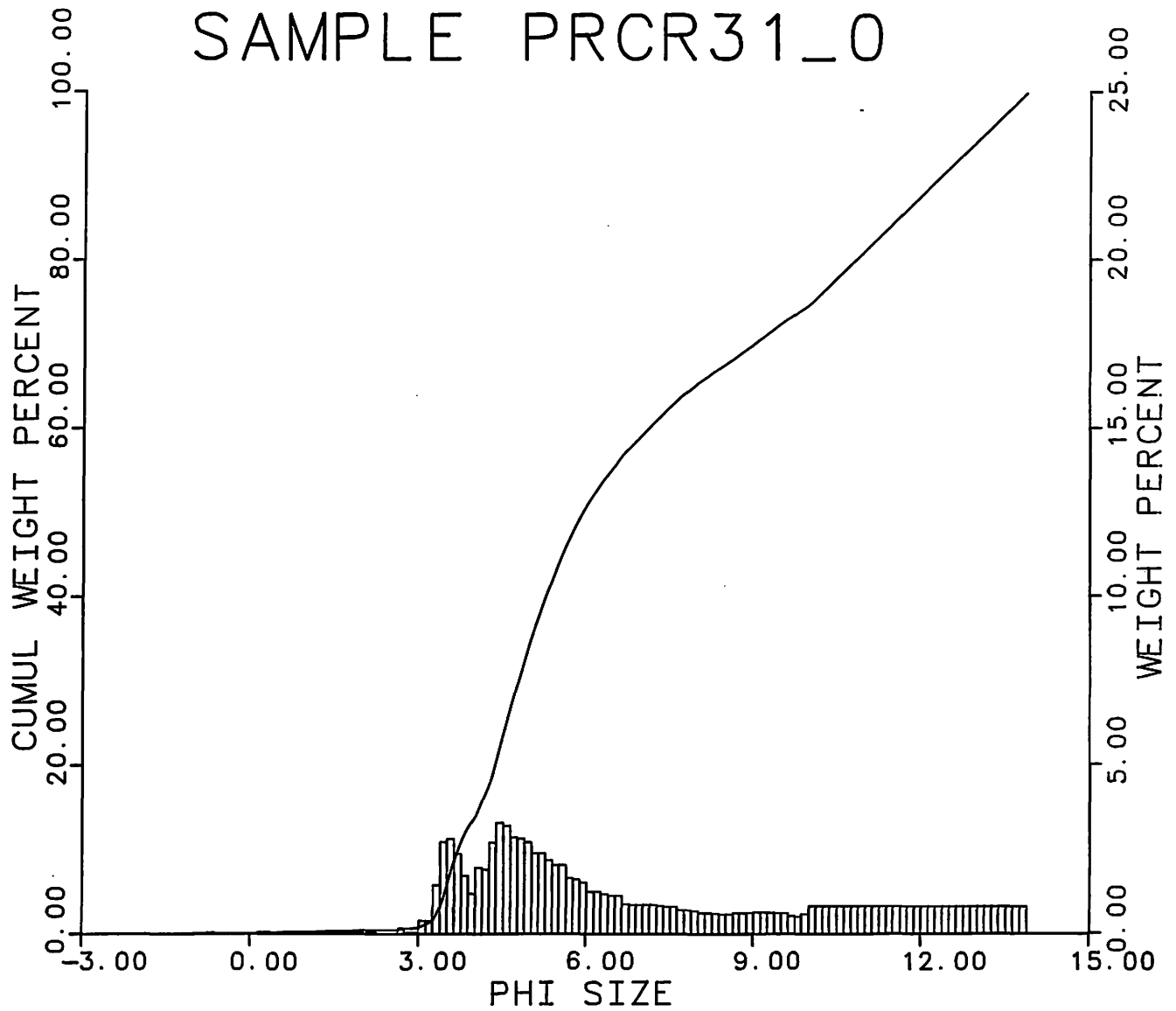
1st MOMENT _____ 6.989
 2nd MOMENT _____ 3.320
 3rd MOMENT _____ 0.657
 4th MOMENT _____ 2.033

PROBABILITY CURVE



OBSERVED SIZE DISTRIBUTION
 GAUSSIAN PROBABILITY Based on Graphic Mean and Std. Dev

