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CONCENTRATION DISTRIBUTION IN A PLUME RELEASED OVER WATER

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ROYAL NORWEGIAN COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH

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SUMMARY

Dispersion tests were performed over the Bundefjorden, a side arm to the inner Oslofjord. A tracer gas, SF_6 , was released from a sunken rock and sampled by a boat crossing the plume at a distance of 400 m. The sampling took place every 2 second at three levels along the mast.

Horizontal concentration distributions were little influenced by air stability, expressed by the air-water temperature difference, while vertical plume extention was at minimum during inversion conditions.

One observation made was the tendency of travelling lumps forming upper parts of the plume. The result was a slower decrease in maximum concentration with height than of mean crosswind concentration.

Statistical properties of the fluctuating concentration distribution relative to the center of gravity show that the most prominent feature is that when fluctuations are large, they are largest at the cloud center. Concentrations are either high throughout the whole cross section, or they are all low. The second most important feature is that with low concentrations near the plume center, concentrations near the border will be high.

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CONCENTRATION DISTRIBUTION IN A PLUME RELEASED OVER WATER

1 INTRODUCTION

Fire and explosions following an accidental gas release depends more on the instantaneous than on the mean concentration distribution. The purpose of the Bundefjord experiments was to study concentrations fluctuations in a plume released over water. The only similar experiments known to the author are those conducted over a Norwegian fjord, where fluorescent particles were released from an anchored boat, and sampling performed on another boat, crossing the plume repeatedly at a distance of 500 m (Eidsvik 1980). The experiments over the Bundefjord were similar, only this time the tracer used was sulphur hexafluoride (SF₆) and sampling took place at two or three different heights.

2 TEST SITE AND EXPERIMENTAL PROCEDURE

The experiments were performed over the Bundefjord, a side arm of the inner Oslofjord. The location is shown in Figure 1. The gas release took place mid-fjord from a platform erected on a sunken rock. Crosswind sampling was made between marker buoys at a distance of 400 m from the source. Release height was 2 m above sea level. Dual tracer technique was used in one test only to study the effect of release height on concentration distribution. Bromtrifluoromethane (CBrF₃) was then released at 3.8 m and SF₆ at 1.2 m above sea level. A motor driven sailing boat was used, with samplers placed at two or three different heights along the mast (Figure 2). The boat speed was about 5 m/s. Wind speed, at 2 m a.s.l., was measured at the release platform. During some experiments the University of Bergen recorded turbulence using sonic anemometers at the 2 m level.



Figure 1: Bundefjorden - Location of platform on sunken rock.

Figure 2 shows:

- a Platforms on sunken rock. Turbulence instruments being installed.
- b Boat with sampling in mast at 3.1 m 7.1 m and 11.6 m above sea level.
- c Smoke release to visualize tracer plume
- d Sampling in mast base plate with 90 syringes



3 THE SAMPLING EQUIPMENT (BY R. HEGGEN)

3.1 CONSTRUCTION GUIDELINES

The sampling equipment was constructed after the following guidelines:

Samplers were needed at 3 levels along the mast, at about 3, 7 and 12 meters above sea level. Sampling should take place simultaneously at all levels with 2 seconds intervals or less. Each individual sample should be taken within a time interval of 0.5 seconds.

As many samples as possible were wanted without any changing or rearranging of the equipment.

A means of logging the sampling points in time, and relating them to proper geographical locations, was also needed.

3.2 TECHNICAL DESCRIPTION

Plastic syringes of 5 ml volume were chosen as sample containers. In each syringe the plunger rod was discarded, but the rubber plunger itself was left in the syringe. 90 syringes were clamped in holes on a baseplate, arranged round a 90-position-valve. Vacuum bellows indexed the valve from position 1 to position 90, on command every 2 seconds from a repeating relay. Vacuum was connected to the 90-position valve and this sucked the plunger to the top of each syringe as the sampling progressed, thus leaving air samples in the syringes. Each syringe had a hypodermic needle connected to halt back-diffusion of the air sample. Three of these samplers were connected to the same pulse relay so that samples were taken simultaneously at the 3 vertical positions.

A counter connected to the pulse relay kept record of the number of samples taken. The counter, a microphone, a small tape recorder and a start-stop switch were all coupled together on an extension cord. This enabled the operator to move about giving comments to the tape recorder, which also picked up the clicks from the counter, thus logging the sampling positions in time. Immediately after the last sample the equipment was taken down and a soft rubber plate was put on sealing all the 90 needle openings. Analysis of the 270 air samples by means of gas chromatographs took 3-4 hours, and was always done as soon as possible after each test (Heggen and Oehme, 1982).

4 EXPERIMENTAL PROCEDURES AND DATA COLLECTED

Tests were performed during 3 different periods: October/November 1983, June 1983, and October 1983. Table 1 gives a list of the 17 tests carried out. Detailed data are given in Appendix A.

Table 1: Diffusion tests over the Bundefjord. Wind speed in m/s. Temperature difference (air-sea) in degrees centigrade. Sampling heights in meters above sea level. σ_{θ} = standard deviation of wind elevation - degrees.

Test	Date	No. of crossings	Sampling heights	Release rate	Wind- direc-	Wind- speed	Temp. diff. air-sea	σ 8
			m	cc/min	tion	m/s	⁰ C	deg.
1	1982-10-28	2	2.3, 7.6	250	SW	3.1	1.5	-
2	1982-10-28	8	2.3, 7.6	250	S	5.8	1.3	-
3	1982-11-04	3	2.3, 11.2	300	NE	4.6	-2.3	-
4	1982-11-04	3	2.3, 11.2	300	N	5.8	-2.5	-
5	1982-11-04	6	2.3, 11.2	300	NNW	6.6	-2.7	-
6	1983-05-30	5	3.1, 7.1, 11.6	300	S	1.9	0.5	-
7	1983-05-31	6	3.1, 7.1, 11.6	300	S	4.6	1.1	-
8	1983-06-01	7	3.1, 7.1, 11.6	200	SSW	4.5	2.1	2.0
9	1983-06-03	7	3.1, 7.1, 11.6	300	S	4.2	-1.5	2.4
10	1983-06-07	6	3.1, 7.1, 11.6	300	S	2.3	0.8	-
11	1983-06-14	6	3.1, 7.1, 11.6	300	S	7.1	1.1	-
12	1983-06-15	6	3.1, 7.1, 11.6	300	SE	7.5	-1.9	-
13	1983-06-16	6	3.1, 7.1, 11.6	300	NNW	4.6	0.3	-
14	1983-10-24	6	3.1, 7.1, 11.6	340	WNW	5.4	-0.8	3.3
15	1983-10-26	7	3.1, 7.1, 11.6	340	W	4.5	6.5	-
16	1983-10-27	7	3.1, 7.1, 11.6	340	S	4.0	2.5	4.6
17*	1983-10-28	6	3.1, 7.1, 11.6	340	N	6.5	-0.1	3.3

* Simultaneous release of 2850 cc CBrF,/min at 3.8 m above sea level. SF, release at 1.2 m. Detailed data are given in Appendix A.

5 DATA EVALUATION - CONCENTRATION DISTRIBUTIONS

All concentrations are normalized to a release rate of 300 cc/min, and to a wind speed of 1 m/s. In the following we will only consider traverses where practically the whole plume was traversed. When necessary, missing observations are estimated by interpolation in order to calculate crosswind standard deviation and integrated concentration.

Standard deviation of horizontal and vertical wind fluctuations were calculated at the University of Bergen from their sonic anemometer recordings.

5.1. SAMPLING AT TWO HEIGHTS

Table 2 shows mean and weighted mean values of maximum normalized concentrations (CM), standard deviations (σ) and crosswind integrated concentrations (CI).

Incomplete traverses are omitted. The ones used in each test are noted by their traverse number. Sampling heights were 2.3 m and 76. m in the first two tests, then the upper level was lifted to 11.2 m.

Maximum concentration, standard deviation of horizontal concentration distribution and crosswind integrated concentration all decrease with height. The only exception is test 1, where the mean concentration at 7.6 m exceeds the one at 2.3 m; and test 2, where standards deviations are equal at the two heights.

With sampling at two heights only, no further effort is made to express the vertical distributions. However, a scaling height is defined as the equivalent height of a plume with constant concentration in the vertical, equal the one at 2.3 m. Weighted mean height becomes 14 m. Test 1 is then left out. It gave an unrealistic low value in the single traverse made.

Table 2: Simultaneous sampling at two heights. Mean and weighted mean maximum normalized concentration, horizontal standard deviation, and crosswind integrated concentration, CI. Ri = Modified Richardson number. H = Scaling height (see text).

		2.3 🖿			7.6			11.2			
Test No. (traverse no.)	Max. conc. ppt	St.dev.	CI ppt.m	Max. conc. ppt	St. dev.	CI ppt.m	Max. conc. ppt	St. dev.	CI	Ri	Н
1 (1) 2 (2,3) 3 (1,2,3) 4 (1) 5 (1,4,6) Mean (10 traverses)	4.6.10 ³ 3.8.10 ⁴ 1.1.10 ⁴ 1.3.10 ⁴ 1.7.10 ⁴ 1.8.10 ⁴	11.3 7.9 10.4 6.4 8.5 9.0	5.8.1047.3.1052.6.1951.7.1055.0.1054.0.105	3.7.10 ³ 2.4.10 ⁴	7.6 7.9	7.4.10 ⁴ 3.7.10 ⁵	6.9.10 ³ 2.3.10 ³ 4.6.10 ³	9.1 5.7 5.5	1.3.10 ⁵ 3.8.10 ⁴ 1.6.10 ⁵	0.16 0.04 -0.11 -0.07 -0.06	[86] 7 19 29 10
Mean (9 traverses) (No.1 omitted)	1.9.104	8.8	4.3.10 ⁵	<u></u>							
Max Min	4.6.10 ⁴ 4.6.10 ³	11.3 4.8	1.6.10 ⁵ 1.3.10 ⁴	Max.co Min.co	onc: Tes	t 2, run t 1, run	2 max ST. 1, min ST.	D: Test D: Test	1, run 1 2, run 2		

Ri is a modified Richardson number, $\Delta T/U^2$, where ΔT is the temperature difference air/water and U is the wind speed.

5.2 SAMPLING AT THREE HEIGHTS

5.2.1 Mean values

Some of the traverses are omitted in the statistical treatment, due to incomplete crossings. The remaining 50 traverses, with a total of 778 data points from 12 different tests, are listed in Table 3. See Appendix A for details.

	Test no.	Traverse no.	Number of datapoints*	Number of datapoints*				
	6 7 8 9 10 11 12 13 14 15	1,3 1,3,4,5,6 1,2,3,4,5,6,7 2,3,5 1,2 1,2,5 2,3,4 1,2,4,6 1,2,3,4,5 1,2,3,4,5	18+16 14+23+12+12+20 19+20+17+23+17+13+18 16+23+21 18+15 19+14+11 16+14+22 16+9+14+9 9+13+11+12+22 9+9+12+13+15+13		34 81 127 60 33 44 52 48 67 71			
	16 17	1,2,3,4,5,6	14+12+10+20+18+18 27+13+19+10	11	92 69			
Total	12	50			778			

Table 3: Traverses used in statistics - sampling at 3 heights.

* An estimated value is used when a datapoint is missing.

Table 4 shows mean and weighted mean values of maximum concentrations, standard deviations and crosswind integrated concentrations.

The maximum concentration and crosswind integrated concentration in test 15 are omitted, due to leakage of SF_6 during the release.

		3.1 m		7.1 m			11.6 m		
Test No.of runs	Max conc. ppt	St.dev. m	CI ppt.m	Max. conc. ppt	St.dev. m	CI ppt.m	Max. conc. ppt	St.dev. m	CI ppt.m
6 (2) 7 (5) 8 (7) 9 (3) 10 (2) 11 (3) 12 (3) 13 (4) 14 (5) 15 (6) 16 (6) 17a(4) 17b(2)*	1.6.103 1.3.104 1.2.104 2.6.104 2.0.104 1.3.104 1.3.104 1.1.103 9.3.103 9.3.104 1.9.10 1.8.104 3.1.104 2.8.104	13.4 12.3 12.6 17.8 8.5 10.0 13.6 6.8 9.2 5.6 9.1 10.3 16.9	$1.9.105 \\ 2.9.105 \\ 3.3.105 \\ 4.3.105 \\ 4.0.105 \\ 1.9.105 \\ 2.5.105 \\ 1.4.105 \\ 3.8.105 \\ 3.4.105 \\ 5.7.105 \\ 6.0.105 \\ 1.05 \\$	3.5.103 8.7.104 1.0.105 2.1.104 1.9.103 8.4.104 1.0.104 1.1.104 2.1.104 1.3.104 2.3.104 1.8.104	9.5 11.3 10.1 14.6 9.3 10.3 13.8 7.8 6.0 6.1 7.8 11.3 17.9	9.0.10 1.8.10 1.5.10 3.1.10 3.2.10 1.3.10 2.0.10 1.4.10 3.0.10 1.8.10 4.7.10 3.4.10	$2.5.10^{3}_{4.6.10^{3}_{3}}_{5.1.10^{4}_{4}}_{2.2.10^{3}_{3}}_{7.0.10^{4}_{4}}_{1.2.10^{4}_{4}}_{1.2.10^{4}_{4}}_{1.7.10}_{8.0.10^{3}_{4}}_{2.2.10^{4}_{4}}_{2.0.10^{4}_{4}}$	8.7 9.7 8.4 11.2 3.0 9.3 11.3 8.5 5.6 3.3 9.0 9.9 14.1	4.2.10 1.3.10 6.5.10 2.9.10 5.6.10 1.1.10 1.4.10 1.4.10 1.3.10 3.3.10 2.1.10
Weighted mean	1.4.10 ⁴	10.4	2.9.10 ⁵	1.2.10 ⁴	9.4	2.2.10 ⁵	9.3.10 ³	8.0	1.5.10 ⁵

Table 4: Simultaneous sampling at 3 heights. Mean and weighted maximum concentrations, horizontal standard deviations and crosswind integrated concentrations (CI).

*Release of CBrF₂, not included in weighted mean.

One should expect concentrations to decrease with height, and so did the crosswind integrated values. Maximum concentrations, however, occurred in some cases above the 3.1 m level, not only in individual traverses, but also as mean values. Examples are tests 9 and 13. Another feature in the vertical distribution is the effect of travelling humps, forming parts of the upper cloud. This results in a slower decrease with height of maximum concentration than of the crosswind integrated concentration. The ratio between the maximum concentrations at 11.6 m and 2.3 m is 0.49 compared to 0.39 for the integrated concentration values. With observations at three levels, corresponding values in the mean maximum concentrations are 0.48 and 0.80 for the 11.2 m and 7.6 m levels with respect the 3.1 m level. For the integrated concentrations the ratios are 0.30 and 0.70 respectively. The variations of ratios with heights are shown in Figure 3.



Figure 3: Variation of relative maximum concentrations with height.

The simultaneous releases of SF_6 at 1.2 m and $CBrF_3$ at 3.8 m during two traverses show the same distribution of maximum concentrations with height, with the lowest observed value at the medium level. The unusual large standard deviations in the traverse 17b were also observed in the two SF_6 plumes in 17a. Data from two traverses only are too few to draw definite conclusions, other than that large fluctuations in concentrations are confirmed by these individual observations. The CBrF3 samplings are not included in later statistics.

Figure 4 shows cumulative frequency distributions of the maximum concentrations (normalized). The logarithmic values show fairly straight lines. The median value decreases with height while the standard deviation increases. The 3.1 m curve is steeper than the other two, which both consist of fairly large amounts of low concentrations compared to the 3.1 m curve.



Figure 4: Cumulative frequency distribution of maximum concentrations.

5.2.2 Vertical concentration distribution

To improve accuracy in estimates of the vertical distribution, concentration values at 1 m are estimated assuming a Gaussian distribution, and the cloud height estimated from a vertical plot. The standard deviation, σ_z , is then computed. Cloud height, H 1/10, is defined as the height to 1/10 of the maximum concentration. Monin (1959) gives the following expression for cloud height

 $HM = \sigma_F x$

where $\sigma_E = \sqrt{\overline{w}^2/u}$ - w is the fluctuating vertical wind speed and x the distance from the source.

Table 5 shows the height to the center of gravity, the standard deviation and cloud heights, together with observed turbulence data. Included is also the Monin-Ubukhov stability parameter, L. We here take into account the water vapour flux as done by Nieuwstadt, using his approximations over water (Nieuwstadt 1977):

$$L = \frac{170u^{*3} T}{u[(T-TW) + 0.61 T (q-qW)]}$$

where $u^* = friction$ velocity, T = air temperature, TW = water temperature, q = specific humidity of the air, qw = specific humidity of saturated air at temperature TW.

In test 14, 16 and 17 the vertical velocities from the sonic anemometer reading are believed to be somewhat too large. This results in unrealistic high values of HM compared to H 1/10, the other cloud height parameter.

Table 5: Height, to the center of gravity, HCg, standard deviation, cloud heights (H 1/10 and HM) and turbulence parameters. L = Monin-Obukhov stability parameter.

- w = fluctuating vertical wind speed.
- U, the corresponding mean wind speed.

