LANE REGIONAL AIR POLLUTION AUTHORITY

1969 ANNUAL REPORT

DATA SUPPLEMENT

Lane Regional Air Pollution Authority
Route 1, Box 739
Eugene, Oregon 97402

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INTRODUCTION

The Lane Regional Air Pollution Authority presents the following 1969 Annual Report Data Supplement. This report is intended to be a supplement to the Authority's 1969 Progress Report Summary.

Some basic information for your consideration is the following:

Field station area locations are designated either residential/commercial or industrial sites. These locations are classified according to the most current Central Lane Planning Council zoning maps.

Field sampling stations have been primarily for surveillance or enforcement purposes. Surveillance refers to a survey of a general area and enforcement refers to monitoring a specific source.
Station numbers are based on the code recommended by the Oregon-Washington Air Quality Committee. For example, the number 20-18-32 indicates the field sampling station is located in Lane County (20), in Eugene (18) and at the City Hall (32).

Field sampling may be performed weekly, monthly, quarterly or yearly depending on the primary purpose, collection method and air pollutant concentration. The analytical measurements in this report are calculated to indicate the results in specific units of weight, area and time.

For comparative purposes, you may convert particle fallout data from tons/square mile/month to grams/square meter/month as follows:

grams/square meter = tons/square mile x 0.35

Likewise, wind blown particulate may be expressed as particles per square millimeter per week instead of 100 particles/square inch/week. The conversion factor is:

particles/square mm = 100 particles/square inch x 0.155

Sulfation determinations were performed by both the lead peroxide candle and millipore petri dish methods. No detectable levels of sulfation were obtained however, The data for the plates was to be reported as ug SO_3/100 square cm/day. The relationship of the two procedures is:

ug SO_2/square cm/day = mg SO_3/100 square cm/day x 8

Rubber deterioration data was collected weekly and is reported as monthly averages to conserve space. Analysis of weekly values revealed no significant deviation from the monthly averages.

No observable defects were detected during the year by the nylon deterioration experiments.

Silver, steel and zinc plates were included in the sampling network. Their respective data of deterioration are included in this report.

In the appendix, there are summaries, illustrations and maps providing additional information for your consideration.

PARTICLE FALLOUT STATIONS

FIELD SAMPLING NETWORK

City	Field Station Area Location	Field Station Site	Primary Purpose	Station No.
Eugene	Residential/Commercial	City Hall	Surveillance	20-18-32
	Industrial	6th & Garfield	Surveillance	20-18-29
	Industrial	50 N. Danebo Ave.	Enforcement	20-18-31
	Rural	Wilkins Road, Route 2	Surveillance	20-00-05
	Rural	LRAPA Bldg., Airport	Surveillance	20-00-38
	Rural	Lane BPA Subst.,Neilson	Surveillance	20-00-34
Springfield	Residential/Commercial	Yolanda Elem. School	Surveillance	20-33-15
	Residential/Commercial	Fire Station No. 2	Surveillance	20-33-20
	Residential/Commercial	City Shop	Surveillance	20-33-35
	Residential/Commercial	Treatment Plant	Surveillance	20-33-36
	Industrial	3400 N Street	Surveillance	20-33-32
	Rural	Rural F.D.,McKenzie Hwy	Surveillance	20-00-07
	Rural	Mohawk Elem.Sch. Rt. 1	Surveillance	20-00-21
Cottage Grove	Residential/Commercial	Fire Department	Surveillance	20-09-01
	Residential/Commercial	1133 E. Main St.	Enforcement	20-09-16
	Residential/Commercial	119 South 6th	Enforcement	20-09-17
Oakridge	Residential/Commercial	Fire Department	Surveillance	20-30-01
	Residential/Commercial	City Shop	Surveillance	20-30-09
Junction City	Residential/Commercial	High School	Surveillance	20-24-01
	Residential/Commercial	530 Birch Street	Surveillance	20-24-03
	Rural	1201 Howard Lane	Surveillance	20-00-02
	Rural	Hayes Road	Surveillance	20-00-04
Veneta	Residential/Commercial	Western Lane Forest Protection Dist.	Surveillance	20-36-01
Florence	Residential/Commercial	City Shops	Surveillance	20-21-13

PARTICLE FALLOUT

Measurement: tons/square mile/month
Field Sampling Method: Dustfall bucket

City	Field Station No.	No. Sampling Months	Particle Fallout (tons/square mile/month)															
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.	Min.	Max.	Arith Mean
Eugene	20-18-32	12	7	16	9	10	10	18	8	9	8	16	9	1	1	18	10
	20-18-29	10	-	31	28	43	29	9	22	33	29	-	18	13	9	43	26
	20-18-31	11	-	68	76	81	14	136	65	107	72	84	52	54	14	136	74
	20-00-05	8	-	5	-	5	39	3	5	8	-	-	1	2	1	39	9
	20-00-33	12	7	12	3	24	9	5	8	11	7	9	23	8	3	24	11
	20-00-34	9	-	-	2	3	3	2	-	2	2	3	2	0	0	3	2
Springfield	20-33-15	10	-	7	5	8	6	24	-	9	7	6	4	6	4	24	8
	20-33-20	7	19	-	-	-	-	8	-	17	7	13	9	8	7	19	12
	20-33-35	11	-	30	34	40	49	57	35	57	36	26	20	11	11	57	36
	20-33-36	11	-	8	4	8	33	0	6	8	10	8	3	4	0	33	8
	20-33-32	10	6	9	6	9	9	2	8	7	-	14	5	-	2	14	8
	20-00-07	10	-	6	4	5	5	-	6	6	10	3	4	0	0	10	5
	20-00-21	3	-	-	-	-	-	-	-	6	-	-	1	0	0	6	2
Cottage Grove	20-09-01	4	-	-	-	-	-	-	-	-	10	9	5	0	0	10	6
	20-09-16	9	-	31	24	18	16	15	16	18	-	-	16	0	0	31	17
	20-09-17	7	-	13	11	8	5	7	6	4	-	-	-	-	4	13	7
Oakridge	20-30-01	4	-	-	-	-	-	-	-	-	17	14	14	20	14	20	16
	20-30-09	7	-	33	40	23	18	11	11	20	-	-	-	-	11	40	22
Junction City	20-24-01	5	-	-	-	-	-	-	-	19	13	6	4	1	1	19	9
	20-24-03	7	-	6	6	9	6	7	7	11	-	-	-	-	6	11	7
	20-00-02	7	6	9	6	9	8	9	11	-	-	-	-	-	6	11	8
	20-00-04	10	-	3	4	6	10	11	19	33	22	33	-	0	0	33	14
Veneta	20-36-01	4	-	-	-	-	-	-	-	-	7	7	0	3	0	7	4
Florence	20-21-13	10	10	3	11	6	7	7	7	8	3	-	-	1	1	11	6

PARTICLE FALLOUT SUMMARY

City	Field Station Area Location	Primary Purpose	No. Stations Reporting	No. Samples Analyzed	Particle Fallout (tons/mile^2/month)		
					Max.	Min.	Arith. mean
Eugene	Residential/Commercial	Surveillance	1	12	18	1	10
	Industrial	Surveillance	1	10	43	9	26
	Industrial	Enforcement	1	11	136	14	73
Springfield	Residential/Commercial	Surveillance	4	39	57	0	16
	Industrial	Surveillance	1	10	14	2	8
Oakridge	Residential/Commercial	Surveillance	2	11	40	11	19
Cottage Grove	Residential/Commercial	Surveillance	1	4	10	0	6
	Residential/Commercial	Enforcement	2	16	31	0	12
Junction City	Residential/Commercial	Surveillance	2	12	19	1	8
Veneta	Residential/Commercial	Surveillance	1	4	7	0	4
Florence	Residential/Commercial	Surveillance	1	10	11	1	6
-------	Rural	Surveillance	8	69	39	0	7