SAMPLE PRCR31_0



Sample Location

LATITUDE _____ 0-0-0
 LONGITUDE _____ 0-0-0
 DEPTH (m) _____ 0.00

Gross Parameters

GRAVEL (%) _____ 0.0
 SAND (%) _____ 14.0
 SILT (%) _____ 44.4
 CLAY (%) _____ 41.6

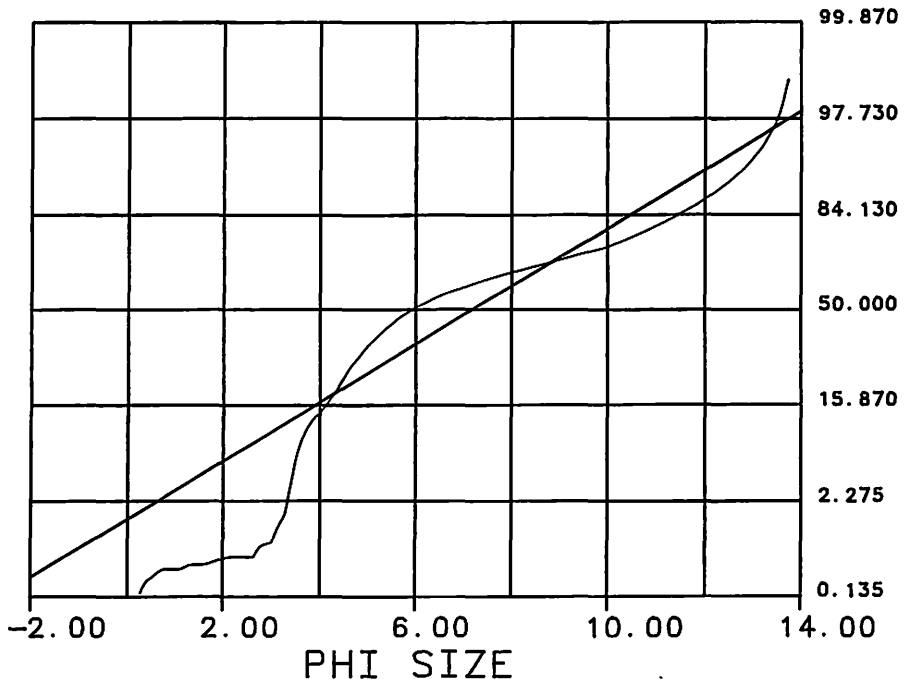
Graphic Measures

MODE _____ 5.926
 MEAN _____ 7.164
 STD. DEVIATION _____ 3.280
 INC. SKEWNESS _____ 0.500
 INC. KURTOSIS _____ 0.483

Moment Measures

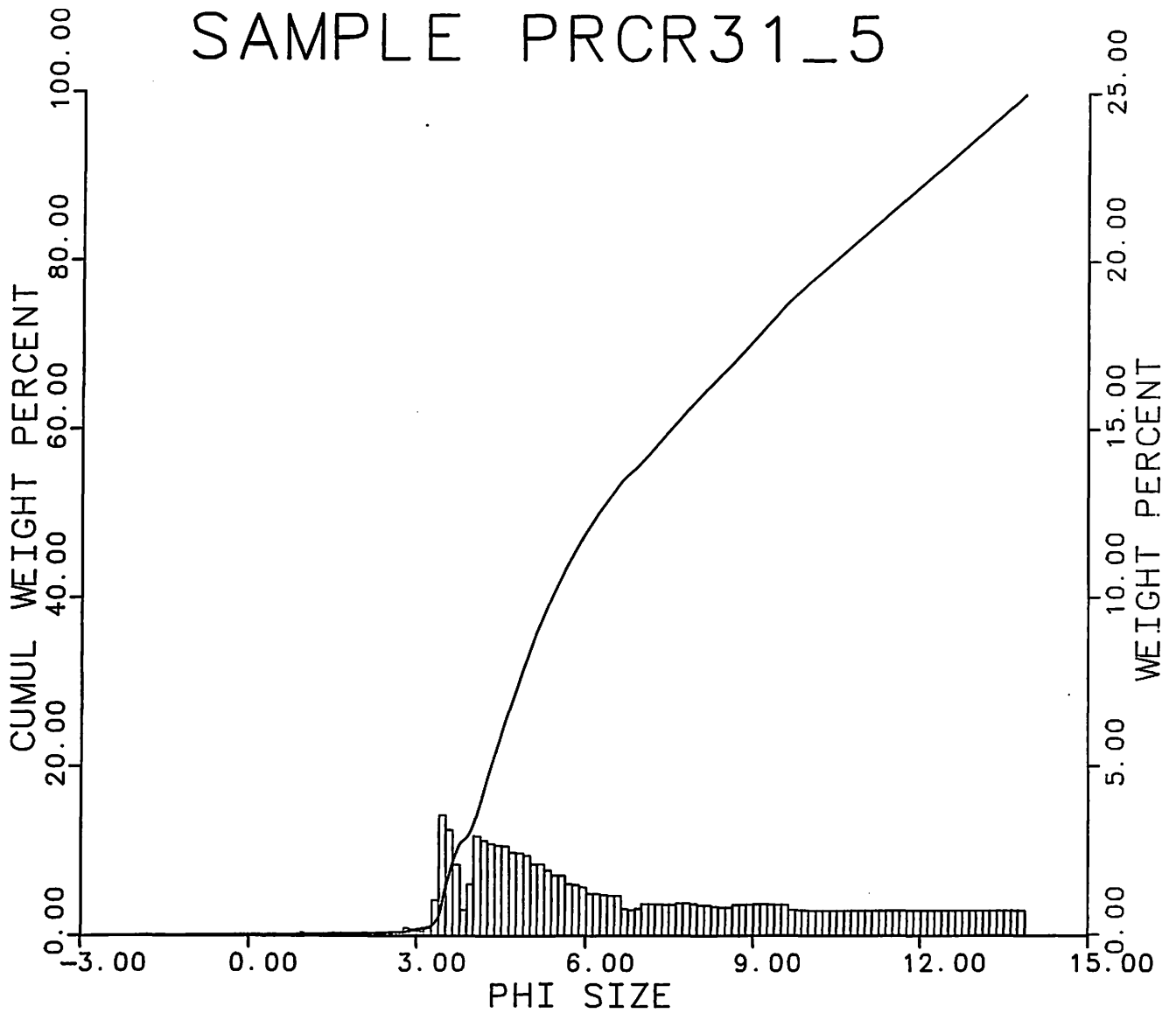
1st MOMENT _____ 7.156
 2nd MOMENT _____ 3.224
 3rd MOMENT _____ 0.607
 4th MOMENT _____ 2.063

PROBABILITY CURVE



OBSERVED SIZE DISTRIBUTION
 GAUSSIAN PROBABILITY Based on Graphic Mean and Std. Dev

