JK

CITY OF COLUSA

P.O. BOX 1063 • COLUSA, CALIFORNIA 95932 • Phone 530-458-4941 or 458-5622

April 19, 2001

R31-A

Mr. Joe Karkoski
303(d) List Update Coordinator
California Regional Water Quality Control Board
Central Valley Region
3443 Routier Road, Suite A
Sacramento, CA 95827-3003

Dear Mr. Karkoski:

Enclosed please find a copy of the City of Colusa's Report of Waste Discharge Application that was recently submitted to Kyle Erickson of your office.

I have also enclosed copies of salt test results per Gene Davis' request. If you could please forward these to him after you have had a chance to review them, I would appreciate it.

Should you have any questions, or need further information, please do not hesitate to contact me at (530) 458-2032.

Sincerely,

Ron S. Loudon, Superintendent
Water/Sewer Division

RSL:je

Enclosures

City of Colusa

Powell Slough Water Sample Data-1993-1995
Sampled @ Pump west of Wescott Rd.
Lab Report

Sample No. (1-11,13,14)	Locations (1-13)	Sample Time (1-3, 1=June, 2=July, 3=August)	Year (1-3, 1=1993, 2=1994, 3=1995)	Water Type (1-3, 1=District, 2=CBD, 3=Other)	Water Depth (inches)	pH_w	Ec_w [1>	Ca meq/l	Mg meq/l	Na meq/l	SAR (Sodium Adsorption Ratio-Calculated in Excel)	Cl meq/l	HCO_3 meq/l	SO_4-S ppm
1	1	1	1	3	>36	8	1.05	2.28	3.03	6.47	3.97	1.3	5.1	85
1	1	2	1	3	>36	7.6	1.1	2.22	3.45	7.21	4.28	1.9	5.7	77
1	1	3	1	3	>36	8	1.11	2.51	4.05	6.32	3.49	1.5	7.2	56.3
1	1	1	2	3	>36	8.3	1.44	3.8	5	8.2	3.91	2.5	5.8	147.6
1	1	2	2	3	>36	8.4	1.48	2.3	4.8	9.1	4.83	2.6	7	113
1	1	3	2	3	>36	7.6	1.21	2.8	4.2	7.2	3.85	2.4	6.5	82
1	1	1	3	3	>36	8.2	1.24	2.4	3.1	7.9	4.76	2	5.8	88
1	1	2	3	3	>36	7.5	0.87	2	2.6	5.1	3.36	1.2	5.3	49
1	1	3	3	3	>36	8.3	0.83	2.6	3.1	4.3	2.55	0.9	6	34.1

1> ECw = Electrical Conductivity of the irrigation water
2> Ca = Calcium millieqivalents per liter of water
3> Mg = Magnesium millieqivalents per liter of water
4> Na = Sodium millieqivalents per liter of water
5> Cl - Chloride millieqivalents per liter of water
6> HCO_3 = Bicarbonate millieqivalents per liter of water
7> SO_4-S = Sulfate sulfur in parts per million

R31-6

gmp

Monarch Laboratory, Inc.

WATER ANALYSIS

INVOICE NO:

SUBMITTED BY: City of Colusa
P. O. Box 1063
Colusa, CA 95932

ADVISOR:

DATE SUBMITTED: 4-10-97

DATE REPORTED: 4-15-97

CROP: Rice

P. O. NUMBER:

Lab Code	Sample Number	pH	EC X 10	Ca meq/l	Mg meq/l	Na meq/l	CO3 meq/l	HCO3 meq/l	Cl meq/l	SO4 meq/l	B ppm	NO3 ppm	Fe ppm	Mn ppm	Zn ppm	Cu ppm
141639	Pond 6	8.8	0.98	0.85	0.91	7.8	None	5.7	2.4	0.93			0.27	0.13	0.06	<0.5
141640	Old Pump Slough	8.3	0.65	1.7	2.2	2.8	None	3.9	0.77	2.1			0.81	0.19	<0.05	<0.5
141641	Slough 406	8.6	0.78	1.6	2.2	3.9	None	3.9	1.1	2.5			0.48	0.15	<0.05	<0.5
141642	Slough Pump 404	8.6	0.80	1.6	2.2	4.1	None	4.1	1.1	2.7			0.65	0.23	<0.05	<0.5
14164	247 Pm SW 406	8.2	0.52	1.5	1.6	2.0	None	2.7	0.74	1.3			0.52	0.09	<0.05	<0.5
	Accept	7.0	0.4					3	3							
	Problem	8.0	1.8					5	5							
	Toxic	8.5	2.5					7	7							

EVALUATION AND RECOMMENDATIONS:
Water pH and bicarbonates (HCO3) can cause a stand establishment problem, especially in stagnent areas of the field. Water pH over 8.3 ties up phosphorus and micronutrients.

MONARCH LABORATORY
563 East Lindo Avenue
Chico, California 95926

Phone (916) 343-5818

Ron Barnes, Agronomist

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

TEST REPORT: 141639

CITY OF COLUSA
P.O. BOX 1063
COLUSA, CA 95932-0000
Attention: 0610002

Sample Identification:POND #6
Collected By:RB
Date & Time Taken:04/10/97 1015

Other Data: F-2, DOMESTIC SUITABILITY
Sample Matrix: Liquid
Report Date: 04/16/97 Received: 04/10/97 Client: COL400

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Aggressive Index	12.9		1100 04/15/97			DLS
Alkalinity	287	mg/l	1100 04/15/97		EPA Method 310.1	DLS
Carbonate	(1.0	mg/l	1100 04/14/97	1.0 mg/l	EPA Method 310.1	SEL
Chloride	85	mg/l	1100 04/11/97	1.0 mg/l	SM 4500-Cl B	DLS
Specific Conductance	980	Micromhos	1100 04/11/97		EPA Method 120.1	DLS
Bicarbonate	350	mg/l	1100 04/14/97	2.0 mg/l	EPA METHOD 310.1	SEL
Sulfate	45	mg/l	1100 04/11/97	0.5 mg/l	SM 17th ed., 4500 E	DLS
pH	8.0	SU	1100 04/10/97		EPA Method 150.1	DLS
Iron	270	ug/l	1100 04/14/97	100 ug/l	EPA METHOD 236.1	DLS
Calcium	17	mg/l	1100 04/15/97		EPA Method 215.1	DLS
Copper	(50	ug/l	1100 04/14/97	50 ug/l	EPA METHOD 220.1	DLS
Potassium	12	mg/l	1100 04/14/97	(0.01 mg	EPA Method 258.1	DLS
Magnesium	11	mg/l	1100 04/15/97	(1.0	EPA Method 242.1	DLS
Manganese	130	ug/l	1100 04/14/97	30 ug/l	EPA METHOD 243.1	DLS
Sodium	180	mg/l	1100 04/15/97		EPA Method 273.1	DLS
Zinc	80	ug/l	1100 04/14/97	50 ug/l	EPA METHOD 289.1	DLS
Total Hardness	88	mg/l	1100 04/15/97		SM 2340 B	DLS

Continued

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY

Quality Assurance for the SET with Sample 141639

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
				Carbonate					
141642	Duplicate	<1.0	mg/l	<1.0		0	1100	04/14/97	SEL
				Chloride					
141669	Duplicate	7.1	mg/l	7.1		0	1100	04/11/97	DLS
				Specific Conductance					
	Blank	0.6	umhos/cm				1100	04/11/97	DLS
	Standard	70	umhos/cm	71		99	1100	04/11/97	DLS
	Standard	350	umhos/cm	353		99	1100	04/11/97	DLS
	Standard	1390	umhos/cm	1412		98	1100	04/11/97	DLS
141639	Duplicate	980	umhos/cm	980		0	1100	04/11/97	DLS
				Bicarbonate					
141642	Duplicate	250	mg/l	250		0	1100	04/14/97	SEL
				Sulfate					
	Standard	10	mg/l	10		100	1100	04/11/97	DLS
	Standard	20	mg/l	20		100	1100	04/11/97	DLS
	Standard	40	mg/l	40		100	1100	04/11/97	DLS
141635	Duplicate	48	mg/l	49		2	1100	04/11/97	DLS
141635	Spike		mg/l		34	103	1100	04/11/97	DLS
				pH					
	Standard	4.0	SU	4.0		100	1100	04/10/97	DLS
	Standard	7.0	SU	7.0		100	1100	04/10/97	DLS
	Standard	10.0	SU	10.0		100	1100	04/10/97	DLS
141635	Duplicate	7.2	SU	7.2		0	1100	04/10/97	DLS
				Iron					
	Standard	100	ug/l	100		100	1100	04/14/97	DLS
	Standard	490	ug/l	500		98	1100	04/14/97	DLS
	Standard	990	ug/l	1000		99	1100	04/14/97	DLS
141643	Duplicate	520	ug/l	510		2	1100	04/14/97	DLS
141643	Spike		ug/l		760	100	1100	04/14/97	DLS
				Calcium					
	Standard	4.9	mg/l	5.0		98	1100	04/15/97	DLS
	Standard	20	mg/l	20		100	1100	04/15/97	DLS
	Standard	50	mg/l	50		100	1100	04/15/97	DLS
141525	Duplicate	43	mg/l	43		0	1100	04/15/97	DLS
141525	Spike		mg/l		32	97	1100	04/15/97	DLS
				Copper					
	Standard	51	ug/l	50		102	1100	04/14/97	DLS
	Standard	510	ug/l	500		102	1100	04/14/97	DLS
	Standard	1000	ug/l	1000		100	1100	04/14/97	DLS
141683	Duplicate	0.42	mg/l	0.41		2	1100	04/14/97	DLS
141683	Spike		mg/l		0.71	100	1100	04/14/97	DLS
				Potassium					
	Standard	1.01	mg/l	1.00		101	1100	04/14/97	DLS

Continued

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563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
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Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
	Standard	2.0	mg/l	2.0		100	1100	04/14/97	DLS
	Standard	5.1	mg/l	5.0		102	1100	04/14/97	DLS
141525	Duplicate	1.5	mg/l	1.5		0	1100	04/14/97	DLS
141525	Spike		mg/l		3.3	106	1100	04/14/97	DLS
				Magnesium					
	Standard	1.1	mg/l	1.0		110	1100	04/15/97	DLS
	Standard	4.8	mg/l	5.0		96	1100	04/15/97	DLS
	Standard	10	mg/l	10		100	1100	04/15/97	DLS
	Standard	20	mg/l	20		100	1100	04/15/97	DLS
141639	Duplicate	11	mg/l	11		0	1100	04/15/97	DLS
141639	Spike		mg/l		11	100	1100	04/15/97	DLS
				Manganese					
	Standard	50	ug/l	50		100	1100	04/14/97	DLS
	Standard	490	ug/l	500		98	1100	04/14/97	DLS
	Standard	1000	ug/l	1000		100	1100	04/14/97	DLS
141639	Duplicate	130	ug/l	130		0	1100	04/14/97	DLS
141639	Spike		ug/l		570	96	1100	04/14/97	DLS
				Sodium					
	Standard	5.1	mg/l	5.0		102	1100	04/15/97	DLS
	Standard	10	mg/l	10		100	1100	04/15/97	DLS
	Standard	25	mg/l	25		100	1100	04/15/97	DLS
	Standard	51	mg/l	50		102	1100	04/15/97	DLS
141743	Duplicate	24	mg/l	24		0	1100	04/15/97	DLS
141743	Spike		mg/l		37	97	1100	04/15/97	DLS
				Zinc					
	Standard	42	ug/l	40		105	1100	04/14/97	DLS
	Standard	400	ug/l	400		100	1100	04/14/97	DLS
	Standard	1000	ug/l	1000		100	1100	04/14/97	DLS
141635	Duplicate	50	ug/l	50		0	1100	04/14/97	DLS
141635	Spike		ug/l		230	100	1100	04/14/97	DLS

Monarch Laboratory, Inc.