Test no. (No. of traverses)	HCg	H 1/10	σz		บ _ี 1	σ _E	HM	Ri	1/L.10 ³
	m	m	m	m/s	m/s	degrees	m		
6 (2) 7 (5) 8 (7) 9 (3) 10 (2) 11 (3) 12 (3) 13 (4) 14 (5) 15 (6) 16 (6) 17 (4) Weighted mean	5.0 4.7 4.6 5.2 4.6 5.5 5.3 6.1 5.6 3.4 5.0 5.2 5.0	14 16 13 15.5 12 25 23 30 17 12.5 17 16	6.2 6.2 5.9 6.6 5.7 7.3 7.2 8.1 7.0 4.1 6.5 6.3	0.23 0.15 0.35 0.41 0.36	6.7 3.8 5.4 5.1 6.4	1.9 2.2 (3.7) 4.6 3.3	13.7 15.8 26 32 22.5	0.14 0.05 0.10 -0.09 0.15 0.02 -0.03 0.01 -0.02 0.32 0.16 -0.002	-0.49 1.9 -3.2 1.0 -0.80 -1.3 -0.54 -1.8 -0.92 -5.9 -2.0 -1.1

5.2.3 <u>Correlations</u>

Table 6 shows mean values, horizontal standard deviations and extreme values of the different parameters. The correlations between the mean concentrations and the different parameters from Table 6 are shown in Table 7. The maximum concentration at 3.1 m is well correlated with the stability parameters and with the vertical standard deviation σ_z . One might have expected the maximum concentration, CM, to be correlated with the crosswind integrated concentration, CI, and CI with σ_z , but this is not the case. Otherwise, correlations are as expected, as for instance between stability parameters.

Table 6: Mean, standard deviation and extreme values. CM = Maximum normalized concentration - at 3.1 m. CI = Crosswind integrated concentration - at 3.1 m. $RI = Modified Richardson number = \Delta T/u^2.$ $\Delta T = Air temp (T) - sea surface temp (TW).$ $\sigma_{g} = Standard deviation - crosswind horizontal concentration$ <math>distribution. $\sigma_{z} = Standard deviation - vertical concentration distribution.$ HCg= Height of center of gravity. $L^* = 1/L . 10^3$ where L = Monin Obukhov Length.

	Mean	St.dev.	Max	Min
СМ	2.2	2.3	9.1	. 16
CI	3.0	1.3	5.7	1.2
σy	10.8	3.4	17.8	5.6
σ	6.4	.99	8.1	4.1
HCg	5.0	. 67	6.1	3.4
H 1/10	17.6	5.6	30.0	12.0
ΔΤ	. 88	2.2	6.5	-1.9
RI	. 67	1.1	3.2	-0.9
L*	-1.4	1.9	1.6	-5.9

Table [7:	Correlation	coefficients.
---------	----	-------------	---------------

L*	1.0								
RI	80	1.0							
ΔT	91	. 90	1.0						
а У	60	57	61	1.0					
σz	61	79	74	. 19	1.0				
HCg	. 69	80	77	. 18	. 98	1.0			
н 1/10	. 15	48	35	16	.83	.75	1.0		
CM	62	.58	.71	44	.74	.36	. 36	1.0	
CI	. 49	41	43	. 33	.03	. 12	40	13	1.0
	L*	Rl	ΔΤ	o Y	σ z	HCg	H 1/10	CM	CI

5.3 DISCUSSION

5.3.1 Comparison with Gaussian distribution

In a Gaussian distribution the standard horizontal deviation, σ , may be expressed as:

$$\sigma_{\rm y} = \frac{\rm CI}{\rm CM} \cdot \frac{1}{2\pi}$$

Table 8 presents calculated values using this expression and observed values from Table 2 and Table 4.

Table 8: Mean standard horizontal deviation. Observed and calculated (Gaussian). Ratio = observed/ calculated.

From Table 2 From Table 4 2.3 m 7.6 m 11.2 m 3.1 m 7.1 m 11.6 m No. obs. 7 9 3 50 50 50 Gaussian 9.0 7.1 9.3 8.3 7.3 6.4 Observed 8.8 7.8 6.8 10.4 9.4 8.0 0.98 1.10 0.73 1.25 1.29 Ratio 1.25

The few observations from Table 2 indicate a close to Gaussian distribution at the two lowest levels and a more narrow one at the upper level. The more numerous observations from table 4 show a almost constant ratio at all three levels, indicating a wider than Gaussian distributions. However, the real maximum concentration may have been higher than observed and the distributions therefore closer to Gaussian. While the distribution in a single plume traverse may be far from Gaussian, the mean distribution of a number of

5.3.2. Comparison with results from other experiments

traverses will be close to Gaussian.

In the 15 similar conducted tests in a Norwegian fjord, already mentioned, the mean of 180 plume crossings gave $\sigma_y = 11$ m at a distance of 500 m. The air was unstable during 1 test, near neutral during 8, and stable during 2 tests. During 4 tests there was a temperature inversion. However, σ_y showed no marked variation with stability, but maximum concentrations doubled during inversion conditions. When we assume $\sigma_y = ax^P$, and P = 0.85 for near neutral conditions over water (Hosker 1974), a= 0.056. At a distance of 400 m we would get $\sigma_y = 9.1$ m, a value close to what was observed over the Bundefjord. Similar plume crossings with boats conducted by Brookhaven National Laboratories (Raynor et al., 1978) gave $\sigma_y = 0.06 \ x^{0.88}$ in near neutral air, that is $\sigma_y = 11.7$ m at a distance of 400 m. Corresponding values were 14 m in stable air and 13 m in unstable air.

Over the Bundefjord the standard deviation σ_y , depended very little on the temperature difference air/water. The mean weighted values varies from 9.8 m in stable and unstable stratification to 9.3 m during the neutral conditions.

Corresponding values of the vertical standard deviation, σ_z , are 5.8 m in the stable cases and 6.9 m in the neutral cases. The relative few unstable cases give $\sigma_z = 6.9$ m. Brookhaven sampled only at one level and had to estimate σ_z from mass continuity. Their values, adjusted to a distance of 400 m, gives 11.6 m in unstable air, 6.2 m in near neutral and 5.5 m in stable air. Except for the unstable case, they are in good agreement with our observations.

6 CONCENTRATION DISTRIBUTION

6.1 DISTRIBUTION AT A FIXED LOCATION RELATIVE TO THE CENTER OF GRAVITY

The probality of concentration at fixed spatial location is normally discussed in terms of the probality of vanishing concentration, F(0), and the distribution of nonzero concentration, B(C). Alignment of the different traverses relative to the cloud center along the same horisontal line requires adjustments and interpolations. Interpolated data in specified gridpoints within the cloud will therefore almost always be different from zero. To estimate F(0) interpolation between gridpoints is therefore not made. A zero concentration is simply moved to the nearest gridpoint. Figure 5 shows the probability of zero concentration to be small near the cloud center, $y < \sigma_z$, and large outside, $y > 2\sigma_y$. The assymetry indicated is probably not significant.

Figure 6 indicates that the concentration distribution B(C) is reasonably approximated by a lognormal distribution. This is accordance with previous

experience. The distribution may therefore as a first approximation be discussed in terms of the parameters lnC and σ_{\star} of the lognormal distribution.

$$B(C) = \frac{1}{\sqrt{2\pi}\sigma_{\star}C} \exp \left[-\frac{1}{2\sigma_{\star}^{2}} (\ln C - \ln C_{0})\right]$$

Since $\overline{C} = \int CB(C)dC$ and $(C-\overline{C})^2 = \int (C-\overline{C})^2 B(C)dC$, B(C) may also be discussed in terms of the mean concentration and the standard deviation, more readily assigned to physical interpretation than C and σ_{\star} . The mean concentration distribution in Figure 7 appears almost Gaussian as expexted. The relative variability illustrated in Figure 8, is of order 1 inside the cloud, as estimated by Eidsvik (1981). The maximum variability is at distance $y \ge 2\sigma_y$ and not at the cloud center.

6.2 SPATIAL VARIATIONS

The simultaneous variations at all points, the spatial variation, will be discussed in terms of emphirical orthogonal functions (Eidsvik, 1980).



Figure 5: Probability of vanishing concentration relative to distance from center of gravity. Looking along wind direction.



Figure 6: Cumulative frequency distribution of non-zero concentrations relative to the center of gravity. y = distance from center.



Figure 7: Mean cross-section relative to center of gravity for each traverse. Concentrations normalized to a release of 300 cc/min. and wind speed of 1 m/s. Unit: 10² ppt. Looking in the wind direction.



Figure 8: Distribution of standard deviation/mean concentration. Looking in the wind direction.



Figure 9: Empirical orthogonal function associated with the largest eigenvalue.



Figure 10: Empirical orthogonal function associated with the second largest eigenvalue.

The fluctuations C'(y,z) = C(y,z) - C(y,z) is represented as a set of emphirical orthogonal functions $e_k(y,z)$.

$$C'(y,z) = \sum_{k=1}^{n} a_{k} e_{k} (y,z)$$

When this sum is arranged according for the magnitude of $\lambda_k = a_k \cdot a_k$ this representation is as effective as possible. It may be shown that λ_k and $e_k(y,z)$ are the eigenvalue and eigenfunction of the covariance matrix: {C'(y,z)C'(y',z')}.

It turns out that most information about C'(y,z) is associated with the first few eigenfunctions.

The first and most important feature is shown in Figure 9. It is associated with the largest scale of the C'(y,z) field. When the fluctuations are large, they are large throughout the whole crossection with maximums fluctuations near the cloud center.

The second most important feature is shown in Figure 10: When concentrations are high near the center they are low near the boundaries. This reflects the tendency for a narrow plume with high concentrations, or a wide plume with low concentrations.

7 CONCLUSIONS

The horizontal crosswind distribution of instantaneous concentrations were far from normally distributed during single traverses, while the mean of several traverses in each test was close to Gaussian. The corresponding standard deviation seemed to be fairly independent of the temperature difference air/water, while the standard deviation in the vertical distribution has a minimum in inversion layers.

Values of σ_y agrees well with values obtained in over water dispersion tests performed by Brookhaven.

Maximum concentrations decrease less with height than the crosswind integrated concentrations. The reason is belived to be travelling lumps forming the upper part of the plume observed in the simultaneously released smoke plumes.

Statistical properties of the fluctuating concentration distribution relative to the center of gravity show that when fluctuations are large, they are large throughout the whole cross section. This is the most prominent feature. High concentrations near the plume center and low concentrations near its border is the second most important feature.

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APPENDIX A

BOAT SAMPLING DATA

Concentration values are in ppt.

Time between sampling positions multiplied by the boat speed gives corresponding distance in meters.

A leakage of SF6 occurred 28 October 1983 in test 15. The given concentrations are therefore too high. Relative values, however, are believed to be correct.

TEST NO DATE : 1 :82.10.28 :1510-1515 TIME RELEASE HEIGHT OS SENSORS :250 CC/MIN :2.3 M,7.6 M DISTANCE :375 M BOAT SPEED :3.1 M/S SAMPLING DISTANCE WIND DIRECTION :6.2 M, : SW WIND SPEED :3.1 M/S AT 1.2 M AIR TEMPERATURE :9.3 C REL HUMIDIY :83 % SEA TEMPERATURE :7.8 C STABILITY CATEGORY : D/E CLOUD COVER/WEATHER: 5/8-SUN START :1510 DIRECTION :SE CONCENTRATION - PPT 7.6 M REL DIST-S 2.3 M 1.1 START :1513 DIRECTION :SE CONCENTRATION - PPT .3 M 7.6 M 2.3 M REL DIST-S ΰ 1-2 5-

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TEST NO :2	START	: 1558
DATE :82.10.28	DIRECTION	: W
TIME : 1550-1606		CONCENTRATION - PPT
RELEASE :250 CC/MIN	REL DIST-S	2.3 M 7.6 M
HEIGHT OS SENSORS :2.3 M,7.6 M		2223
DISTANCE :400 M	20	2610 2713
BOAT SPEED : 3.1 M/S	22	2302 3753
SAMPLING DISTANCE : 6.2 M.	24	2962 2705
WIND DIRECTION :S	26	2083 3675
WIND SPEED :5.8 M/S AT 1.2 M	28	1937 2938
AIR TEMPERATURE : 9.1 C	30	646 622
REL HUMIDIY :80 %	32	167 114
SEA TEMPERATURE : 7.8 C	34	17 69
STABILITY CATEGORY :D/E	36	5 5
CLOUD COVER/WEATHER: 5/8-SUN		
	START	: 1600
START :1550	DIRECTION	
DIRECTION :W		CONCENTRATION - PPT
CONCENTRATION - PPT	REL DIST-S	2.3 M (.6 M
REL DISI-S 2.3 M 7.6 M		
	44	1618 27
10 183 0	40	2294 1828
12 589 43	36	3113 1658
14 2416 89	34	1298 82
16 5250 2971	32	396 5
18 2954 3349	28	32 0
20 1313 2759	26	15 0
24 167 500		
10710 - 10750 - 20750	START	: 1602
START : 1552	DIRECTION	: W
DIRECTION :E		CONCENTRATION - PPT
· CONCENTRATION - PPT	REL DIST-S	2.3 M 7.6 M
REL DIST-S 2.3 M 7.6 M		
	33	8 0
25 734 852	32	305 0
23 1773 2221	37	172 5
21 4308 3036	39	837 82
1,9 3254 17	41	2093 234
17 737 5	43	2870 843
15 199 0	45	1092 1480
13 76 0	47 -	1415 1119
	G2	
START : 1554	START	: 1604
DIRECTION :W	DIRECTION	: E
CONCENTRATION - PPT		CONCENTRATION - PPT
REL DIST-S 2.3 M 7.6 M	REL DIST-S	2.3 M 7.6 M
15 5 33	46	1188 1263
17 4500 1930*	44	1899. 80
19 6656 3827	42	760 2169
21 5427 296	40	1527
23 3186 1681		
25 1870 *1714		
27 . 550 1364		
29 371 83		
START : 1556 .		
DIRECTION :E	1	
CONCENTRATION - PPT		
REL DIST-S 2.3 M 7.6 M		
30 2576 1473		
28 2532 212		
26 887 874		
24 1590 973		
22 65 5	1	
20 5 26	1	