SAMPLE PRCR31_5



Sample Location

LATITUDE _____ 0-0-0
 LONGITUDE _____ 0-0-0
 DEPTH (m) _____ 0.00

Gross Parameters

GRAVEL (%) _____ 0.0
 SAND (%) _____ 13.1
 SILT (%) _____ 50.3
 CLAY (%) _____ 36.6

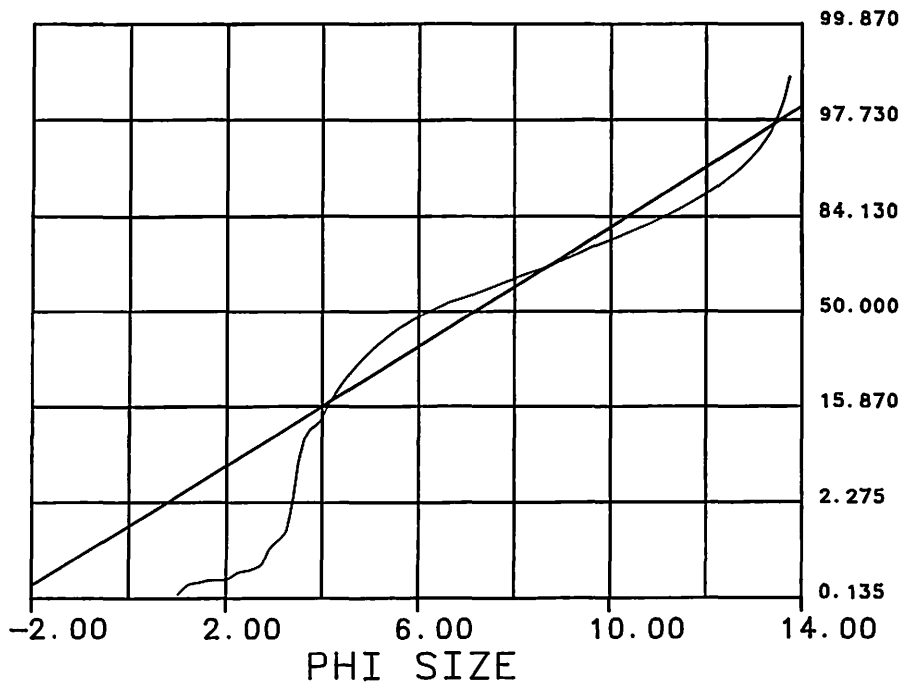
Graphic Measures

MODE _____ 6.206
 MEAN _____ 7.147
 STD. DEVIATION _____ 3.190
 INC. SKEWNESS _____ 0.416
 INC. KURTOSIS _____ 0.506

Moment Measures

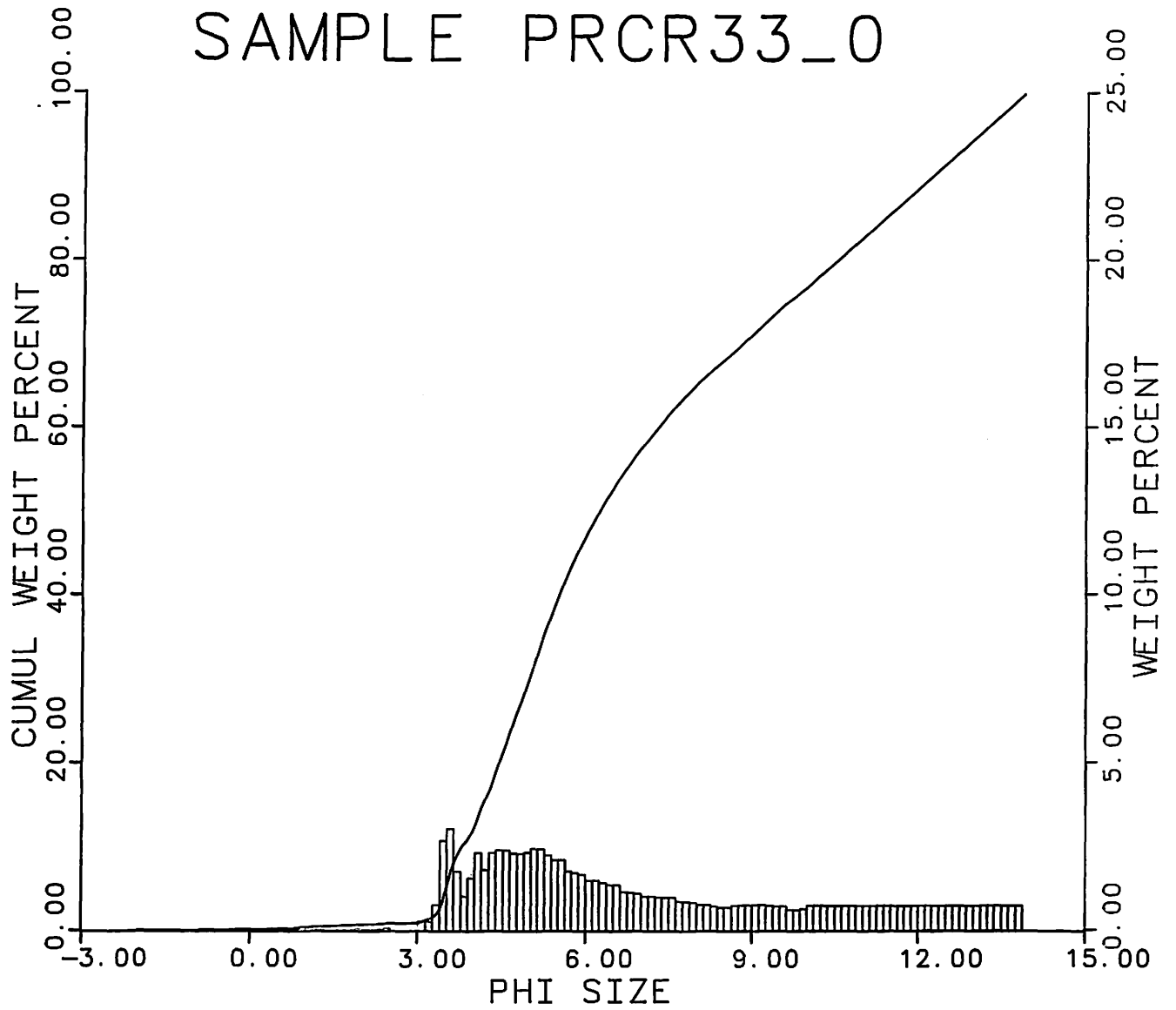
1st MOMENT _____ 7.173
 2nd MOMENT _____ 3.111
 3rd MOMENT _____ 0.580
 4th MOMENT _____ 2.100

PROBABILITY CURVE



OBSERVED SIZE DISTRIBUTION
 GAUSSIAN PROBABILITY Based on Graphic Mean and Std. Dev