563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

TEST REPORT: 141640

CITY OF COLUSA
P.O. BOX 1063
COLUSA, CA 95932-0000
Attention: 0610002

Sample Identification:OLD DUMP AT SLOUGH
Collected By:RB
Date & Time Taken:04/10/97 1015

Other Data: F-2,DOMESTIC SUITABILITY\STAIN
Sample Matrix: Liquid
Report Date: 04/16/97 Received: 04/10/97 Client: COL400

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Aggressive Index	12.5		1100 04/15/97			DLS
Alkalinity	197	mg/l	1100 04/15/97		EPA Method 310.1	DLS
Carbonate	<1.0	mg/l	1100 04/14/97	1.0 mg/l	EPA Method 310.1	SEL
Chloride	27	mg/l	1100 04/11/97	1.0 mg/l	SM 4500-Cl B	DLS
Specific Conductance	650	Micromhos	1100 04/11/97		EPA Method 120.1	DLS
Bicarbonate	240	mg/l	1100 04/14/97	2.0 mg/l	EPA METHOD 310.1	SEL
Sulfate	100	mg/l	1100 04/11/97	0.5 mg/l	SM 17th ed., 4500 E	DLS
pH	8.3	SU	1100 04/10/97		EPA Method 150.1	DLS
Iron	810	ug/l	1100 04/14/97	100 ug/l	EPA METHOD 236.1	DLS
Calcium	34	mg/l	1100 04/15/97		EPA Method 215.1	DLS
Copper	<50	ug/l	1100 04/14/97	50 ug/l	EPA METHOD 220.1	DLS
Potassium	4.3	mg/l	1100 04/14/97	<0.01 mg	EPA Method 258.1	DLS
Magnesium	27	mg/l	1100 04/15/97	<1.0	EPA Method 242.1	DLS
Manganese	190	ug/l	1100 04/14/97	30 ug/l	EPA METHOD 243.1	DLS
Sodium	65	mg/l	1100 04/15/97		EPA Method 273.1	DLS
Zinc	<50	ug/l	1100 04/14/97	50 ug/l	EPA METHOD 289.1	DLS
Total Hardness	196	mg/l	1100 04/15/97		SM 2340 B	DLS

Continued

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY

Quality Assurance for the SET with Sample 141640

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
				Carbonate					
141642	Duplicate	<1.0	mg/l	<1.0		0	1100	04/14/97	SEL
				Chloride					
141669	Duplicate	7.1	mg/l	7.1		0	1100	04/11/97	DLS
				Specific Conductance					
	Blank	0.6	umhos/cm				1100	04/11/97	DLS
	Standard	70	umhos/cm	71		99	1100	04/11/97	DLS
	Standard	350	umhos/cm	353		99	1100	04/11/97	DLS
	Standard	1390	umhos/cm	1412		98	1100	04/11/97	DLS
141639	Duplicate	980	umhos/cm	980		0	1100	04/11/97	DLS
				Bicarbonate					
141642	Duplicate	250	mg/l	250		0	1100	04/14/97	SEL
				Sulfate					
	Standard	10	mg/l	10		100	1100	04/11/97	DLS
	Standard	20	mg/l	20		100	1100	04/11/97	DLS
	Standard	40	mg/l	40		100	1100	04/11/97	DLS
141635	Duplicate	48	mg/l	49		2	1100	04/11/97	DLS
141635	Spike		mg/l		34	103	1100	04/11/97	DLS
				pH					
	Standard	4.0	SU	4.0		100	1100	04/10/97	DLS
	Standard	7.0	SU	7.0		100	1100	04/10/97	DLS
	Standard	10.0	SU	10.0		100	1100	04/10/97	DLS
141635	Duplicate	7.2	SU	7.2		0	1100	04/10/97	DLS
				Iron					
	Standard	100	ug/l	100		100	1100	04/14/97	DLS
	Standard	490	ug/l	500		98	1100	04/14/97	DLS
	Standard	990	ug/l	1000		99	1100	04/14/97	DLS
141643	Duplicate	520	ug/l	510		2	1100	04/14/97	DLS
141643	Spike		ug/l		760	100	1100	04/14/97	DLS
				Calcium					
	Standard	4.9	mg/l	5.0		98	1100	04/15/97	DLS
	Standard	20	mg/l	20		100	1100	04/15/97	DLS
	Standard	50	mg/l	50		100	1100	04/15/97	DLS
141525	Duplicate	43	mg/l	43		0	1100	04/15/97	DLS
141525	Spike		mg/l		32	97	1100	04/15/97	DLS
				Copper					
	Standard	51	ug/l	50		102	1100	04/14/97	DLS
	Standard	510	ug/l	500		102	1100	04/14/97	DLS
	Standard	1000	ug/l	1000		100	1100	04/14/97	DLS
141683	Duplicate	0.42	mg/l	0.41		2	1100	04/14/97	DLS
141683	Spike		mg/l		0.71	100	1100	04/14/97	DLS
				Potassium					
	Standard	1.01	mg/l	1.00		101	1100	04/14/97	DLS

Continued

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
	Standard	2.0	mg/l	2.0		100	1100	04/14/97	DLS
	Standard	5.1	mg/l	5.0		102	1100	04/14/97	DLS
141525	Duplicate	1.5	mg/l	1.5		0	1100	04/14/97	DLS
141525	Spike		mg/l		3.3	106	1100	04/14/97	DLS
				Magnesium					
	Standard	1.1	mg/l	1.0		110	1100	04/15/97	DLS
	Standard	4.8	mg/l	5.0		96	1100	04/15/97	DLS
	Standard	10	mg/l	10		100	1100	04/15/97	DLS
	Standard	20	mg/l	20		100	1100	04/15/97	DLS
141639	Duplicate	11	mg/l	11		0	1100	04/15/97	DLS
141639	Spike		mg/l		11	100	1100	04/15/97	DLS
				Manganese					
	Standard	50	ug/l	50		100	1100	04/14/97	DLS
	Standard	490	ug/l	500		98	1100	04/14/97	DLS
	Standard	1000	ug/l	1000		100	1100	04/14/97	DLS
141639	Duplicate	130	ug/l	130		0	1100	04/14/97	DLS
141639	Spike		ug/l		570	96	1100	04/14/97	DLS
				Sodium					
	Standard	5.1	mg/l	5.0		102	1100	04/15/97	DLS
	Standard	10	mg/l	10		100	1100	04/15/97	DLS
	Standard	25	mg/l	25		100	1100	04/15/97	DLS
	Standard	51	mg/l	50		102	1100	04/15/97	DLS
141743	Duplicate	24	mg/l	24		0	1100	04/15/97	DLS
141743	Spike		mg/l		37	97	1100	04/15/97	DLS
				Zinc					
	Standard	42	ug/l	40		105	1100	04/14/97	DLS
	Standard	400	ug/l	400		100	1100	04/14/97	DLS
	Standard	1000	ug/l	1000		100	1100	04/14/97	DLS
141635	Duplicate	50	ug/l	50		0	1100	04/14/97	DLS
141625	Spike		ug/l		230	100	1100	04/14/97	DLS

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

TEST REPORT: 141641

CITY OF COLUSA
P.O. BOX 1063
COLUSA, CA 95932-0000
Attention: 0610002

Sample Identification:SLOUGH 406
Collected By:RB
Date & Time Taken:04/10/97 1015

Other Data: F-2,DOMESTIC SUITABILITY\STAIN
Sample Matrix: Liquid
Report Date: 04/16/97 Received: 04/10/97 Client: COL400

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Aggressive Index	12.0		1100 04/15/97			DLS
Alkalinity	197	mg/l	1100 04/15/97		EPA Method 310.1	DLS
Carbonate	<1.0	mg/l	1100 04/14/97	1.0 mg/l	EPA Method 310.1	SEL
Chloride	38	mg/l	1100 04/11/97	1.0 mg/l	SM 4500-Cl B	DLS
Specific Conductance	780	Microohos	1100 04/11/97		EPA Method 120.1	DLS
Bicarbonate	240	mg/l	1100 04/14/97	2.0 mg/l	EPA METHOD 310.1	SEL
Sulfate	120	mg/l	1100 04/11/97	0.5 mg/l	SM 17th ed., 4500 E	DLS
pH	8.6	SU	1100 04/10/97		EPA Method 150.1	DLS
Iron	480	ug/l	1100 04/14/97	100 ug/l	EPA METHOD 236.1	DLS
Calcium	32	mg/l	1100 04/15/97		EPA Method 215.1	DLS
Copper	<50	ug/l	1100 04/14/97	50 ug/l	EPA METHOD 220.1	DLS
Potassium	3.1	mg/l	1100 04/14/97	<0.01 mg	EPA Method 258.1	DLS
Magnesium	27	mg/l	1100 04/15/97	<1.0	EPA Method 242.1	DLS
Manganese	150	ug/l	1100 04/14/97	30 ug/l	EPA METHOD 243.1	DLS
Sodium	90	mg/l	1100 04/15/97		EPA Method 273.1	DLS
Zinc	<50	ug/l	1100 04/14/97	50 ug/l	EPA METHOD 289.1	DLS
Total Hardness	191	mg/l	1100 04/15/97		SM 2340 B	DLS