TEST NO	: 3		START		:1203	
DATE	:82.11.04		DIRECTION		:SE ·	
TIME	: 1200-1210				CONCENTRA	TION - PPT
RELEASE	:300 CC/MIN		REL DIST-S	2	.3 M 11.	2 M
HEIGHT OS SENS	ORS : 2.3 M. 11.2 M	Ч				
DISTANCE	:385 M		60		0	0
BOAT SPEED	:2.6 M/S		58		0	0
SAMPLING DISTA	NCE : 5.1 M.		56		0	0
WIND DIRECTION	: NØ		54		0	0
WIND SPEED	:4.6 M/S AT	1.2 M	52		0	0
AIR TEMPERATUR	E :5.2 C		50		0	0
REL HUMIDIY	:35 %		48		0	0
SEA TEMPERATUR	E :7.5 C		46		0	0
STABILITY CATE	GORY :C		44	5	03 43	2
CLOUD COVER/WE	ATHER: 1/8-SUN		42	24	42 51	2
			40	14	93 97	5
START	: 1200		38	З	65	0
DIRECTION	: NW		36	1	91	0
	CONCENTRATION	N - PPT	34	3	39	0
REL DIST-S	2.3 M 11.2 M		32		5	0
			30		0	0
2	0 0		28		0	0
4	84 0					
C	50 0		STADT		. 1206	
ь	23 U		JIAKI		. 1600	
8	59 U 86 O		DIRECTION		: NW	
8 1 0	86 0 323 0		DIRECTION		NW CONCENTRA	TION - PPT
8 10 12	59 U 86 O 323 O 5 O		DIRECTION REL DIST-S	2	:NW CONCENTRA .3 M 11.	TION - PPT 2 M
8 10 12 14	59 U 86 O 323 O 5 O		DIRECTION REL DIST-S	2	:NW CONCENTRA .3 M 11.	TION - PPT 2 M
8 10 12 14 15	59 U 86 0 323 0 5 0 5 0 60 313		DIRECTION REL DIST-S	2	NW CONCENTRA .3 M 11.	TION - PPT 2 M 0
8 10 12 14 16 18	59 U 86 O 323 O 5 O 5 O 60 313 553 506		DIRECTION REL DIST-S	2	NW CONCENTRA 3 M 11.	TION - PPT 2 M 0
8 10 12 14 16 18 20	59 0 86 0 323 0 5 0 5 0 60 313 553 506 660 225		DIRECTION REL DIST-S 2 4 6	2	NW CONCENTRA .3 M 11. 0 0	TION - PPT 2 M 0 0
8 10 12 14 16 18 20 22	59 U 86 0 323 0 5 0 5 0 60 313 553 506 660 225 381 111		DIRECTION REL DIST-S 2 4 6 8	2	:NW CONCENTRA .3 M 11. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	TION - PPT 2 M 0 0 1
8 10 12 14 16 18 20 22 24	59 U 86 0 323 0 5 0 5 0 5 0 553 506 660 225 381 111 1312 180		DIRECTION REL DIST-S 2 4 6 8 10	2 2 7 3 2	:NW CONCENTRA .3 M 11. 0 0 0 0 0 0 8 96 58 173	TION - PPT 2 M 0 0 1 5
8 10 12 14 16 18 20 22 24 26	59 U 86 0 323 0 5 0 5 0 553 506 660 225 381 111 1312 180 1393 491		DIRECTION REL DIST-S 2 4 6 8 10 12	2 2 7 3 2 3 1	:NW CONCENTRA .3 M 11. 0 0 0 0 0 8 96 58 173 33133	TION - PPT 2 M 0 0 1 5 2
8 10 12 14 16 18 20 22 24 26 28	59 U 86 0 323 0 5 0 5 0 553 506 660 225 381 111 1312 180 1393 491 2121 636		DIRECTION REL DIST-S 2 4 6 8 10 12 12	2 2 7 3 2 3 1 3 2	: NW CONCENTRA .3 M 11. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	TION - PPT 2 M 0 0 0 1 5 2 7
8 10 12 14 16 18 20 22 4 26 28 30	59 U 86 0 323 0 5 0 5 0 553 506 660 225 381 111 1312 180 1393 491 2121 636 1491 459		DIRECTION REL DIST-S 2 4 6 8 10 12 14 16	2 2 7 3 2 3 1 3 2 2 3	: NW CONCENTRA .3 M 11. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	TION - PPT 2 M 0 0 1 5 2 7 4
8 10 12 14 16 18 20 22 24 26 28 30 32	59 U 86 0 323 0 5 0 5 0 60 313 553 506 660 225 381 111 1312 180 1393 491 2121 636 1491 459 400 488		DIRECTION REL DIST-S 2 4 6 8 10 12 14 16 18	2 2 7 3 2 3 1 3 2 2 3 1 9 2 1 9	:NW CONCENTRA .3 M 11. 0 0 0 08 96 58 173 33133 82 291 85 71 96 254	TION - PPT 2 M 0 0 1 5 2 7 4 1
8 10 12 14 16 18 20 22 24 26 28 30 32 34	59 0 86 0 323 0 5 0 5 0 553 506 660 225 381 111 1312 180 1393 491 2121 636 1491 459 400 488 201 76		DIRECTION REL DIST-S 2 4 6 8 10 12 14 16 18 20	2 7 3 2 3 1 3 2 3 1 9 1 1	:NW CONCENTRA .3 M 11. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	TION - PPT 2 M 0 0 1 5 2 7 4 1 8
8 10 12 14 16 18 20 22 24 26 28 30 32 34 36	59 0 86 0 323 0 5 0 5 0 553 506 660 225 381 111 1312 180 1393 491 2121 636 1491 459 400 488 201 76 10 0		DIRECTION REL DIST-S 2 4 6 8 10 12 14 16 18 20 22	2 7 3 2 3 1 3 2 3 1 9 1 1 5	: NW CONCENTRA .3 M 11. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	TION - PPT 2 M 0 0 1 5 2 7 4 1 8 5
8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 40	39 0 86 0 323 0 5 0 5 0 553 506 660 225 381 111 1312 180 1393 491 2121 636 1491 459 400 488 201 76 10 0 0 0		DIRECTION REL DIST-S 2 4 6 8 10 12 14 16 18 20 22 24	2 7 3 2 3 1 3 2 3 1 9 1 1 5 2	: NW CONCENTRA .3 M 11. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	TION - PPT 2 M 0 0 0 1 5 2 7 4 1 8 5 0
8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 40 44	59 0 86 0 323 0 5 0 5 0 553 506 660 225 381 111 1312 180 1393 491 2121 636 1491 459 400 488 201 76 10 0 0 0		DIRECTION REL DIST-S 2 4 6 8 10 12 14 16 18 20 22 24 26	2 7 3 2 3 1 3 2 3 1 9 1 1 5 2	: NW CONCENTRA .3 M 11. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	TION - PPT 2 M 0 0 0 1 5 5 2 7 4 1 8 5 0 0
8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 40 44 48	59 0 86 0 323 0 5 0 5 0 553 506 660 225 381 111 1312 180 1393 491 2121 636 1491 459 400 488 201 76 10 0 0 0 0 0		DIRECTION REL DIST-S 2 4 6 8 10 12 14 16 18 20 22 24 26 28	2 2 3 2 3 1 3 2 3 1 3 2 3 1 9 1 1 5 2	: NW CONCENTRA .3 M 11. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	TION - PPT 2 M 0 0 1 5 2 7 4 1 8 5 0 0 0
8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 40 44 48	$\begin{array}{cccccccccccccccccccccccccccccccccccc$		DIRECTION REL DIST-S 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30	2 3 2 3 1 3 2 2 3 1 9 2 3 1 9 1 1 5 2	: NW : NW CONCENTRA .3 M 11. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	TION - PPT 2 M 0 0 1 5 2 7 4 1 8 5 0 0 0 0 0
8 10 12 14 16 18 20 22 4 26 28 30 32 34 36 40 44 48	39 0 86 0 323 0 5 0 5 0 60 313 553 506 660 225 381 111 1312 180 1393 491 2121 636 1491 459 400 488 201 76 10 0 0 0 0 0 0 0		DIRECTION REL DIST-S 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32	2 7 3 2 3 1 3 2 3 1 9 1 1 5 2	: NW CONCENTRA .3 M 11. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	TION - PPT 2 M 0 0 0 1 5 2 7 4 1 8 5 0 0 0 0 0 0
8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 40 44 48	$\begin{array}{cccccccccccccccccccccccccccccccccccc$		DIRECTION REL DIST-S 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34	2 3 2 3 1 3 2 2 3 1 9 1 1 5 2	: NW CONCENTRA .3 M 11. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	TION - PPT 2 M 0 0 0 1 5 5 2 7 4 1 8 5 0 0 0 0 0 0 0 0

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TEST NO DATE TIME RELEASE HEIGHT OS SE DISTANCE BOAT SPEED SAMPLING DIS WIND DIRECTI WIND SPEED AIR TEMPERAT REL HUMIDIY SEA TEMPERAT STABILITY CA CLOUD COVER/	:4 :82 :141 :300 NSORS :2. :37 :2.0 TANCE :5.0 ON :N :5.0 URE :5.0 URE :5.0 URE :5.0 URE :5.0 URE :1/0 TEGORY :C WEATHER:1/0	.11.04 DO-1408 D CC/MIN 3 M,11.2 M 5 M 6 M/S 1 M, 8 M/S AT 1. 0 C 2 5 C 8-SUN 00	.2 M
REL DIST-S	: W CON 2.3 M	CENTRATION 11.2 M	- PPT
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36	0 0 141 1426 659 2172 890 307 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 59 214 397 389 241 5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
START DIRECTION	:140 :W	13 CENTRATION	- PPT
REL DIST-S 0 2 4 6 8 10 12 14	2.3 M 1119 463 296 298* 301 405 202* 0	11.2 M 85 0 54 253 0 0 0 0	
START DIRECTION REL DIST-S	: 14(:W CON(2.3 M	D5 CENTRATION 11.2 M	- PPT
0 2 4 6 8 1 0	0 107 567 969 1863	0 0 0 0 0	

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TEST NO DATE	:5 :82.11.04	START DIRECTION	: 1555 : WSW
TIME RELEASE HEIGHT OF SENSOR	:1545-1605 :300 CC/MIN	REL DIST-S	CONCENTRATION - PPT 2.3 M 11.2 M
DISTANCE BOAT SPEED SAMPLING DISTANC	:275 M :2.6 M/S :E :5.1 M.	5	0 0 0 0 1 0 0
WIND DIRECTION WIND SPEED	:NNW :6.6 M/S AT 1.2	м	785 72 2465* 1153 4146 210
REL HUMIDIY SEA TEMPERATURE	:58 % :7.5 C		5226 616 961 0
STABILITY CATEGO CLOUD COVER/WEAT START	RY :C HER:0/8-CLEAR :1545		
DIRECTION	:ENE CONCENTRATION - 2 3 M 11 2 M	PPT	0 0 0 0
2	0 0	START DIRECTION	: 1558 : EN E
4 6 8	0 0 0 0 0 65	REL DIST-S	2.3 M 11.2 M
10			
16 18	71 71* 780 283*		0 0
20 22 24	830 159 920 689 316 899		621 0 4522 0
26	0 45		5068 0 4845 10 2180 3502
DIRECTION	: 1348 : WSW CONCENTRATION -	PPT	2049 502
REL DIST-S	2.3 M 11.2 M	START DIRECTION	:1601 :WNW CONCENTRATION - PPT
	0 0	REL DIST-S	2.3 M 11.2 M
	0 0 -		0 0 179 0 3632 103
	3617 - 267 591		5318 638 3344 435
	0 0 0 0 0 798		2993 O 3362 O
START	: 1551 : ENE		4135 0 . 4007 0 2978 0
REL DIST-S	CONCENTRATION - 1 2.3 M 11.2 M	PPT	2181 0 65 0
	0 0 0 0		
	0 0 / 17 0*		
	1058 0* 3026 0* 3306 0*		

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TEST	NO	: 6			START	: 1244		
DATE		:83.0	5.30		DIRECTION	: W		
TIME		: 1240	1-1250			CONCE	NTRATION	~ PPT
RELE	ASE	:300	CC/MIN		REL DIST-S	3.1 M	(.1 M	11.6 M
HEIG	HT OS SENSO	RS : 3.1	M, 7.1 M,	11.6 M	1.24		0	0
DIST	ANCE	:390	М		36	0	0	U
BOAT	SPEED	: 3.1	M/S		34	υ.	U	0
SAMP	LING DISTAN	CE :6.1	м,		32	0	U	0
WIND	DIRECTION	: S			30	295	81	U
WIND	SPEED	:1.9	M/S AT 1	.2 M	28	550*	53	129
AIR	TEMPERATURE	: 12.8	C		26	807*	963	1073
REL	YIDIMUH	:73 7			24	1063	1573	1067
SEA	TEMPERATURE	:12.3	C		22	1844	1718	1324
STAB	ILITY CATEG	ORY :E			20	2224	1524*	2528
CLOU	D COVER/WEA	THER: 6/8-	HAZE		18	2426	1330	1014
					16	609	15	0
STAR	T .	: 1240)		14	283	58	0
DIRE	CTION	: E			12	117	38	0
		CONCE	NTRATION	- PPT	10	112	0	0
REL	DIST-S	3.1 M	7.1 M	11.6 M				
					START	: 1247		
6		1831	0	0	DIRECTION	: E		
8		2137	0	0		CONCE	NTRATION	- PPT
10		1220	3170	85	PEL DIST-S	3.1 M	7.1 M	11.6 M
12		4473	1608	24				
14		4055	1250	1 /	2	0	0	0
16		2022	0.00	20	5	0	0	0
10		2033	505	10		0	21	0
20		520	660	10		0	0	0
20		523	052	0	3	0	0	Ő
22		40	U	0		0	0	0
24		0	U	0	13	0	0	0
20		U	U	U	10	0	0	0
28		U	U	U	17	0	0	0
30		0	U	U	19	U	0	0
32		0	0	0	21	U	U	0
34		0	0	0	23	U	0	0
36		0	0	0	25	0	0	0
38		0	0	0	27	0	0	0
					29	214	0	U
STAR	Т	: 1242	2		31	383	0	0
DIRE	CTION	: E			33	148	0	0
		CONCE	NTRATION	- PPT	35	.146	0	0
REL	DIST-S ·	3.1 M	7.1 M	11.6 M	37	467	30	0
					39	374	0	0
6		0	0	0	41	1473	0	0
8		0	0	0	43	1059*	0	0
10		0	0	0	45	645	0	0
.12		0	0	0	47	1031	114	1279
14		0	0	0	49	2104	0	1867
16		0	0	0				
18		0	0	0	START	: 1249	ġ.	
20		0	0	0.	DIRECTION	: W		
22		0	0	0		CONCE	INTRATION	- PPT.
24		0	0	0	REL DIST-S	3.1 M	7.1 M	11.6 M
26		0	0	0				
28		0	0	0	42		0	0
3.0	,	0	0	148	40	0	0	0 '
32		0	887	191	3.8	0	0	0
34		94	1213	42	36	0	0	0
36	1	507	3126	2289	34	0	0	0
20		301	3120	4 2 0 3	32	ů.	0	0
					30	0	n	0
					28	0	0	0
					26	0	0	1337
					20	269	667	3829
					22	1386	700	1759
					20	1664	2875	458
					10	2656	4705	1152
					16	779	288	576*
					1/	2825	1092	0
					14	2023	1092	0
					12	1484	1300	0

TEST NO DATE	: 7 : 8 3	.05.31		START DIRECTION.		: 1 2 0 1 : E	
TIME RELEASE	: 115	55-1215 CC/MIN		REL DIST-S	3.	CONCENTRATION N 7.1 P	DN - PPT 4 11.6 M
DISTANCE	:400	1 M, (, 1 M, 3 M	11.6 M	- 2 2	(C	0
BOAT SPEED	:3.	1 M/S		- 20	(0 0	0
SAMPLING DISTAN	ICE : 6.	1 M,		- 18	(0 0	0
WIND DIRECTION	: S			- 16	(0	0
WIND SPEED	: 4 . 6	5 M/S AT 1	.2 M	- 14	(0
AIR TEMPERATURE	: 14.	.3 C		-12			U O
CEA TEMPERATURE	: 00	/. 2 C		- 8	(5 O	0
STABILITY CATEG	ORY : D/8			- 6	(0 0	0
CLOUD COVER/WEA	THER: 6/8	B-DISTANT	RAINSHOWERS	- 4	(0 0	0
				- 2	(0 0	
START	:115	55		0	l	3 0	0
DIRECTION	: E			2	32	7 328	36
2-T210 139	3 1 M	ENTRALION 7 1 M	11 6 M	6	531	33 196*	2004
KEL DISI-S	3.1 11	r , t 1-t	11.0 11	8	139	7 359	784
6	18	1005	97	10	1599	9 190*	107
8	27	1176	1581	12	193	1 22	634
10	1020	2239	389	14	(0 0	0
12	1923 .	2346	2764	16	(0 . 0	0
14	3327	189	2654	18	(0 0	0
16	127	142	21	20	(J U	U
20	0	0	0	START		1204	
24	0	0	Q	DIRECTION		: W	
	-				(CONCENTRATI	DN - PPT
START	:115 :W	57		REL DIST-S	. 3.	1 M 7.1 I	M 11.6 M
	CONC	CENTRATION	I - PPT	26		0	0
REL DISI-S	3.1 M	(.1 m	11.6 1	24			U O
18	0	Û	0	20		n 0	0
20	29	0	60	18	22	5 62	0
22	18	27	462	16	14	7 250	0
24	164	1568	230*	13	2329	9 1430	0
				11 .	3113	2 1362	0
START	: 115	59		9	3984	4 3888	0
DIRECTION	: E			1	1250	5 (49	59
DEL DIST-S	3 1 M	ZENIKALIUN 7 1 M	11 6 M	2	0.3		204
KEL VISI-S	3.1 11		11.0 11	1			0
- 6	841	10	0				
- 4	689	0	23*	START		: 1214	
- 2	1759	760	46	DIRECTION		: E	
0	1921	1064	875			CONCENTRATI	ON - PPT
2	2101	1558	1319	REL DISI-S	. ك	1 11 (.) (¶ 11.6 M
6	1860	1673	409	- 6		0 0	٥
. 8	1909	1215	1904	- 4		0 0	0
10	1189	533	969	- 2	(0 0	0
12	1211	1181	1242	0	l	22	10
14	1973	1459	231	2	1	0 87	116
16	390	115	0	4	170	8 132	0
19	15	20	U	b	23	(955 5 - 81	U
21		0	0	10	135	B 108	0
				12	195	5 41	0
				14	51	5 1	0
				16	160	5 2071	453
				18	48:	3 59	0
				20	2311	5 12	0
				22	481	8 0	0
				26	(9)		. 0
				28	41.	0	0
				30		0 0	0
				32	(0 0	0
				34	l.	0 0	0
				36	6	0 0	0
				38	(J . 0	0
				40		0 0	U C
				44		0 0	0
				46		0 0	0