SAMPLE PRCR33_0



Sample Location

LATITUDE _____ 0-0-0
 LONGITUDE _____ 0-0-0
 DEPTH (m) _____ 0.00

Gross Parameters

GRAVEL (%) _____ 0.0
 SAND (%) _____ 12.3
 SILT (%) _____ 50.1
 CLAY (%) _____ 37.6

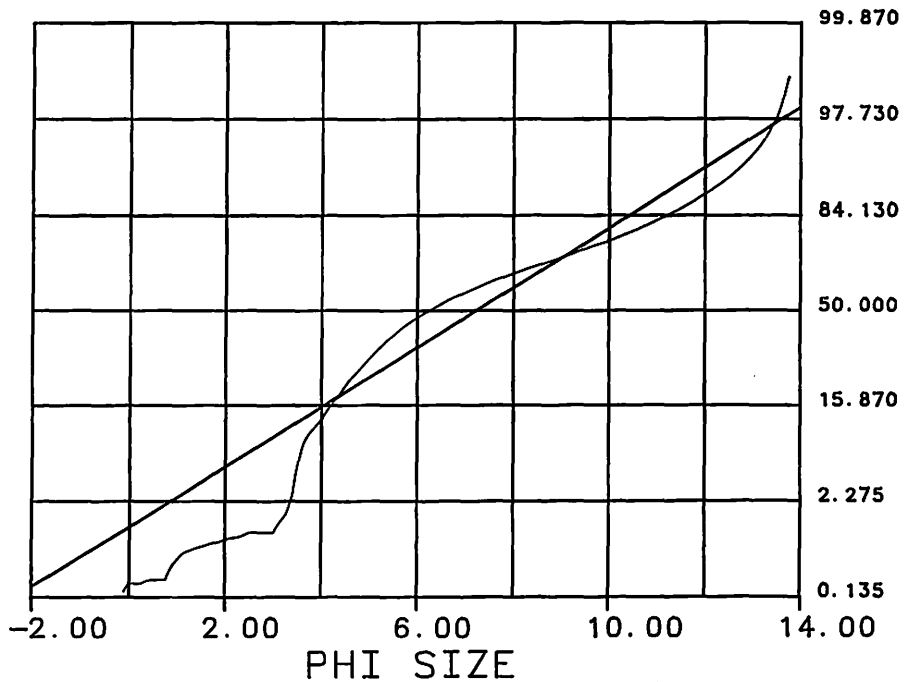
Graphic Measures

MODE _____ 6.233
 MEAN _____ 7.209
 STD. DEVIATION _____ 3.187
 INC. SKEWNESS _____ 0.423
 INC. KURTOSIS _____ 0.508

Moment Measures

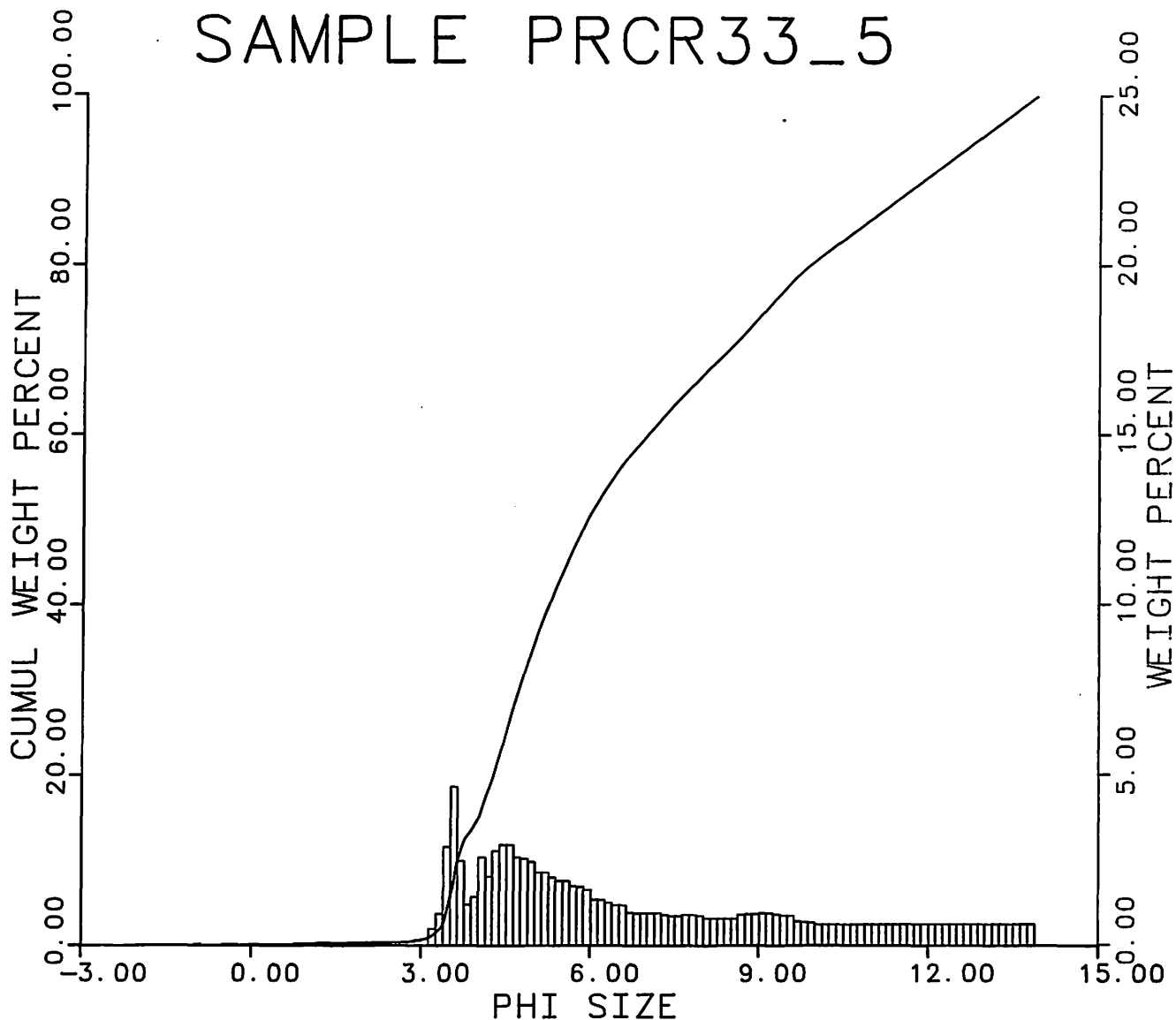
1st MOMENT _____ 7.189
 2nd MOMENT _____ 3.108
 3rd MOMENT _____ 0.573
 4th MOMENT _____ 2.204

PROBABILITY CURVE



OBSERVED SIZE DISTRIBUTION
 GAUSSIAN PROBABILITY Based on Graphic Mean and Std. Dev