Continued

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY

Quality Assurance for the SET with Sample 141641

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
				Carbonate					
141642	Duplicate	<1.0	mg/l	<1.0		0	1100	04/14/97	SEL
				Chloride					
141669	Duplicate	7.1	mg/l	7.1		0	1100	04/11/97	DLS
				Specific Conductance					
	Blank	0.6	umhos/cm				1100	04/11/97	DLS
	Standard	70	umhos/cm	71		99	1100	04/11/97	DLS
	Standard	350	umhos/cm	353		99	1100	04/11/97	DLS
	Standard	1390	umhos/cm	1412		98	1100	04/11/97	DLS
141639	Duplicate	980	umhos/cm	980		0	1100	04/11/97	DLS
				Bicarbonate					
141642	Duplicate	250	mg/l	250		0	1100	04/14/97	SEL
				Sulfate					
	Standard	10	mg/l	10		100	1100	04/11/97	DLS
	Standard	20	mg/l	20		100	1100	04/11/97	DLS
	Standard	40	mg/l	40		100	1100	04/11/97	DLS
141635	Duplicate	48	mg/l	49		2	1100	04/11/97	DLS
141635	Spike		mg/l		34	103	1100	04/11/97	DLS
				pH					
	Standard	4.0	SU	4.0		100	1100	04/10/97	DLS
	Standard	7.0	SU	7.0		100	1100	04/10/97	DLS
	Standard	10.0	SU	10.0		100	1100	04/10/97	DLS
141635	Duplicate	7.2	SU	7.2		0	1100	04/10/97	DLS
				Iron					
	Standard	100	ug/l	100		100	1100	04/14/97	DLS
	Standard	490	ug/l	500		98	1100	04/14/97	DLS
	Standard	990	ug/l	1000		99	1100	04/14/97	DLS
141643	Duplicate	520	ug/l	510		2	1100	04/14/97	DLS
141643	Spike		ug/l		760	100	1100	04/14/97	DLS
				Calcium					
	Standard	4.9	mg/l	5.0		98	1100	04/15/97	DLS
	Standard	20	mg/l	20		100	1100	04/15/97	DLS
	Standard	50	mg/l	50		100	1100	04/15/97	DLS
141525	Duplicate	43	mg/l	43		0	1100	04/15/97	DLS
141525	Spike		mg/l		32	97	1100	04/15/97	DLS
				Copper					
	Standard	51	ug/l	50		102	1100	04/14/97	DLS
	Standard	510	ug/l	500		102	1100	04/14/97	DLS
	Standard	1000	ug/l	1000		100	1100	04/14/97	DLS
141683	Duplicate	0.42	mg/l	0.41		2	1100	04/14/97	DLS
141683	Spike		mg/l		0.71	100	1100	04/14/97	DLS
				Potassium					
	Standard	1.01	mg/l	1.00		101	1100	04/14/97	DLS

Continued

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
	Standard	2.0	mg/l	2.0		100	1100	04/14/97	DLS
	Standard	5.1	mg/l	5.0		102	1100	04/14/97	DLS
141525	Duplicate	1.5	mg/l	1.5		0	1100	04/14/97	DLS
141525	Spike		mg/l		3.3	105	1100	04/14/97	DLS
				Magnesium					
	Standard	1.1	mg/l	1.0		110	1100	04/15/97	DLS
	Standard	4.8	mg/l	5.0		96	1100	04/15/97	DLS
	Standard	10	mg/l	10		100	1100	04/15/97	DLS
	Standard	20	mg/l	20		100	1100	04/15/97	DLS
141639	Duplicate	11	mg/l	11		0	1100	04/15/97	DLS
141639	Spike		mg/l		11	100	1100	04/15/97	DLS
				Manganese					
	Standard	50	ug/l	50		100	1100	04/14/97	DLS
	Standard	490	ug/l	500		98	1100	04/14/97	DLS
	Standard	1000	ug/l	1000		100	1100	04/14/97	DLS
141639	Duplicate	130	ug/l	130		0	1100	04/14/97	DLS
141639	Spike		ug/l		570	96	1100	04/14/97	DLS
				Sodium					
	Standard	5.1	mg/l	5.0		102	1100	04/15/97	DLS
	Standard	10	mg/l	10		100	1100	04/15/97	DLS
	Standard	25	mg/l	25		100	1100	04/15/97	DLS
	Standard	51	mg/l	50		102	1100	04/15/97	DLS
141743	Duplicate	24	mg/l	24		0	1100	04/15/97	DLS
141743	Spike		mg/l		37	97	1100	04/15/97	DLS
				Zinc					
	Standard	42	ug/l	40		105	1100	04/14/97	DLS
	Standard	400	ug/l	400		100	1100	04/14/97	DLS
	Standard	1000	ug/l	1000		100	1100	04/14/97	DLS
141635	Duplicate	50	ug/l	50		0	1100	04/14/97	DLS
141635	Spike		ug/l		230	100	1100	04/14/97	DLS

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

TEST REPORT: 141642

CITY OF COLUSA
P.O. BOX 1063
COLUSA, CA 95932-0000
Attention: 0610002

Sample Identification:SLOUGH PUMP 404
Collected By:RB
Date & Time Taken:04/10/97 1015

Other Data: F-2,DOMESTIC SUITABILITY\STAIN
Sample Matrix: Liquid
Report Date: 04/16/97 Received: 04/10/97 Client: COL400

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Aggressive Index	12.8		1100 04/15/97			DLS
Alkalinity	205	mg/l	1100 04/15/97		EPA Method 310.1	DLS
Carbonate	<1.0	mg/l	1100 04/14/97	1.0 mg/l	EPA Method 310.1	SEL
Chloride	40	mg/l	1100 04/11/97	1.0 mg/l	SM 4500-Cl B	DLS
Specific Conductance	800	Micromhos	1100 04/11/97		EPA Method 120.1	DLS
Bicarbonate	250	mg/l	1100 04/14/97	2.0 mg/l	EPA METHOD 310.1	SEL
Sulfate	130	mg/l	1100 04/11/97	0.5 mg/l	SM 17th ed., 4500 E	DLS
pH	8.6	SU	1100 04/10/97		EPA Method 150.1	DLS
Iron	650	ug/l	1100 04/14/97	100 ug/l	EPA METHOD 236.1	DLS
Calcium	32	mg/l	1100 04/15/97		EPA Method 215.1	DLS
Copper	<50	ug/l	1100 04/14/97	50 ug/l	EPA METHOD 220.1	DLS
Potassium	3.3	mg/l	1100 04/14/97	<0.01 mg	EPA Method 258.1	DLS
Magnesium	27	mg/l	1100 04/15/97	<1.0	EPA Method 242.1	DLS
Manganese	230	ug/l	1100 04/14/97	30 ug/l	EPA METHOD 243.1	DLS
Sodium	95	mg/l	1100 04/15/97		EPA Method 273.1	DLS
Zinc	<50	ug/l	1100 04/14/97	50 ug/l	EPA METHOD 289.1	DLS
Total Hardness	191	mg/l	1100 04/15/97		SM 2340 B	DLS

Continued

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY

Quality Assurance for the SET with Sample 141642

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
				Carbonate					
141642	Duplicate	<1.0	mg/l	<1.0		0	1100	04/14/97	SEL
				Chloride					
141659	Duplicate	7.1	mg/l	7.1		0	1100	04/11/97	DLS
				Specific Conductance					
	Blank	0.6	umhos/cm				1100	04/11/97	DLS
	Standard	70	umhos/cm	71		99	1100	04/11/97	DLS
	Standard	350	umhos/cm	353		99	1100	04/11/97	DLS
	Standard	1390	umhos/cm	1412		98	1100	04/11/97	DLS
141639	Duplicate	980	umhos/cm	980		0	1100	04/11/97	DLS
				Bicarbonate					
141642	Duplicate	250	mg/l	250		0	1100	04/14/97	SEL
				Sulfate					
	Standard	10	mg/l	10		100	1100	04/11/97	DLS
	Standard	20	mg/l	20		100	1100	04/11/97	DLS
	Standard	40	mg/l	40		100	1100	04/11/97	DLS
141635	Duplicate	48	mg/l	49		2	1100	04/11/97	DLS
141635	Spike		mg/l		34	103	1100	04/11/97	DLS
				pH					
	Standard	4.0	SU	4.0		100	1100	04/10/97	DLS
	Standard	7.0	SU	7.0		100	1100	04/10/97	DLS
	Standard	10.0	SU	10.0		100	1100	04/10/97	DLS
141635	Duplicate	7.2	SU	7.2		0	1100	04/10/97	DLS
				Iron					
	Standard	100	ug/l	100		100	1100	04/14/97	DLS
	Standard	490	ug/l	500		98	1100	04/14/97	DLS
	Standard	990	ug/l	1000		99	1100	04/14/97	DLS
141643	Duplicate	520	ug/l	510		2	1100	04/14/97	DLS
141643	Spike		ug/l		760	100	1100	04/14/97	DLS
				Calcium					
	Standard	4.9	mg/l	5.0		98	1100	04/15/97	DLS
	Standard	20	mg/l	20		100	1100	04/15/97	DLS
	Standard	50	mg/l	50		100	1100	04/15/97	DLS
141525	Duplicate	43	mg/l	43		0	1100	04/15/97	DLS
141525	Spike		mg/l		32	97	1100	04/15/97	DLS
				Copper					
	Standard	51	ug/l	50		102	1100	04/14/97	DLS
	Standard	510	ug/l	500		102	1100	04/14/97	DLS
	Standard	1000	ug/l	1000		100	1100	04/14/97	DLS
141683	Duplicate	0.42	mg/l	0.41		2	1100	04/14/97	DLS
141683	Spike		mg/l		0.71	100	1100	04/14/97	DLS
				Potassium					
	Standard	1.01	mg/l	1.00		101	1100	04/14/97	DLS

Continued

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
	Standard	2.0	mg/l	2.0		100	1100	04/14/97	DLS
	Standard	5.1	mg/l	5.0		102	1100	04/14/97	DLS
141525	Duplicate	1.5	mg/l	1.5		0	1100	04/14/97	DLS
141525	Spike		mg/l		3.3	105	1100	04/14/97	DLS
				Magnesium					
	Standard	1.1	mg/l	1.0		110	1100	04/15/97	DLS
	Standard	4.8	mg/l	5.0		96	1100	04/15/97	DLS
	Standard	10	mg/l	10		100	1100	04/15/97	DLS
	Standard	20	mg/l	20		100	1100	04/15/97	DLS
141639	Duplicate	11	mg/l	11		0	1100	04/15/97	DLS
141639	Spike		mg/l		11	100	1100	04/15/97	DLS
				Manganese					
	Standard	50	ug/l	50		100	1100	04/14/97	DLS
	Standard	490	ug/l	500		98	1100	04/14/97	DLS
	Standard	1000	ug/l	1000		100	1100	04/14/97	DLS
141639	Duplicate	130	ug/l	130		0	1100	04/14/97	DLS
141639	Spike		ug/l		570	96	1100	04/14/97	DLS
				Sodium					
	Standard	5.1	mg/l	5.0		102	1100	04/15/97	DLS
	Standard	10	mg/l	10		100	1100	04/15/97	DLS
	Standard	25	mg/l	25		100	1100	04/15/97	DLS
	Standard	51	mg/l	50		102	1100	04/15/97	DLS
141743	Duplicate	24	mg/l	24		0	1100	04/15/97	DLS
141743	Spike		mg/l		37	97	1100	04/15/97	DLS
				Zinc					
	Standard	42	ug/l	40		105	1100	04/14/97	DLS
	Standard	400	ug/l	400		100	1100	04/14/97	DLS
	Standard	1000	ug/l	1000		100	1100	04/14/97	DLS
141635	Duplicate	50	ug/l	50		0	1100	04/14/97	DLS
141635	Spike		ug/l		230	100	1100	04/14/97	DLS