TEST	C NO	. 8			START	: 120	5	
163	NU	. 0			DIDECTION	CRE		
DATE		:83.	06.01		DIRECTION	: ESE		
TIME		. 120	10 - 1212			CONC	ENTRATION	- PPT
1 2110					OF OFCT C	2 1 M	7 1 M	11 6 M
RELE	EASE	: 300	CC/MIN		REL DIST-S	3,1 11	T + T ()	11.0 11
HEIG	SHT OS SENSO	085 .3.1	M.7.1 M.	11.6 M				
0101	TANCE				-1	1.0	85	491
DIZ	IANCE	:400) 171		- 1	10	0.5	401
BOAT	SPEED	: 3.1	M/S		1	567	409	572
C 4 14	N THE DICT I	100 0 1			2	71	A 4 1	550
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117.620	00000	. / .	MIC AT 4	2 M	7	9/6	199*	26*
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29		538	0	0		CONC	ENTRATION	- PPT
- 3		550	0	0		CONC		
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2 4 6 8.		500* 1006 2021 2518	0 22 1014 388	0 0 5 2 5	START DIRECTION REL DIST-S	: 121 :E\$E Conc 3.1 M	D ENTRATION 7.1 M	- PPT 11.6 M
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2 6 8. 10 12 14 16		500* 1006 2021 2518 1466 884 520 990	0 22 1014 388 1748 603 0 492	0 0 5 2 5 1 8 4 5 1 2 2 0 6 1	START DIRECTION REL DIST-S 6 8 10	:121 :ESE CONC 3.1 M 86 979 4213	0 ENTRATION 7.1 M 44 1006 2213	- PPT 11.6 M 9 86 1789
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2 4 8. 10 12 14 16 18 20		500* 1006 2021 2518 1466 884 520 990 220 478	0 22 1014 388 1748 603 0 492 212 377	0 0 525 1845 122 0 61 0 296	START DIRECTION REL DIST-S 6 8 10 12 14	: 121 :ESE CONC 3.1 M 86 979 4213 5993 1935	0 ENTRATION 7.1 M 44 1006 2213 4366 1321	- PPT 11.6 M 9 86 1789 .911 219
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2 4 6 8 8 1 2 1 4 1 6 1 8 2 0 2 2 4 2 6 STAR 2 2 6 STAR 2 2 6 4 1 3 9 3 7 3 3 7 3 3 7	RT ECTION DIST-S	500* 1006 2021 2518 1466 884 520 990 220 478 169 99 12 :120 :WNU CONC 3.1 M 10 572 362 1278 1389 918 648	0 22 1014 388 1748 603 0 492 212 377 190 84 0 5 ENTRATION 7.1 M 0 0 310 1793 2130 155 430 0	0 0 525 1845 122 0 61 0 296 788 56 0 296 788 56 0 0 98 779 2289 32 0 0 0 0	START DIRECTION REL DIST-S 6 8 10 12 14 16 18 20 START DIRECTION REL DIST-S 29 27 25 23 21 19 17 13	: 121 :ESE CONC 3.1 M 86 979 4213 5993 1936 752 146 26 :121 :WNW CONC 3.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 ENTRATION 7.1 M 44 1006 2213 4366 1321 158 0 0 2 ENTRATION 7.1 M 0 0 0 * 0 0 * 0 75 173	- PPT 11.6 M 9 86 1789 911 219 0 0* 0 0 * 0 * 0 0 0 0 0 0 0 0 0 0 0 0
2 4 6 8. 10 12 14 16 18 20 22 24 26 STAR 26 STAR 26 STAR 26 STAR 41 39 37 35 33	CTION DIST-S	500* 1006 2021 2518 1466 884 520 990 220 478 169 99 12 ::120 :WNV CONC 3.1 M 10 10 572 362 1278 1389 918 648	0 22 1014 388 1748 603 0 492 212 377 190 84 0 5 ENTRATION 7.1 M 0 0 310 1793 2130 155 430 0	0 0 525 1845 122 0 61 0 296 788 56 0 296 788 56 0 0 98 779 2289 32 0 0 0	START DIRECTION REL DIST-S 6 8 10 12 14 16 18 20 START DIRECTION REL DIST-S 29 27 25 23 21 19 17 13	: 121 :ESE CONC 3.1 M 86 979 4213 5993 1936 752 146 26 :121 :WNM CONC 3.1 M 0 0 0 0 0 0 47 200	0 ENTRATION 7.1 M 44 1006 2213 4366 1321 158 0 0 0 2 ENTRATION 7.1 M 0 0 0 0 7.5 173	- PPT 11.6 M 9 86 1789 911 219 0 0 0 0 0 0 0 0 0 0 0 0 0
2 4 6 8 8 1 2 1 4 1 6 1 8 2 0 2 2 4 2 6 STAR 2 2 6 STAR 2 2 6 4 3 9 3 7 3 5 3 3 1	RT ECTION DIST-S	500* 1006 2021 2518 1466 884 520 990 220 478 169 99 12 :120 :WNU CONC 3.1 M 10 572 362 1278 1389 918 648 135	0 22 1014 388 1748 603 0 492 212 377 190 84 0 5 ENTRATION 7.1 M 0 0 310 1793 2130 155 430 0 0	0 0 525 1845 122 0 61 0 296 788 56 0 296 788 56 0 0 11.6 M 0 98 779 2289 32 0 0 0 0 0	START DIRECTION REL DIST-S 6 8 10 12 14 16 18 20 START DIRECTION REL DIST-S 29 27 25 23 21 19 17 13 11	: 121 :ESE CONC 3.1 M 86 979 4213 5993 1936 752 146 26 :121 :WNW CONC 3.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 ENTRATION 7.1 M 44 1006 2213 4366 1321 158 0 0 0 2 ENTRATION 7.1 M 0 0 0 * 0 0 * 0 0 * 173 371	- PPT 11.6 M 9 86 1789 911 219 0 0* 0 0 * 0 * 0 0 0 0 0 0 0 0 0 0 0 0
2 4 6 8. 1 0 12 14 16 18 20 22 24 26 STAR EL 47 45 43 41 39 37 35 33 31 20	RT ECTION DIST-S	500* 1006 2021 2518 1466 884 520 990 220 478 169 99 12 :120 :WNV CONC 3.1 M 10 10 572 362 1278 1389 918 648 135	0 22 1014 388 1748 603 0 492 212 377 190 84 0 5 ENTRATION 7.1 M 0 0 310 1793 2130 1793 2130 155 430 0 0	0 0 525 1845 122 0 61 0 296 788 56 0 296 788 56 0 0 11.6 M 0 98 779 2289 32 0 0 0 0 0	START DIRECTION REL DIST-S 6 8 10 12 14 16 18 20 START DIRECTION REL DIST-S 29 27 25 23 21 19 17 13 11 0	: 121 :ESE CONC 3.1 M 86 979 4213 5993 1936 752 146 26 :121 :WNM CONC 3.1 M 0 0 0 0 0 0 47 200 350	0 ENTRATION 7.1 M 44 1006 2213 4366 1321 158 0 0 0 2 ENTRATION 7.1 M 0 0 0 0 75 173 371 380	- PPT 11.6 M 9 86 1789 911 219 0 0 0 0 0 0 0 0 0 0 0 0 0
2 4 6 8. 10 12 14 16 18 20 22 4 2 6 STAR 2 24 26 STAR 2 24 41 3 9 3 7 3 5 3 3 1 2 9	RT ECTION DIST-S	500* 1006 2021 2518 1466 884 520 990 220 478 169 99 12 :120 :WNV CONC 3.1 M 10 572 362 1278 1389 918 648 135 10	0 22 1014 388 1748 603 0 492 212 377 190 84 0 5 ENTRATION 7.1 M 0 0 310 1793 2130 155 430 0 0 0 0 0	0 0 525 1845 122 0 61 0 296 788 56 0 296 788 56 0 0 98 779 2289 32 0 0 0 0 0 0 0	START DIRECTION REL DIST-S 6 8 10 12 14 16 18 20 START DIRECTION REL DIST-S 29 27 25 23 21 19 17 13 11 9	: 121 :ESE CONC 3.1 M 86 979 4213 5993 1936 752 146 26 :121 :WNW CONC 3.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 ENTRATION 7.1 M 44 1006 2213 4366 1321 158 0 0 0 2 ENTRATION 7.1 M 0 0 0 * 0 0 * 0 * 173 371 380	- PPT 11.6 M 9 86 1789 911 219 0 0* 0 0 * 0 * 0 0 0 0 0 0 0 0 0 0 0 0
2 4 6 8. 1 0 12 14 16 18 20 22 24 26 STAR 26 STAR 26 STAR 27 45 43 37 35 33 31 29 37 35 33 31 27	RT ECTION DIST-S	500* 1006 2021 2518 1466 884 520 990 220 478 169 99 12 :WNV CONC 3.1 M 10 10 572 362 1278 1389 918 648 135 10 12	0 22 1014 388 1748 603 0 492 212 377 190 84 0 5 ENTRATION 7.1 M 0 0 310 1793 2130 155 430 0 0 0 0 0	0 0 525 1845 122 0 61 0 296 788 56 0 296 788 56 0 0 11.6 M 0 98 779 2289 32 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	START DIRECTION REL DIST-S 6 8 10 12 14 16 18 20 START DIRECTION REL DIST-S 29 27 25 23 21 19 17 13 11 9 7	: 121 :ESE CONC 3.1 M 86 979 4213 5993 1936 752 146 26 :121 :WNW CONC 3.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 ENTRATION 7.1 M 44 1006 2213 4366 1321 158 0 0 0 2 ENTRATION 7.1 M 0 0 0 75 173 371 380 47	- PPT 11.6 M 9 86 1789 911 219 0 0* 0 0 * 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2 4 6 8 8 1 2 1 4 1 6 6 1 8 2 0 2 2 4 2 6 5 T A F 2 2 4 3 3 7 3 5 3 3 3 1 2 9 2 7 7 1 5 5 7 7 7 7 5 5 7 7 7 7 5 5 7 7 7 7	CTION DIST-S	500* 1006 2021 2518 1466 884 520 990 220 478 169 99 12 :120 :WNU CONC 3.1 M 10 572 362 1278 1389 918 648 135 10 12	0 22 1014 388 1748 603 0 492 212 377 190 84 0 5 ENTRATION 7.1 M 0 0 310 1793 2130 155 430 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 525 1845 122 0 61 0 296 788 56 0 296 788 56 0 0 98 779 2289 32 0 0 0 0 0 0 0 0	START DIRECTION REL DIST-S 6 8 10 12 14 16 18 20 START DIRECTION REL DIST-S 29 27 25 23 21 19 17 13 11 9 7	: 121 :ESE CONC 3.1 M 86 979 4213 5993 1936 752 146 26 :121 :WNM CONC 3.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 ENTRATION 7.1 M 44 1006 2213 4366 1321 158 0 0 0 2 ENTRATION 7.1 M 0 0 0 0 75 173 371 380 47 2575	- PPT 11.6 M 9 86 1789 911 219 0 0* 0 0 0 0 0 0 0 0 0 0 0 0 0
2 4 6 8. 100 222 4 26 STAR 22 4 22 4 22 6 STAR 22 4 3 7 3 5 3 3 3 1 2 9 3 7 2 5	RT ECTION DIST-S	500* 1006 2021 2518 1466 884 520 990 220 478 169 99 12 :WNV CONC 3.1 M 10 10 572 362 1278 1389 918 648 135 10 12 10	0 22 1014 388 1748 603 0 492 212 377 190 84 0 5 5 5 4 30 1793 2130 1793 2130 155 430 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 525 1845 122 0 61 0 296 788 56 0 296 788 56 0 0 11.6 M 0 98 779 2289 32 0 0 0 0 0 0 0 0 0 0 0 0	START DIRECTION REL DIST-S 6 8 10 12 14 16 18 20 START DIRECTIÓN REL DIST-S 29 27 25 23 21 19 17 13 11 9 7 5	: 121 :ESE CONC 3.1 M 86 979 4213 5993 1936 752 146 26 :121 :WNW CONC 3.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 ENTRATION 7.1 M 44 1006 2213 4366 1321 158 0 0 0 2 ENTRATION 7.1 M 0 0 0 75 173 371 380 47 2576	- PPT 11.6 M 9 86 1789 911 219 0 0* 0 0 0 0 0 0 0 0 0 0 0 0 0
2 4 6 8. 100 122 4 2 4 16 18 20 22 2 2 4 2 6 5 14 1 2 2 6 5 14 1 2 2 6 5 14 1 3 9 3 7 3 5 3 3 3 1 2 9 2 7 2 5	DIST-S	500* 1006 2021 2518 1466 884 520 990 220 478 169 99 12 :120 :WNV CONC 3.1 M 10 572 362 1278 1389 918 648 135 10 12 10	0 22 1014 388 1748 603 0 492 212 377 190 84 0 0 490 84 0 0 310 1793 2130 155 430 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 525 1845 122 0 61 0 296 788 56 0 296 788 56 0 0 11.6 M 0 98 779 2289 32 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	START DIRECTION REL DIST-S 6 8 10 12 14 16 18 20 START DIRECTION REL DIST-S 29 27 25 23 21 19 17 13 11 9 7 5 3	: 121 :ESE CONC 3.1 M 86 979 4213 5993 1936 752 146 26 :121 :WNM CONC 3.1 M 0 0 0 0 0 0 0 0 47 200 350 504 926 2422 2238	0 ENTRATION 7.1 M 44 1006 2213 4366 1321 158 0 0 0 2 ENTRATION 7.1 M 0 0 0 0 75 173 371 380 47 2576 1660	- PPT 11.6 M 9 86 1789 911 219 0 0* 0 0 0 0 0 0 0 0 0 0 0 0 0
2 4 6 8. 100 222 4 26 STAR 22 4 22 4 22 6 8 EL 47 45 43 1 39 37 35 33 31 9 29 27 25	RT ECTION DIST-S	500* 1006 2021 2518 1466 884 520 990 220 478 169 99 12 : 120 : WNV CONC 3.1 M 10 10 572 362 1278 1389 918 648 135 10 12 10	0 22 1014 388 1748 603 0 492 212 377 190 84 0 84 0 5 5 5 4 310 1793 2130 155 430 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 525 1845 122 0 61 0 296 788 56 0 296 788 56 0 0 11.6 M 98 779 2289 32 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	START DIRECTION REL DIST-S 6 8 10 12 14 16 18 20 START DIRECTIÓN REL DIST-S 29 27 25 23 21 19 17 13 11 9 7 5 3	: 121 :ESE CONC 3.1 M 86 979 4213 5993 1936 752 146 26 :121 :WNM CONC 3.1 M 0 0 0 0 0 0 0 0 47 200 350 504 926 2422 2238	0 ENTRATION 7.1 M 44 1006 2213 4366 1321 158 0 0 0 2 ENTRATION 7.1 M 0 0 0 75 173 371 380 47 2576 1660	- PPT 11.6 M 9 86 1789 911 219 0 0* 0 0 0 0 0 0 0 0 0 0 0 0 0
2 4 6 8. 100 222 4 2 6 8 2 24 2 2 6 8 2 2 4 3 3 1 1 2 1 2 2 4 3 9 3 7 3 5 3 3 3 1 2 9 2 7 2 5	CTION DIST-S	500* 1006 2021 2518 1466 884 520 990 220 478 169 99 12 :120 :WNV CONC 3.1 M 10 572 362 1278 1389 918 648 135 10 12 10	0 22 1014 388 1748 603 0 492 212 377 190 84 0 0 492 212 377 190 84 0 0 310 1793 2130 155 430 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 525 1845 122 0 61 0 296 788 56 0 296 788 56 0 0 11.6 M 98 779 2289 32 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	START DIRECTION REL DIST-S 6 8 10 12 14 16 18 20 START DIRECTION REL DIST-S 29 27 25 23 21 19 17 13 11 9 7 5 3 1	: 121 :ESE CONC 3.1 M 86 979 4213 5993 1936 752 146 26 :121 :WNM CONC 3.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 ENTRATION 7.1 M 44 1006 2213 4366 1321 158 0 0 0 2 ENTRATION 7.1 M 0 0 0 0 75 173 371 380 47 2576 1660 744	- PPT 11.6 M 9 86 1789 911 219 0 0* 0 0 0 0 0 0 0 0 0 0 0 0 0
2 4 6 8. 100 222 4 26 STAR 22 4 22 6 STAR 22 4 3 7 3 5 3 3 3 1 2 27 25	RT ECTION DIST-S	500* 1006 2021 2518 1466 884 520 990 220 478 169 99 12 :120 :WNV CONC 3.1 M 10 10 572 362 1278 1389 918 648 135 10 12 10	0 22 1014 388 1748 603 0 492 212 377 190 84 0 5 5 5 4 30 1793 2130 1793 2130 155 430 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 525 1845 122 0 61 0 296 788 56 0 296 788 56 0 0 11.6 M 98 779 2289 32 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	START DIRECTION REL DIST-S 6 8 10 12 14 16 18 20 START DIRECTIÓN REL DIST-S 29 27 25 23 21 19 17 13 11 9 7 5 3 1	: 121 :ESE CONC 3.1 M 86 979 4213 5993 1936 752 146 26 :121 :WNW CONC 3.1 M 0 0 0 0 0 0 0 47 200 350 504 926 2422 2238 2171	0 ENTRATION 7.1 M 44 1006 2213 4366 1321 158 0 0 0 2 ENTRATION 7.1 M 0 0 0 5 173 371 380 47 2576 1660 73	- PPT 11.6 M 9 86 1789 911 219 0 0* 0 0 0 0 0 0 0 0 0 0 0 0 0
2 4 6 8. 10 12 14 16 18 20 22 4 2 6 STAR 2 2 6 STAR 2 2 6 STAR 2 2 6 STAR 3 9 3 7 3 3 3 1 2 9 2 7 2 5	CTION OIST-S	500* 1006 2021 2518 1466 884 520 990 220 478 169 99 12 :120 :WNV CONC 3.1 M 10 572 362 1278 1389 918 648 135 10 12 10	0 22 1014 388 1748 603 0 492 212 377 190 84 0 212 377 190 84 0 310 1793 2130 155 430 0 0 0 0 0 0 0 0	0 0 525 1845 122 0 61 0 296 788 56 0 296 788 56 0 0 788 56 0 0 98 779 2289 32 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	START DIRECTION REL DIST-S 6 8 10 12 14 16 18 20 START DIRECTION REL DIST-S 29 27 25 23 21 19 17 13 11 9 7 5 3 1 1 - 1	: 121 :ESE CONC 3.1 M 86 979 4213 5993 1936 752 146 26 :121 :WNW CONC 3.1 M 0 0 0 0 0 0 0 47 200 350 504 926 2422 2238 2171 1547	0 ENTRATION 7.1 M 44 1006 2213 4366 1321 158 0 0 0 2 ENTRATION 7.1 M 0 0 0 0 75 173 371 380 47 2576 1660 744 73	- PPT 11.6 M 9 86 1789 911 219 0 0* 0 0 0 0 0 0 0 0 0 0 0 0 0
2 4 6 8. 10 12 14 16 18 20 22 4 2 6 STAR 2 2 5 3 3 1 3 3 5 3 3 1 2 2 7 2 5	RT ECTION DIST-S	500* 1006 2021 2518 1466 884 520 990 220 478 169 99 12 : 120 : WNV CONC 3.1 M 10 10 572 362 1278 1389 918 648 135 10 12 10	0 22 1014 388 1748 603 0 492 212 377 190 84 0 54 0 310 1793 2130 155 430 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 525 1845 122 0 61 0 296 788 56 0 296 788 56 0 0 11.6 M 0 98 779 2289 32 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	START DIRECTION REL DIST-S 6 8 10 12 14 16 18 20 START DIRECTION REL DIST-S 29 27 25 23 21 19 17 13 11 9 7 5 3 1 -1 -3	: 121 :ESE CONC 3.1 M 86 979 4213 5993 1936 752 146 26 :121 :WNW CONC 3.1 M 0 0 0 0 0 0 0 47 200 350 504 926 2422 2238 2171 1547 1936	0 ENTRATION 7.1 M 44 1006 2213 4366 1321 158 0 0 0 2 ENTRATION 7.1 M 0 0 0 0 5 173 371 380 47 2576 1660 744 73 0	- PPT 11.6 M 9 86 1789 911 219 0 0* 0 0 0 0 0 0 0 0 0 0 0 0 0
2 4 6 8. 10 12 14 16 18 20 224 26 STAR 2 26 STAR 2 26 STAR 2 26 STAR 2 37 3 31 2 97 2 5	CTION DIST-S	500* 1006 2021 2518 1466 884 520 990 220 478 169 99 12 ::120 :WNU CONC 3.1 M 10 572 362 1278 1389 918 648 135 10 12 10	0 22 1014 388 1748 603 0 492 212 377 190 84 0 492 212 377 190 84 0 0 310 1793 2130 1793 2130 155 430 0 0 0 0 0 0	0 0 525 1845 122 0 61 0 296 788 56 0 296 788 56 0 0 98 779 2289 32 0 0 0 0 0 0 0 0 0	START DIRECTION REL DIST-S 6 8 10 12 14 16 18 20 START DIRECTION REL DIST-S 29 27 25 23 21 19 17 13 11 9 7 5 3 1 -1 -3	: 121 :ESE CONC 3.1 M 86 979 4213 5993 1936 752 146 26 :121 :WNW CONC 3.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 ENTRATION 7.1 M 44 1006 2213 4366 1321 158 0 0 0 2 ENTRATION 7.1 M 0 0 0 0 75 173 371 380 47 2576 1660 744 73 0 0	- PPT 11.6 M 9 86 1789 911 219 0 0 0 0 0 0 0 0 0 0 0 0 0
2 4 6 8. 10 12 14 16 18 20 22 4 2 6 STAR 2 2 4 5 3 1 3 3 7 3 5 3 3 1 2 9 2 7 2 5	RT ECTION DIST-S	500* 1006 2021 2518 1466 884 520 990 220 478 169 99 12 : 120 : WNU CONC 3.1 M 10 10 572 362 1278 1389 918 648 135 10 12 10	0 22 1014 388 1748 603 0 492 212 377 190 84 0 54 0 310 1793 2130 155 430 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 525 1845 122 0 61 0 296 788 56 0 296 788 56 0 0 98 779 2289 32 0 0 0 0 0 0 0 0 0 0	START DIRECTION REL DIST-S 6 8 10 12 14 16 18 20 START DIRECTION REL DIST-S 29 27 25 23 21 19 17 13 11 9 7 5 3 1 -1 -3 -5	: 121 :ESE CONC 3.1 M 86 979 4213 5993 1936 752 146 26 :121 :WNW CONC 3.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 ENTRATION 7.1 M 44 1006 2213 4366 1321 158 0 0 0 2 ENTRATION 7.1 M 0 0 0 0 0 0 75 173 371 380 47 2576 1660 744 73 0 0	- PPT 11.6 M 9 86 1789 911 219 0 0* 0 0 0 0 0 0 0 0 0 0 0 0 0