FIELD EFFECT STATIONS

FIELD SAMPLING NETWORK

City	Field Station Area Location	Field Station Site	Primary Purpose	Station No.
Eugene	Residential/Commercial	City Hall	Surveillance	20-18-32
	Rural	LRAPA Bldg., Airport	Surveillance	20-00-33
	Rural	Lane BPA Subst.,Nielsen Rd.	Surveillance	20-00-34
Springfield	Industrial	3400 N Street	Surveillance	20-33-32
	Rural	Rural F.D., McKenzie Hwy	Surveillance	20-00-07
Cottage Grove	Residential/Commercial	Fire Department	Surveillance	20-09-01
Oakridge	Residential/Commercial	Fire Department	Surveillance	20-30-01
Junction City	Residential/Commercial	High School	Surveillance	20-24-01
	Rural	1201 Howard Lane	Surveillance	20-00-02
Veneta	Residential/Commercial	Western Lane Forest Protection Assn.	Surveillance	20-36-01
Florence	Residential/Commercial	City Shops	Surveillance	20-21-13

WIND BLOWN PARTICULATE

Measurement: particles/square inch/week
Field Sampling Method: Sticky tape

City	Field Station No.	No. Sampling Months	Ave. 100 particles/square inch/week (Monthly Averages)												Min.	Max.	Arith. Mean
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.			
Eugene	20-18-32	12	230	222	330	321	387	292	598	1141	325	300	113	127	113	1141	414
	20-00-33	5	-	-	-	-	-	-	-	1320	322	195	80	82	80	1320	231
	20-00-34	3	-	-	-	-	-	-	-	-	-	98	80	80	80	98	86
Springfield	20-33-32	12	122	108	257	213	368	239	587	928	256	421	486	250	108	928	361
	20-00-07	12	45	76	70	84	120	130	158	247	120	115	80	94	45	247	110
Cottage Grove	20-09-01	4	-	-	-	-	-	-	-	-	85	86	100	115	85	115	97
Oakridge	20-30-01	3	-	-	-	-	-	-	-	-	232	131	-	782	131	782	286
Junction City	20-24-01	4	-	-	-	-	-	-	-	-	581	290	86	115	86	581	279
	20-00-02	8	180	118	225	253	397	351	464	470	-	-	-	-	118	470	317
Veneta	20-36-01	4	-	-	-	-	-	-	-	-	80	110	83	80	80	110	89
Florence	20-21-13	12	40	47	210	88	447	277	1060	786	106	125	80	120	40	1060	299

SULFATION

Measurement: mg $SO_3/100\ cm^2/day$ (for candles)
ug $SO_3/cm^2/day$ (for plates)
Field Sampling Method: Lead peroxide candle and petri dish

City	Field Station No.	No. Sampling Months	Sulfation (mg $SO_3/100\ cm^2/day$)											
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Eugene	20-18-32	4	-	-	-	-	-	-	-	0	0	-	0	0
	20-00-33	2	-	-	-	-	-	-	-	-	-	0	0	-
	20-00-34	2	-	-	-	-	-	-	-	-	-	0	0	-
Springfield	20-33-32	4	-	-	-	-	-	-	0	0	-	0	0	-
	20-00-07	5	-	-	-	-	-	-	0	0	-	0	0	0
Cottage Grove	20-09-01	3	-	-	-	-	-	-	-	-	-	0	0	0
Oakridge	20-30-01	3	-	-	-	-	-	-	-	-	-	0	0	0
Junction City	20-24-01	3	-	-	-	-	-	-	-	-	-	0	0	0
	20-00-02	2	-	-	-	-	-	-	0	0	-	-	-	-
Veneta	20-36-01	3	-	-	-	-	-	-	-	-	-	0	0	0
Florence	20-21-13	3	-	-	-	-	-	-	0	0	-	-	0	-

RUBBER DETERIORATION

Measurement: microns crack depth/week
Field Sampling Method: Rubber strip

City	Field Station No.	No. Sampling Months	Ave. microns crack depth/week (Monthly Averages)												Min.	Max.	Arith Mean
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.			
Eugene	20-18-32	12	0	0	0	3	51	23	46	93	41	0	0	0	0	93	24
	20-00-33	5	-	-	-	-	-	-	-	192	0	0	0	37	0	192	29
	20-00-34	4	-	-	-	-	-	-	-	-	26	0	0	0	0	26	2
Springfield	20-33-32	12	0	0	0	0	68	41	98	278	78	0	0	0	0	278	53
	20-00-07	12	0	0	0	18	69	78	162	137	58	0	0	0	0	162	44
Cottage Grove	20-09-01	3	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0
Oakridge	20-30-01	2	-	-	-	-	-	-	-	-	-	0	-	0	0	0	0
Junction City	20-24-01	4	-	-	-	-	-	-	-	-	54	0	0	0	0	54	11
	20-00-02	8	0	0	0	8	84	59	130	105	-	-	-	-	-	130	57
Veneta	20-36-01	4	-	-	-	-	-	-	-	-	27	0	0	0	0	27	3
Florence	20-21-13	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NYLON DETERIORATION

Measurement: number of defects/month
Field Sampling Method: Nylon panel

City	Field Station No.	No. Sampling Months	Nylon Defects (number/month)											
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Eugene	20-18-32	10	0	-	0	0	0	0	0	0	0	0	0	-
	20-00-33	4	-	-	-	-	-	-	-	-	0	0	0	0
	20-00-34	3	-	-	-	-	-	-	-	-	0	-	0	0
Springfield	20-33-32	11	-	0	0	0	0	0	0	0	0	0	0	0
	20-00-07	11	0	-	0	0	0	0	0	0	0	0	0	0
Cottage Grove	20-09-01	4	-	-	-	-	-	-	-	-	0	0	0	0
Oakridge	20-30-01	4	-	-	-	-	-	-	-	-	0	0	0	0
Junction City	20-24-01	4	-	-	-	-	-	-	-	-	0	0	0	0
	20-00-02	8	0	0	0	0	0	0	0	0	-	-	-	-
Veneta	20-36-01	4	-	-	-	-	-	-	-	-	0	0	0	0
Florence	20-21-13	9	0	0	0	-	-	0	-	0	0	0	0	0

SILVER TARNISHING

Measurement: reflectance % loss/month
Field Sampling Method: Silver tray

City	Field Station No.	No. Sampling Months	Reflectance % loss/month												Min.	Max.	Arith Mean
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.			
Eugene	20-18-32	11	-	44	30	20	51	36	54	70	61	48	88	35	20	88	49
	20-00-33	4	-	-	-	-	-	-	-	-	37	38	88	36	36	88	50
	20-00-34	4	-	-	-	-	-	-	-	-	31	70	91	26	26	91	54
Springfield	20-33-32	10	-	32	47	24	48	42	62	51	92	65	51	-	24	92	51
	20-00-07	10	56	-	38	57	31	27	-	39	45	28	21	69	27	57	41
Cottage Grove	20-09-01	4	-	-	-	-	-	-	-	-	17	10	36	16	10	36	20
Oakridge	20-30-01	4	-	-	-	-	-	-	-	-	8	3	3	6	3	8	5
Junction City	20-24-01	4	-	-	-	-	-	-	-	-	44	49	53	54	44	54	50
	20-00-02	6	-	23	-	26	67	24	42	57	-	-	-	-	23	67	40
Veneta	20-36-01	4	-	-	-	-	-	-	-	-	24	29	49	19	19	49	30
Florence	20-21-13	9	-	31	26	39	-	23	-	35	33	42	64	52	23	64	38