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

TEST REPORT: 141643

CITY OF COLUSA
P.O. BOX 1063
COLUSA, CA 95932-0000
Attention: 0610002

Sample Identification:247 PUMP SW 406
Collected By:RB
Date & Time Taken:04/10/97 1015

Other Data: F-2,DOMESTIC SUITABILITY\STAIN
Sample Matrix: Liquid
Report Date: 04/16/97 Received: 04/10/97 Client: COL400

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Aggressive Index	12.2		1100 04/15/97			DLS
Alkalinity	139	mg/l	1100 04/15/97		EPA Method 310.1	DLS
Carbonate	<1.0	mg/l	1100 04/14/97	1.0 mg/l	EPA Method 310.1	SEL
Chloride	26	mg/l	1100 04/11/97	1.0 mg/l	SM 4500-Cl B	DLS
Specific Conductance	520	Micromhos	1100 04/11/97		EPA Method 120.1	DLS
Bicarbonate	170	mg/l	1100 04/14/97	2.0 mg/l	EPA METHOD 310.1	SEL
Sulfate	64	mg/l	1100 04/11/97	0.5 mg/l	SM 17th ed., 4500 E	DLS
pH	8.2	SU	1100 04/10/97		EPA Method 150.1	DLS
Iron	520	ug/l	1100 04/14/97	100 ug/l	EPA METHOD 236.1	DLS
Calcium	30	mg/l	1100 04/15/97		EPA Method 215.1	DLS
Copper	<50	ug/l	1100 04/14/97	50 ug/l	EPA METHOD 220.1	DLS
Potassium	2.9	mg/l	1100 04/14/97	<0.01 mg	EPA Method 258.1	DLS
Magnesium	20	mg/l	1100 04/15/97	<1.0	EPA Method 242.1	DLS
Manganese	90	ug/l	1100 04/14/97	30 ug/l	EPA METHOD 243.1	DLS
Sodium	47	mg/l	1100 04/15/97		EPA Method 273.1	DLS
Zinc	<50	ug/l	1100 04/14/97	50 ug/l	EPA METHOD 289.1	DLS
Total Hardness	157	mg/l	1100 04/15/97		SM 2340 B	DLS

Continued

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY

Quality Assurance for the SET with Sample 141643

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
				Carbonate					
141642	Duplicate	<1.0	mg/l	<1.0		0	1100	04/14/97	SEL
				Chloride					
141669	Duplicate	7.1	mg/l	7.1		0	1100	04/11/97	DLS
				Specific Conductance					
	Blank	0.6	umhos/cm				1100	04/11/97	DLS
	Standard	70	umhos/cm	71		99	1100	04/11/97	DLS
	Standard	350	umhos/cm	353		99	1100	04/11/97	DLS
	Standard	1390	umhos/cm	1412		98	1100	04/11/97	DLS
141639	Duplicate	980	umhos/cm	980		0	1100	04/11/97	DLS
				Bicarbonate					
141642	Duplicate	250	mg/l	250		0	1100	04/14/97	SEL
				Sulfate					
	Standard	10	mg/l	10		100	1100	04/11/97	DLS
	Standard	20	mg/l	20		100	1100	04/11/97	DLS
	Standard	40	mg/l	40		100	1100	04/11/97	DLS
141635	Duplicate	48	mg/l	49		2	1100	04/11/97	DLS
141635	Spike		mg/l		34	103	1100	04/11/97	DLS
				pH					
	Standard	4.0	SU	4.0		100	1100	04/10/97	DLS
	Standard	7.0	SU	7.0		100	1100	04/10/97	DLS
	Standard	10.0	SU	10.0		100	1100	04/10/97	DLS
141635	Duplicate	7.2	SU	7.2		0	1100	04/10/97	DLS
				Iron					
	Standard	100	ug/l	100		100	1100	04/14/97	DLS
	Standard	490	ug/l	500		98	1100	04/14/97	DLS
	Standard	990	ug/l	1000		99	1100	04/14/97	DLS
141643	Duplicate	520	ug/l	510		2	1100	04/14/97	DLS
141643	Spike		ug/l		760	100	1100	04/14/97	DLS
				Calcium					
	Standard	4.9	mg/l	5.0		98	1100	04/15/97	DLS
	Standard	20	mg/l	20		100	1100	04/15/97	DLS
	Standard	50	mg/l	50		100	1100	04/15/97	DLS
141525	Duplicate	43	mg/l	43		0	1100	04/15/97	DLS
141525	Spike		mg/l		32	97	1100	04/15/97	DLS
				Copper					
	Standard	51	ug/l	50		102	1100	04/14/97	DLS
	Standard	510	ug/l	500		102	1100	04/14/97	DLS
	Standard	1000	ug/l	1000		100	1100	04/14/97	DLS
141683	Duplicate	0.42	mg/l	0.41		2	1100	04/14/97	DLS
141683	Spike		mg/l		0.71	102	1100	04/14/97	DLS
				Potassium					
	Standard	1.01	mg/l	1.00		101	1100	04/14/97	DLS

Continued

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
	Standard	2.0	mg/l	2.0		100	1100	04/14/97	DLS
	Standard	5.1	mg/l	5.0		102	1100	04/14/97	DLS
141525	Duplicate	1.5	mg/l	1.5		0	1100	04/14/97	DLS
141525	Spike		mg/l		3.3	106	1100	04/14/97	DLS
				Magnesium					
	Standard	1.1	mg/l	1.0		110	1100	04/15/97	DLS
	Standard	4.8	mg/l	5.0		96	1100	04/15/97	DLS
	Standard	10	mg/l	10		100	1100	04/15/97	DLS
	Standard	20	mg/l	20		100	1100	04/15/97	DLS
141639	Duplicate	11	mg/l	11		0	1100	04/15/97	DLS
141639	Spike		mg/l		11	100	1100	04/15/97	DLS
				Manganese					
	Standard	50	ug/l	50		100	1100	04/14/97	DLS
	Standard	490	ug/l	500		98	1100	04/14/97	DLS
	Standard	1000	ug/l	1000		100	1100	04/14/97	DLS
141639	Duplicate	130	ug/l	130		0	1100	04/14/97	DLS
141639	Spike		ug/l		570	96	1100	04/14/97	DLS
				Sodium					
	Standard	5.1	mg/l	5.0		102	1100	04/15/97	DLS
	Standard	10	mg/l	10		100	1100	04/15/97	DLS
	Standard	25	mg/l	25		100	1100	04/15/97	DLS
	Standard	51	mg/l	50		102	1100	04/15/97	DLS
141743	Duplicate	24	mg/l	24		0	1100	04/15/97	DLS
141743	Spike		mg/l		37	97	1100	04/15/97	DLS
				Zinc					
	Standard	42	ug/l	40		105	1100	04/14/97	DLS
	Standard	400	ug/l	400		100	1100	04/14/97	DLS
	Standard	1000	ug/l	1000		100	1100	04/14/97	DLS
141635	Duplicate	50	ug/l	50		0	1100	04/14/97	DLS
141635	Spike		ug/l		230	100	1100	04/14/97	DLS

Monarch Laboratory, Inc.

WATER ANALYSIS

JUN 19 [illegible]

INVOICE NO: 92034

SUBMITTED BY: City of Colusa
P. O. Box 1063
Colusa, CA 95932

ADVISOR:

DATE SUBMITTED: 6-05-97

DATE REPORTED: 6-16-97

CROP: Rice

P. O. NUMBER:

Lab Code	Sample Number	pH	EC X 10	Ca meq/l	Mg meq/l	Na meq/l	CO3 meq/l	HCO3 meq/l	Cl meq/l	SO4 meq/l	B ppm	NO3 ppm	SAR			
142953	Powell	8.1	0.92	2.1	2.5	4.8	None	3.6	1.4	4.4	0.40	7.0	3.13			
142954	Effluent	9.0	0.93	0.90	0.75	7.7	None	5.2	2.2	1.1	0.53	8.8	8.38			
	Accept	7.0	0.3					3	3				3			
	Toxic	8.3	1.8					5	5				5			

EVALUATION AND RECOMMENDATIONS: When rice is past the middle tillering stage, the toxic levels of chloride, bicarbonates, and SAR can be increased to 7.0. Water pH over 8.5 ties up phosphorus and micronutrients.

