(11)

DEPARTMENT OF
PUBLIC WORKS

WATER DIVISION

CITY OF SACRAMENTO
CALIFORNIA

1391-35TH AVENUE
SACRAMENTO, CA
95822-2911

916-449-5271

August 2, 1988

APPROVED
BY THE CITY COUNCIL

AUG 2 1988

OFFICE OF THE
CITY CLERK

City Council
Sacramento, California

Honorable Members in Session:

Subject: Rice Herbicide Monitoring - 1988 Season

SUMMARY

This report discusses the 1988 Rice Herbicide Monitoring Program and is presented for City Council information.

BACKGROUND

An intensive monitoring program for rice herbicides was maintained by Water Division laboratory personnel during May and June. Samples were taken daily, including Saturdays and Sundays, for the two rice herbicides, Ordram and Bolero. Several samples were analyzed for three other less common herbicides, Basagran, Carbaryl, and Carbofuran; however, none of the three was detected.

The highest level of Bolero detected was below the secondary (taste) level, and well below the primary (health) level. The highest level of Ordram was well below the primary (health) standard. A specific secondary (taste) level has not been adopted for Ordram; however, no taste problems were traceable this herbicide. No other rice herbicides were detected.

The attached memorandum (Attachment A) from Lee Harry, Assistant Superintendent of Water Production, provides a more detailed evaluation of this season's monitoring program. The Water Division laboratory staff did their usual excellent job, as mentioned in the attached memorandum, with immediate and accurate results.

FINANCIAL

This report has no financial impact.

RECOMMENDATION

This report is for information only.

Respectfully submitted,

Melvin H. Johnson
for Donald M. Dodge
Deputy Director of Public Works

APPROVED FOR COUNCIL INFORMATION:

Walter J. Slipe
City Manager

APPROVED:

Melvin H. Johnson
Director of Public Works

August 2, 1988
All Districts

ATTACHMENT A

RECEIVED
JUL 12 1988
CITY OF SACRAMENTO
DIVISION OF WATER & SEWERS

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JUL 13 1988

DEPARTMENT OF PUBLIC WORKS
DIVISION OF WATER
WATER PRODUCTION

CITY OF SACRAMENTO
CALIFORNIA

7501 COLLEGE TOWN DRIVE
SACRAMENTO, CA
95826-2382

916-449-5366

July 11, 1988

TO: Harry Behrens, Supervising Engineer

FROM: Lee Harry, Assistant Superintendent - Water Production Facilities

SUBJECT: Rice Herbicide Monitoring - 1988 Season

Enclosed are the results of our monitoring for rice herbicides for the season just completed. As you can see from the data, Bolero was again effectively controlled in 1988 with the highest concentration recorded at the intake to our Sacramento River Plant being 0.21 parts per billion (ppb) on June 3, 1988. This concentration is below the secondary (taste) standard of 1 ppb, and far below the primary health action level of 10 ppb. This success can (as in 1987) be attributed to the loss of use of this product for acreage which did not have effective water management capabilities.

The Ordram concentration at the same location peaked at 4.8 ppb on May 20, 1988. This concentration is well below the 20 ppb primary health standard, but above the 0.6 ppb basin plan objective of the Central Valley Regional Water Quality Control Board. This objective (which is based on total pesticide concentrations) was exceeded on 38 consecutive days in 1988.

We have completed our monitoring program for 1988 with the exception of some Basagran analysis we will perform when the fields are drained for harvest. We detected no other rice herbicide at the intake to the Sacramento River Plant during 1988.

I feel that our laboratory staff under the direction of Supervising Water Quality Chemist Ron Myers is deserving of commendation for their yeoman work in performing these analyses on a daily basis for 2 months. They did this while continuing to perform their ever increasing daily workload and had the results available within 1 day of sampling.