STEEL CORROSION

Measurement: mg weight loss/day
Field Sampling Method: Steel plate

City	Field Station No.	No. Sampling Months	Mg weight loss/day (Quarterly Samples)					No. Sampling Months	Mg wt loss/day (yearly samples)
			Jan/Feb/Mar	Apr/May/June	July/Aug/Sept	Oct/Nov/Dec	Total		
Eugene	20-18-32	12	5.0	1.2	2.3	0.6	9.1	12	6.89
	20-00-33	3	-	-	-	4.4	-	-	-
	20-00-34	3	-	-	-	3.0	-	-	-
Springfield	20-33-32	12	9.7	5.4	7.7	13.8	36.6	12	8.36
	20-00-07	12	1.7	3.6	5.6	3.0	13.9	12	4.64
Cottage Grove	20-09-01	3	-	-	-	4.7	-	-	-
Oakridge	20-30-01	3	-	-	-	2.3	-	-	-
Junction City	20-24-01	3	-	-	-	6.3	-	-	-
	20-00-02	9	5.2	2.9	2.3	-	-	8	8.81
Veneta	20-36-01	3	-	-	-	2.7	-	-	-
Florence	20-21-13	12	4.3	8.0	12.5	5.6	30.4	12	6.19

ZINC CORROSION

Measurement: mg weight loss/day
Field Sampling Method: Zinc plate

City	Field Station No.	No. Sampling Months	Mg weight loss/day (yearly sample)
Eugene	20-18-32	12	0.15
	20-00-33	--	--
	20-00-34	--	--
Springfield	20-33-32	12	0.10
	20-00-07	12	0.10
Cottage Grove	20-09-01	--	--
Oakridge	20-30-01	--	--
Junction City	20-36-01	--	--
	20-00-02	8	0.16
Veneta	20-36-01	--	--
Florence	20-21-13	12	0.30

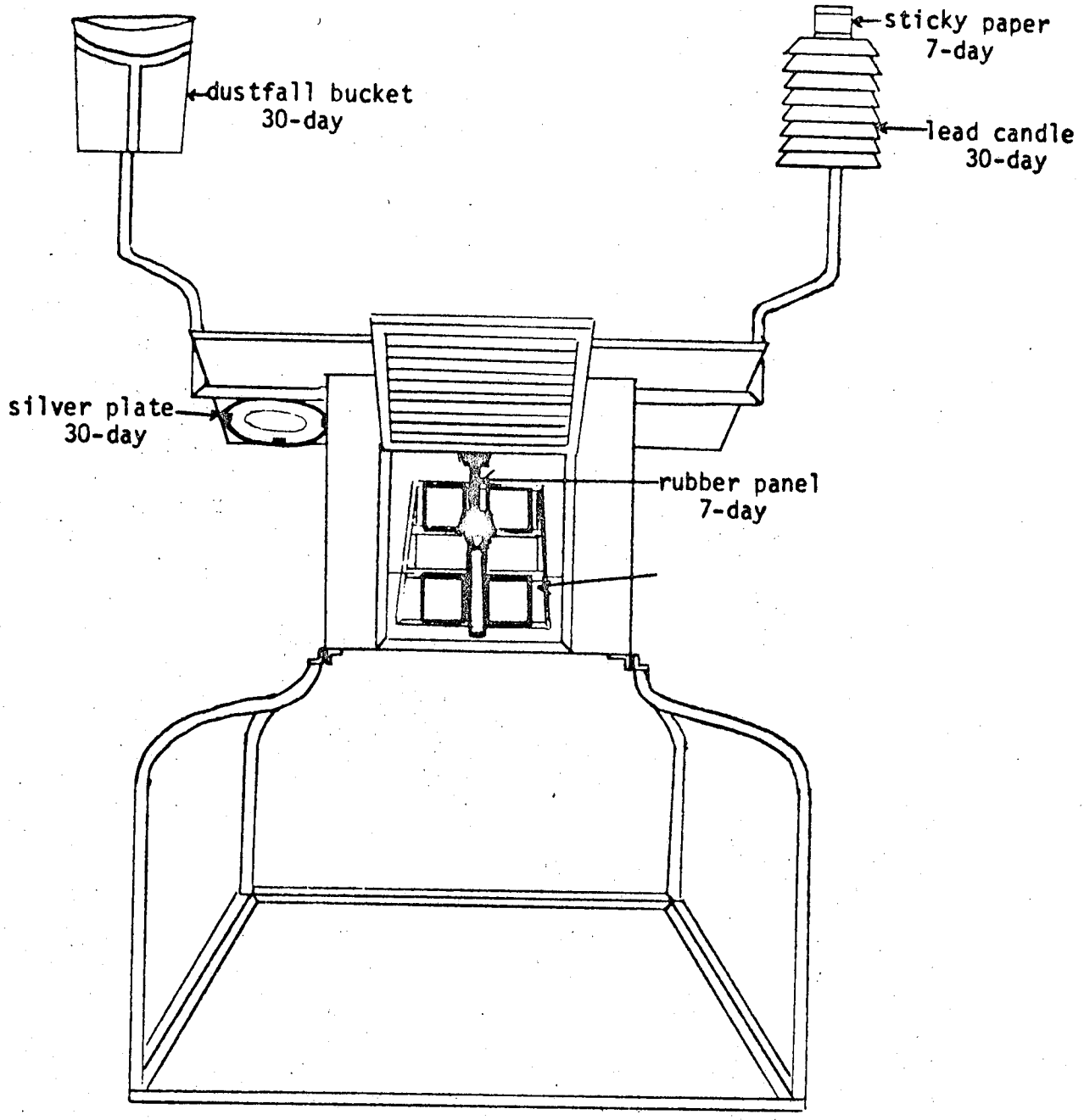
FIELD SAMPLING METHODS

DETERMINATION	FIELD TECHNIQUE	FIELD EXPOSURE	EFFECT INDICATION
Particle Fallout	Dustfall bucket	30	Settled Particulate
Wind Blown Particulate	Sticky Tape	7	Particulate Loading
Sulfation	Lead peroxide candle & millipore petri dish	30	Sulfur oxides, etc.
Rubber Deterioration	Rubber strip	7	Oxidants, ozone, etc.
Nylon Deterioration	Nylon panel	30	Corrosive aerosols, Photochemical pollutants
Silver Tarnishing	Silver tray	30	Hydrogen sulfide, etc.
Steel Corrosion	Steel plate	90/365	Sulfur dioxide, etc.
Zinc Corrosion	Zinc plate	365	Sulfur dioxide, etc.