MONARCH LABORATORY
563 East Lindo Avenue
Chico, California 95926

Phone (916) 343-5818

Ron Barnes, Agronomist

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

TEST REPORT: 142953

CITY OF COLUSA
P.O. BOX 1063
COLUSA, CA 95932-0000
Attention: 0610002

Sample Identification:POWELL SLOUGH, CROP-RICE
Collected By:Client
Date & Time Taken:06/05/97 0810

Other Data: 4-2, IRRIGATION SUITABILITY
Sample Matrix: Liquid
Report Date: 06/17/97 Received: 06/05/97 Client: COL400

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Carbonate (meqs)	(0.1	meq/l	1100 06/11/97	0.1 meq/	EPA METHOD 310.1	SEL
Chloride (meqs)	1.4	meq/l	1100 06/11/97		SM 407A	DLS
Specific Conductance	0.92	mmhos/cm	1100 06/06/97		EPA METHOD 120.1	SEL
Bicarbonate (meqs)	3.6	meq/l	1100 06/11/97		EPA METHOD 310.1	SEL
Sodium adsorption ratio	3.13		1100 06/15/97			DLS
pH	8.1	SU	1100 06/06/97		EPA Method 150.1	SEL
Boron	0.40	mg/l	1100 06/09/97	(0.03	EPA METHOD 212.3	RKB
Nitrate	7.0	mg/l	1100 06/10/97	2 mg/l	EPA Method 353.3	DLS
Calcium (meqs)	2.1	meq/l	1100 06/13/97		EPA METHOD 215.1	DLS
Magnesium (meqs)	2.5	meq/l	1100 06/13/97		EPA METHOD 242.1	DLS
Sodium (meqs)	4.8	meq/l	1100 06/13/97		EPA METHOD 273.1	DLS
Sulfate (meqs)	4.4	meq/l	1100 06/09/97	(0.01	SM 17th ed., 4500 E	DLS

Quality Assurance for the SET with Sample 142953

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
				Carbonate (meqs)					
142902	Duplicate	(1.0	mg/l	(1.0		0	1100	06/11/97	SEL
				Chloride (meqs)					
142977	Duplicate	11	mg/l	11		0	1100	06/11/97	DLS
				Specific Conductance					
	Blank	0.9	umhos/cm				1100	06/06/97	SEL

Continued

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
	Standard	70	umhos/cm	71		99	1100	06/06/97	SEL
	Standard	350	umhos/cm	353		99	1100	06/06/97	SEL
	Standard	1410	umhos/cm	1412		100	1100	06/06/97	SEL
142866	Duplicate	380	umhos/cm	380		0	1100	06/06/97	SEL
				Bicarbonate (meqs)					
142902	Duplicate	130	mg/l	130		0	1100	06/11/97	SEL
				pH					
	Standard	4.0	SU	4.0		100	1100	06/06/97	SEL
	Standard	7.0	SU	7.0		100	1100	06/06/97	SEL
	Standard	10.0	SU	10.0		100	1100	06/06/97	SEL
142866	Duplicate	7.9	SU	7.9		0	1100	06/06/97	SEL
				Boron					
	Standard	0.48	mg/l	0.50		96	1100	06/09/97	RKB
	Standard	0.97	mg/l	1.0		97	1100	06/09/97	RKB
142954	Duplicate	0.51	mg/l	0.54		6	1100	06/09/97	RKB
142954	Spike		mg/l		0.76	96	1100	06/09/97	RKB
				Nitrate					
	Standard	4.4	mg/l	4.4		100	1100	06/10/97	DLS
	Standard	11	mg/l	11		100	1100	06/10/97	DLS
	Standard	22	mg/l	22		100	1100	06/10/97	DLS
	Standard	44	mg/l	44		100	1100	06/10/97	DLS
142779	Duplicate	<2.0	mg/l	<2.0		0	1100	06/10/97	DLS
142779	Spike		mg/l		11	100	1100	06/10/97	DLS
				Calcium (meqs)					
	Standard	5.0	mg/l	5.0		100	1100	06/13/97	DLS
	Standard	20	mg/l	20		100	1100	06/13/97	DLS
	Standard	50	mg/l	50		100	1100	06/13/97	DLS
142977	Duplicate	13	mg/l	13		0	1100	06/13/97	DLS
142977	Spike		mg/l		17	94	1100	06/13/97	DLS
				Magnesium (meqs)					
	Standard	1.1	mg/l	1.0		110	1100	06/13/97	DLS
	Standard	4.9	mg/l	5.0		98	1100	06/13/97	DLS
	Standard	10	mg/l	10		100	1100	06/13/97	DLS
	Standard	20	mg/l	20		100	1100	06/13/97	DLS
142977	Duplicate	7.6	mg/l	7.4		3	1100	06/13/97	DLS
142977	Spike		mg/l		8.8	100	1100	06/13/97	DLS
				Sodium (meqs)					
	Standard	5.3	mg/l	5.0		106	1100	06/13/97	DLS
	Standard	10	mg/l	10		100	1100	06/13/97	DLS
	Standard	25	mg/l	25		100	1100	06/13/97	DLS
	Standard	49	mg/l	50		98	1100	06/13/97	DLS
143026	Duplicate	30	mg/l	30		0	1100	06/13/97	DLS
143026	Spike		mg/l		28	100	1100	06/13/97	DLS
				Sulfate (meqs)					
	Standard	11	mg/l	10		110	1100	06/09/97	DLS
	Standard	19	mg/l	20		95	1100	06/09/97	DLS

Continued

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
	Standard	40	ug/l	40		100	1100	06/09/97	DLS
142977	Duplicate	1.7	ug/l	1.7		0	1100	06/09/97	DLS
142977	Spike		ug/l		12	100	1100	06/09/97	DLS

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

TEST REPORT: 142954

CITY OF COLUSA
P.O. BOX 1063
COLUSA, CA 95932-0000
Attention: 0610002

Sample Identification:EFFLUENT,CROP-RICE
Collected By:Client
Date & Time Taken:06/05/97 0930

Other Data: 4-2,IRRIGATION SUITABILITY
Sample Matrix: Liquid
Report Date: 06/17/97 Received: 06/05/97 Client: COL400

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Carbonate (meqs)	(0.1	meq/l	1100 06/11/97	0.1 meq/	EPA METHOD 310.1	SEL
Chloride (meqs)	2.2	meq/l	1100 06/11/97		SM 407A	DLS
Specific Conductance	0.93	mmhos/cm	1100 06/06/97		EPA METHOD 120.1	SEL
Bicarbonate (meqs)	5.2	meq/l	1100 06/11/97		EPA METHOD 310.1	SEL
Sodium adsorption ratio	8.38		1100 06/15/97			DLS
pH	9.0	SU	1100 06/06/97		EPA Method 150.1	SEL
Boron	0.53	mg/l	1100 06/09/97	(0.03	EPA METHOD 212.3	RKB
Nitrate	8.8	mg/l	1100 06/10/97	.2 mg/l	EPA Method 353.3	DLS
Calcium (meqs)	0.90	meq/l	1100 06/13/97		EPA METHOD 215.1	DLS
Magnesium (meqs)	0.75	meq/l	1100 06/13/97		EPA METHOD 242.1	DLS
Sodium (meqs)	7.7	meq/l	1100 06/13/97		EPA METHOD 273.1	DLS
Sulfate (meqs)	1.1	meq/l	1100 06/09/97	(0.01	SM 17th ed., 4500 E	DLS

Quality Assurance for the SET with Sample 142954

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
				Carbonate (meqs)					
142902	Duplicate	(1.0	mg/l	(1.0		0	1100	06/11/97	SEL
				Chloride (meqs)					
142977	Duplicate	11	mg/l	11		0	1100	06/11/97	DLS
				Specific Conductance					
	Blank	0.9	umhos/cm				1100	06/06/97	SEL

Continued

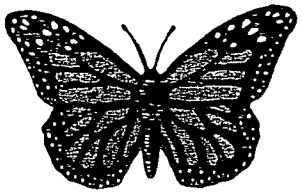
Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
	Standard	70	umhos/cm	71		99	1103	06/06/97	SEL
	Standard	350	umhos/cm	353		99	1100	06/06/97	SEL
	Standard	1410	umhos/cm	1412		100	1100	06/06/97	SEL
142866	Duplicate	380	umhos/cm	380		0	1109	06/06/97	SEL
				Bicarbonate (meqs)					
142902	Duplicate	130	mg/l	130		0	1100	06/11/97	SEL
				pH					
	Standard	4.0	SU	4.0		100	1103	06/06/97	SEL
	Standard	7.0	SU	7.0		100	1100	06/06/97	SEL
	Standard	10.0	SU	10.0		100	1100	06/06/97	SEL
142866	Duplicate	7.9	SU	7.9		0	1109	06/06/97	SEL
				Boron					
	Standard	0.48	mg/l	0.50		96	1100	06/09/97	RKB
	Standard	0.97	mg/l	1.0		97	1100	06/09/97	RKB
142954	Duplicate	0.51	mg/l	0.54		6	1100	06/09/97	RKB
142954	Spike		mg/l		0.76	96	1100	06/09/97	RKB
				Nitrate					
	Standard	4.4	mg/l	4.4		100	1100	06/10/97	DLS
	Standard	11	mg/l	11		100	1100	06/10/97	DLS
	Standard	22	mg/l	22		100	1100	06/10/97	DLS
	Standard	44	mg/l	44		100	1100	06/10/97	DLS
142779	Duplicate	(2.0	mg/l	(2.0		0	1100	06/10/97	DLS
142779	Spike		mg/l		11	100	1100	06/10/97	DLS
				Calcium (meqs)					
	Standard	5.0	mg/l	5.0		100	1100	06/13/97	DLS
	Standard	20	mg/l	20		100	1100	06/13/97	DLS
	Standard	50	mg/l	50		100	1100	06/13/97	DLS
142977	Duplicate	13	mg/l	13		0	1100	06/13/97	DLS
142977	Spike		mg/l		17	94	1100	06/13/97	DLS
				Magnesium (meqs)					
	Standard	1.1	mg/l	1.0		110	1100	06/13/97	DLS
	Standard	4.9	mg/l	5.0		98	1100	06/13/97	DLS
	Standard	10	mg/l	10		100	1100	06/13/97	DLS
	Standard	20	mg/l	20		100	1100	06/13/97	DLS
142977	Duplicate	7.6	mg/l	7.4		3	1100	06/13/97	DLS
142977	Spike		mg/l		8.8	100	1100	06/13/97	DLS
				Sodium (meqs)					
	Standard	5.3	mg/l	5.0		106	1100	06/13/97	DLS
	Standard	10	mg/l	10		100	1100	06/13/97	DLS
	Standard	25	mg/l	25		100	1100	06/13/97	DLS
	Standard	49	mg/l	50		98	1100	06/13/97	DLS
143026	Duplicate	30	mg/l	30		0	1100	06/13/97	DLS
143026	Spike		mg/l		28	100	1100	06/13/97	DLS
				Sulfate (meqs)					
	Standard	11	mg/l	10		110	1100	06/09/97	DLS
	Standard	19	mg/l	20		95	1100	06/09/97	DLS

Continued

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
	Standard	40	ug/l	40		100	1100	06/09/97	DLS
142977	Duplicate	1.7	ug/l	1.7		0	1100	06/09/97	DLS
142977	Spike		ug/l		12	108	1100	06/09/97	DLS



Monarch Laboratory, Inc.

WATER ANALYSIS

INVOICE NO: 92327

SUBMITTED BY: City of Colusa
P. O. Box 1063
Colusa, CA 95932

ADVISOR: Ron Loudon

DATE SUBMITTED: 6-10-97

DATE REPORTED: 6-24-97

CROP: Rice

P. O. NUMBER:

Lab Code	Sample Number	pH	EC X 10	Ca meq/l	Mg meq/l	Na meq/l	CO3 meq/l	HCO3 meq/l	Cl meq/l	SO4 meq/l	B ppm	NO3 ppm	SAR			
143045	Recirculation Eff	7.6	1.44	1.6	1.9	10.4	None	6.6	3.3	3.5	0.48	5.1	7.93			
143046	Overland Flow Eff	7.8	1.44	1.3	1.5	11.7	None	8.6	3.2	2.2	0.73	6.5	10			
143047	Pond #6 Effluent	8.8	0.97	0.90	0.75	7.4	None	5.1	2.2	0.99	0.50	4.9	8.1			
	Accept	7.0	0.5					5	5				5			
	Toxic	8.5	2.5					7	7				7			

EVALUATION AND RECOMMENDATIONS:
Rice is more tolerant to salts and alkalinity in the jointing stage of growth.