SAMPLE PRCR33_5



Sample Location

LATITUDE _____ 0-0-0
 LONGITUDE _____ 0-0-0
 DEPTH (m) _____ 0.00

Gross Parameters

GRAVEL (%) _____ 0.0
 SAND (%) _____ 15.3
 SILT (%) _____ 53.5
 CLAY (%) _____ 31.2

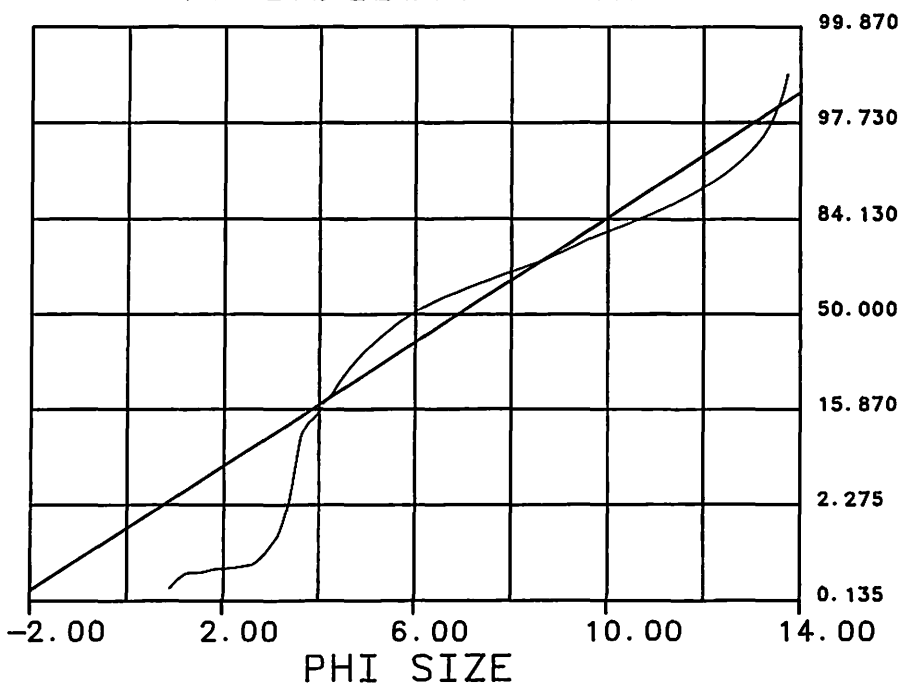
Graphic Measures

MODE _____ 5.922
 MEAN _____ 6.876
 STD. DEVIATION _____ 3.072
 INC. SKEWNESS _____ 0.457
 INC. KURTOSIS _____ 0.528

Moment Measures

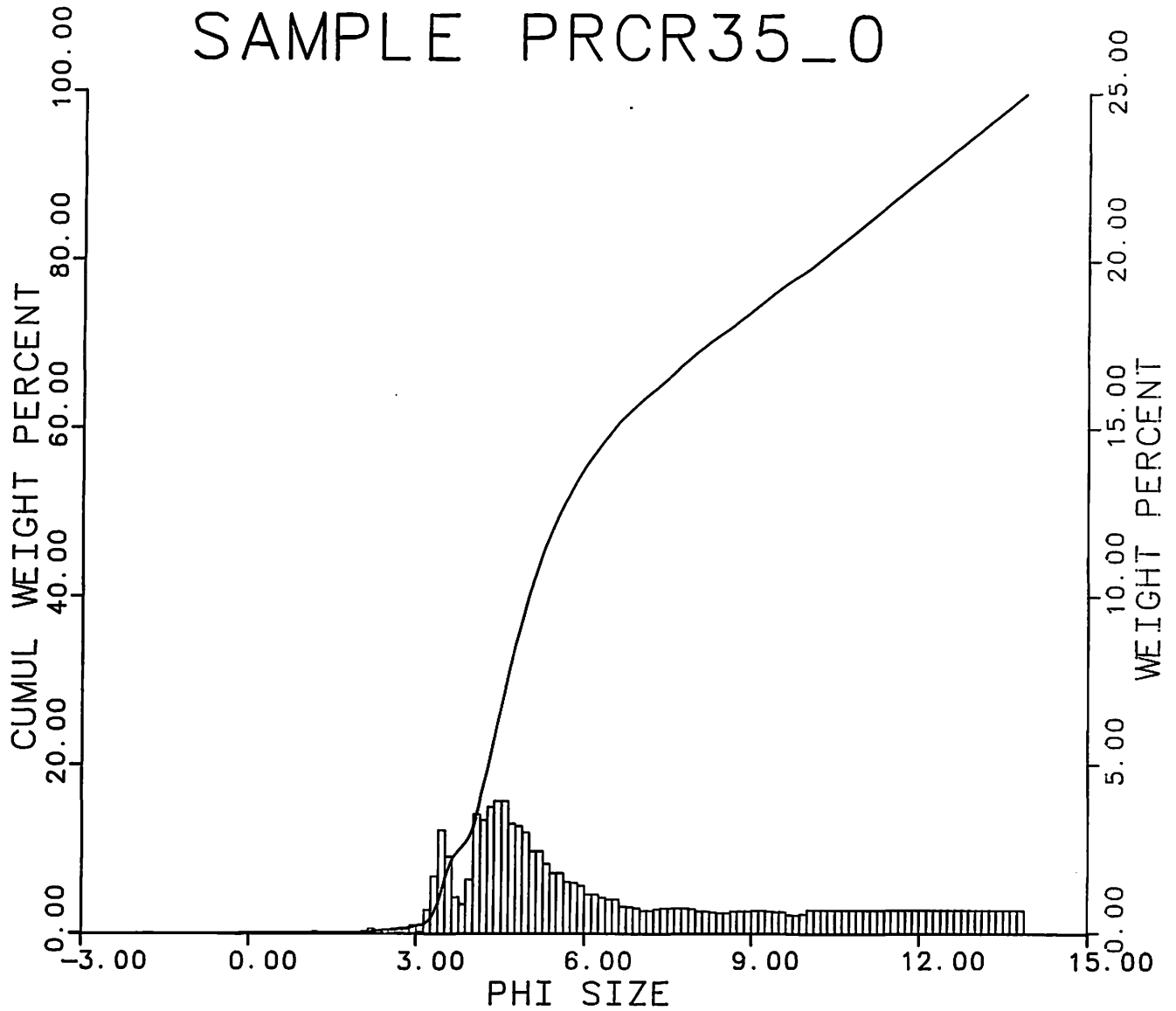
1st MOMENT _____ 6.924
 2nd MOMENT _____ 3.021
 3rd MOMENT _____ 0.693
 4th MOMENT _____ 2.357

PROBABILITY CURVE



OBSERVED SIZE DISTRIBUTION
 GAUSSIAN PROBABILITY Based on Graphic Mean and Std. Dev