LABORATORY SAMPLE ANALYSES

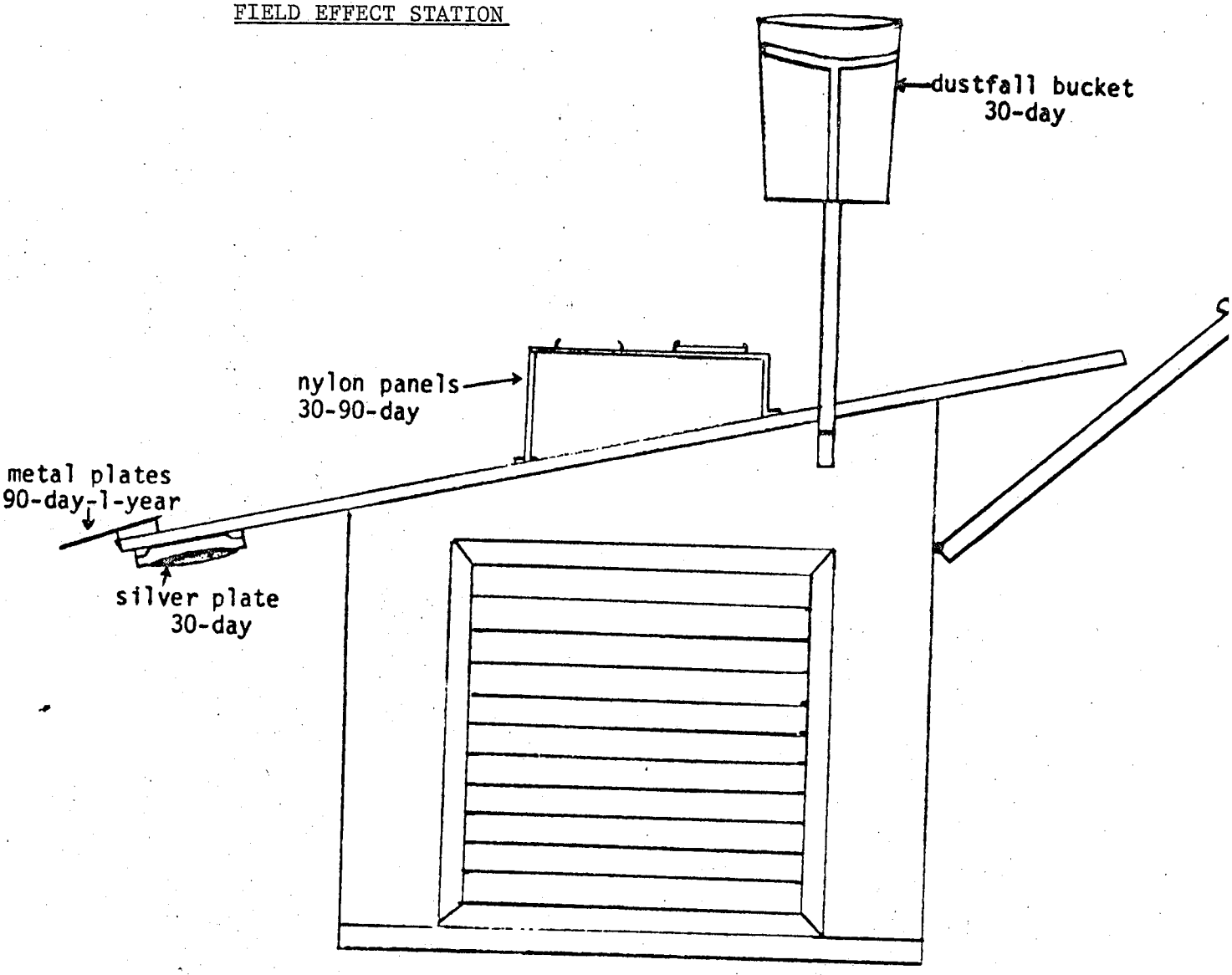
DETERMINATION	ANALYTICAL TECHNIQUE	MEASUREMENT	EFFECT INDICATION
Particle Fallout	Standard Gravimetric	Tons/square mile/month	Settled Particulate
Wind Blown Particulate	Comparison Particle Count	Particles/square inch/week	Particulate Loading
Sulfation	Standard Colorimetric	Mg SO_3/100 square cm/day	Sulfur oxides, etc.
Rubber Deterioration	Microscopic	Microns crack depth/week	Oxidants, ozone, etc.
Nylon Deterioration	Screen Projection	Number of defects/month	Corrosive aerosols, Photochemixal pollutants
Silver Tarnishing	Reflectants meter	Reflectants % loss/month	Hydrogen Sulfide, etc.
Steel Corrosion	Standard Gravimetric	Mg weight loss/day	Sulfur dioxide, etc.
Zinc Corrosion	Standard Gravimetric	Mg weight loss/day	Sulfur dioxide, etc.

FIELD EFFECT STATION

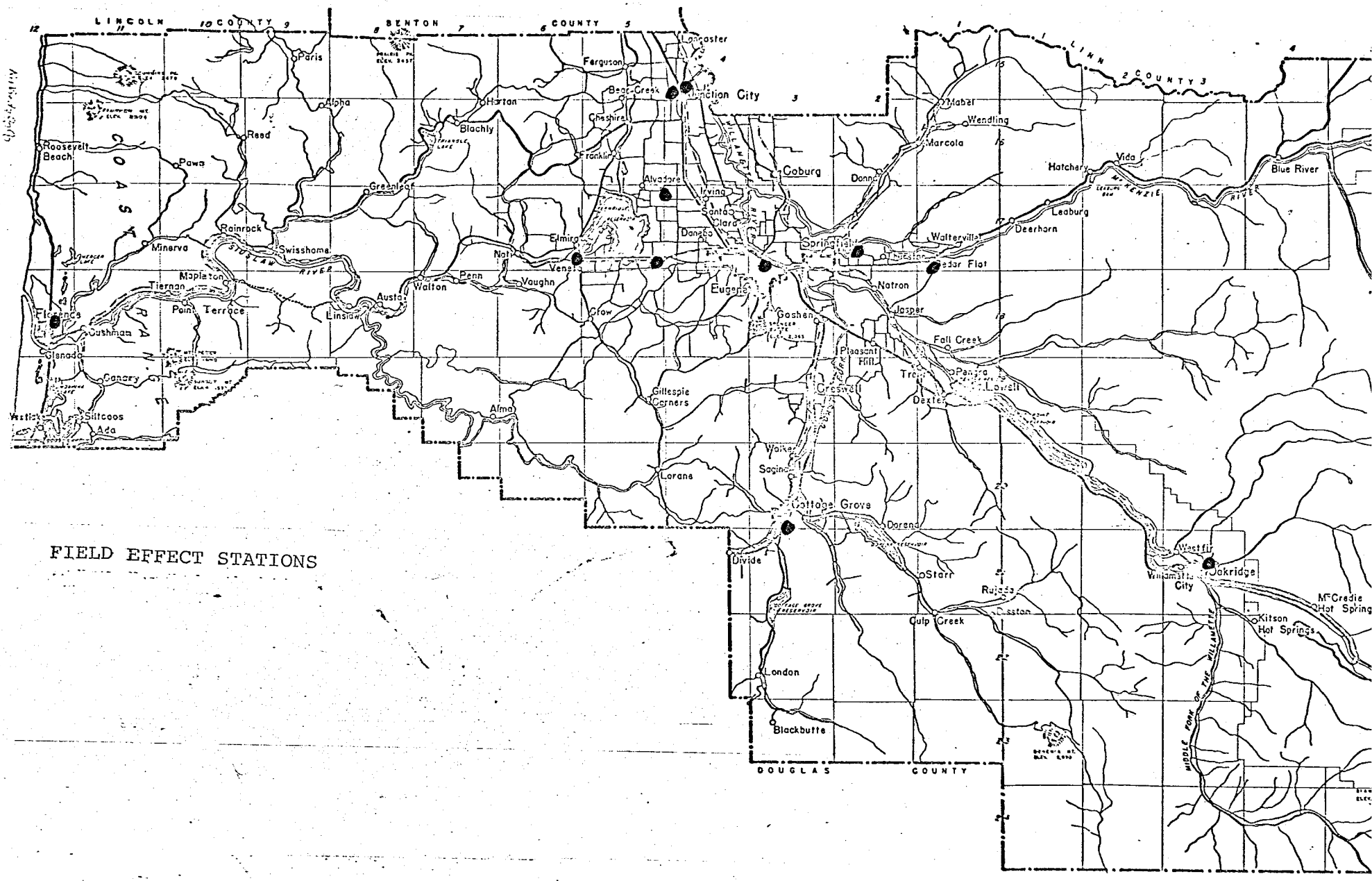


Effects Package (front view)