MONARCH LABORATORY
563 East Lindo Avenue
Chico, California 95926

Phone (916) 343-5818

Ron Barnes, Agronomist

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

TEST REPORT: 143045

CITY OF COLUSA
P.O. BOX 1063
COLUSA, CA 95932-0000
Attention: 0610002

Sample Identification:RECIRC EFFLUENT,CROP: RICE
Collected By:RON
Date & Time Taken:06/10/97 0830

Other Data: 4-2,IRRIGATION SUITABILITY
Sample Matrix: Liquid
Report Date: 06/25/97 Received: 06/10/97 Client: COL400

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Carbonate (meqs)	(0.1	meq/l	1100 06/11/97	0.1 meq/		SEL
Chloride (meqs)	3.3	meq/l	1100 06/11/97			DLS
Specific Conductance	1.44	mmhos/cm	1100 06/13/97		EPA METHOD 120.1	SEL
Bicarbonate (meqs)	6.6	meq/l	1100 06/11/97			SEL
Sodium adsorption ratio	7.93		1100 06/15/97			DLS
pH	7.6	SU	1100 06/11/97		EPA Method 150.1	SEL
Boron	0.48	mg/l	1100 06/21/97	(0.03	EPA METHOD 212.3	RKB
Nitrate	5.1	mg/l	1100 06/12/97	2 mg/l	EPA Method 353.3	DLS
Calcium (meqs)	1.6	meq/l	1100 06/13/97			DLS
Magnesium (meqs)	1.9	meq/l	1100 06/13/97			DLS
Sodium (meqs)	10.4	meq/l	1100 06/13/97			DLS
Sulfate (meqs)	3.5	meq/l	1100 06/18/97	(0.01	SM 17th ed., 4500 E	DLS

Quality Assurance for the SET with Sample 143045

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
				Carbonate (meqs)					
142902	Duplicate	(1.0	mg/l	(1.0		0	1100	06/11/97	SEL
				Chloride (meqs)					
142977	Duplicate	11	mg/l	11		0	1100	06/11/97	DLS
				Specific Conductance					
	Blank	1.2	umhos/cm				1100	06/13/97	SEL

Continued

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
	Standard	70	umhos/cm	71		99	1100	06/13/97	SEL
	Standard	350	umhos/cm	353		99	1100	06/13/97	SEL
	Standard	1410	umhos/cm	1412		100	1100	06/13/97	SEL
143087	Duplicate	80	umhos/cm	80		0	1100	06/13/97	SEL
				Bicarbonate (meqs)					
142902	Duplicate	130	mg/l	130		0	1100	06/11/97	SEL
				pH					
	Standard	4.0	SU	4.0		100	1100	06/11/97	SEL
	Standard	7.0	SU	7.0		100	1100	06/11/97	SEL
	Standard	10.0	SU	10.0		100	1100	06/11/97	SEL
143046	Duplicate	7.8	SU	7.8		0	1100	06/11/97	SEL
				Boron					
	Standard	0.11	mg/l	0.10		110	1100	06/21/97	RKB
	Standard	1.0	mg/l	1.0		100	1100	06/21/97	RKB
	Standard	5.1	mg/l	5.0		102	1100	06/21/97	RKB
143121	Duplicate	0.47	mg/l	0.47		0	1100	06/21/97	RKB
143121	Spike		mg/l		0.74	105	1100	06/21/97	RKB
				Nitrate					
	Standard	4.3	mg/l	4.4		98	1100	06/12/97	DLS
	Standard	11	mg/l	11		100	1100	06/12/97	DLS
	Standard	22	mg/l	22		100	1100	06/12/97	DLS
	Standard	44	mg/l	44		100	1100	06/12/97	DLS
143044	Duplicate	15	mg/l	15		0	1100	06/12/97	DLS
143044	Spike		mg/l		19	100	1100	06/12/97	DLS
				Calcium (meqs)					
	Standard	5.0	mg/l	5.0		100	1100	06/13/97	DLS
	Standard	20	mg/l	20		100	1100	06/13/97	DLS
	Standard	50	mg/l	50		100	1100	06/13/97	DLS
142977	Duplicate	13	mg/l	13		0	1100	06/13/97	DLS
142977	Spike		mg/l		17	94	1100	06/13/97	DLS
				Magnesium (meqs)					
	Standard	1.1	mg/l	1.0		110	1100	06/13/97	DLS
	Standard	4.9	mg/l	5.0		98	1100	06/13/97	DLS
	Standard	10	mg/l	10		100	1100	06/13/97	DLS
	Standard	20	mg/l	20		100	1100	06/13/97	DLS
142977	Duplicate	7.6	mg/l	7.4		3	1100	06/13/97	DLS
142977	Spike		mg/l		8.8	100	1100	06/13/97	DLS
				Sodium (meqs)					
	Standard	5.3	mg/l	5.0		106	1100	06/13/97	DLS
	Standard	10	mg/l	10		100	1100	06/13/97	DLS
	Standard	25	mg/l	25		100	1100	06/13/97	DLS
	Standard	49	mg/l	50		98	1100	06/13/97	DLS
143026	Duplicate	30	mg/l	30		0	1100	06/13/97	DLS
143026	Spike		mg/l		28	100	1100	06/13/97	DLS
				Sulfate (meqs)					
	Standard	10	mg/l	10		100	1100	06/18/97	DLS

Continued

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
	Standard	20	ug/l	20		100	1100	06/18/97	DLS
	Standard	40	ug/l	40		100	1100	06/18/97	DLS
143087	Duplicate	0.8	ug/l	0.8		0	1100	06/18/97	DLS
143087	Spike		ug/l		11	109	1100	06/18/97	DLS

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

TEST REPORT: 143046

CITY OF COLUSA
P.O. BOX 1063
COLUSA, CA 95932-0000
Attention: 0610002

Sample Identification:OVERLAND FLOW EFFLUENT, RICE
Collected By:RON
Date & Time Taken:06/10/97 0905

Other Data: 4-2, IRRIGATION SUITABILITY
Sample Matrix: Liquid
Report Date: 06/25/97 Received: 06/10/97 Client: COL400

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Carbonate (meqs)	<0.1	meq/l	1100 06/11/97	0.1 meq/	EPA METHOD 310.1	SEL
Chloride (meqs)	3.2	meq/l	1100 06/11/97		SM 407A	DLS
Specific Conductance	1.44	mmhos/cm	1100 06/13/97		EPA METHOD 120.1	SEL
Bicarbonate (meqs)	8.6	meq/l	1100 06/11/97		EPA METHOD 310.1	SEL
Sodium adsorption ratio	10.0		1100 06/15/97			DLS
pH	7.8	SU	1100 06/11/97		EPA Method 150.1	SEL
Boron	0.73	mg/l	1100 06/21/97	<0.03	EPA METHOD 212.3	RKB
Nitrate	6.5	mg/l	1100 06/12/97	2 mg/l	EPA Method 353.3	DLS
Calcium (meqs)	1.3	meq/l	1100 06/13/97		EPA METHOD 215.1	DLS
Magnesium (meqs)	1.5	meq/l	1100 06/13/97		EPA METHOD 242.1	DLS
Sodium (meqs)	11.7	meq/l	1100 06/13/97		EPA METHOD 273.1	DLS
Sulfate (meqs)	2.2	meq/l	1100 06/18/97	<0.01	SM 17th ed., 4500 E	DLS

Quality Assurance for the SET with Sample 143046

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
				Carbonate (meqs)					
142902	Duplicate	<1.0	mg/l	<1.0		0	1100	06/11/97	SEL
				Chloride (meqs)					
142977	Duplicate	11	mg/l	11		0	1100	06/11/97	DLS
				Specific Conductance					
	Blank	1.2	umhos/cm				1100	06/13/97	SEL

Continued

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
	Standard	70	umhos/cm	71		99	1100	06/13/97	SEL
	Standard	350	umhos/cm	353		99	1100	06/13/97	SEL
	Standard	1410	umhos/cm	1412		100	1100	06/13/97	SEL
143087	Duplicate	80	umhos/cm	80		0	1100	06/13/97	SEL
				Bicarbonate (meqs)					
142902	Duplicate	130	mg/l	130		0	1100	06/11/97	SEL
				pH					
	Standard	4.0	SU	4.0		100	1100	06/11/97	SEL
	Standard	7.0	SU	7.0		100	1100	06/11/97	SEL
	Standard	10.0	SU	10.0		100	1100	06/11/97	SEL
143046	Duplicate	7.8	SU	7.8		0	1100	06/11/97	SEL
				Boron					
	Standard	0.11	mg/l	0.10		110	1100	06/21/97	RKB
	Standard	1.0	mg/l	1.0		100	1100	06/21/97	RKB
	Standard	5.1	mg/l	5.0		102	1100	06/21/97	RKB
143121	Duplicate	0.47	mg/l	0.47		0	1100	06/21/97	RKB
143121	Spike		mg/l		0.74	105	1100	06/21/97	RKB
				Nitrate					
	Standard	4.3	mg/l	4.4		98	1100	06/12/97	DLS
	Standard	11	mg/l	11		100	1100	06/12/97	DLS
	Standard	22	mg/l	22		100	1100	06/12/97	DLS
	Standard	44	mg/l	44		100	1100	06/12/97	DLS
143044	Duplicate	15	mg/l	15		0	1100	06/12/97	DLS
143044	Spike		mg/l		19	100	1100	06/12/97	DLS
				Calcium (meqs)					
	Standard	5.0	mg/l	5.0		100	1100	06/13/97	DLS
	Standard	20	mg/l	20		100	1100	06/13/97	DLS
	Standard	50	mg/l	50		100	1100	06/13/97	DLS
142977	Duplicate	13	mg/l	13		0	1100	06/13/97	DLS
142977	Spike		mg/l		17	94	1100	06/13/97	DLS
				Magnesium (meqs)					
	Standard	1.1	mg/l	1.0		110	1100	06/13/97	DLS
	Standard	4.9	mg/l	5.0		98	1100	06/13/97	DLS
	Standard	10	mg/l	10		100	1100	06/13/97	DLS
	Standard	20	mg/l	20		100	1100	06/13/97	DLS
142977	Duplicate	7.6	mg/l	7.4		3	1100	06/13/97	DLS
142977	Spike		mg/l		8.8	100	1100	06/13/97	DLS
				Sodium (meqs)					
	Standard	5.3	mg/l	5.0		106	1100	06/13/97	DLS
	Standard	10	mg/l	10		100	1100	06/13/97	DLS
	Standard	25	mg/l	25		100	1100	06/13/97	DLS
	Standard	49	mg/l	50		98	1100	06/13/97	DLS
143026	Duplicate	30	mg/l	30		0	1100	06/13/97	DLS
143026	Spike		mg/l		28	100	1100	06/13/97	DLS
				Sulfate (meqs)					
	Standard	10	mg/l	10		100	1100	06/18/97	DLS