If you need further information about this subject, please contact me.

cc: Donald M. Dodge
Larry Lunardini

CITY OF SACRAMENTO
DIVISION OF WATER, WATER QUALITY LABORATORY

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1988 RICE HERBICIDE ANALYSIS

RESULTS IN UG/L, (SRR-SRWTP INTAKE, SRT-SRWTP TAP)
*24 HOUR COMPOSITES

DATE	ORDRAM			BOLERO			% SACTO.	ORDRAM		BOLERO	
	CRAWDAD MARINA	SRR	SRT	CRAWDAD MARINA	SRR	SRT	RIVER AT INTAKE	SRR*	SRT*	SRR*	SRT*
03-May-88	----	<0.10	<0.10	----	<0.10	<0.10	94	----	----	----	----
05-May-88	----	0.22	----	----	<0.10	----	91	----	----	----	----
06-May-88	----	0.11	----	----	<0.10	----	71	----	----	----	----
07-May-88	----	----	----	----	----	----	50	<0.10	----	<0.10	----
08-May-88	----	----	----	----	----	----	28	<0.10	----	<0.10	----
09-May-88	----	<0.10	----	----	<0.10	----	15	----	----	----	----
10-May-88	----	1.6	----	----	<0.10	----	100**	----	----	----	----
11-May-88	----	1.2	----	----	<0.10	----	69	----	----	----	----
12-May-88	----	0.81	----	----	<0.10	----	75	----	----	----	----
13-May-88	----	0.91	----	----	<0.10	----	66	----	----	----	----
14-May-88	----	1.1	----	----	<0.10	----	63	----	----	----	----
15-May-88	----	1.5	----	----	<0.10	----	60	----	----	----	----
16-May-88	----	1.8	----	----	<0.10	----	76	----	----	----	----
17-May-88 ***	----	2.4	----	----	<0.10	----	94	----	----	----	----
18-May-88 ***	----	4.5	----	----	<0.10	----	100**	----	----	----	----
19-May-88 ***	----	1.9	----	----	<0.10	----	52	----	----	----	----
20-May-88 ***	----	4.8	----	----	<0.10	----	100**	----	----	----	----
21-May-88 ***	----	4.7	----	----	<0.10	----	97	----	----	----	----
22-May-88 ***	----	3.9	----	----	<0.10	----	92	----	----	----	----
23-May-88 ***	----	2.6	----	----	<0.10	----	64	----	----	----	----
24-May-88 ***	----	1.8	----	----	<0.10	----	72	----	----	----	----
25-May-88 ***	----	1.9	----	----	<0.10	----	58	----	----	----	----
26-May-88 ***	----	3.4	----	----	<0.10	----	68	----	----	----	----
27-May-88 ***	----	3.5	----	----	<0.10	----	63	----	----	----	----
28-May-88 ***	----	3.6	----	----	<0.10	----	73	----	----	----	----
29-May-88 ***	----	3.2	----	----	0.10	----	60	----	----	----	----
30-May-88 ***	----	3.4	****----	----	<0.10	----	89	----	----	----	----
31-May-88 ***	----	3.8	****----	----	<0.10	----	73	----	----	----	----