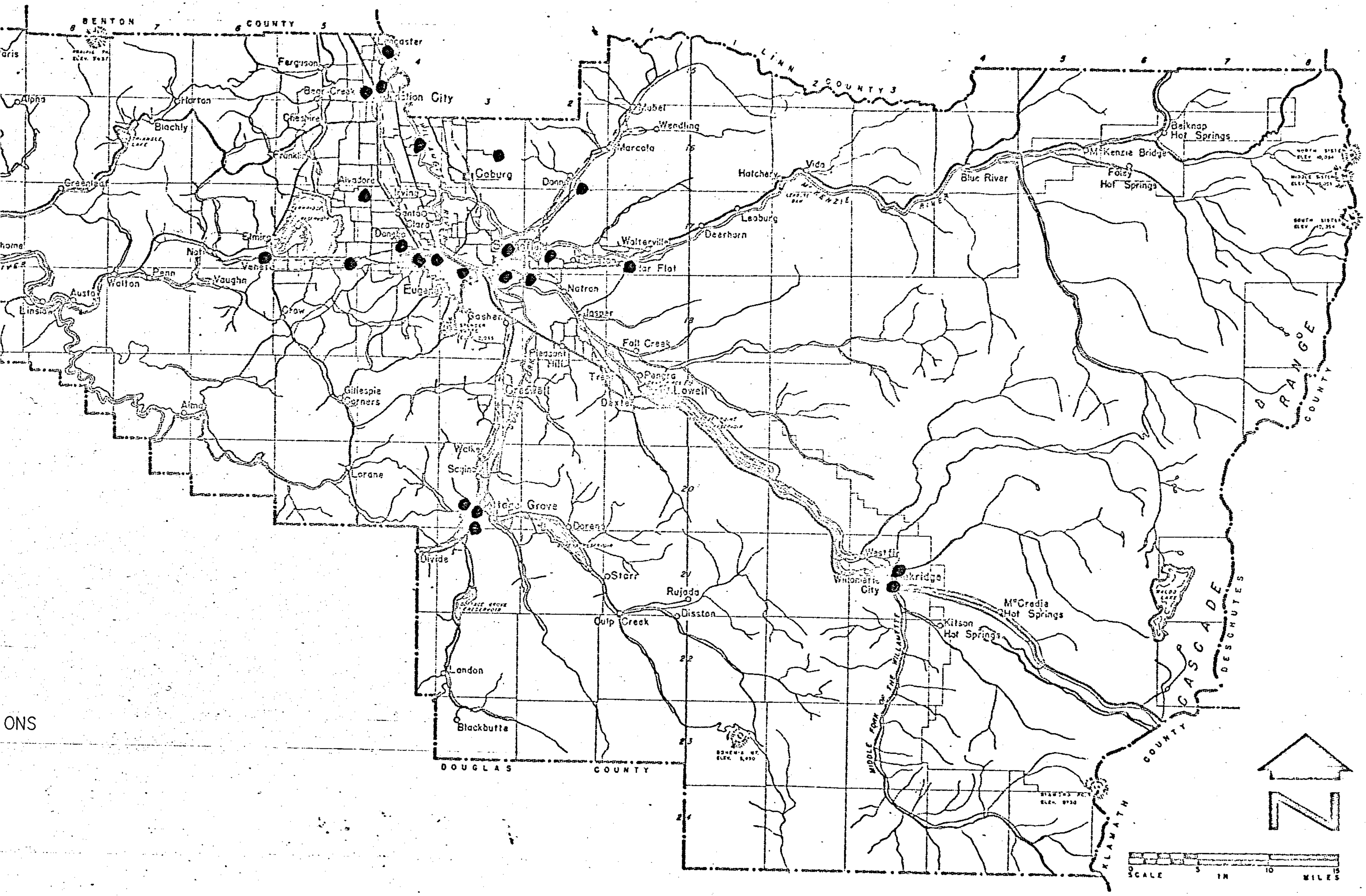
FIELD EFFECT STATION



Effects Package (side view)



FIELD EFFECT STATIONS


BENTON COUNTY
LINN COUNTY
DOUGLAS COUNTY
DESCHUTES
KLAMATH COUNTY
CASCADE RANGE
COUNTY
Lancaster
Junction City
Ferguson
Bear Creek
Horton
Blachly
Cheshire
Franklin
Alvadore
Irving
Santa Clara
Coburg
Donna
Greenleaf
Alpha
Elmira
Veneta
Noti
Penn
Vaughn
Walton
Linslaw
Crow
Danebo
Eugene
Goshen
Natron
Jasper
Fall Creek
Pleasant Hill
Creswell
Trent
Pengra
Lowell
Dexter
Gillespie Corners
Alma
Lorane
Walker
Saginaw
Cottage Grove
Dorena
Divide
London
Blackbutte
Starr
Rujada
Disston
Culp Creek
Westfir
Oakridge
Willamette City
McCredie Hot Springs
Kitson Hot Springs
MIDDLE FORK OF THE WILLAMETTE
Mabel
Wendling
Marcola
Hatchery
Vida
Leaburg
Deerhorn
Walterville
Cedar Flat
McKENZIE RIVER
Blue River
McKenzie Bridge
Foley Hot Springs
Belknap Hot Springs
N
SCALE 5 IN 10 MILES 15

ONS

LANE REGIONAL AIR POLLUTION AUTHORITY

1969 PROGRESS REPORT SUMMARY

LANE REGIONAL AIR POLLUTION AUTHORITY

1969 PROGRESS REPORT SUMMARY

The Lane Regional Air Pollution Authority is a newly created authority which has initiated a very aggressive program for the control and abatement of air pollution sources within it's region. The jurisdictional boundary of the Authority encompasses the 4,562 square miles of Lane County, Oregon. Although the area to be covered is vast and the Authority has been limited in staff personnel and funds, the program has developed exceedingly well in all areas of concern.

The primary areas of interest of the Authority are listed as follows:

1. Fuel combustion sources
2. Chemical industries
3. Food and agricultural industries
4. Metallurgical industries
5. Asphalt plants
6. Pulp and paper industries
7. Transportation sources
8. Forest products industries
9. Refuse incineration sources
10. Metal reclamation sources

Fuel Combustion Sources

The major population center of the Authority's region is the Eugene-Springfield metropolitan area. This area consists of 70% of the region's population or approximately 140,000 inhabitants. Being so highly concentrated, fuel combustion for the generation of heat and power can be a significant factor in the area's air pollution story.

For the purposes of this summary report discussion will be limited to the above mentioned categories since they are primarily responsible for the majority of the air pollution problem in the region.

Within the region the five principal sources of power are natural gas, electricity, steam, petroleum and wood.

Petroleum Combustion -- Estimates indicate that petroleum usage is not keeping pace with the area's overall energy growth pattern. Approximately sixty commercial and one thousand residential users of oil converted to either gas, electricity or steam during the past year. Currently there is approximately 26,500,000 gallons of fuel being used in the region. The majority of this fuel is being used for space heating and power generation.

Wood Combustion -- Wood is another major source of energy used within the area in industrial establishments. The use of wood for residential usage has been virtually eliminated. For industrial usage, however, wood in the form of "hog fuel" is at a shortage. It is estimated that 850,000 tons of wood as hog fuel has been used in Lane County in 1969. Almost all plants burning hog fuel are operating within emission limitations as set forth in the Authority's rules and regulations. Corrective measures are being undertaken to assure compliance by all hog fuel fired boiler plants in the region.

Natural Gas and Electricity -- Natural gas, electricity and steam usage has continued to increase rapidly in the immediate area. The Natural Gas Company indicates they have added approximately one hundred twenty-five commercial and twelve hundred residential accounts to their list this year. A similar increase is expected for the hydro-electric industry.

Steam Production -- Steam production for heating has also increased in the Eugene-Springfield area. Eugene has two steam generating power plants. The University of Oregon power plant generates steam for all the University of Oregon campus and continues to expand as the campus expands. The Eugene Water and Electric Board serves the core of Eugene. They have added such structures as the new Central Parking Structure, University Arms and the City Center Motel. Some private generators also exist.

Chemical Industries

The Authority has five major chemical concerns within it's jurisdiction.

These are Monsanto, Borden, Chembond, Cascade Resin, and Hercules Chemical Companies. Two of these companies are located within the Springfield City limits, two in the Eugene City limits and one just outside the Eugene City limits. The Chembond plant is the area's newest installation with production starting less than a year ago. This plant is in closest proximity to any residential area. All five plants are engaged in the production of glue or it's constituents. To date, none of these plants have been a noticeable problem to the area.

Food and Agricultural Industries

The Lane Regional Air Pollution Authority has no jurisdiction over agricultural operations within it's boundaries. However, this agency has spent time and effort working with the agricultural community seeking alternate means to the field burning situation.

The Authority does have jurisdiction over five feed and grain mills within the region. One of these mills has a baghouse to control emission and the others are operating in such a manner and at such a location that they have not become a serious problem to the region's air shed.