TEST NO	: 9			START	: 114	7	
DATE	:83.	06.03		DIRECTION	: W		
TIME	:113	5-1200		A DEL DICE C	CONC	ENTRATION	- PPT
RELEASE	: 300	CC/MIN		REL DIST-S	3.1 M	. (.1 M	11.6 M
HEIGHT OS SENS	ORS :3.1	M, 7.1 M	,11.6 M	4.6	105	37	13
BOAT SPEED	: 400	M/S		40	107	51	34
SAMPLING DISTA	NCE :4.7	M.		42	45	113*	22
WIND DIRECTION	: S			40	369	175	18
WIND SPEED	: 4.2	M/S AT	1.2 M	38	3804	527	663
AIR TEMPERATUR	ε :11.	7 C		36	2897	3530	2004
REL HUMIDIY	:99	%		34	1270	274	54
SEA TEMPERATUR	E :13.	2 C		32	1205	149	32
STABILITY CATE	GORY : C/D			29	2268	3055	34
CLOUD COVER/WE	ATHER:OVE	RCUST/LIC	SHT DRIZZLE	25	6291	317	34
CTAOT	. 1 1 2	c	•	23	3061	638	11
DIRECTION	. F	5		21	4530	2207	20
DIRECTION	CONC	ENTRATIO	1 - PPT				
REL DIST-S	3.1 M	7.1 M	11.6 M	START	:115	0	
				DIRECTION	: E		
17	77	34	22		CONC	ENTRATION	- PPT
19	76	47	33	REL DIST-S	3.1 M	(.1 M	11.6 M
21	70	38	10				2.0
24	181	457	629	6	27	143	173
CTADT	. 1 1 2	•		10	155	749	122
DIRECTION	: LI 3 - -	0		12	898	275	1340
DIRECTION	CONC	ENTRATION	РРТ	14	1236	120	927
REL DIST-S	3.1 M	7.1 M	11.6 M	16	3450	2128	7596
				18	3622	9225	547
37	47	30	16	20	8229	6017	135
35	54	24	16	23	9623	4412	1238
33	38	32	20	25	3786	748	28
31	49	31	27	28	1574	519	0
29	128	40	26	30	651	1465	31
27	86	50	7	32	941	531	38.
25	170*	496	43	34	107	179	24
23	251	117	19	36	56	* (31
21	130	30	. 18	38 .	8.9	46	12
13	424	60	23	4.2	86	63	25
15	1272	567	1266	44	76	42	24
13	1494	979	1207	46	64	36	26
11	5599	3340	53				
9	327	117	25	START	:115	5	
				DIRECTION	: W		
START	:114	3			CONC	ENTRATION	- PPT
DIRECTION	: E			REL DIST-S	3.1 M	7.1 M	11.6 M
and sectors in	CONC	ENTRATION	V - PPT				
REL DIST-S	3.1 M	7.1 M	11.6 M	- 6	53	43	23
				- 4	36	37	123
10	601	19	25	-2	15	67	70*
1 2	1676	118	20	2	52	34	17
16	1507	122	14	L .	67	35	954
18	1574	356	534	6	43	61	446
20	1597	81	23	8	56	2096	945
22	390	96	352	10	108	2164 .	632
24	88	765	1936	12	44	232	2897
26	80	2072	6053	14	192	3228	3836
28	118	1384	6870	16	4668	4002	3872
30	2998	2152	1091	18	4571	6421	1391
32	827	1672	1550	20	-	-	
34	358	1027	3753			. 7	
36	1100	1575	624	START	: 115		
38	56	81	35	DIRECTION	: W	ENTRATION	- PPT
4 U 7 D	65	45	25	DEL DICT-C	3 1 M	7 1 M	11.6 M
4 J 4 S	54	35	20	REL DISI-S	ar + 1 (1		
4.7	50	* 1	36		1.5	39	25
49	52	40	11		56	44	23*
	36	+ 3			62	30	22
				1	48		38

TEST NO	:10		٨	START	: 124	2		
DATE	:83.	06.07		DIRECTION	: W		0.027	
RELEASE	:123	CC/MIN		DEL DICT-S	2 1 M	7 1 M	- (*)*)	м
HEIGHT OS SE	NSORS : 3.1	M. 7. 1 M.	11.6 M	KEL DISI-S	3.1 11	1.1.11	11.0	
DISTANCE	:400	м		59	27	1093*	4715	
BOAT SPEED	: 2 - 1	M/S	,	57	43	2186	6850	
SAMPLING DIS	TANCE :4.6	м,		55	0	416	4871	
WIND DIRECTI	ON : 5			53	1501	2792	2664	
ATE TEMPERAT	12.3	M/S AF I	1.2 M	51	1544	2700	3000	
REL HUMIDIY	:72	7. C		43	932	607	14	
SEA TEMPERAT	URE :15.1	D C		45	1116	971	0	
STABILITY CA	TEGORY : D/E			43	1823	1051	0	
CLOUD COVER/	WEATHER: 3/8	- SUN		41	1862	1190	0	
	100			39	1782	560	0	
START	:123	7		37	3077	72	0	
DIRECTION	CONCI	ENTRATION	- PPT	35	18/4	4 U	0	
REL DIST-S	3.1 M	7.1 M	11.6 M	START	. 124	6		
				DIRECTION	: E	•		
6 1	0	0	0		CONC	ENTRATION	- PPT	
59	0	0	0	REL DIST-S	3.1 M	7.1 M	11.6	М
57	0	0	0				1.3	
54	U	0	U	34	0	8	0	
49	0	0	0	36	0	0	0	
47	0	. 0	0	30	0	0	0	
44	0	0	0	42	0	0	0	
42	0	0	0	44	62	0	0	
40	0	1.1	522	46	1830	157	0	
37	0	1654	220	48	4278	122	0	
35	8	4128	0	50	5996	324	0	
33	40	1019	U O	52	4939	.4(80	4958	
29	1364	3810*	0	56	3686	5193	5465	
26	3462	6209	0	58	2135	6805	56	
24	6789	8130	0					
22	8632	5415	0	START	: 124	7		
20	7246	4050	0	DIRECTION	: W			•
18	7791	163	0		CONC	ENTRATION	- PPT	14
16	6118	125	0	REL DISI-S	3.1 M	(,1 M	11.6	m
12	2854	0	0	4.6	0	ß	0	
10	1041	0	0	42	0	0	0	
8	116	0	0	40	0	42	474	
6	59	0	0	38	84	1491	2555	
				36	38	2015	4204	
START	: 1240	}		34	25	4098	4000	
DIRECTION	CONCE	NTRATION	- PPT	30	140	3746	1260	
REL DIST-S	3.1 M	7.1 M	11.6 M	25	6254	4418	2090	
				23	6507	4353	123	
17	0	0	0	21	6119	4577	0	
19	0	0	0	19	2039	1207	0	
21	- 0	0	0					
23	222	U	U	START	:125	0		
28	1992	268	0	DIRECTION	CONC	ENTRATION	- PPT	
30	3867	1577*	0	REL DIST-S	3.1 M	7.1 M	11.6	м
32	6814	2886	0					
34	8467	4385	0	13	0	8	0	
37	5030	6437	332	15	0	0	0	
39	4031	8368	6098	17	0	0	0	
41	100	3161	4030	19	0	0.	U	
45	29	1123	239	21	1	0	0	
48	0	88	39	25	288	n	0	
				27	1263	0	0	
				29	3810	0	0	
				31	6993			