DATE	BASAGRAN		CARBARYL		CARBOFURAN		AMERICAN RIVER FLOWS CFS--6 AM	SACRAMENTO RIVER FLOWS--I ST. CFS--6 AM
	SRR*	SRT*	SRR*	SRT*	SRR*	SRT*		
03-May-88	----	----	----	----	----	----	1000	8389
05-May-88	----	----	----	----	----	----	1400	9286
06-May-88	----	----	----	----	----	----	2000	11616
07-May-88	----	----	<0.50	<0.50	<1.0	<1.0	3300	11651
08-May-88	----	----	----	----	----	----	2000	11903
09-May-88	----	----	----	----	----	----	2000	12627
10-May-88	----	----	<0.50	<0.50	<1.0	<1.0	1200	13368
11-May-88	----	----	----	----	----	----	1600	15186
12-May-88	----	----	----	----	----	----	1000	15556
13-May-88	----	----	----	----	----	----	1000	15667
14-May-88	----	----	----	----	----	----	1000	15109
15-May-88	----	----	<0.50	<0.50	<1.0	<1.0	1000	13720
16-May-88	----	----	----	----	----	----	1000	12257
17-May-88	----	----	----	----	----	----	1000	11037
18-May-88	----	----	----	----	----	----	1000	10596
19-May-88	----	----	----	----	----	----	1000	10993
20-May-88	----	----	----	----	----	----	1000	11479
21-May-88	----	----	----	----	----	----	1000	11208
22-May-88	----	----	----	----	----	----	1000	10395
23-May-88	----	----	----	----	----	----	1000	9633
24-May-88	<0.50	<0.50	----	----	----	----	1000	8922
25-May-88	----	----	----	----	----	----	1000	8684
26-May-88	----	----	----	----	----	----	1000	8791
27-May-88	----	----	----	----	----	----	1000	8707
28-May-88	----	----	----	----	----	----	1000	8707
29-May-88	----	----	----	----	----	----	1000	8834
30-May-88	----	----	----	----	----	----	1000	9628
31-May-88	<0.50	<0.50	----	----	----	----	1000	10066

**--% SACRAMENTO RIVER DETERMINED VIA CONDUCTIVITY MEASUREMENTS FROM AMERICAN RIVER, SACRAMENTO RIVER WTP INTAKE, SACRAMENTO RIVER ABOVE CONFLUENCE. MEASUREMENTS FOR THE SACRAMENTO RIVER ABOVE CONFLUENCE FOR THIS YEAR FROM CRAWDAD MARINA. CRAWDAD HAS A DISCHARGE THAT MAY HAVE AFFECTED SAMPLES TAKEN FROM THIS LOCATION. ON TWO OCCASIONS, WE OBTAINED A CONDUCTIVITY THAT WAS HIGHER AT THE SACRAMENTO RIVER WTP INTAKE THAN WHAT WAS PRESENT AT CRAWDAD MARINA. WE MOVED SAMPLE LOCATION ABOVE THIS VISIBLE DISCHARGE. STILL OBTAINING OCCASIONAL ANOMOLY OF HIGHER CONDUCTIVITY AT SACRAMENTO RIVER WTP INTAKE.