SAMPLE PRCR35_0



Sample Location

LATITUDE _____ 0-0-0
 LONGITUDE _____ 0-0-0
 DEPTH (m) _____ 0.00

Gross Parameters

GRAVEL (%) _____ 0.0
 SAND (%) _____ 12.4
 SILT (%) _____ 53.4
 CLAY (%) _____ 34.2

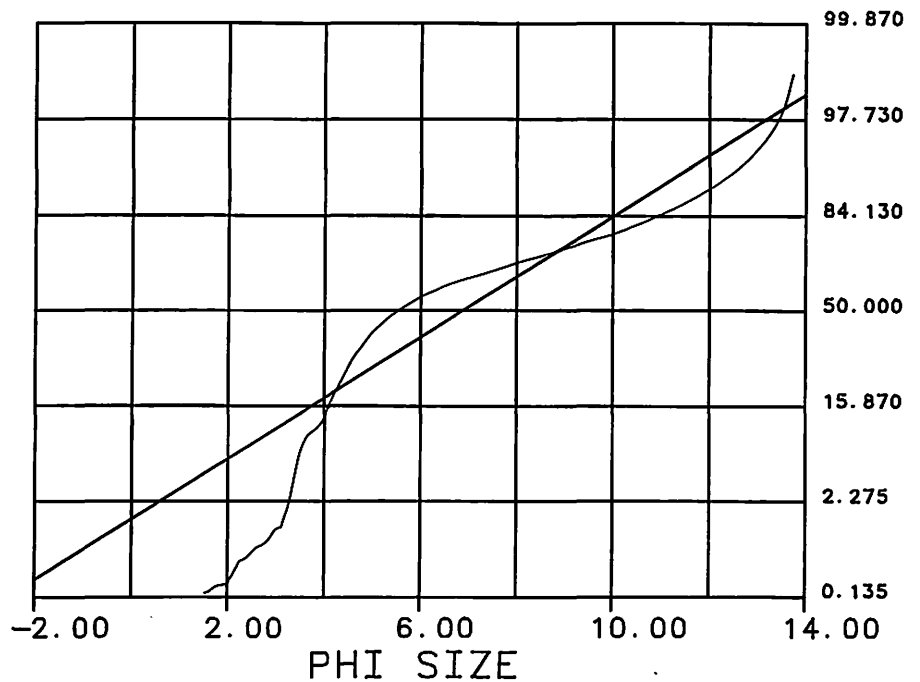
Graphic Measures

MODE _____ 5.553
 MEAN _____ 6.869
 STD. DEVIATION _____ 3.144
 INC. SKEWNESS _____ 0.567
 INC. KURTOSIS _____ 0.531

Moment Measures

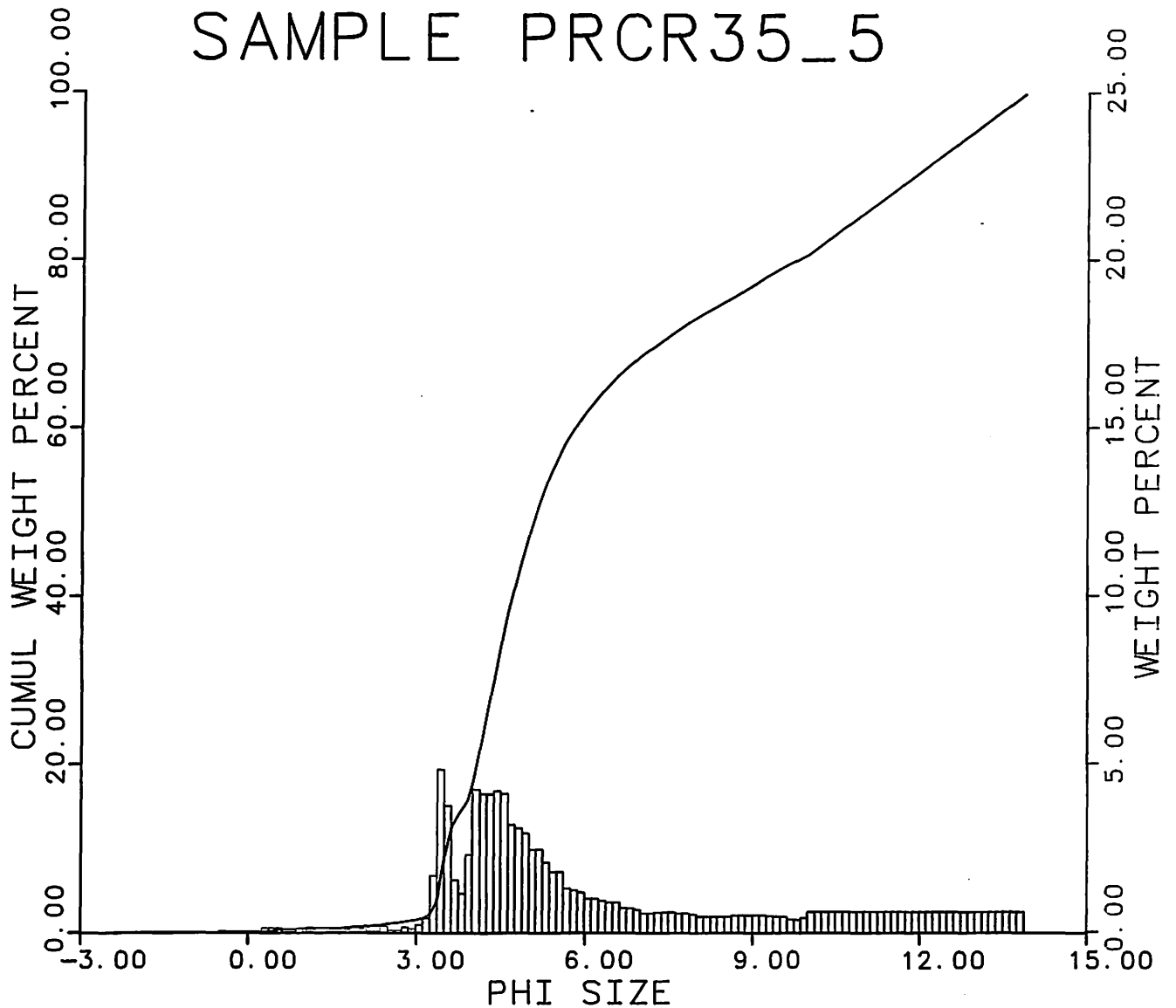
1st MOMENT _____ 6.840
 2nd MOMENT _____ 3.101
 3rd MOMENT _____ 0.791
 4th MOMENT _____ 2.338

PROBABILITY CURVE



OBSERVED SIZE DISTRIBUTION
 GAUSSIAN PROBABILITY Based on Graphic Mean and Std. Dev

