



DOW CHEMICAL U.S.A.

LOUISIANA DIVISION
P. O. BOX 160
PLAQUEMINE, LOUISIANA 70764
804 389-8000

June 22, 1981

"ENVIRONMENTAL CONTROL"

JUN 2 1981

A. J. Seidule, Manager
Plastics Administration
Building 2306

cc: J. G. Barksdale
C. W. Brannan
J. E. Campbell
✓ G. W. Daigre
J. P. Heaslip

DUST SAMPLING PROJECT FOR THE PLASTICS DEPARTMENT

Dustfall collection began on June 2, 1981 when eight of the sixteen collectors were placed out in the odd numbered quadrants. The collectors are green, cylindrical, open-top vessels 12" high and 6" in diameter. They are half-filled with water to prevent loss of material by wind action. The sampling period will be one week (7 days) with the results extrapolated to one month (30 days). Samples will be collected every Tuesday.

The following is a description of the graphs and tables which will accompany the weekly reports in the future.

The graph labeled 'DUSTFALL COLLECTION' is an overview of the area being studied with the actual sampling locations numbered and the amount collected at that location indicated by an X at the point on the circular graph corresponding to that amount and location. The circular graph is in increments of 10 Tons/mo/mi² with the darkened circle at 20 representing the recommended EPA limit on dust emissions.

The graph labeled 'WIND DIRECTION' is again an overview of the area with the arrows indicating the average percentage of time over the course of the sampling week that the wind blew in the given direction. The northerly direction on this graph is true north.

The table labeled 'DUSTFALL ANALYSIS' gives the actual amounts of dust collected in each sampler and the calculated Tons/mo/mi² corresponding to those amounts. The comments included in this table were obtained by studying the samples under a microscope.

DUST SAMPLING PROJECT
JUNE 22, 1981
PAGE 2

The final table in the report is labeled 'SPILL LOG'. The particular log included in this report contains only those spills reported to Security and obtained through Environmental Control. Now that each plant is being asked to keep their own Spill Log Book containing entries on all visible emissions, the next reports will include these entries as well as any complaints received by Security.

No attempts have been made at this time to determine the relative amounts of each type of dust collected at each location. Many of the samples contained black flecks, dirt, metal flakes, and other dusts not yet identified. Those samples which exceeded the EPA recommended limit were scrutinized more closely than others and an attempt has been made to explain and identify those.

Attached is the data obtained during the first two weeks of the dustfall project.

Pam L. Usie

Pam L. Usie
Linear Polyethylene and Derivatives
Technology Center Laboratory
Building 807
Plaquemine, LA

Attachments

DO 084914
CONFIDENTIAL

DUST SAMPLING PROJECT FOR THE PLASTICS DEPARTMENT

JUNE 2, 1981 THROUGH JUNE 9, 1981

The odd numbered quadrants were sampled during this period of time. Only one sample exceeded the recommended limit- -Collector Number 1 located between Poly B and Goodrich.

The only spill reported to Security during this period was by CPE. However, with the wind at the time of the spill being in a north to northwesterly direction, this spill did not have any effect on the dust collected in Quadrant 1.

A microscopic inspection of the dust from sample one showed it to be a fairly even mixture of Polyethylene and PVC. No explanation as to the excessive amount obtained in the first collector has been found as of this time.