Metallurgical Industries

In this category, there are two concerns of primary interest. They are Valley Iron and Steel and National Metallurgical Company.

Valley Iron and Steel is engaged in the production of grey iron. They are currently in the process of moving from a cupola operation in Eugene to a pair of electric induction furnaces located outside the Eugene-Springfield metropolitan area. It has been estimated that the emissions from their plant will fall within the limits of the Los Angeles Process Weight Chart. The estimated future emissions will be significantly less than past emissions.

The second plant in our region is National Metallurgical. They are located in Springfield and are under the jurisdiction of the Department of Environmental Quality. National Metallurgical is engaged in the processing of

Silicon Oxide. They are currently one of the major air pollution sources within the region. It is anticipated that a baghouse will be installed and operating within the next six months to greatly reduce the emission from this plant.

Asphalt Plants

In the Eugene-Springfield metropolitan area there were five operating asphalt plants during the 1968 production season. These were Bethel Danebo Sand and Gravel, Eugene Sand and Gravel, Wildish Construction, McKenzie Sand and Gravel, and Pass Creek Paving Company.

During the 1969 season neither the Bethel Danebo Sand and Gravel Company or the Pass Creek Paving Company produced any hot mix asphalt. The Bethel plant was being sold at the beginning of the season and is not expected to start up again. Pass Creek Paving Company did not have any controls on their plant and elected to remain closed during the 1969 season rather than invest in any control equipment.

McKenzie Sand and Gravel Company and the Eugene Sand and Gravel Company were both equipped with pre-cleaners and scrubbers prior to the seasonal start-up.

Wildish Construction Company made additional equipment purchases during the season to bring their plant under control and meet the State regulations. All plants located and operating in the immediate area appear to be in compliance with the current air pollution code. They account for an annual production of 375,000 tons of hot mix asphalt.

Pulp and Paper Industry

The Department of Environmental Quality retained jurisdiction of the pulp and paper mill located in Springfield. However, the staff has spent time in this area primarily in response to odor complaints and general public information.

Transportation

Vehicles for transportation account for a substantial portion of the area's air pollution problem. The three major forms of transportation, the automobile, the airplane and the train, account for approximately fifty percent of the area's total air pollution problem. Although the Authority has no jurisdiction over these three sources, a staff effort has been put forth in an attempt to reduce emissions from obvious pollution sources within this category.

The Authority has on several occasions, worked to have the railroads remove and repair engines that had an excessive smoke problem. This has resulted in a very good rapport with the railroads while eliminating several objectionable air pollution sources.

The Authority has also spent time working on the automotive air pollution problem in the region. It has been estimated that each day approximately two and one-half million miles are driven in Lane County. To date the Authority's main means of controlling this problem has been through public education and information. The Authority has also supported the concept of strong and effective automotive emission standards.

The third source of transportation vehicles is the airplane. This is an area untouched by the Authority although one quarter million flights per year are logged in Lane County.

Forest Products Industries

Forest products play a very important role in the community's development. They also account for a substantial portion of the air pollution problem and a considerable portion of the Authority's work load. The Authority's primary points of interest have been in respect to wigwam waste burners, sanderdust operations and veneer dryer operations.

Wigwam Waste Burners -- The Lane Regional Air Pollution Authority has been conducting a very concentrated effort to eliminate emissions from wigwam waste burners.

Approximately one hundred mills within the region had wigwam waste burners as part of their mill operation at the beginning of this year. Collectively they were responsible for approximately 250,000 units of wood waste being burned in Lane County. This represented 55,000 tons of pollutants annually or approximately eighteen percent of the region's inventoried air pollution problem.

During the past year twenty-four burners were taken down, twenty additional burners were moved to the inactive classification and still another fifteen burners substantially reduced the amount of material being burned in their burner. These changes amount to a fifty-nine percent reduction in material being burned in the wigwam waste burners. This reduction represents 147,000 units of wood and wood products per year. To achieve this level or reduction the local mills have spent roughly one million dollars on bins, hogs, chippers and other miscellaneous equipment.

Although strides have been made in reducing the amount of material being burned in the wigwam waste burner, work still needs to be done in this area. There remains forty-one active burners within the region still burning approximately 100,000 units of wood waste per year. Most of the remaining burners are located within the control area "A" region and should be in compliance by 1971.

Sanderdust Operations -- Sanderdust operations account for a sizable amount of particulate release in the metropolitan area. Currently these releases are coming from several plywood sanding operations and four particle board or hard board processors.

The Lane Regional Air Pollution Authority conducted the first known test on a sanderdust operation in the Pacific Northwest. Since that test, problem

sanderdust operations and all new installations are being educated as to the problems arising from the sanding operation. This has prompted all those contacted to investigate the use of the baghouse. All new installations are installing baghouses on their sanding operations.

Veneer Drying -- The third area of concern is the veneer drying operation. Lane County has approximately twenty-two veneer drying plants which handle approximately two billion square feet (3/8 inch basis) of veneer per year. The estimated emissions from this source represent 1.3% of the area's emission inventory and consequently a portion of the Authority's time has been devoted to this industry.

This agency participated in the first source test on veneer dryers conducted in the country. Since that test the Authority has worked very diligently with the American Plywood Association and local veneer plants within the region to develop a means of control for these emissions.

The Authority is currently participating in another source test with a local plant to develop additional information on the emissions encountered from a veneer dryer. Through the research conducted by this agency and the information obtained from the American Plywood Association, it is anticipated that standards and controls may be developed to eliminate this source of emissions.

General Forest Practices -- This agency has also devoted a considerable amount of effort to the field of general forest practices and better wood and wood product utilization. This has been a very successful program which has resulted in a decrease of waste material and slash being burned.

An example of the progress in this area is the new barker-chipper installation at the Weyerhaeuser Springfield facility. This represents a two million dollar installation which has substantially reduced the amount of material being left in the woods for slash burning.

Another example of increased utilization is the multi-million dollar Kingsford Charcoal installation in Springfield. The temperatures involved in the production of charcoal assures a relatively clean industry which uses the waste which would be burned inefficiently in ten or more wigwam waste burners.

Progress in waste utilization creates diversified industry which strengthens the community while helping to solve the overall air pollution problem.

Refuse Incineration

Refuse incineration has been a major air pollution problem in the Authority's region. There are four major types of refuse incineration taking place in Lane County. They may be categorized as follows:

1. Land and debris clearing
2. Disposal site burning
3. Incinerator operations
4. Open burning

Each of these categories have been a distinct source of air pollution within the region and have warranted Authority action to reduce emissions.

Land and Debris Clearing -- Considerable effort has been put forth by the Authority in an effort to reduce the air pollution effects which result from burning of this material. Burning permits are required in control area "A" for the burning of any of this type of material. Permits are issued only on days where a rapid dispersion is forecast. This has effectively decreased indiscreet burning of non-land or debris clearing material while reducing the pollution build-up often created by adverse meterological conditions.

Disposal Site Burning -- The amount of material being burned at disposal sites has decreased continually throughout the region. The area currently has four sanitary landfills and one landfill in operation plans to establish another landfill in the immediate future. These landfilling operations

account for ninety percent of the waste hauled to disposal sites in the Authority's jurisdiction.

Incineration Operations -- Lane County is fortunate in not having an excessive amount of incinerators within it's boundaries. At the start of this past year there were only one hundred twenty-eight known incinerators operating within the region. Due to the large number of obvious violations encountered in the incineration operation, a comprehensive program was initiated by the Authority to correct this situation. As a result of this program, sixty-three incinerators were closed during the year. This resulted in a reduction of two and one-half million pounds of refuse being incinerated. This program has also served as an educational tool for the operators of the existing incinerators. In most cases these operators have become more aware and more conscientious about their incineration operation which has had the effect of reducing the emissions from their incinerators.