SAMPLE PRCR35_5



Sample Location

LATITUDE _____ 0-0-0
 LONGITUDE _____ 0-0-0
 DEPTH (m) _____ 0.00

Gross Parameters

GRAVEL (%) _____ 0.0
 SAND (%) _____ 16.6
 SILT (%) _____ 52.2
 CLAY (%) _____ 31.2

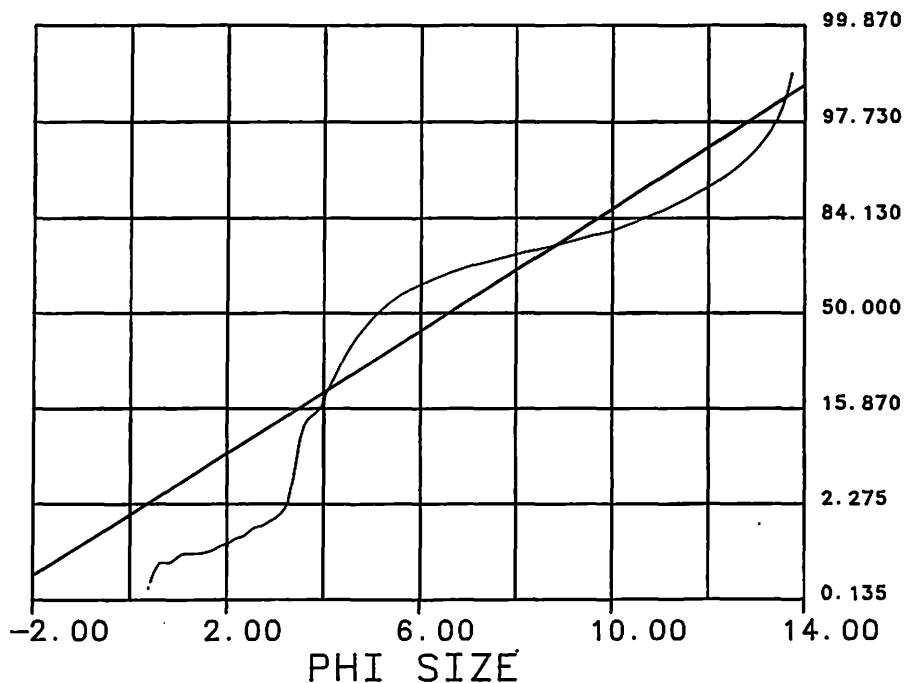
Graphic Measures

MODE _____ 5.127
 MEAN _____ 6.564
 STD. DEVIATION _____ 3.116
 INC. SKEWNESS _____ 0.638
 INC. KURTOSIS _____ 0.578

Moment Measures

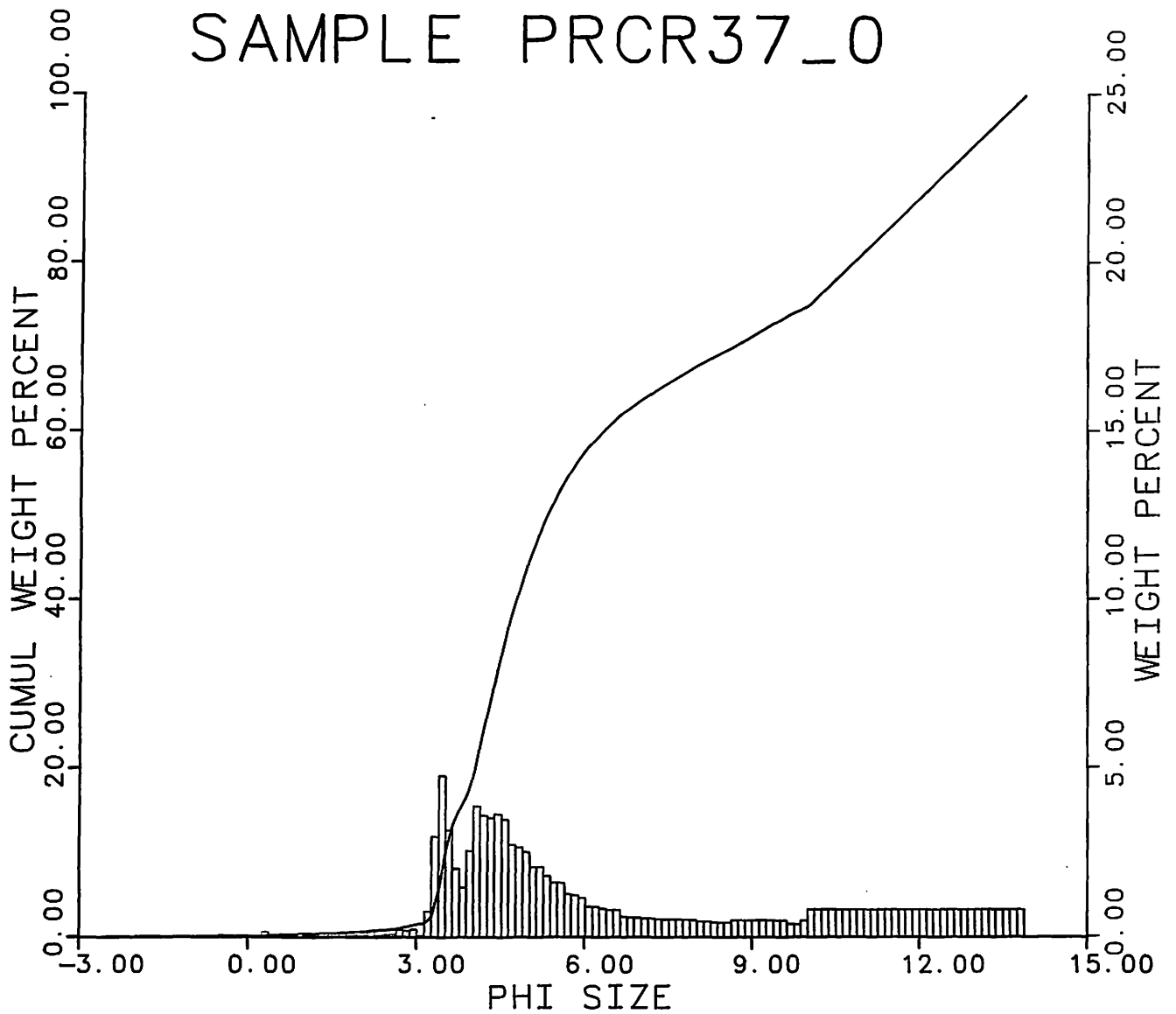
1st MOMENT _____ 6.464
 2nd MOMENT _____ 3.107
 3rd MOMENT _____ 0.942
 4th MOMENT _____ 2.659

PROBABILITY CURVE



OBSERVED SIZE DISTRIBUTION
 GAUSSIAN PROBABILITY Based on Graphic Mean and Std. Dev