Continued

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
	Standard	20	ug/l	20		100	1100	06/18/97	DLS
	Standard	40	ug/l	40		100	1100	06/18/97	DLS
143087	Duplicate	0.8	ug/l	0.8		0	1100	06/18/97	DLS
143087	Spike		ug/l		11	109	1100	06/18/97	DLS

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

TEST REPORT: 143047

CITY OF COLUSA
P.O. BOX 1063
COLUSA, CA 95932-0000
Attention: 0610002

Sample Identification:POND #6 EFFLUENT, CROP: RICE
Collected By:RON
Date & Time Taken:06/10/97 0915

Other Data: 4-2, IRRIGATION SUITABILITY
Sample Matrix: Liquid
Report Date: 06/25/97 Received: 06/10/97 Client: COL400

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Carbonate (meqs)	0.5	meq/l	1100 06/11/97	0.1 meq/	EPA METHOD 310.1	SEL
Chloride (meqs)	2.2	meq/l	1100 06/11/97		SM 407A	DLS
Specific Conductance	0.97	mmhos/cm	1100 06/13/97		EPA METHOD 120.1	SEL
Bicarbonate (meqs)	5.1	meq/l	1100 06/11/97		EPA METHOD 310.1	SEL
Sodium adsorption ratio	0.10		1100 06/15/97			DLS
pH	8.8	SU	1100 06/11/97		EPA Method 150.1	SEL
Boron	0.50	mg/l	1100 06/21/97	(0.03	EPA METHOD 212.3	RKB
Nitrate	4.9	mg/l	1100 06/12/97	2 mg/l	EPA Method 353.3	DLS
Calcium (meqs)	0.90	meq/l	1100 06/13/97		EPA METHOD 215.1	DLS
Magnesium (meqs)	0.75	meq/l	1100 06/13/97		EPA METHOD 242.1	DLS
Sodium (meqs)	7.4	meq/l	1100 06/13/97		EPA METHOD 273.1	DLS
Sulfate (meqs)	0.99	meq/l	1100 06/18/97	(0.01	SM 17th ed., 4500 E	DLS

Quality Assurance for the SET with Sample 143047

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
				Carbonate (meqs)					
142902	Duplicate	(1.0	mg/l	(1.0		0	1100	06/11/97	SEL
				Chloride (meqs)					
142977	Duplicate	11	mg/l	11		0	1100	06/11/97	DLS
				Specific Conductance					
	Blank	1.2	umhos/cm				1100	06/13/97	SEL

Continued

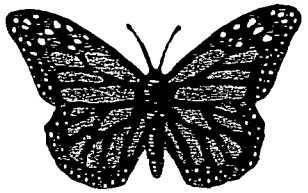
Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
	Standard	70	umhos/cm	71		99	1100	06/13/97	SEL
	Standard	350	umhos/cm	353		99	1100	06/13/97	SEL
	Standard	1410	umhos/cm	1412		100	1100	06/13/97	SEL
143087	Duplicate	80	umhos/cm	80		0	1100	06/13/97	SEL
				Bicarbonate (meqs)					
142902	Duplicate	130	mg/l	130		0	1100	06/11/97	SEL
				pH					
	Standard	4.0	SU	4.0		100	1100	06/11/97	SEL
	Standard	7.0	SU	7.0		100	1100	06/11/97	SEL
	Standard	10.0	SU	10.0		100	1100	06/11/97	SEL
143046	Duplicate	7.8	SU	7.8		0	1100	06/11/97	SEL
				Boron					
	Standard	0.11	mg/l	0.10		110	1100	06/21/97	RKB
	Standard	1.0	mg/l	1.0		100	1100	06/21/97	RKB
	Standard	5.1	mg/l	5.0		102	1100	06/21/97	RKB
143121	Duplicate	0.47	mg/l	0.47		0	1100	06/21/97	RKB
143121	Spike		mg/l		0.74	105	1100	06/21/97	RKB
				Nitrate					
	Standard	4.3	mg/l	4.4		98	1100	06/12/97	DLS
	Standard	11	mg/l	11		100	1100	06/12/97	DLS
	Standard	22	mg/l	22		100	1100	06/12/97	DLS
	Standard	44	mg/l	44		100	1100	06/12/97	DLS
143044	Duplicate	15	mg/l	15		0	1100	06/12/97	DLS
143044	Spike		mg/l		19	100	1100	06/12/97	DLS
				Calcium (meqs)					
	Standard	5.0	mg/l	5.0		100	1100	06/13/97	DLS
	Standard	20	mg/l	20		100	1100	06/13/97	DLS
	Standard	50	mg/l	50		100	1100	06/13/97	DLS
142977	Duplicate	13	mg/l	13		0	1100	06/13/97	DLS
142977	Spike		mg/l		17	94	1100	06/13/97	DLS
				Magnesium (meqs)					
	Standard	1.1	mg/l	1.0		110	1100	06/13/97	DLS
	Standard	4.9	mg/l	5.0		98	1100	06/13/97	DLS
	Standard	10	mg/l	10		100	1100	06/13/97	DLS
	Standard	20	mg/l	20		100	1100	06/13/97	DLS
142977	Duplicate	7.6	mg/l	7.4		3	1100	06/13/97	DLS
142977	Spike		mg/l		8.8	100	1100	06/13/97	DLS
				Sodium (meqs)					
	Standard	5.3	mg/l	5.0		106	1100	06/13/97	DLS
	Standard	10	mg/l	10		100	1100	06/13/97	DLS
	Standard	25	mg/l	25		100	1100	06/13/97	DLS
	Standard	49	mg/l	50		98	1100	06/13/97	DLS
143026	Duplicate	30	mg/l	30		0	1100	06/13/97	DLS
143026	Spike		mg/l		28	100	1100	06/13/97	DLS
				Sulfate (meqs)					
	Standard	10	mg/l	10		100	1100	06/18/97	DLS

Continued

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
	Standard	20	ug/l	20		100	1100	06/18/97	DLS
	Standard	40	ug/l	40		100	1100	06/18/97	DLS
143087	Duplicate	0.8	ug/l	0.8		0	1100	06/18/97	DLS
143087	Spike		ug/l		11	109	1100	06/18/97	DLS



Monarch Laboratory, Inc.

WATER ANALYSIS

INVOICE NO: 92327

SUBMITTED BY: City of Colusa
P. O. Box 1063
Colusa, CA 95932

ADVISOR: Ron Loudon

DATE SUBMITTED: 6-12-97

DATE REPORTED: 6-24-97

CROP: Rice

P. O. NUMBER:

Lab Code	Sample Number	pH	EC X 10	Ca meq/l	Mg meq/l	Na meq/l	CO3 meq/l	HCO3 meq/l	Cl meq/l	SO4 meq/l	B ppm	NO3 ppm	SAR			
143119	Recirculation Eff	7.5	1.45	1.4	1.7	10.9	None	7.3	3.6	2.7	0.70	6.6	8.73			
143120	Overland Flow Eff	9.1	1.05	1.0	0.90	8.7	None	6.6	2.5	0.80	0.65	13	8.9			
143121	Pond #6 Effluent	8.9	0.93	0.90	0.73	7.4	None	5.9	2.2	0.60	0.47	18	8.16			
	Accept	7.0	0.5					5	5				5			
	Toxic	8.5	2.5					7	7				7			

EVALUATION AND RECOMMENDATIONS:

MONARCH LABORATORY
563 East Lindo Avenue
Chico, California 95926

Phone (916) 343-5818

Ron Barnes, Agronomist

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

TEST REPORT: 143119

CITY OF COLUSA
P.O. BOX 1063
COLUSA, CA 95932-0000
Attention: 061000Z

Sample Identification:RECIRCULATION EFFLUENT
Collected By:Client
Date & Time Taken:06/12/97 0815

Other Data: 4-2,IRRIGATION SUITABILITY
Sample Matrix: Liquid
Report Date: 06/25/97 Received: 06/12/97 Client: COL400

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Carbonate (meqs)	(0.1	meq/l	1100 06/18/97	0.1 meq/	EPA METHOD 310.1	HS
Chloride (meqs)	3.6	meq/l	1100 06/18/97		SM 407A	DLS
Specific Conductance	1.45	mmhos/cm	1100 06/13/97		EPA METHOD 120.1	SEL
Bicarbonate (meqs)	7.3	meq/l	1100 06/18/97		EPA METHOD 310.1	HS
Sodium adsorption ratio	8.73		1100 06/15/97			DLS
pH	7.5	SU	1100 06/13/97		EPA Method 150.1	HS
Boron	0.70	mg/l	1100 06/21/97	(0.03	EPA METHOD 212.3	RKB
Nitrate	6.6	mg/l	1100 06/23/97	2 mg/l	EPA Method 353.3	DLS
Calcium (meqs)	1.4	meq/l	1100 06/13/97		EPA METHOD 215.1	DLS
Magnesium (meqs)	1.7	meq/l	1100 06/13/97		EPA METHOD 242.1	DLS
Sodium (meqs)	10.9	meq/l	1100 06/13/97		EPA METHOD 273.1	DLS
Sulfate (meqs)	2.7	meq/l	1100 06/18/97	(0.01	SM 17th ed., 4500 E	DLS

Quality Assurance for the SET with Sample 143119

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
				Carbonate (meqs)					
143087	Duplicate	(1.0	mg/l	(1.0		0	1100	06/18/97	HS
				Chloride (meqs)					
143150	Duplicate	12	mg/l	12		0	1100	06/18/97	DLS
				Specific Conductance					
	Blank	1.2	umhos/cm				1100	06/13/97	SEL