*** -- SAMPLES DETERMINED VIA HALL-SULFUR DETECTOR

**** -- SAMPLES DOUBLED CHECKED ON FPD-- HALL 3.4 PPB, FPD 3.5 PPB, HALL 3.8 PPB, FPD 3.8 PPB.

DATE	ORDRAM			BOLERO			% SACTO.	ORDRAM		BOLERO	
	CRAWDAD MARINA	SRR	SRT	CRAWDAD MARINA	SRR	SRT	RIVER AT INTAKE	SRR*	SRT*	SRR*	SRT*
01-Jun-88 ***	----	3.8	----	----	0.13	****----	60	----	----	----	----
02-Jun-88	----	4.1	----	----	0.13	----	84	----	----	----	----
03-Jun-88	----	4.0	----	----	0.21	----	86	----	----	----	----
04-Jun-88	----	3.0	----	----	0.11	----	86	----	----	----	----
05-Jun-88	----	3.7	----	----	0.13	----	64	----	----	----	----
06-Jun-88	----	3.8	----	----	0.14	----	75	----	----	----	----
07-Jun-88	----	3.4	----	----	0.15	----	51	----	----	----	----
08-Jun-88	----	2.3	----	----	0.15	----	51	----	----	----	----
09-Jun-88	----	2.0	----	----	0.13	----	54	----	----	----	----
10-Jun-88	----	2.3	----	----	0.15	----	64	----	----	----	----
11-Jun-88	----	2.0	----	----	0.15	----	66	----	----	----	----
12-Jun-88	----	1.7	----	----	0.13	----	55	----	----	----	----
13-Jun-88	----	1.1	----	----	0.12	----	47	----	----	----	----
14-Jun-88	----	1.2	----	----	<0.10	----	57	----	----	----	----
15-Jun-88	----	1.1	----	----	<0.10	----	66	----	----	----	----
16-Jun-88	----	0.70	----	----	<0.10	----	77	----	----	----	----
17-Jun-88	----	0.52	----	----	<0.10	----	84	----	----	----	----
18-Jun-88	----	----	----	----	----	----	44	----	----	----	----
19-Jun-88	----	----	----	----	----	----	60	----	----	----	----
20-Jun-88	----	0.29	----	----	<0.10	----	82	----	----	----	----
21-Jun-88	----	----	----	----	----	----	----	----	----	----	----
22-Jun-88	----	0.27	----	----	<0.10	----	78	----	----	----	----
23-Jun-88	----	----	----	----	----	----	----	----	----	----	----
24-Jun-88	----	0.20	----	----	<0.10	----	58	----	----	----	----
25-Jun-88	----	----	----	----	----	----	----	----	----	----	----
26-Jun-88	----	----	----	----	----	----	----	----	----	----	----
27-Jun-88	----	----	----	----	----	----	----	----	----	----	----
28-Jun-88	----	----	----	----	----	----	----	----	----	----	----
29-Jun-88	----	----	----	----	----	----	----	----	----	----	----
30-Jun-88	----	----	----	----	----	----	----	----	----	----	----
01-Jul-88	----	----	----	----	----	----	----	----	----	----	----

DATE	BASAGRAN		CARBARYL		CARBOFURAN		AMERICAN RIVER FLOWS CFS--6 AM	SACRAMENTO RIVER FLOWS--I ST. CFS--6 AM
	SRR*	SRT*	SRR*	SRT*	SRR*	SRT*		
01-Jun-88	----	----	----	----	----	----	1000	10694
02-Jun-88	----	----	----	----	----	----	1000	10856
03-Jun-88	<0.50	<0.50	----	----	----	----	1000	10929
04-Jun-88	----	----	----	----	----	----	1000	10007
05-Jun-88	----	----	----	----	----	----	1000	9887
06-Jun-88	----	----	----	----	----	----	1000	10072
07-Jun-88	----	----	----	----	----	----	1000	9986
08-Jun-88	----	----	----	----	----	----	1000	10123
09-Jun-88	----	----	----	----	----	----	1000	10540
10-Jun-88	<0.50	<0.50	----	----	----	----	1000	11204
11-Jun-88	----	----	----	----	----	----	1000	11448
12-Jun-88	----	----	----	----	----	----	1000	10924
13-Jun-88	----	----	----	----	----	----	1000	9862
14-Jun-88	----	----	----	----	----	----	1000	9080
15-Jun-88	----	----	----	----	----	----	1000	7998
16-Jun-88	----	----	----	----	----	----	2000	7111
17-Jun-88	<0.50	<0.50	----	----	----	----	4000	7928
18-Jun-88	----	----	----	----	----	----	4000	10596
19-Jun-88	----	----	----	----	----	----	4000	10993
20-Jun-88	----	----	----	----	----	----	2500	13624
21-Jun-88	----	----	----	----	----	----	1500	13063
22-Jun-88	----	----	----	----	----	----	1000	13090
23-Jun-88	----	----	----	----	----	----	1250	11696
24-Jun-88	<0.50	<0.50	----	----	----	----	3500	14342
25-Jun-88	----	----	----	----	----	----	3000	14391
26-Jun-88	----	----	----	----	----	----	3000	14161
27-Jun-88	----	----	----	----	----	----	1500	12357
28-Jun-88	----	----	----	----	----	----	1000	10583
29-Jun-88	----	----	----	----	----	----	1000	10538
30-Jun-88	----	----	----	----	----	----	1000	11680
01-Jul-88	<0.50	<0.50	----	----	----	----	1000	12908