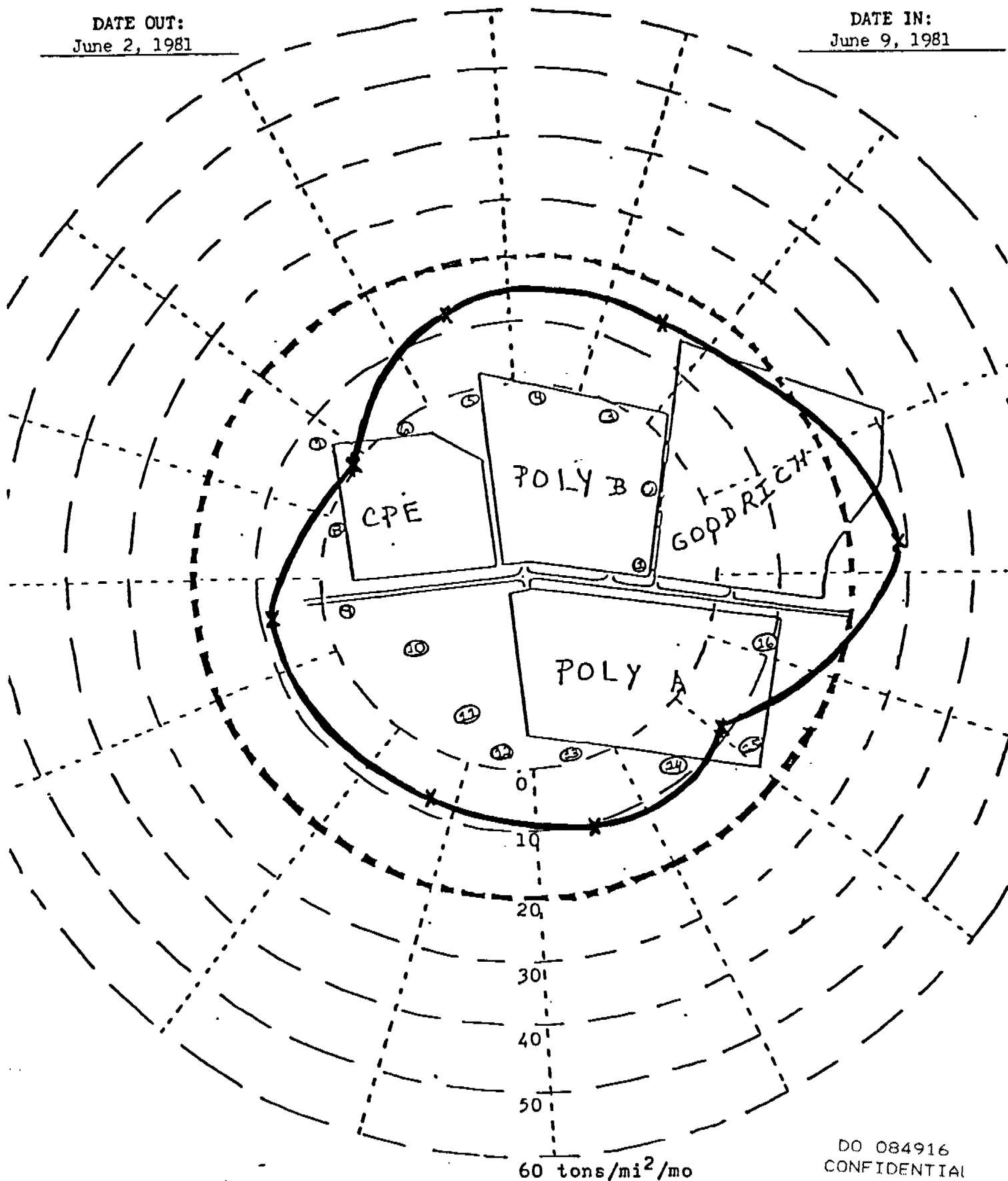
DO 084915
CONFIDENTIAL

DUSTFALL COLLECTION

Circled numbers indicate collector location
X's indicate amount collected in that quadrant