SAMPLE PRCR37_0



Sample Location

LATITUDE _____ 0-0-0
 LONGITUDE _____ 0-0-0
 DEPTH (m) _____ 0.00

Gross Parameters

GRAVEL (%) _____ 0.0
 SAND (%) _____ 19.0
 SILT (%) _____ 39.8
 CLAY (%) _____ 41.2

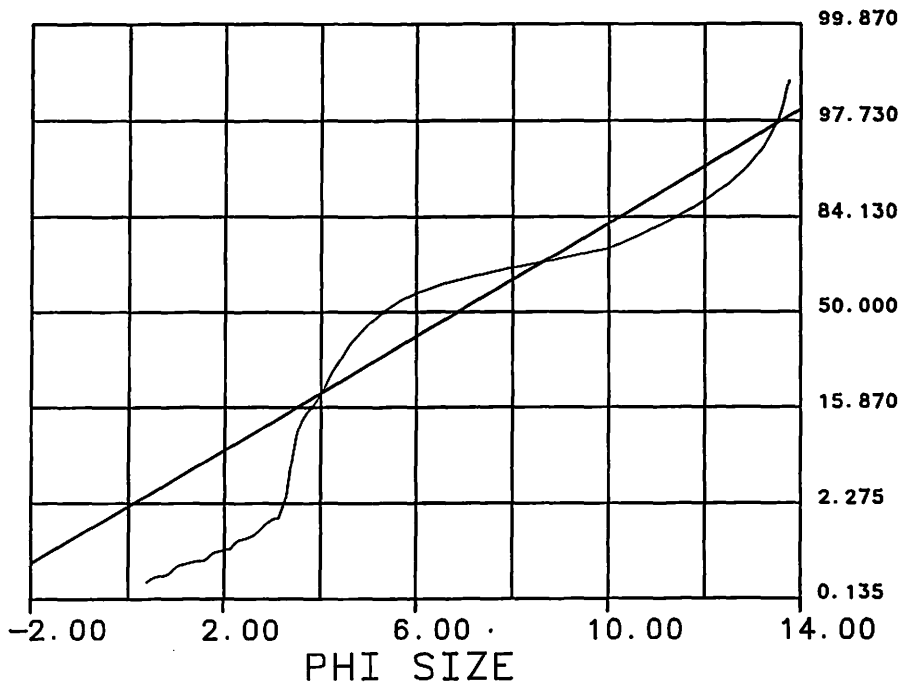
Graphic Measures

MODE _____ 5.304
 MEAN _____ 6.839
 STD. DEVIATION _____ 3.368
 INC. SKEWNESS _____ 0.605
 INC. KURTOSIS _____ 0.482

Moment Measures

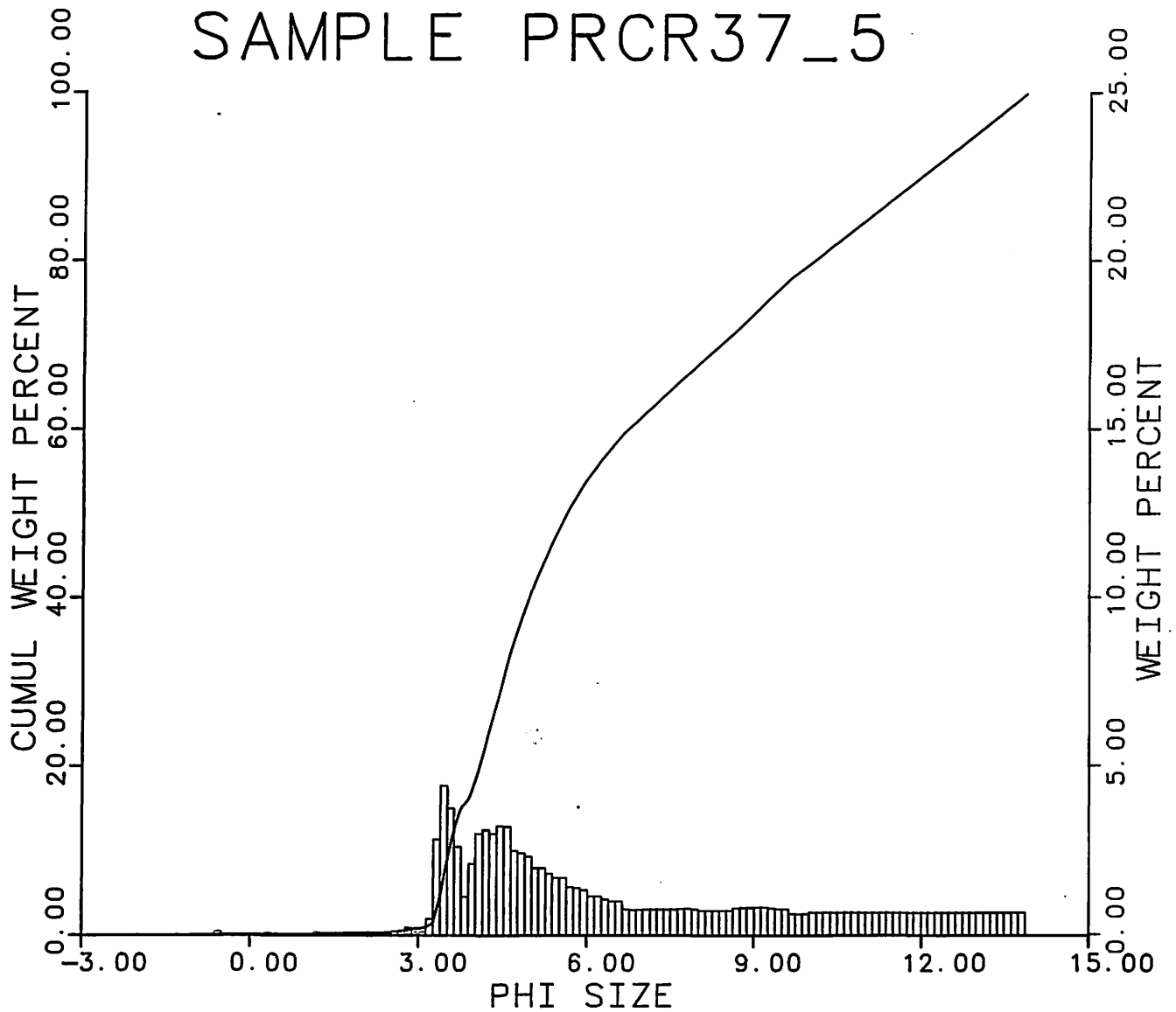
1st MOMENT _____ 6.819
 2nd MOMENT _____ 3.352
 3rd MOMENT _____ 0.716
 4th MOMENT _____ 2.098

PROBABILITY CURVE



OBSERVED SIZE DISTRIBUTION
 GAUSSIAN PROBABILITY Based on Graphic Mean and Std. Dev

SAMPLE PRCR37_5



Sample Location

LATITUDE _____ 0-0-0
 LONGITUDE _____ 0-0-0
 DEPTH (m) _____ 0.00

Gross Parameters

GRAVEL (%) _____ 0.0
 SAND (%) _____ 17.6
 SILT (%) _____ 49.3
 CLAY (%) _____ 33.1

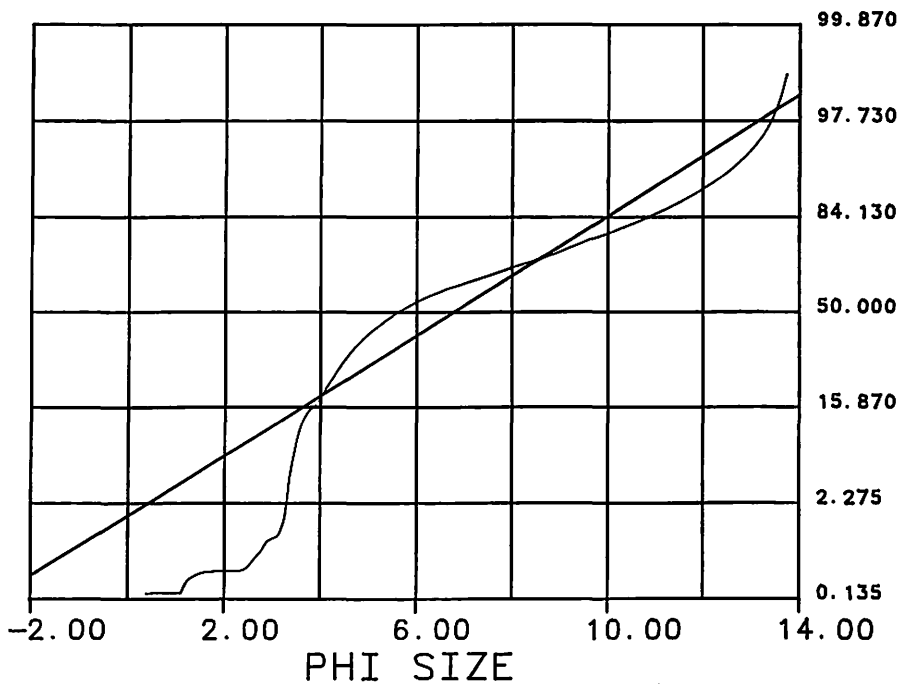
Graphic Measures

MODE _____ 5.618
 MEAN _____ 6.768
 STD. DEVIATION _____ 3.183
 INC. SKEWNESS _____ 0.514
 INC. KURTOSIS _____ 0.527

Moment Measures

1st MOMENT _____ 6.805
 2nd MOMENT _____ 3.132
 3rd MOMENT _____ 0.724
 4th MOMENT _____ 2.285

PROBABILITY CURVE



OBSERVED SIZE DISTRIBUTION
 GAUSSIAN PROBABILITY Based on Graphic Mean and Std. Dev