•

TEST NO	:11			START	:111	9	
DATE	:83.	06.14		DIRECTION	: E		
TIME	: 1 1 1	0-1130			CONC	ENTRATION	- PPT
RELEASE	:300	CC/MIN		REL DIST-S	3.1 M	7.1 M	11.6 M
HEIGHT OS SENS	SORS : 3.1	M.7.1 M.	11.6 M				
DISTANCE	:400	м		68	0	0	0
BOAT SPEED	: 2 . 1	M/S		70	0	0	0
SAMPLING DIST	ANCE : 4.8	м,		72	0	0	0
WIND DIRECTION	N : S			74	0	0	0
WIND SPEED	: 7.1	M/S		76	0	0	0
AIR TEMPERATUR	RE :16.3	3 C		78.	66	40	690
REL HUMIDIY	:53	7.		80	755	17	0
SEA LEMPERATUR	CODY .0/5	2 (82	516	657	151
CLOUD COVED/HE	LGURT : U/E	CUM		84	((A C E O	000	101
CLOUD COVER/WO	LATHER: 4/0	- 3 U N		00	700	120	11//
START	. 1 1 1 1	n		00	79/	596	758
DIRECTION	- 1 I I I - Ial	0		92	822	317	, 50
DIRECTION	CONCI	ENTRATION	- PPT	94	707	235	0
REL DIST-S	3.1 M	7.1 M	11.6 M	3.4		600	•
			,	START	: 112	2	
148	0	0	0	DIRECTION	: W		
146	0	0	0		CONC	ENTRATION	- PPT
143	0	0	0	REL DIST-S	3.1 M	7.1 M	11.6 M
141	0	0	0				
139	0	242	42	142	0	0	0
136	190	152	42	140	0	0	0
134	255	119	0	138	0	0	0
131	216	155	0	136	0	0	0
128	397	105	9	134	0	0	0
125	448	64	101*	132	0	54	0
123	1562	556	12	130	150	30	0
121	1008	43	125	128	1195	449	135
118	26	209	298*	126	1160	812	945
115	165	445	471	124	1361	1712	1220
113	587	780	467	122	349	951	797 -
111 .	264	412	298*	120	394	928	1540
109	425	89	435	118	446	152	0
START	:1113	3		START	: 112	4	
START	:1113 :E	3		START DIRECTION	:112 :E	4	
START	: 1 1 1 1 : E CONCE	3 ENTRATION	- PPT	START DIRECTION	: 112 : E CONC	4 ENTRATION	- PPT
START DIRECTION REL DIST-S	:1113 :E CONCE 3.1 M	3 ENTRATION 7.1 M	- PPT 11.6 M	START DIRECTION REL DIST-S	:112 :E CONC 3.1 M	4 ENTRATION 7.1 M	- PPT 11.6 M
START DIRECTION REL DIST-S	:1113 :E CONCE 3.1 M	3 ENTRATION 7.1 M	- PPT 11.6 M	START DIRECTION REL DIST-S	:112 :E CONC 3.1 M	4 ENTRATION 7.1 M	- PPT 11.6 M
START DIRECTION REL DIST-S 82 84	:1111 :E CONCE 3.1 M 0	3 ENTRATION 7.1 M 0	- PPT 11.6 M 0	START DIRECTION REL DIST-S 86	:112 :E CONC 3.1 M 15	4 ENTRATION 7.1 M 0	- PPT 11.6 M 0
START DIRECTION REL DIST-S 82 84 87	:1112 :E CONCE 3.1 M 0 0	3 ENTRATION 7.1 M 0 0	- PPT 11.6 M 0 0	START DIRECTION REL DIST-S 86 88 90	:112 :E CONC 3.1 M 15 0	4 ENTRATION 7.1 M 0 0	- PPT 11.6 M 0 0
START DIRECTION REL DIST-S 82 84 87 89	:1111 :E CONCE 3.1 M 0 0	3 ENTRATION 7.1 M 0 0 0 0	- PPT 11.6 M 0 0	START DIRECTION REL DIST-S 86 88 90 92	:112 :E CONC 3.1 M 15 0 0 328	4 ENTRATION 7.1 M 0 0 0	- PPT 11.6 M 0 0 132
START DIRECTION REL DIST-S 82 84 87 89 92	:1111 :E CONCE 3.1 M 0 0 0 0	3 ENTRATION 7.1 M 0 0 0 0 0 0	- PPT 11.6 M 0 0 0	START DIRECTION REL DIST-S 86 88 90 92 92 94	:112 :E CONC 3.1 M 15 0 328 419	4 ENTRATION 7.1 M 0 0 0 0 0	- PPT 11.6 M 0 0 132 0
START DIRECTION REL DIST-S 82 84 87 89 92 92	:1111 :E CONCE 3.1 M 0 0 0 0 0 0 0	3 ENTRATION 7.1 M 0 0 0 0 0 0	- PPT 11.6 M 0 0 0 0 0 0	START DIRECTION REL DIST-S 86 88 90 92 92 94 96	:112 :E CONC 3.1 M 15 0 328 419 879	4 ENTRATION 7.1 M 0 0 0 0 0 0	- PPT 11.6 M 0 0 132 0 0
START DIRECTION REL DIST-S 82 84 87 89 92 92 94 95	:1111 :E CONCE 3.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3 ENTRATION 7.1 M 0 0 0 0 0 0 0 0 0 0 0 0	- PPT 11.6 M 0 0 0 0 0 0 0 0	START DIRECTION REL DIST-S 86 88 90 92 94 96 98	:112 :E CONC 3.1 M 15 0 328 419 879 821	4 ENTRATION 7.1 M 0 0 0 0 0 95	- PPT 11.6 M 0 0 132 0 0 0
START DIRECTION REL DIST-S 82 84 87 89 92 94 95 98	:1113 :E CONCE 3.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3 ENTRATION 7.1 M 0 0 0 0 0 0 0 0 246	- PPT 11.6 M 0 0 0 0 0 0 0 0 0 178	START DIRECTION REL DIST-S 86 88 90 92 92 94 96 98 100	:112 :E CONC 3.1 M 15 0 328 419 879 879 821 1030	4 7.1 M 0 0 0 0 0 0 95 70	- PPT 11.6 M 0 0 132 0 0 0 0
START DIRECTION REL DIST-S 82 84 87 89 92 94 95 98 102	:1111 :E CONCE 3.1 M 0 0 0 0 97 333 1572	3 ENTRATION 7.1 M 0 0 0 0 0 0 246 239	- PPT 11.6 M 0 0 0 0 0 0 178 170	START DIRECTION REL DIST-S 86 88 90 92 94 96 98 100 102	:112 :E CONC 3.1 M 15 0 328 419 879 821 1030 1464	4 7.1 M 0 0 0 0 0 0 0 95 70 0	- PPT 11.6 M 0 0 132 0 0 0 0 0 0 0
START DIRECTION REL DIST-S 82 84 87 89 92 94 95 98 102 104	:1111 :E CONCE 3.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3 ENTRATION 7.1 M 0 0 0 0 0 246 239 1022	- PPT 11.6 M 0 0 0 0 0 178 170 231	START DIRECTION REL DIST-S 86 88 90 92 94 96 98 100 102 104	:112 :E CONC 3.1 M 15 0 328 419 879 821 1030 1464 736	4 7.1 M 0 0 0 0 0 0 95 70 0 0 0 95	- PPT 11.6 M 0 0 132 0 0 0 0 0 0 0 0 0 0 0
START DIRECTION REL DIST-S 82 84 87 89 92 94 95 98 102 104 106	:1111 :E CONCE 3.1 M 0 0 0 0 97 333 1572 1068 2496	3 ENTRATION 7.1 M 0 0 0 0 246 239 1022 738	- PPT 11.6 M 0 0 0 0 0 178 170 231 172	START DIRECTION REL DIST-S 86 88 90 92 94 96 98 100 102 104 106	:112 :E CONC 3.1 M 15 0 328 419 879 821 1030 1464 736 678	4 7.1 M 0 0 0 0 0 95 70 0 0 57	- PPT 11.6 M 0 0 132 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
START DIRECTION REL DIST-S 82 84 85 99 92 94 95 98 102 104 106 108	:1111 :E CONCE 3.1 M 0 0 0 0 97 333 1572 1068 2496 1470	3 ENTRATION 7.1 M 0 0 0 0 0 0 0 0 0 0 0 246 239 1022 738 1068	- PPT 11.6 M 0 0 0 0 0 178 170 231 172 189	START DIRECTION REL DIST-S 86 88 90 92 92 94 96 98 100 102 104 106 108	:112 :E CONC 3.1 M 15 0 0 328 419 879 821 1030 1464 736 678 678 641	4 7.1 M 0 0 0 0 0 0 95 70 0 57 46	- PPT 11.6 M 0 0 132 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
START DIRECTION REL DIST-S 82 84 87 89 92 94 95 98 102 104 106 108 110	:1111 :E CONCE 3.1 M 0 0 0 0 0 97 333 1572 1068 2496 1470 1010*	3 ENTRATION 7.1 M 0 0 0 0 0 246 239 1022 738 1068 904	- PPT 11.6 M 0 0 0 0 0 178 170 231 172 189 934	START DIRECTION REL DIST-S 86 88 90 92 94 96 98 100 102 104 106 108 110	:112 :E CONC 3.1 M 15 0 328 419 879 821 1030 1464 736 678 678 641 701	4 7.1 M 0 0 0 0 0 0 95 70 0 57 46 0	- PPT 11.6 M 0 0 132 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
START DIRECTION REL DIST-S 82 84 87 89 92 94 95 98 102 104 106 108 110	:1111 :E CONCE 3.1 M 0 0 0 0 97 333 1572 1068 2496 1470 1010* 551	3 ENTRATION 7.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	- PPT 11.6 M 0 0 0 0 0 0 0 178 170 231 172 189 934 68	START DIRECTION REL DIST-S 86 88 90 92 94 96 98 100 102 104 106 108 110 112	:112 :E CONC 3.1 M 15 0 328 419 879 821 1030 1464 736 678 641 701 668	4 7.1 M 0 0 0 0 0 95 70 0 57 46 0 5	- PPT 11.6 M 0 0 132 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
START DIRECTION REL DIST-S 82 84 87 89 92 94 95 98 102 104 106 108 110 112 114	:1111 :E CONCE 3.1 M 0 0 0 0 97 333 1572 1068 2496 1470 1010* 551 59	3 ENTRATION 7.1 M 0 0 0 0 0 0 246 239 1022 738 1068 904 390 0 0 0 0 0 0 0 0 0 0 0 0 0	- PPT 11.6 M 0 0 0 0 0 0 178 170 231 172 189 934 68 625	START DIRECTION REL DIST-S 86 88 90 92 94 96 98 100 102 104 106 108 110 112 114	: 112 : E CONC 3.1 M 15 0 328 419 879 821 1030 1464 736 678 641 701 668 480	4 7.1 M 0 0 0 0 0 95 70 0 95 70 0 57 46 0 5 380	- PPT 11.6 M 0 0 132 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
START DIRECTION REL DIST-S 82 84 87 89 92 94 95 98 102 104 106 108 110 112 114	:1111 :E CONCE 3.1 M 0 0 0 0 97 333 1572 1068 2496 1470 1010* 551 59	3 ENTRATION 7.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0	- PPT 11.6 M 0 0 0 0 0 178 170 231 172 189 934 68 68 625	START DIRECTION REL DIST-S 86 88 90 92 94 96 98 100 102 104 106 108 110 112 114	: 112 :E CONC 3.1 M 15 0 328 419 879 821 1030 1464 736 678 641 701 668 480 824	4 ENTRATION 7.1 M 0 0 0 0 0 0 0 0 0 0 5 7 0 0 5 7 4 6 0 5 3 80 4 3 1 2 4 1 2 3 2 3 2 3 4 3 5 3 3 4 5 5 5 5 5 5 5 5 5 5 5 5 5	- PPT 11.6 M 0 0 132 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
START DIRECTION REL DIST-S 82 84 87 89 92 94 95 98 102 104 106 108 110 112 114 START	:1111 :E CONCE 3.1 M 0 0 0 0 0 97 333 1572 1068 2496 1470 1010* 551 59 :1116	3 ENTRATION 7.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	- PPT 11.6 M 0 0 0 0 0 178 170 231 172 189 934 68 68 625	START DIRECTION REL DIST-S 86 88 90 92 94 96 98 100 102 104 106 108 110 112 114 116 118	: 112 :E CONC 3.1 M 15 0 328 419 879 821 1030 1464 736 678 641 701 668 480 824 333	4 ENTRATION 7.1 M 0 0 0 0 0 95 70 0 95 70 0 0 57 46 0 5 380 431 0 0	- PPT 11.6 M 0 0 132 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
START DIRECTION REL DIST-S 82 84 87 89 92 94 95 98 102 104 106 108 110 112 114 START DIRECTION	:1111 :E CONCE 3.1 M 0 0 0 0 0 97 333 1572 1068 2496 1470 1010* 551 59 :1118 :W CONCE	3 ENTRATION 7.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	- PPT 11.6 M 0 0 0 0 0 0 178 170 231 172 189 934 68 625	START DIRECTION REL DIST-S 86 88 90 92 94 96 98 100 102 104 106 108 110 112 114 116 118 120	: 112 :E CONC 3.1 M 15 0 328 419 879 821 1030 1464 736 678 641 701 668 641 701 668 480 824 333 514	4 ENTRATION 7.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0	- PPT 11.6 M 0 0 132 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
START DIRECTION REL DIST-S 82 84 87 89 92 94 95 98 102 104 106 108 110 112 114 START DIRECTION	:1111 :E CONCE 3.1 M 0 0 0 0 0 97 333 1572 1068 2496 1470 1010* 551 59 :11116 :W CONCE	3 ENTRATION 7.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	- PPT 11.6 M 0 0 0 0 0 0 178 170 231 172 189 934 68 625 - PPT 11.6 M	START DIRECTION REL DIST-S 86 88 90 92 94 96 98 100 102 104 106 108 110 112 114 116 118 120 122	:112 :E CONC 3.1 M 15 0 328 419 879 821 1030 1464 736 678 641 701 668 480 824 333 514 1051	4 ENTRATION 7.1 M 0 0 0 0 0 95 70 0 95 70 0 57 46 0 57 46 0 5380 431 0 136 119 125	- PPT 11.6 M 0 0 132 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
START DIRECTION REL DIST-S 82 84 85 92 94 95 98 102 104 106 108 110 112 114 START DIRECTION REL DIST-S	:1111 :E CONCE 3.1 M 0 0 0 0 0 97 333 1572 1068 2496 1470 1010* 551 59 :1116 :W CONCE 3.1 M	3 ENTRATION 7.1 M 0 0 0 0 246 239 1022 738 1068 904 390 0 5 ENTRATION 7.1 M	- PPT 11.6 M 0 0 0 0 0 178 170 231 172 189 934 68 625 - PPT 11.6 M	START DIRECTION REL DIST-S 86 88 90 92 94 96 98 100 102 104 106 108 110 112 114 116 118 120 122 124	: 112 :E CONC 3.1 M 15 0 328 419 879 821 1030 1464 736 641 736 641 736 641 736 641 701 668 480 824 333 514 1051 808	4 ENTRATION 7.1 M 0 0 0 0 0 0 0 0 0 0 57 46 0 57 46 0 57 46 0 57 46 0 57 46 0 136 119 495 57	- PPT 11.6 M 0 0 132 0 0 0 0 0 0 0 0 0 0 0 0 0
START DIRECTION REL DIST-S 82 84 87 89 92 94 95 98 102 104 106 108 110 112 114 START DIRECTION REL DIST-S	:1111 :E CONCE 3.1 M 0 0 0 0 0 97 333 1572 1068 2496 1470 1010* 551 59 :1116 59 :1116 3.1 M	3 ENTRATION 7.1 M 0 0 0 0 246 239 1022 738 1068 904 390 0 5 ENTRATION 7.1 M 729	- PPT 11.6 M 0 0 0 0 0 178 170 231 172 189 934 68 625 - PPT 11.6 M	START DIRECTION REL DIST-S 86 88 90 92 94 96 98 100 102 104 106 108 110 112 114 116 118 120 122 124 126 58	:112 :E CONC 3.1 M 15 0 328 419 879 821 1030 1464 736 678 641 701 668 480 824 333 514 1051 808 923	4 ENTRATION 7.1 M 0 0 0 0 95 70 0 95 70 0 57 46 0 57 46 0 57 46 0 57 46 0 57 46 0 57 46 0 57 46 0 57 46 0 57 46 0 57 46 0 57 46 0 57 46 0 57 57 46 0 57 57 46 0 57 57 57 57 57 57 57 57 57 57 57 57 57	- PPT 11.6 M 0 0 132 0 0 0 0 0 0 0 0 0 0 0 0 0
START DIRECTION REL DIST-S 82 84 87 89 92 94 95 98 102 104 106 108 110 112 114 START DIRECTION REL OIST-S 143	:1111 :E CONCE 3.1 M 0 0 0 0 0 97 333 1572 1068 2496 1470 1010* 551 59 :11116 :W CONCE 3.1 M 1675	3 ENTRATION 7.1 M 0 0 0 0 246 239 1022 738 1068 904 390 0 5 ENTRATION 7.1 M 729	- PPT 11.6 M 0 0 0 0 0 0 178 170 231 172 189 934 68 625 - PPT 11.6 M 0 827	START DIRECTION REL DIST-S 86 88 90 92 94 96 98 100 102 104 106 108 110 112 114 116 118 120 122 124 126 128	:112 :E CONC 3.1 M 15 0 328 419 879 821 1030 1464 736 678 641 701 668 480 824 333 514 1051 808 923 100	4 ENTRATION 7.1 M 0 0 0 0 95 70 0 95 70 0 57 46 0 57 46 0 57 46 0 57 46 0 57 46 0 57 46 0 57 46 0 57 46 0 57 46 0 57 46 0 57 46 0 57 46 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	- PPT 11.6 M 0 0 132 0 0 0 0 0 0 0 0 0 0 0 0 0
START DIRECTION REL DIST-S 82 84 87 89 92 94 95 98 102 104 105 104 106 108 110 112 114 START DIRECTION REL DIST-S 143 141	:1111 :E CONCE 3.1 M 0 0 0 0 97 333 1572 1068 2496 1470 1010* 551 59 :11116 :W CONCE 3.1 M 1675 1641 2425	3 ENTRATION 7.1 M 0 0 0 0 246 239 1022 738 1068 904 390 0 0 5 ENTRATION 7.1 M 729 116	- PPT 11.6 M 0 0 0 0 0 178 170 231 172 189 934 68 625 - PPT 11.6 M 0 827 43	START DIRECTION REL DIST-S 86 88 90 92 94 96 98 100 102 104 106 108 110 112 114 116 118 120 122 124 126 128 130 122	:112 :E CONC 3.1 M 15 0 328 419 879 821 1030 1464 736 678 641 701 668 480 824 333 514 1051 808 923 100 116 128	4 ENTRATION 7.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0	- PPT 11.6 M 0 0 132 0 0 0 0 0 0 0 0 0 0 0 0 0
START DIRECTION REL DIST-S 82 84 87 89 92 94 95 98 102 104 106 108 110 112 114 START DIRECTION REL DIST-S 143 141 139 137	:1111 :E CONCE 3.1 M 0 0 0 0 0 97 333 1572 1068 2496 1470 1010* 551 59 :1116 :W CONCE 3.1 M 1675 1641 2426	3 ENTRATION 7.1 M 0 0 0 0 246 239 1022 738 1068 904 390 0 0 5 ENTRATION 7.1 M 729 116 16 262	- PPT 11.6 M 0 0 0 0 0 178 170 231 172 189 934 68 625 - PPT 11.6 M 0 827 43 0	START DIRECTION REL DIST-S 86 88 90 92 94 96 98 100 102 104 106 108 110 112 114 116 118 120 122 124 126 128 130 132	:112 :E CONC 3.1 M 15 0 328 419 879 821 1030 1464 736 678 641 701 668 480 824 333 514 1051 808 923 100 116 178	4 ENTRATION 7.1 M 0 0 0 0 95 70 0 95 70 0 57 46 0 57 46 0 57 46 0 5380 431 0 136 119 495 854 662* 469 692	- PPT 11.6 M 0 0 132 0 0 0 0 0 0 0 0 0 0 0 0 0
START DIRECTION REL DIST-S 82 84 87 89 92 94 95 98 102 104 106 108 110 112 114 START DIRECTION REL DIST-S 143 141 139 137	:1111 :E CONCE 3.1 M 0 0 0 0 97 333 1572 1068 2496 1470 1010* 551 59 :1118 :W CONCE 3.1 M 1675 1641 2426 2530 2741	3 ENTRATION 7.1 M 0 0 0 0 246 239 1022 738 1068 904 390 0 0 5 ENTRATION 7.1 M 729 116 16 262 168	- PPT 11.6 M 0 0 0 0 0 178 170 231 172 189 934 68 625 - PPT 11.6 M 0 827 43 0 0	START DIRECTION REL DIST-S 86 88 90 92 94 96 98 100 102 104 106 108 110 112 114 116 118 120 122 124 126 128 130 132	:112 :E CONC 3.1 M 15 0 328 419 879 821 1030 1464 736 678 641 736 678 641 701 668 480 824 333 514 1051 808 923 100 116 178	4 ENTRATION 7.1 M 0 0 0 0 95 70 0 95 70 0 95 70 0 57 46 0 57 46 0 5380 431 0 136 119 495 854 662* 469 692	- PPT 11.6 M 0 0 132 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
START DIRECTION REL DIST-S 82 84 87 89 92 94 95 98 102 104 106 108 110 112 114 START DIRECTION REL OIST-S 143 141 139 137	:1111 :E CONCE 3.1 M 0 0 0 0 97 333 1572 1068 2496 1470 1010* 551 59 :11118 :W CONCE 3.1 M 1675 1641 2426 2530 2741	3 ENTRATION 7.1 M 0 0 0 0 246 239 1022 738 1068 904 390 0 5 ENTRATION 7.1 M 729 116 16 262 168 370	- PPT 11.6 M 0 0 0 0 0 178 170 231 172 189 934 68 625 - PPT 11.6 M 0 827 43 0 14	START DIRECTION REL DIST-S 86 88 90 92 94 96 98 100 102 104 106 108 110 112 114 116 118 120 122 124 126 128 130 132	:112 :E CONC 3.1 M 15 0 328 419 879 821 1030 1464 736 678 641 701 668 480 824 333 514 1051 808 923 100 116 178	4 ENTRATION 7.1 M 0 0 0 0 95 70 0 95 70 0 57 46 0 5 380 431 0 136 119 495 854 662* 469 692	- PPT 11.6 M 0 0 132 0 0 0 0 0 0 0 0 0 0 0 0 0
START DIRECTION REL DIST-S 82 84 87 89 92 94 95 98 102 104 106 108 110 112 114 START DIRECTION REL DIST-S 143 141 139 137 135 133 131	:1111 :E CONCE 3.1 M 0 0 0 0 97 333 1572 1068 2496 1470 1010* 551 59 :11116 :W CONCE 3.1 M 1675 1641 2426 2530 2741 1684 2062	3 ENTRATION 7.1 M 0 0 0 0 246 239 1022 738 1068 904 390 0 5 ENTRATION 7.1 M 729 116 16 262 168 370 355	- PPT 11.6 M 0 0 0 0 0 178 170 231 172 189 934 68 625 - PPT 11.6 M 0 827 43 0 14 9	START DIRECTION REL DIST-S 86 88 90 92 94 96 98 100 102 104 106 108 110 112 114 116 118 120 122 124 126 128 130 132	:112 :E CONC 3.1 M 15 0 328 419 879 821 1030 1464 736 678 641 701 668 480 824 333 514 1051 808 923 100 116 178	4 ENTRATION 7.1 M 0 0 0 0 95 70 0 57 46 0 57 46 0 5 380 431 0 136 119 495 854 662* 469 692	- PPT 11.6 M 0 0 132 0 0 0 0 0 0 0 0 0 0 0 0 0