Open Burning -- In past years open burning by commercial, industrial and private parties has been a substantial contributor to the region's air pollution problem. Open burning was being conducted without any major effective air pollution controls. This uncontrolled source of emissions has been significantly reduced through the efforts of this agency. The Authority's program included a total ban on commercial and industrial burning in all of control area "A", plus an encompassing public information program to inform the general public of this problem. These initial steps to combat open burning sources aided the City of Eugene in the passage of their ordinance to prohibit all open burning within it's jurisdiction. This had a direct effect on 79,000 people within this area plus an estimated 30,000 people who supported the concepts adopted by the City of Eugene. This accounts for over two-thirds of the population or potential open burning sources within the metropolitan area.

Metal Salvage Operations

The area within the Authority's jurisdiction has twenty-nine registered metal

salvage operations. Many of these operations were burning automobiles, insulated wire, and automobile accessories to reclaim and sell the remaining residual material. During this past year the Authority launched a concise program to eliminate this source of emissions. The Authority has had overwhelming success in this operation and excellent cooperation from the salvage operators which has resulted in an elimination of burning from these sources.

Summary

In summarizing the second year of the Lane Regional Air Pollution Authority's program, it must be noted that significant steps have been undertaken in several areas which have resulted in a lessening of air pollutant releases and consequently a better environment for everyone within the region. Although much progress has been made in the air pollution effort, further progress must be made to increase the area's livability. The 1970 program will in many respects parallel the 1969 program with additional emphasis being placed on the not-so-obvious but yet existant air pollution offender.

DEPARTMENT OF ENVIRONMENTAL QUALITY

P E R S O N N E L

Staff:

Director, Department of Environmental Quality	Kenneth H. Spies
Deputy Director	E. J. Weathersbee
Legal Counsel	Arnold B. Silver
Director, Air Quality Control Division	H. M. Patterson
Chief, Engineering & Technical Assistance Section	F. Glen Odell
Meteorologist	R. B. Snyder
Associate Engineer	C. A. Ayer
Associate Engineer	R. C. Householder
Associate Engineer	H. W. McKenzie
Associate Engineer	Fredric A. Skirvin
Air Quality Specialist	Raymond M. Johnson
Air Quality Specialist	Richard H. Wixom
Secretary 3	Mabel C. Saari
Secretary 3	Hazel M. Altig

Members of Environmental Quality Commission:

B. A. McPhillips, McMinnville	Chairman
Edward C. Harms, Jr., Springfield	Member
George A. McMath, Portland	Member
Herman P. Meierjurgen, Nehalem	Member
Storrs S. Waterman, Portland	Member

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LANE REGIONAL AIR POLLUTION AUTHORITY

P E R S O N N E L

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Field Inspector	Larry L. Jack
Air Specialist	Ronald D. Nance
Part-time Inspector	Gerald A. Boyum
Secretary-Bookkeeper	Millie W. Watson

Board of Directors:

Charles E. Teague, Chairman	Councilman, City of Eugene
Darwin Courtright, Vice-Chairman	Councilman, City of Springfield
Frank Elliott	Commissioner, Lane County
Orlo M. Bagley	Mayor, City of Cottage Grove
Mrs. Wicks Beal	Councilwoman, City of Eugene

Advisory Committee:

Dr. William Service	Public Health Agency
Mrs. Margaret Patoine	The General Public
Charles Strong	The General Public
Steve A. Tyler	The General Public
Walter Umenhoffer	Industry
Vacant	Agriculture
William V. Wrightson	Community Planning

Ex-Officio Advisors:

John Stoner	Lane County Sanitarian
Steve Besse	Agriculture Extension Agent
Ronald Surface	Weather Bureau

Legal Counsel:

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Attorney-at-law
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Eugene, Oregon 97401

LANE REGIONAL AIR POLLUTION AUTHORITY
Route 1, Box 739, Eugene, Oregon 97402

STATUTORY AUTHORITY AND POWERS OF THE LANE REGIONAL AIR POLLUTION AUTHORITY

A. Establishment, Authority and Powers

1. The Lane Regional Air Pollution Authority was established January 1, 1968 in accordance with an agreement between the governing bodies of Lane County, City of Eugene and City of Springfield under the provisions of, and its authority and powers are derived from, Oregon Revised Statutes 449.760 to 449.830 and 449.850 to 449.920.

2. In its exercise of this authority and power, the Lane Regional Air Pollution Authority:

   a. May apply to and receive funds from the State, from the Federal Government and from public and private agencies and expend such funds for the purposes of air pollution control, studies and research and enter into agreements with the State or the Federal Government for the purpose of organizing and operating a regional air pollution authority.

   b. May adopt rules and standards necessary to:

      (1) Require registration of each source and person who is responsible for the emission of air contaminants.

      (2) Carry out its functions as authorized by Oregon Revised Statutes and the State Department of Environmental Quality.

   c. May not adopt any rule or standard that is less strict than any rule, regulation or standard of the State Department of Environmental Quality.

   d. Must submit to the Oregon State Department of Environmental Quality for its approval, all quality and purity of air standards adopted by the Authority prior to enforcing such standards.

   e. May enforce its rules and standards over both incorporated and unincorporated areas within the territory of the Authority, regardless of whether the governing body of a city within the territory of the Authority is participating in the regional authority.

   f. Shall enforce the rules, regulations and orders of the Department of Environmental Quality in so far as it is required to do so by the Environmental Quality Commission.

g. May not exercise jurisdiction for air pollution control over pulp and paper mills, primary metal plants, nuclear power plants, mobile sources (Motor vehicles, air craft, etc.) and agricultural field burning operations, which jurisdiction is specifically retained by the Department of Environmental Quality.

h. Shall have, except as specifically otherwise retained by the Department of Environmental Quality, the exclusive duty and responsibility in the territory of the Lane Regional Air Pollution Authority, to:

(1) Prepare and develop a general comprehensive plan for the control or abatement of existing air pollution and for the control or prevention of any new air pollution in any area in which air pollution is found already existing or in danger of existing, recognizing varying requirements for different areas.

(2) Encourage voluntary cooperation by all persons controlling air pollution and air contaminants.

(3) Encourage the formation and execution of plans in conjunction with civic associations of counties, cities, industries and other persons who severally or jointly are, or may be responsible for, the source of air pollution, for the prevention and abatement of air pollution.

(4) Cooperate with the appropriate agencies of the United States, the State of Oregon or other cities or any interested agencies with respect to the control of air pollution and air contaminants.

(5) Conduct or cause to be conducted, studies and research with respect to air pollution sources, control, abatement or prevention.

(6) Conduct or supervise programs of air pollution control education including the preparation and distribution of information regarding air pollution sources and control.

(7) Determine by means of field studies and sampling the degree of air pollution in the various areas.

i. Shall have, except as specifically otherwise retained by the Department of Environmental Quality, the exclusive power in the territory of the Lane Regional Air Pollution Authority to:

(1) Establish areas and prescribe the degree of air pollution or air contamination that may be permitted therein as air purity standards for such areas. In determining air purity standards, the Authority shall take into account the following factors:

(a) The quantity or characteristics of air contaminants or the duration of their presence in the atmosphere which may cause air pollution in the particular area;

(b) Existing physical conditions and topography;

(c) Prevailing wind directions and velocities;

(d) Temperatures and temperature inversion periods, humidity, and other atmospheric conditions.

(e) Possible chemical reactions between air contaminants or between such air contaminants and air gases, moisture or sunlight;

(f) The predominant character of development of the area, such as residential, highly developed industrial areas, commercial or other characteristics;

(g) Availability of air pollution control equipment;

(h) Economical feasibility of air pollution control equipment;

(i) Effect on normal human health of particular air contaminants;

(j) Effect on efficiency of industrial operation resulting from use of air pollution control equipment;

(k) Extent of danger to property in the area reasonably to be expected from any particular air contaminants;

(l) Interference with reasonable enjoyment of life, by persons in the area which can reasonably be expected from air contaminants;

(m) The volume of air contaminants emitted from a particular class of air contamination sources;

(n) The economic and industrial development of the area and the maintenance of public enjoyment of the area's natural resources;

(o) Other factors which the Authority may find applicable.