DATE OUT:
June 2, 1981

DATE IN:
June 9, 1981



EPA limit: 20 tons/mi²/mo

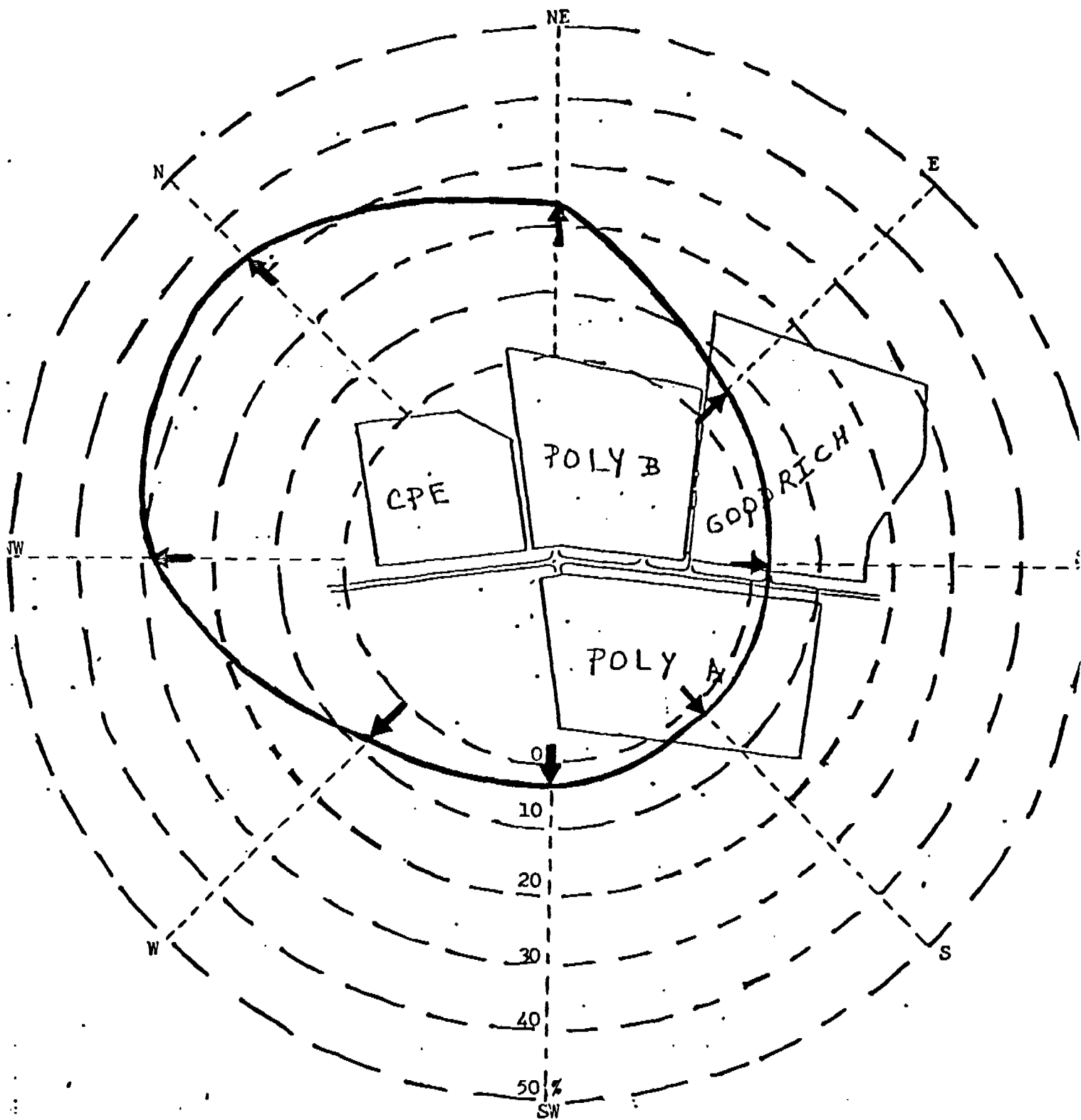
Quadrants Sampled: ODD

DO 084916
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(1) WIND DIRECTION
(Average In Given Direction Over The Week)