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TEST NO	: 12			STAR	RT	: 1143			
DATE	:83	06.15		DIR	ECTION	: SW			
TIME	: 10:	35-1150				CONCE	NTRATION	- PPT	
RELEASE	: 300	CC/MIN		REL	DIST-S	3.1 M	7.1 M	11.5	M
HETCHT OS SENSOR	5 . 3	M 7 1 M	11 6 M						
DISTANCE	. 4 0 () м	11.0 11	83		0	522	0	
BOAT SPEED		M/C		81		875	52	0	
CAMPLINC DISTANC	5 ./ /	- 117 S		79		614	263	595	
SAMPLING DISTANC	C 19.9	·,		77		370	619	824	
WIND DIRECTION	: 3:0	E M/C		75		454	529	32	
WIND SPEED	: 1	0 11/5		73		1168	777	1760	
AIR TEMPERATURE	: 13.	.4 6		71		1178	10	968	
REL HUMIDIY	: 10	1.		69		553	42	1234	
SEA TEMPERATURE	:15.	. 3 C		67		552	204	233	
STABILITY CATEGO	RY :C			65		350	782	1057	
CLOUD COVER/WEAT	HER: 5/8	B-DISTANT	RAINSHOW	VERS		1113	1650		
				61		1585	0.00	0	
START	:10:	35		50		262	. 296	531	
DIRECTION	: NE			57		1302	1663	1061	
Instant Defender of	CONC	CENTRATION	I - PPT	51		612	107	28	
REL DIST-S	3.1 M	7.1 M	11.6 M	1 55		1/0	296	20	
				53		443	1122	0	
42	0	315	724	51		040	1133	0	
44	0	523	639	49		1246	1335	0	
46	161	635	6 9	47		934	1180	0	
48	163	1097	260	45		1376	1016	98	
50	33	1098*	366	43		478	734	0	
52	1104	1099	430						
54	98	182	98	STAI	RT	:1047			
56	57	122	0	DIR	ECTION	: NE			
58	0	56	0			CONCE	NTRATION	- PPT	
60	138	74	0	REL	DIST-S	3.1 M	7.1 M	11.6	M
62	0	0	0						
64	0	0	0	13		0	0	0	
66	0	0	0	15		7	0	0	
6.8	0	0	0	17		74 .	177	-	
00	0	0	0	19		690	878	-	
STADT	. 101			21		1684	1507	-	
DIRECTION		00		23		1447	1690	-	
DIRECTION	: SW			25		1616	1285	-	
	CUNI	ENTRALIUN		27		1160	80	• -	
REL DIST-S	3.1 M	(.1 M	11.6 P	1 20		1100	0	-	
		-		23		5/3	0.	-	
53	0	0	0	1 21		346	0		
51	40	0	0			1050			
49	0	0	0	STAT	K I	: 1050	,		
47	292	0	0	DIR	ECTION	: 3 W		0.07	
45	35	0	190			CUNCE	NIRALIUN		h.t
43	33	47	48	REL	DIST-S	3.1 M	(, 1 M	11.5	m
4 1	145	356	٥						
39	706	377	0	19		0	0	-	
37	648	376	0	17		0	0	-	
35	315	103	0	15		0	0	-	
33	520	0	0	13		0	0	-	
31	939	54	0	11		0	0	-	
29	788	295	0	9		0	0	-	
27	700	0	149	7		0	0	-	
25	1188	0	0	5		11	53	-	
23	82	0	0	3		46	1037	-	
				1		281	214	-	
START	: 114	0		- 1		635	10	-	
DIRECTION	: ME			- 3		118	172	-	
	CONC	ENTRATION	- PPT	- 5		0	300	-	
PEL DIST-S	3 1 M	7 1 14	11 6 4	4 -7		415	781	-	
NEC 0131-3	9 4 F 121	1.1 13							
5/	0	0	0						
0 4 6 6	0	0	0						
20	U	U	U						
80	0	U	U						
60	0	0	0						
62	0	0	302						
64	44	207	1570						
66	46	1027	1132						
68	976	872	170						
70	1617	550	1115						
72	849	1392	744						
74	1421	832	86						
76	1048	509	180						
78	761	185	717						
8.0	785	294	0						
00									

TEST NO	:13	c	START	: 1218 . wew		
TIME	:03.00.1	26	DIRECTION	CONCE	TRATION	- PPT
RELEASE	:300 CC/	MIN	REL DIST-S	3.1 M	7.1 M	11.6 M
HEIGHT OS SENSO	DRS : 3.1 M,7	.1 M,11.6 M				
DISTANCE	:400 M		33	0	0	0.
BOAT SPEED	:2.1 M/S		20	0	0	0
WIND DIPECTION	NCE : 4.5 M, - NNW		27	0	0	448
WIND SPEED	:4.6 M/S		25	37	65	319*
AIR TEMPERATURE	E :15.8 C		23	563	443	190
REL HUMIDIY	:58 %		2 1	1451	692	106
SEA TEMPERATURE	E :15.5 C		19	385	287	(b 162*
STABILITY CATEG	SORY :C/D		15	1120	684	247
CLUUD COVER/WEA	AINER: 170 -		13	1015	915	111
START	:1210		11	560	1247	0
DIRECTION	: ENE		9	534	70	0
	CONCENTR	ATION - PPT	7	20	0	0
REL DIST-S	3.1 M 7	.1 M 11.6 M	5	33	0	U O
- 25	0 11	20 1217	1	0 .	0	0
-33	30 14	01 965		•		-
-31	925 6	34 1380	START	: 1221		
-29	2055 3:	21 690*	DIRECTION	:ENE		
- 27	162	29 0		CONCE	NTRATION	- PPT
- 25	1450 1	25 40	REL DIST-S	3.1 M	7.1 M	11.6 M
-23	1322 15	88 265 26 2756	- 6 1	132	607	817
-19	1422 13	1752	-59	694	1613	1247*
-17	.2763 21	56 4101	- 57	1846	1131	1675
-15 -	207	0 0	- 5 5	1443	332	345
-13	190	0 0	- 53	657	443	0
-11	0	0 0	-51	113	304	0
-9	U	0 0	- 4 9	25	0	0
- 5	0	0 0	-45	0	0	0
-3 .	0	o o	-43	0	0	0
4	0	0 0				
- 1	U	0				
1	0	0 0	START	: 1224		
1 1 3	0	0 0 0 0	START DIRECTION	: 1224 : WSW	NTRATION	- 901
1 3 START	0 0 : 1213	0 0 0 0	START DIRECTION REL DIST-S	: 1224 :WSW CONCE 3.1 M	NTRATION 7.1 M	- PPT 11.6 M
1 3 START DIRECTION	0 0 : 1 2 1 3 : WSW	0 0 0 0	START DIRECTION REL DIST-S	: 1224 :WSW CONCE 3.1 M	NTRATION 7.1 M	- PPT 11.6 M
1 3 START DIRECTION	0 0 : 1213 : WSW CONCENTR/	0 0 0 0 -	START DIRECTION REL DIST-S 3	:1224 :WSW CONCE 3.1 M	NTRATION 7.1 M D	- PPT 11.6 M 0
T T T S S TART DIRECTION REL DIST-S	0 0 :1213 :WSW CONCENTR/ 3.1 M 7	0 0 0 0 - ATION - PPT .1 M 11.6 M	START DIRECTION REL DIST-S 3 1	:1224 :WSW CONCE 3.1 M 0 0	NTRATION 7.1 M 0	- PPT 11.6 M 0
T T T T T T T T T T T T T T T T T T T	0 0 :1213 :WSW CONCENTR 3.1 M 7	0 0 0 0 - ATION - PPT .1 M 11.6 M	START DIRECTION REL DIST-S 3 1 -1	: 1224 : WSW CONCE 3.1 M 0 0	NTRATION 7.1 M 0 0	- PPT 11.6 M 0 0
T T T T T T T T T T T T T T T T T T T	0 0 : 1213 :WSW CONCENTR, 3.1 M 7 0	0 0 0 0 	START DIRECTION REL DIST-S 3 1 -1 -3 5	: 1224 : WSW CONCE 3.1 M 0 0 0	NTRATION 7.1 M 0 0 0 0	- PPT 11.6 M 0 0 0 0
T T T T T T T T T T T T T T T T T T T	0 0 : 1213 :WSW CONCENTR 3.1 M 7 0 0 0	0 0 0 0 	START DIRECTION REL DIST-S 3 1 -1 -3 -5 -7	: 1224 : WSW CONCE 3.1 M 0 0 0 0 0 0	NTRATION 7.1 M 0 0 0 0 0 0	- PPT 11.6 M 0 0 0 0 0 0 0 0
T T T S TART DIRECTION REL DIST-S 13 11 9 7	0 0 2 : 1213 :WSW CONCENTR 3.1 M 7 0 0 0 0 0 0 12 1183 13	0 0 0 0 - ATION - PPT 1 M 11.6 M 0 0 0 10 59 1138* 32 2265	START DIRECTION REL DIST-S 3 1 -1 -3 -5 -7 -9	: 1224 : WSW CONCE 3.1 M 0 0 0 0 0 0 0 0	NTRATION 7.1 M 0 0 0 0 0 0 0 0 0	- PPT 11.6 M 0 0 0 0 0 0 0 0 0 0 0 0
T T T S TART DIRECTION REL DIST-S 13 11 9 7 5	0 0 2 : 1213 :WSW CONCENTR 3.1 M 7 0 0 0 0 0 12 1183 13 389	0 0 0 0 - ATION - PPT 1 M 11.6 M 0 0 0 10 59 1138* 32 2265 48 949	START DIRECTION REL DIST-S 3 1 -1 -3 -5 -7 -9 -11	: 1224 : WSW CONCE 3.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NTRATION 7.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	- PPT 11.6 M 0 0 0 0 0 0 0 0 0 0 0 0
T 1 3 START DIRECTION REL DIST-S 13 11 9 7 5 3	0 0 2 3.1 M 0 0 0 0 12 1183 13 389 180	0 0 0 0 0 0 - ATION - PPT 1 M 11.6 M 0 0 0 10 59 1138* 32 2265 48 949 52 15	START DIRECTION REL DIST-S 3 1 -1 -3 -5 -7 -9 -11 -13	: 1224 : WSW CONCE 3.1 M 0 0 0 0 0 0 0 0 0 0 0 0	NTRATION 7.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0	- PPT 11.6 M 0 0 0 0 0 0 0 0 0 0 0 0 0
1 3 START DIRECTION REL DIST-S 13 11 9 7 5 3 1	0 0 2 3.1 M 0 0 0 0 0 12 1183 13 389 180 2 0	0 0 0 0 0 0 - ATION - PPT 1 M 11.6 M 0 0 0 10 59 1138* 32 2265 48 949 52 15 30 8	START DIRECTION REL DIST-S 3 1 -1 -3 -5 -7 -9 -11 -13 -15 -17	: 1224 : WSW CONCE 3.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NTRATION 7.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	- PPT 11.6 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
T 1 3 START DIRECTION REL DIST-S 13 11 9 7 5 3 1 -1 -3	0 0 1213 :WSW CONCENTR 3.1 M 7 0 0 0 0 121 1183 133 389 180 5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 - ATION - PPT 1 M 11.6 M 0 0 0 10 59 1138* 32 2265 48 949 52 15 30 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0	START DIRECTION REL DIST-S 3 1 -1 -3 -5 -7 -9 -11 -13 -15 -17 -19	: 1224 : WSW CONCE 3.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NTRATION 7.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	- PPT 11.6 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
T 1 3 START DIRECTION REL DIST-S 13 11 9 7 5 3 1 -1 -3 -5	0 0 1213 :WSW CONCENTR 3.1 M 7 0 0 0 0 0 121 1183 133 389 180 9 180 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 - ATION - PPT 1 M 11.6 M 0 0 0 10 59 1138* 32 2265 48 949 52 15 30 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0	START DIRECTION REL DIST-S 3 1 -1 -3 -5 -7 -9 -11 -13 -15 -17 -19 -21	: 1224 : WSW CONCE 3.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NTRATION 7.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	- PPT 11.6 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
T 1 3 START DIRECTION REL DIST-S 13 11 9 7 5 3 1 -1 -3 -5 -7	0 0 1213 :WSW CONCENTR 3.1 M 7 0 0 0 0 0 121 1183 133 389 180 9 180 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 - ATION - PPT 1 M 11.6 M 0 0 0 10 59 1138* 32 2265 48 949 52 15 30 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0	START DIRECTION REL DIST-S 3 1 -1 -3 -5 -7 -9 -11 -13 -15 -17 -19 -21 -23	: 1224 : WSW CONCE 3.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NTRATION 7.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	- PPT 11.6 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
START DIRECTION REL DIST-S 13 11 9 7 5 3 1 1 -1 -3 -5 -7	0 0 : 1213 : WSW CONCENTR 3.1 M 7 0 0 0 0 12 1183 13 389 180 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 - ATION - PPT 1 M 11.6 M 0 0 0 10 59 1138* 32 2265 48 949 52 15 30 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0	START DIRECTION REL DIST-S 3 1 -1 -3 -5 -7 -9 -11 -13 -15 -17 -19 -21 -23 -25	: 1224 : WSW CONCE 3.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NTRATION 7.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	- PPT 11.6 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
START DIRECTION REL DIST-S 13 11 9 7 5 3 1 1 -1 -3 -5 -7 START	0 0 : 1213 : WSW CONCENTR 3.1 M 7 0 0 0 0 12 1183 13 389 180 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 - ATION - PPT 1 M 11.6 M 0 0 0 10 59 1138* 32 2265 48 949 52 15 30 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0	START DIRECTION REL DIST-S 3 1 -1 -3 -5 -7 -9 -11 -13 -15 -17 -19 -21 -23 -25 -27	: 1224 :W\$W CONCE 3.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NTRATION 7.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	- PPT 11.6 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
START DIRECTION REL DIST-S 13 11 9 7 5 3 1 1 -1 -3 -5 -7 START DIRECTION	0 0 : 1213 : WSW CONCENTR, 3.1 M 7 0 0 0 12 1183 13 389 180 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 10 59 1138* 32 2265 6 949 52 15 30 8 0 0 0 0 0 0 0 0 0 0 0 0 0 10 0 0 0	START DIRECTION REL DIST-S 3 1 -1 -3 -5 -7 -9 -11 -13 -15 -17 -19 -21 -23 -25 -27 -29 -21	: 1224 :W\$W CONCE 3.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NTRATION 7.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	- PPT 11.6 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
START DIRECTION REL DIST-S 13 11 9 7 5 3 1 1 -1 -3 -5 -7 START DIRECTION	0 0 1213 :WSW CONCENTR, 3.1 M 7 0 0 0 121 1183 13: 389 180 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ATION - PPT 1 M 11.6 M 0 0 0 10 59 1138* 32 2265 6 949 52 15 30 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0	START DIRECTION REL DIST-S 3 1 -1 -3 -5 -7 -9 -11 -13 -15 -17 -19 -21 -23 -25 -27 -29 -31 -33	: 1224 :WSW CONCE 3.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NTRATION 7.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	- PPT 11.6 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
START DIRECTION REL DIST-S 13 11 9 7 5 3 1 1 -1 -3 -5 -7 START DIRECTION REL DIST-S	0 0 1213 :W\$W CONCENTR, 3.1 M 7 0 0 0 121 1183 13: 389 180 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ATION - PPT 1 M 11.6 M 0 0 1 138* 2 265 6 949 52 15 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	START DIRECTION REL DIST-S 3 1 -1 -3 -5 -7 -9 -11 -13 -15 -17 -19 -21 -23 -25 -27 -29 -31 -33	: 1224 :WSW CONCE 3.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NTRATION 7.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	- PPT 11.6 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
START DIRECTION REL DIST-S 13 11 9 7 5 3 1 1 -1 -3 -5 -7 START DIRECTION REL DIST-S	0 0 1213 :W\$W CONCENTR, 3.1 M 7 0 0 0 121 1183 13: 389 180 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ATION - PPT ATION - PPT ATION - PPT ATION - 11.6 M 0 0 0 10 59 1138* 32 2265 48 949 52 15 30 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0	START DIRECTION REL DIST-S 3 1 -1 -3 -5 -7 -9 -11 -13 -15 -17 -19 -21 -23 -25 -27 -29 -31 -33	: 1224 :WSW CONCE 3.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NTRATION 7.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	- PPT 11.6 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
START DIRECTION REL DIST-S 13 11 9 7 5 3 1 1 -1 -3 -5 -7 START DIRECTION REL DIST-S 0 2	0 0 1213 :W\$W CONCENTR, 3.1 M 7 0 0 0 121 1183 13: 389 180 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ATION - PPT ATION - PPT ATION - PPT ATION - 11.6 M 0 0 0 10 59 1138* 32 2265 48 949 52 15 30 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0	START DIRECTION REL DIST-S 3 1 -1 -3 -5 -7 -9 -11 -13 -15 -17 -19 -21 -23 -25 -27 -29 -31 -33	: 1224 :WSW CONCE 3.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NTRATION 7.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	- PPT 11.6 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
START DIRECTION REL DIST-S 13 11 9 7 5 3 1 1 -1 -3 -5 -7 START DIRECTION REL DIST-S 0 2 4	0 0 1213 :W\$W CONCENTR, 3.1 M 7 0 0 0 122 1183 13 389 180 9 180 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ATION - PPT ATION - PPT ATION - PPT ATION - 11.6 M 0 0 0 10 59 1138* 32 2265 48 949 52 15 30 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0	START DIRECTION REL DIST-S 3 1 -1 -3 -5 -7 -9 -11 -13 -15 -17 -19 -21 -23 -25 -27 -29 -31 -33	: 1224 :WSW CONCE 3.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NTRATION 7.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	- PPT 11.6 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
START DIRECTION REL DIST-S 13 11 9 7 5 3 1 1 -1 -3 -5 -7 START DIRECTION REL DIST-S 0 2 4 6	0 0 1213 :W\$W CONCENTR, 3.1 M 7 0 0 0 121 1183 13: 389 180 9 180 9 180 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ATION - PPT ATION - PPT ATION - PPT ATION - 11.6 M 0 0 0 10 59 1138* 32 2265 48 949 52 15 30 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0	START DIRECTION REL DIST-S 3 1 -1 -3 -5 -7 -9 -11 -13 -15 -17 -19 -21 -23 -25 -27 -29 -31 -33	:1224 :WSW CONCE 3.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NTRATION 7.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	- PPT 11.6 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1 3 START DIRECTION REL DIST-S 13 11 9 7 5 3 1 -1 -3 -5 -7 START DIRECTION REL DIST-S 0 2 4 6 8 10	0 0 1213 :W\$W CONCENTR, 3.1 M 7 0 0 0 121 1183 13: 389 180 9 180 9 180 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ATION - PPT ATION - PPT ATION - PPT ATION - 11.6 M 0 0 0 10 59 1138* 32 2265 48 949 52 15 30 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0	START DIRECTION REL DIST-S 3 1 -1 -3 -5 -7 -9 -11 -13 -15 -17 -19 -21 -23 -25 -27 -29 -31 -33	: 1224 :WSW CONCE 3.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NTRATION 7.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	- PPT 11.6 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1 3 START DIRECTION REL DIST-S 13 11 9 7 5 3 1 -1 -3 -5 -7 START DIRECTION REL DIST-S 0 2 4 6 8 10 12	0 0 1213 :W\$W CONCENTR, 3.1 M 7 0 0 0 122 1183 13 389 180 9 180 9 180 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ATION - PPT ATION - PPT ATION - PPT ATION - 11.6 M 0 0 0 10 59 1138* 32 2265 48 949 52 15 30 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0	START DIRECTION REL DIST-S 3 1 -1 -3 -5 -7 -9 -11 -13 -15 -17 -19 -21 -23 -25 -27 -29 -31 -33	: 1224 :WSW CONCE 3.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NTRATION 7.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	- PPT 11.6 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1 3 START DIRECTION REL DIST-S 13 11 9 7 5 3 1 -1 -3 -5 -7 START DIRECTION REL DIST-S 0 2 4 6 8 10 12 14	0 0 1213 :W\$W CONCENTR, 3.1 M 7 0 0 0 122 1183 13 389 180 9 180 9 180 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ATION - PPT ATION - PPT ATION - PPT ATION - 11.6 M 0 0 0 10 59 1138* 32 2265 48 949 52 15 30 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0	START DIRECTION REL DIST-S 3 1 -1 -3 -5 -7 -9 -11 -13 -15 -17 -19 -21 -23 -25 -27 -29 -31 -33	: 1224 :WSW CONCE 3.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NTRATION 7.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	- PPT 11.6 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1 3 START DIRECTION REL DIST-S 13 11 9 7 5 3 1 -1 -3 -5 -7 START DIRECTION REL DIST-S 0 2 4 6 8 10 12 14 16	0 0 1213 :W\$W CONCENTR, 3.1 M 7 0 0 0 122 1183 13 389 180 9 180 9 180 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ATION - PPT ATION - PPT ATION - PPT ATION - 11.6 M 0 0 0 10 59 1138* 32 2265 48 949 52 15 30 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0	START DIRECTION REL DIST-S 3 1 -1 -3 -5 -7 -9 -11 -13 -15 -17 -19 -21 -23 -25 -27 -29 -31 -33	: 1224 :WSW CONCE 3.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NTRATION 7.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	- PPT 11.6 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1 3 START DIRECTION REL DIST-S 13 11 9 7 5 3 1 -1 -3 -5 -7 START DIRECTION REL DIST-S 0 2 4 6 8 10 12 14 16 18	0 0 1213 :W\$W CONCENTR, 3.1 M 7 0 0 0 122 1183 13 389 180 9 180 9 180 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ATION - PPT ATION - PPT ATION - PPT ATION - 11.6 M 0 0 0 10 59 1138* 32 2265 48 949 52 15 30 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0	START DIRECTION REL DIST-S 3 1 -1 -3 -5 -7 -9 -11 -13 -15 -17 -19 -21 -23 -25 -27 -29 -31 -33	: 1224 :WSW CONCE 3.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NTRATION 7.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	- PPT 11.6 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1 3 START DIRECTION REL DIST-S 13 11 9 7 5 3 1 -1 -3 -5 -7 START DIRECTION REL DIST-S 0 2 4 6 8 10 12 14 16 18 20	0 0 1213 :W\$W CONCENTR, 3.1 M 7 0 0 0 122 1183 13 389 180 9 180 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ATION - PPT ATION - PT	START DIRECTION REL DIST-S 3 1 -1 -3 -5 -7 -9 -11 -13 -15 -17 -19 -21 -23 -25 -27 -29 -31 -33	:1224 :WSW CONCE 3.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NTRATION 7.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	- PPT 11.6 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1 3 START DIRECTION REL DIST-S 13 11 9 7 5 3 1 -1 -3 -5 -7 START DIRECTION REL DIST-S 0 2 4 6 8 10 12 14 16 18 20 22 24	0 0 1213 :W\$W CONCENTR, 3.1 M 7 0 0 0 122 1183 13 389 180 9 180 9 180 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ATION - PPT ATION - PT ATION - PT ATION - PPT ATION - PT ATION	START DIRECTION REL DIST-S 3 1 -1 -3 -5 -7 -9 -11 -13 -15 -17 -19 -21 -23 -25 -27 -29 -31 -33	: 1224 :WSW CONCE 3.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NTRATION 7.1 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	- PPT 11.6 M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