(2) Establish air quality standards for the entire territory or part thereof which shall set forth the maximum amount of air pollution permissible in various categories of air contaminants and may differentiate between different parts of the territory, different air contaminants and different air pollution sources or classes thereof. Such standards may be changed from time to time by the Authority following public hearings. Establishment of such standards shall be prerequisite to any specific order relating to air pollution in any area where research has proven that standards can be established.

j. Shall have, except as specifically otherwise retained by the Department of Environmental Quality, the exclusive power in the territory of the Lane Regional Air Pollution Authority to;

(1) Formulate, adopt, promulgate, amend and repeal general rules and regulations which control, reduce or prevent air pollution in such areas as shall or may be affected by air pollution, and to include general provisions applicable for controlling air contaminants in accordance with the policy and purpose of the Lane Regional Air Pollution Authority.

(2) Hold public hearings, conduct investigations, request witnesses to appear, administer oaths and affirmations, take depositions and receive such pertinent and relevant proof as it may deem necessary or proper in order that it may effectively discharge its duties, powers and responsibilities to control and abate air pollution.

(3) Make findings of fact and determinations.

(4) Issue orders to require prevention or correction of air pollution or emission of air contaminants which violates the air quality standards of these rules.

(5) Institute actions for such penalties as are here-in-after prescribed with respect to a violation of any provision of any rule or regulation or any order which it may issue; provided, however, that no penal action shall be instituted against the state or any agency, department or bureau thereof, or against any unit of local government, or an officer or employee of any of them, for acts or omissions or violations done in their official functions or in performance of their official duties.

(6) Institute or cause to be instituted in a court of competent jurisdiction, proceedings to compel compliance with any rules, regulations, or standards.

(7) Institute or cause to be instituted a suit for injunction to prevent any further or continued violation of the air quality standards of these rules or an order of the Authority, and to compel compliance if measures to prevent or correct air pollution or emission of air contaminants are not taken in accordance with an order of the Authority.

(8) Do any and all other acts and things not inconsistent with any provisions of these Rules which it may deem necessary or proper for the effective enforcement of these Rules.

B. Legal Status

The Lane Regional Air Pollution Authority is a body corporate, having perpetual succession and may:

1. Sue and be sued except that it shall not be sued in a tort action unless otherwise provided by law.

2. Adopt a seal.

3. Acquire and hold real and other property necessary or incident to the exercise of its functions and sell or otherwise dispose of such property.

C. Financing

The Lane Regional Air Pollution Authority is financed by contributions from the participating county and cities in accordance with an agreement between the participating county and cities, together with such State and Federal funds and funds from other public and private agencies as may be made available. The Authority is not a tax levying agency.

D. Board of Directors

1. The authority and powers of the Lane Regional Air Pollution Authority are exercised by the Board of Directors.

2. The Board of Directors consists of:

   a. One member of the governing body of each participating county & city, to be designated by the governing body of the participating agency.

   b. One member of the governing body of each participating city and of each non-participating city of 25,000 or more population located within a participating county, to be designated by the governing body of the city.

   c. One additional member, if the Board would otherwise consist of an even number of members, to be selected by members designated under paragraphs "a" & "b" of this subsection, such member also to be a member of the governing body of a participating city or county.

   d. A member under paragraphs "a" & "b" of this subsection shall hold office at the pleasure of the governing body by which he was designated.

   e. The member, if any, selected under paragraph "c" of this subsection shall serve for a term of two years or until such time as the addition or deletion of participating county or cities results in an even number of members.

   f. The term of any member shall terminate at any time when he is no longer a member of the governing body of the county or city by which he was designated.

E. Adoption of Rules and Standards

1. Prior to the adoption of any rule or standard, the Board of Directors shall first hold a public hearing at which interested persons shall be allowed to appear and be heard or to present written statements concerning proposed rules and standards.

The Board of Directors may recess and continue such hearings as it may deem appropriate.

2. Written notice of such hearings shall be sent to the Mayor and Recorder or Auditor of each city and the County Clerk of each county within the territory of the Authority. Notice of such hearings shall also be published in a newspaper of general circulation within the territory of the Authority at least 20 and not more than 30 days prior to such public hearing.

F. Enforcement

1. Violation of any provision of the rules of the Authority or of any final order of the Board of Directors is a misdemeanor and is punishable upon conviction by a fine or not more than $1000 or by imprisonment in the county jail for not more than one year, or by both. Each day of violation constitutes a separate offense.

2. If measures taken to prevent or correct air pollution or air contamination that violates the rules of the Authority are not taken in accordance with the order of the Board of Directors, the Board of Directors may institute or cause to be instituted in the name of the Lane Regional Air Pollution Authority a suit for injunction to prevent any further or continued violation of the rule or order and to compel compliance.

G. Advisory Committee

1. An Advisory Committee is appointed by the Board of Directors to advise the Authority in matters pertaining to the air pollution control program of the Authority and particularly as to methods and procedures for the protection of public health and welfare and of property from the adverse effects of air pollution, and on matters relative to legislation.

2. The Advisory Committee shall consist of at least seven members appointed for a term of one year with at least one representative from each of the following groups from within the territory of the Authority:

    (1) Public Health Agencies
    (2) Agriculture
    (3) Industry
    (4) Community Planning
    (5) General Public

3. The Advisory Committee shall select a chairman and vice-chairman and such other officers as it considers necessary, and shall meet as frequently as it or the Board of Directors considers necessary. Members shall serve without compensation.

LANE REGIONAL AIR POLLUTION AUTHORITY Sampling December 3, 1969

WEATHER STATIONS:

3	Lane Regional Air Pollution Authority (Wind speed & Direction plus temperature)
1	Department of Environmental Quality (Wind speed and Direction)
4	Total

LRAPA - KEZI-TV Transmitter Site
Skinners Butte
Junction City High School

DEQ - Eastern Lane Fire Protection District

FIELD EFFECT STATIONS:

11	LRAPA
1	LRAPA to be installed
1	LRAPA proposed
13	Total

Operating

LRAPA Office
Junction City High School
Eugene City Hall
Lane Sub Station
Western Lane Fire Protection Headquarters
Global Machinery - Springfield
Thurston Walterville Fire Station
Oakridge Fire Station
Cottage Grove Fire Station
Florence City Shop
Loan to Dr. Baubel - Oregon State University

To be Installed

Upper McKenzie Area

Proposed

Camp Lane

TAPE SAMPLERS:

1	LRAPA Office
1	6th & South "A", Springfield (in for repairs)
2	Total

HIGH VOLUME'S:

6	LRAPA being rebuilt and recalibrated
	5 to be installed by January 1, 1970.
	1 for P.I. & E. and enforcement

HIGH VOLUMES (CONT'D)

4 DEQ to be installed when sites are selected
3 of these are being operated at LRAPA sites at this time
(LRAPA office - Eugene City Hall - Springfield City Shops)

LRAPA Sites:

LRAPA OFFICE
Lane Sub Station
Springfield City Shops
Lowell
Junction City High School

DUST FALLS:

10 Dust falls plus those on field effect stations.

Woodruff Ranch - Wilkins Road, Eugene
Mohawk Elementary School, Mohawk
A. & W. Rootbeer - 1133 East Main, Cottage Grove
Standard Station - 6th & Garfield, Eugene
Olsen Manufacturing - 50 N. Danebo, Eugene
Yolando Elementary School - Yolanda & Corail, Springfield
Springfield Fire Station #2 - 47th & Main, Springfield
Springfield City Shops - 18th & South "A", Springfield
Springfield Treatment Plant - West "D" & Garden Way, Springfield
Banton Residences - Hayes Road, Junction City
New sites to be established:
U. S. Post Office - 29th & Portland, Eugene
Lowell
Rubin Street - Eugene
Cal Young & Oakway, Eugene