DATE OUT: June 2, 1981

DATE IN: June 9, 1981



QUADRANTS SAMPLED: ODD

DO 084917
CONFIDENTIAL

DUSTFALL ANALYSIS

DATE OUT: 6-2-81

DATE IN: 6-9-81

QUADRANT NUMBER	DUSTFALL (g)	$\frac{D_T}{(TONS)} \frac{(MoMI^2)}{(MoMI^2)}$	COMMENTS
1	.0432	28.98 *	PE AND PVC
3	.0227	15.23	PE AND PVC
5	.0203	13.62	PE, SOME CPE, DIESEL EXHAUST
7	.0003	0.20	CPE, LITTLE PE
9	.0134	8.99	PE, LITTLE CPE, LITTLE PVC
11	.0119	7.98	SLIGHTLY RUSTY, SOME WHITE, SHINY FLAKES
13	.0163	10.94	VERY RUSTY
15	.0131	8.79	RUSTY

* Above Recommended Limit

PLU/ltb
6-22-81

DO 084918
CONFIDENTIAL

DUST SAMPLING PROJECT FOR THE PLASTICS DEPARTMENT

JUNE 9, 1981 THROUGH JUNE 16, 1981

The even numbered quadrants were sampled during this period of time. Two samples exceeded the recommended limit on dust emissions- - - Collector Number 2 located between Poly B and Goodrich and Collector Number 8 located NW of CPE.

A microscopic evaluation of the dust collected in Quadrant 8 showed it to be mostly CPE. CPE reported a spill on June 12 at 3:40 AM with winds predominantly in the northwesterly direction. This would explain the excessive amount obtained in Collector 8.

A microscopic analysis along with a DSC (Differential Scanning Calorimeter) analysis of the dust collected in Quadrant 2 showed the sample to be almost purely PVC. The excessiveness of this sample can also be explained by a spill. It seems that Goodrich called in a spill to Security on June 14 at 4:25 PM with winds in the north to northwesterly direction at the time of the report. Collector Number 2 is directly NW of Goodrich.