TEST NO	: 14			I START		: 124	9	
DATE	:83.	10.24		DIREC	TION	:SSW		
TIME	. 124	0-1300				CONC	ENTRATION	- PPT
DELEACE	. 740	CCIMIN		051 0	TCT_C	3 1 M	7 1 M	11 6 M
HELEASE		M 7 1 M	11 C M	REC L	121.2	5.1 11		
HEIGHT US SEN:	SURS : J. 1		, 11.0 m			0	0	0
DISTANCE	: 400	I M		-		0	0	0
BOAT SPEED	: 3.4	M/S		-		U	0.50	20
SAMPLING DIST	ANCE : 5.8	Μ,		-		u	203	292
WIND DIRECTION	4 :WNW	1		-		0	87	1270*
WIND SPEED	: 5.4	M/S		-		4755	3233	2251
AIR TEMPERATUR	RE :7.2	C(2M)		-		2979	7371	2677
REL HUMIDIY	:38	7.	,	-		1200*	643	2 1
SEA TEMPERATUR	RE :8.0	C		-		280	17	10*
STABILITY CATE	EGORY : B/C			-		0	0	0
CLOUD COVER/WI	EATHER : CLE	AR		1				
				1	-			
START	: 124	0		STAR	1	: 125		
DIRECTION	NNE			DIRE	CIION	: NN8		
014661104	CONC	FNTPATTO	DPT	1		CONC	ENTRATION	- PPT
051 0767 6	2 1 4		4.4 G M	REL	DIST-S	3.1 M	7.1 M	11.6 M
KEL DISI-S	3.I M	(. I M	11.0 M	1 1				
				-		0	0	0
-	0	0		-		1160	0	0
-	0	28	0	-		928	0	0
	429	400*	0			0	0	0
	3828	3200	5044	-		607	122	338
	6041	5719	805	-		3457	500*	0
	4290	390	0			057	0	0
	0	0	0				1349	0
						120	2005	176
START	: 124	3		-		420	3003	633
DIRECTION	. 551	I.		-		4195	2838	023
,	CONC	ENTRATION	A PPT	-		5963	4859	4565
0 EL 0107-0	2 1 14	7 4 14	11 C M	-		5048	2590	771
REL DISI-S	3.1 11	1.1 1	11.0 11	-		1437	201	150*
	0	0	0	-		54	. 0	0 *
-	U	0	Ų	-		13	0	0
-	-	0	-	-		0	0	0
	1000*	142	50×	1				
-	2852	3089	853	STAR	Т	: 125	5	
-	3000	3280	2637	DIRE	CTION	: 551	J	
- '	1509	1198	1120			CONC	ENTRATION	- PPT
-	455	16	19	PEI	2-7210	3 1 M	7 1 M	11.6 M
-	131	96	20	NCC	0131 3	9.1 11		
	~	-	0			0.	0	0
-	0	0	0	-		100	0	102
				-		103	0	102
START	: 124	5		-		1398	2073	556
DIRECTION	- NNE			-		3005*	3018	3566
DIRECTION	CONC	SHTDATTON	- 00T	-		3500*	3993	4710
-	CUNC	CNIRALIU	4 - FFI	-		1848	122	0
KET DIZI-2	3.1 M	(.1 M	11.6 M	-		3010	521	3956
				-		4841	4070*	2095*
-	0	0	0	-		2850*	7635	233
-	0	0	216	-		882	4507	1138
-	0	0*	0	-			-	-
-	0	409	2730	-			-	-
-	432	595	225					
-	487	300*	112*					
-	285	6	0					
-	0	0	0					
	-	-						

:1305 :15 START TEST NC DIRECTION DATE :83.10.26 : N CONCENTRATION - PPT TIME : 1252-1312 REL DIST-S 7.1 M 11.6 M 3.1 M RELEASE :340 CC/MIN HEIGHT OS SENSORS :3.1 M.7.1 M.11.6 M DISTANCE :380 M BOAT SPEED :2.7 M/S SAMPLING DISTANCE :5.4 M. WIND DIRECTION : W :4.5 M/S WIND SPEED AIR TEMPERATURE :14.7 C(1M), 16.3 C(3M REL HUMIDIY : 49 % SEA TEMPERATURE :8.2 C STABILITY CATEGORY : E/F CLOUD COVER/WEATHER: 1/8 - SUN START :1307 DIRECTION : N :1252 START CONCENTRATION - PPT DIRECTION : N REL DIST-S 3.1 M 7.1 M 11.6 M CONCENTRATION - PPT REL DIST-S 3.1 M 7.1 M 11.6 M 0* 0* 0* START :1254 DIRECTION + N CONCENTRATION - PPT START :1309 REL DIST-S 3.1 M 7.1 M 11.6 M DIRECTION : 5 CONCENTRATION - PPT REL DIST-S 3.1 M 7.1 M 11.6 M ----0* Ω 62* 1020* n :1302 START DIRECTION : 5 CONCENTRATION - PPT REL DIST-S 3.1 M 7.1 M 11.6 M START :1312 DIRECTION : N CONCENTRATION - PPT REL DIST-S 3.1 M 7.1 M 11.6 M 690* ---Ω 15000* 1900* Ω

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START	: 1212 : E
REI DIST-S	CONCENTRATION - PPT 3 1 M 7.1 M 11.6 M
54	7 0 0
50	32 0 0
48	159 0 0
46	0 0 0
44	89 0 0
42	2719 0 0
38	. 721 25* 0
36	125 66 0
34	134 961 149
32	2296 552 557
30	1964 134 B
26	1071 0 0
24	170 0 0
22	68 0 0
START	: 1218
DIRECTION	: E
	CONCENTRATION - PPT
REL DISI-S	j.i m (.im ii.om
24	236 454 27
22	2654 1735 2020
20	7080 6426 1302
16	3517 3508* 776
14	2262 2757 1020
12	1252 2273 1774
10	895 446 0
8	296 533 1043
4	145 353 0
2	27 58 137
0	119 0 203
START	: 1222
DIRECTION	: W
PEL DIST-S	CONCENTRATION - PPT
12	756 0 0
16	224 0 0
18	4206 51 0
20	4645 706 137
22	3802 506 828*
24	5066 1099 1396
26	4209 4147 2353 884 1827 1362
30	1068 4593 111
	227
32	133 2379 108
32 34	
32 34 36	245 48 0
32 34 36 START	245 48 0
32 34 36 START DIRECTION	245 48 0 :1225 :E CONCENTRATION - PPT
32 34 36 START DIRECTION REL DIST-S	245 48 0 :1225 :E CONCENTRATION - PPT 3.1 M 7.1 M 11.6 M
32 34 36 START DIRECTION REL DIST-S 86	245 48 0 :1225 :E CONCENTRATION - PPT 3.1 M 7.1 M 11.6 M 5542
32 34 36 START DIRECTION REL DIST-S 86 84	245 48 0 :1225 :E CONCENTRATION - PPT 3.1 M 7.1 M 11.6 M 5542 4438 0 454
32 34 36 START DIRECTION REL DIST-S 86 84 82	245 48 0 :1225 :E CONCENTRATION - PPT 3.1 M 7.1 M 11.6 M 5542 4438 0 454 2343 1027 50 22044 210

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TEST DATE TIME RELE DIST BOATS WINT AIR REL SEA STAE CLOU	T NO E EASE GHT OS SENSOF TANCE T SPEED PLING DISTANG D DIRECTION D SPEED TEMPERATURE HUMIDIY TEMPERATURE BILITY CATEGO JD COVER/WEAT	: 17 : 83 : 12: : 34: : 33: : 400 : 33: : 33: : 34: :	.10.28 51-1307 0 CC SF6/MJ 1 M,7.1 M, 0 M 1 M/S 4 M 5 M/S 5 C AT 1M, 7 9 C	(N AT 1 11.6 M	at 4m	2850 CC C	8rfj/min .	AT 3.8M	
STAR	RT	: 1 2 !	5 1						
DIRE	ECTION	: W						0.07	00-50
0.01	OTCT C	CON	CENTRATION	- PPT	м	CONC 2 1 M	ENTRATION 7 1 M	- PPT -	CBLEB
REL	D121-2	3.1 M	(,) m	11.0	m	3.1 M	r, i 17	11.0 11	
34		0	0	0		0	0	0	
-		-		-		0	0	U	
40		0	. 0	3		43	0.	0	
50		0	0	0		0	0	0	
52		26	0	0		0	39	0	
54		87	0	4		224	0	0	
56		68	30	41		291	0	166	
58		233	1635	797		3387	9210	953	
60		З	790	945		17325	3338	0	
62		98	917	2366		13995	5059	168	
64		1542	3768*	2740*		15146*	1453*	8403	
66		4494*	6620	3118		17/32	24005	9450*	
50		1100	967	2022		22252	7962	7603	
70		619	907	1503		12752	8737	4661	
76		1404	1117	2056		16559	7808	6990	
76	·	327	2727	635		3160	11134	1063	
STAR	R T	: 12!	55						
DIRE	ECTION	: E				CONC	CHICATION	DOT	00-52
REL	DIST-S	3.1 M	7.1 M	- PPT 11.6	Μ	3.1 M	7.1 M	11.6 M	CBIFJ
				-			0	2	
78		200	0	0		808	0	0	
76		135*	0	0		450*	0	00	
14		69	0	0		63*	0	0	
70		60	51	187		122	275	1254	
6.8		728	192	91		2084	1102	370	
66	*	511	1414	21		2441	8622	0	
64		2435	434	115		13275	3428	2103	
62		1608	788	129		8811	4755	2085	
60		1648	4375	5020		9843	18278	20463	
58		2071	495	268		10657	3295	1459	
56		2336	379	135		13200	16/5	416	
54		5430	138	2750		19795	14107	9988	
54		+410	3310	2225		18000	14503	7609	
64		3085	572	2233		11294	2050	100	
4.6		894	6	0		2849	0	0	
44		13	. 5	0		0	0	0	
STAF	RT	:125	58						
DIRE	ECTION	: E							
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REL	n121-2	3.T M	7.1 M	11.6	r1				
46		0	0	0				•	

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64	0	0	0
66	0	283	0
68	731	268	2194
70	537	516	2819
START	:130	1	
DIRECTION	: E		
	CONCE	ENTRATION	- PPT
REL DIST-S	3.1 M	7.1 M	11.6 M
16	0	0	0
18	0	0	3
20	0	1390*	1168
22	1589	2782	2637
24	7453	263	0
26	4990	2627	564
28	2019	3671	657
30	47	3187	849
32	42	1129	222
34	0	0	0
36	0	0	0
50	0		0
START	:1303	3	
DIRECTION	· F		
DIRECTION	CONCE		- 997
PEL DIST-S	3 1 M	7 1 M	11.6 M
REC UISI-S	3.1.11	1.1 11	11.0 11
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10	1230	150	04
12	2336	130	1200
14	1238	2403	1303
16	2383	100	883
18	3805	2067	U
20	90	0	0
22	131	0	a
	'		
START	:1306	5	
DIRECTION	: E		1000
	CONCE	ENTRATION	- PPT
REL DIST-S	3.1 M	7.1 M	11.6 M
34	0	0	0
-	-	-	-
28	0	0	0
26	0	0	208
24	0	2186	1137
22	5090	2906	4079
20	3024	1393	1550
18	1076	1875	0
16	70	0	0
14	0	0	0
-	-	-	-
8	0	0	0

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NORSK INSTITUTT FOR LUFTFORSKNING (NILU) NORWEGIAN INSTITUTE FOR AIR RESEARCH POSTBOKS 130, 2001 LILLESTROM (ELVEGT. 52), NORGE

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RAPPORTTYPE OPPDRAGSRAPPORT	RAPPORTNR. OR 18/86	ISBN-82-7247-684-3			
DATO February	ANSV. SIGN. J. Schjoldager	ANT. SIDER 49	PRIS kr 50,00		
TITTEL Concentration distribut:	TEL PROSJEKTLEDI centration distribution in a plume Y. Gotaas		DER		
Tereased over water		NILU PROSJEKT NR. 0-8577			
FORFATTER(E)		TILGJENGELIGHET A			
Yngvar Gotaas		OPPDRAGSGIVERS REF.			
OPPDRAGSGIVER (NAVN OG ADRESSE) British Petroleum Limited Britannic House, Moore Lane EC2Y 9BU, London					
3 STIKKORD (à maks. 20 anslag) Spredningsforsøk Grenselag Konsentrasjonsvar.					
REFERAT (maks. 300 anslag, 7 linjer) Kontinuerlig utslipp av sporstoff over sjø viser liten variasjon av instantan skybredde med temperaturforskjellen luft/vann. Konsentrasjonsvariasjoner relativt til tyngdepunktet viser i første rekke en tendens til puffdannelser. Enten er konsentrasjonen høy i hele tverssnittet, eller lav over det hele. Dernest kommer tendens til høye konsentrasjoner nær sentret og lave ved kanten, eller omvendt.					
TITLE Concentration dist	ribution in a continuous	nlume -			
- diffusion ecperiment over water					
ABSTRACT (max. 300 characters, 7 lines) Continuous release of tracer over water shows relative small variations of instant plume width. With temperature difference air/ sea. Concentration variation relative to center of gravity in a cross-section show tendency of travelling lumps. Either concen- trations are high throughout the cross-section, or they are low all over. The recent mass important is the tendency of high continuous near the center and low at the boundaries, or vice versa.					
* Kategorier: Åpen – kan bestilles fra NILU A Må bestilles gjennom oppdragsgiver B Kan ikke utleveres C					