WSTFALL COLLECTION

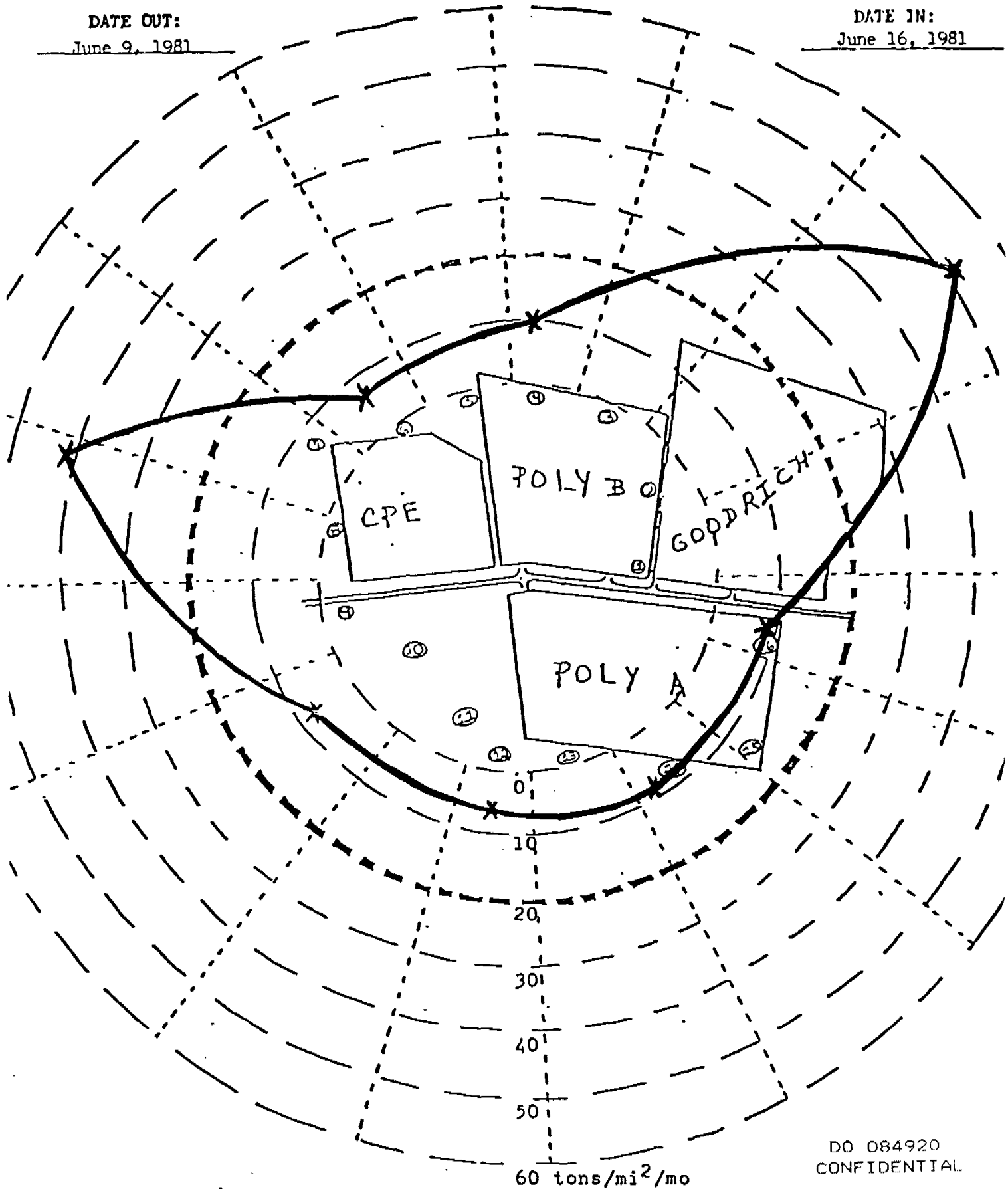
Circled Numbers Indicate Collector Loc. Y-axis
X's Indicate Amount Collected in That Quadrant

DATE OUT:

June 9, 1981

DATE IN:

June 16, 1981



DO 084920
CONFIDENTIAL

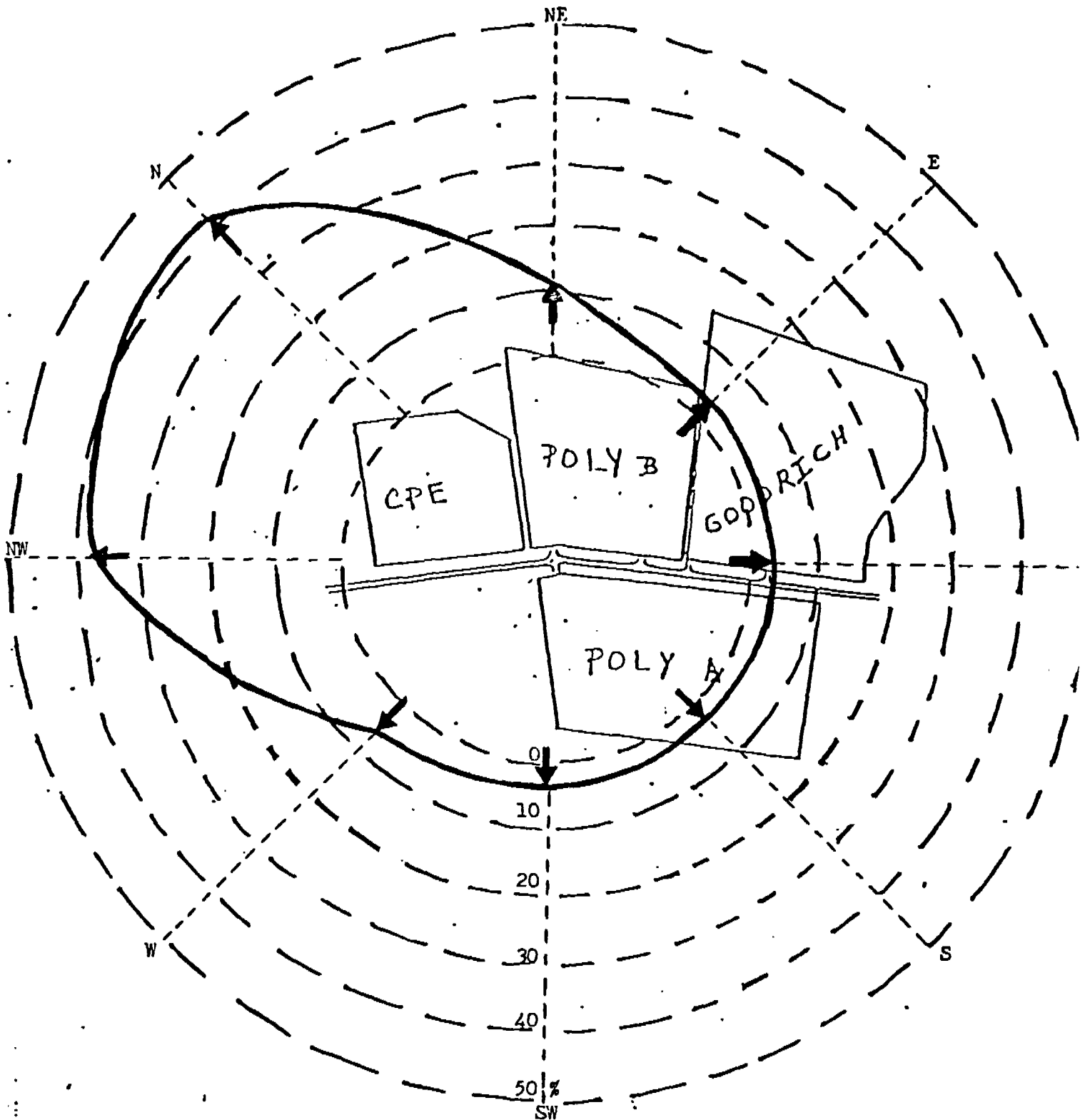
EPA limit: 20 tons/mi²/mo

Quadrants Sampled: EVEN

WIND DIRECTION
(Average In Given Direction Over The Week)

DATE OUT: June 9, 1981

DATE IN: June 16, 1981



QUADRANTS SAMPLED: EVEN

DO 084921
CONFIDENTIAL

DUSTFALL ANALYSIS

DATE OUT: 6-9-81

DATE IN: 6-16-81

QUADRANT NUMBER	DUSTFALL (g)	$\frac{D_T}{(MoMI^2)}$ (TONS)	COMMENTS
2	.0779	52.26 *	DSC SHOWS TO BE ALMOST ALL PVC
4	.0150	10.06	PE AND PVC, BLACK FLECKS(FROM TRAINS)
6	.0102	6.84	CPE, PE, SMALL AMT. OF PVC, BLACK SPECS
8	.0622	41.73 *	MOSTLY CPE
10	.0100	6.71	SOME PE, MOSTLY RUSTLIKE PARTICLES
12	.0090	6.04	RUSTLIKE PARTICLES
14	.0146	9.80	2 SM. WOOD CHIPS - SLIGHTLY RUSTY
16	.0121	8.12	SLIGHTLY RUSTY

* Above Recommended Limit

PLU/ltb
6-22-81

DO 084922
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SPILL LOG

DATE	PLANT INVOLVED	TIME OF REPORT	WIND DIRECTION AT TIME OF REPORT
June 3	CPE	10:12 PM	78.75% in NW 21.25 in N
June 12	CPE	3:40 AM	16.25% in W 83.75 in NW
June 14	GOODRICH PVC	4:25 PM	54.17% in NW 45.83 in N

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6-22-81