Continued

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
	Standard	70	umhos/cm	71		99	1100	06/13/97	SEL
	Standard	350	umhos/cm	353		99	1100	06/13/97	SEL
	Standard	1410	umhos/cm	1412		100	1100	06/13/97	SEL
143087	Duplicate	80	umhos/cm	80		0	1100	06/13/97	SEL
				Bicarbonate (meqs)					
143087	Duplicate	40	mg/l	40		0	1100	06/18/97	HS
				pH					
	Standard	4.0	SU	4.0		100	1100	06/13/97	HS
	Standard	7.0	SU	7.0		100	1100	06/13/97	HS
	Standard	10.0	SU	10.0		100	1100	06/13/97	HS
143119	Duplicate	7.5	SU	7.5		0	1100	06/13/97	HS
				Boron					
	Standard	0.11	mg/l	0.10		110	1100	06/21/97	RKB
	Standard	1.0	mg/l	1.0		100	1100	06/21/97	RKB
	Standard	5.1	mg/l	5.0		102	1100	06/21/97	RKB
143121	Duplicate	0.47	mg/l	0.47		0	1100	06/21/97	RKB
143121	Spike		mg/l		0.74	105	1100	06/21/97	RKB
				Nitrate					
	Standard	4.3	mg/l	4.4		98	1100	06/23/97	DLS
	Standard	11	mg/l	11		100	1100	06/23/97	DLS
	Standard	22	mg/l	22		100	1100	06/23/97	DLS
	Standard	43	mg/l	44		98	1100	06/23/97	DLS
143259	Duplicate	<2.0	mg/l	<2.0		0	1100	06/23/97	DLS
143259	Spike		mg/l		11	100	1100	06/23/97	DLS
				Calcium (meqs)					
	Standard	5.0	mg/l	5.0		100	1100	06/13/97	DLS
	Standard	20	mg/l	20		100	1100	06/13/97	DLS
	Standard	50	mg/l	50		100	1100	06/13/97	DLS
142977	Duplicate	13	mg/l	13		0	1100	06/13/97	DLS
142977	Spike		mg/l		17	94	1100	06/13/97	DLS
				Magnesium (meqs)					
	Standard	1.1	mg/l	1.0		110	1100	06/13/97	DLS
	Standard	4.9	mg/l	5.0		98	1100	06/13/97	DLS
	Standard	10	mg/l	10		100	1100	06/13/97	DLS
	Standard	20	mg/l	20		100	1100	06/13/97	DLS
142977	Duplicate	7.6	mg/l	7.4		3	1100	06/13/97	DLS
142977	Spike		mg/l		8.8	100	1100	06/13/97	DLS
				Sodium (meqs)					
	Standard	5.3	mg/l	5.0		106	1100	06/13/97	DLS
	Standard	10	mg/l	10		100	1100	06/13/97	DLS
	Standard	25	mg/l	25		100	1100	06/13/97	DLS
	Standard	49	mg/l	50		98	1100	06/13/97	DLS
143026	Duplicate	30	mg/l	30		0	1100	06/13/97	DLS
143026	Spike		mg/l		28	100	1100	06/13/97	DLS
				Sulfate (meqs)					
	Standard	10	mg/l	10		100	1100	06/18/97	DLS

Continued

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
	Standard	20	ug/l	20		100	1100	06/18/97	DLS
	Standard	40	ug/l	40		100	1100	06/18/97	DLS
143087	Duplicate	0.8	ug/l	0.8		0	1100	06/18/97	DLS
143087	Spike		ug/l		11	109	1100	06/18/97	DLS

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

TEST REPORT: 143120

CITY OF COLUSA
P.O. BOX 1063
COLUSA, CA 95932-0000
Attention: 0610002

Sample Identification:OVERLAND FLOW EFFLUENT
Collected By:Client
Date & Time Taken:06/12/97 0845

Other Data: 4-2,IRRIGATION SUITABILITY
Sample Matrix: Liquid
Report Date: 06/25/97 Received: 06/12/97 Client: COL400

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Carbonate (meqs)	(0.1	meq/l	1100 06/18/97	0.1 meq/	EPA METHOD 310.1	HS
Chloride (meqs)	2.5	meq/l	1100 06/18/97		SM 407A	DLS
Specific Conductance	1.05	mmhos/cm	1100 06/13/97		EPA METHOD 120.1	SEL
Bicarbonate (meqs)	6.6	meq/l	1100 06/18/97		EPA METHOD 310.1	HS
Sodium adsorption ratio	8.88		1100 06/15/97			DLS
pH	9.1	SU	1100 06/13/97		EPA Method 150.1	HS
Boron	0.65	mg/l	1100 06/21/97	(0.03	EPA METHOD 212.3	RKB
Nitrate	13	mg/l	1100 06/23/97	2 mg/l	EPA Method 353.3	DLS
Calcium (meqs)	1.0	meq/l	1100 06/13/97		EPA METHOD 215.1	DLS
Magnesium (meqs)	0.90	meq/l	1100 06/13/97		EPA METHOD 242.1	DLS
Sodium (meqs)	8.7	meq/l	1100 06/13/97		EPA METHOD 273.1	DLS
Sulfate (meqs)	0.80	meq/l	1100 06/18/97	(0.01	SM 17th ed., 4500 E	DLS

Quality Assurance for the SET with Sample 143120

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
				Carbonate (meqs)					
143087	Duplicate	(1.0	mg/l	(1.0		0	1100	06/18/97	HS
				Chloride (meqs)					
143150	Duplicate	12	mg/l	12		0	1100	06/18/97	DLS
				Specific Conductance					
	Blank	1.2	umhos/cm				1100	06/13/97	SEL

Continued

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
	Standard	70	umhos/cm	71		99	1100	06/13/97	SEL
	Standard	350	umhos/cm	353		99	1100	06/13/97	SEL
	Standard	1410	umhos/cm	1412		100	1100	06/13/97	SEL
143087	Duplicate	80	umhos/cm	80		0	1100	06/13/97	SEL
				Bicarbonate (meqs)					
143087	Duplicate	40	mg/l	40		0	1100	06/18/97	HS
				pH					
	Standard	4.0	SU	4.0		100	1100	06/13/97	HS
	Standard	7.0	SU	7.0		100	1100	06/13/97	HS
	Standard	10.0	SU	10.0		100	1100	06/13/97	HS
143119	Duplicate	7.5	SU	7.5		0	1100	06/13/97	HS
				Boron					
	Standard	0.11	mg/l	0.10		110	1100	06/21/97	RKB
	Standard	1.0	mg/l	1.0		100	1100	06/21/97	RKB
	Standard	5.1	mg/l	5.0		102	1100	06/21/97	RKB
143121	Duplicate	0.47	mg/l	0.47		0	1100	06/21/97	RKB
143121	Spike		mg/l		0.74	105	1100	06/21/97	RKB
				Nitrate					
	Standard	4.3	mg/l	4.4		98	1100	06/23/97	DLS
	Standard	11	mg/l	11		100	1100	06/23/97	DLS
	Standard	22	mg/l	22		100	1100	06/23/97	DLS
	Standard	43	mg/l	44		98	1100	06/23/97	DLS
143259	Duplicate	<2.0	mg/l	<2.0		0	1100	06/23/97	DLS
143259	Spike		mg/l		11	100	1100	06/23/97	DLS
				Calcium (meqs)					
	Standard	5.0	mg/l	5.0		100	1100	06/13/97	DLS
	Standard	20	mg/l	20		100	1100	06/13/97	DLS
	Standard	50	mg/l	50		100	1100	06/13/97	DLS
142977	Duplicate	13	mg/l	13		0	1100	06/13/97	DLS
142977	Spike		mg/l		17	94	1100	06/13/97	DLS
				Magnesium (meqs)					
	Standard	1.1	mg/l	1.0		110	1100	06/13/97	DLS
	Standard	4.9	mg/l	5.0		98	1100	06/13/97	DLS
	Standard	10	mg/l	10		100	1100	06/13/97	DLS
	Standard	20	mg/l	20		100	1100	06/13/97	DLS
142977	Duplicate	7.6	mg/l	7.4		3	1100	06/13/97	DLS
142977	Spike		mg/l		6.8	100	1100	06/13/97	DLS
				Sodium (meqs)					
	Standard	5.3	mg/l	5.0		106	1100	06/13/97	DLS
	Standard	10	mg/l	10		100	1100	06/13/97	DLS
	Standard	25	mg/l	25		100	1100	06/13/97	DLS
	Standard	49	mg/l	50		98	1100	06/13/97	DLS
143026	Duplicate	30	mg/l	30		0	1100	06/13/97	DLS
143026	Spike		mg/l		28	100	1100	06/13/97	DLS
				Sulfate (meqs)					
	Standard	10	mg/l	10		100	1100	06/18/97	DLS

Continued

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
	Standard	20	mg/l	20		100	1100	06/18/97	DLS
	Standard	40	mg/l	40		100	1100	06/18/97	DLS
143087	Duplicate	0.8	mg/l	0.8		0	1100	06/18/97	DLS
143087	Spike		mg/l		11	109	1100	06/18/97	DLS

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

TEST REPORT: 143121

CITY OF COLUSA
P.O. BOX 1063
COLUSA, CA 95932-0000
Attention: 0610002

Sample Identification:POND #6 EFFLUENT
Collected By:Client
Date & Time Taken:06/12/97 0805

Other Data: 4-2,IRRIGATION SUITABILITY
Sample Matrix: Liquid
Report Date: 06/25/97 Received: 06/12/97 Client: COL400

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Carbonate (meqs)	<0.1	meq/l	1100 06/18/97	0.1 meq/	EPA METHOD 310.1	HS
Chloride (meqs)	2.2	meq/l	1100 06/18/97		SM 407A	DLS
Specific Conductance	0.93	mmhos/cm	1100 06/13/97		EPA METHOD 120.1	SEL
Bicarbonate (meqs)	5.9	meq/l	1100 06/18/97		EPA METHOD 310.1	HS
Sodium adsorption ratio	8.16		1100 06/15/97			DLS
pH	8.9	SU	1100 06/13/97		EPA Method 150.1	HS
Boron	0.47	mg/l	1100 06/21/97	<0.03	EPA METHOD 212.3	RKB
Nitrate	18	mg/l	1100 06/23/97	2 mg/l	EPA Method 353.3	DLS
Calcium (meqs)	0.90	meq/l	1100 06/13/97		EPA METHOD 215.1	DLS
Magnesium (meqs)	0.73	meq/l	1100 06/13/97		EPA METHOD 242.1	DLS
Sodium (meqs)	7.4	meq/l	1100 06/13/97		EPA METHOD 273.1	DLS
Sulfate (meqs)	0.60	meq/l	1100 06/18/97	<0.01	SM 17th ed., 4500 E	DLS

Quality Assurance for the SET with Sample 143121

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
				Carbonate (meqs)					
143087	Duplicate	<1.0	mg/l	<1.0		0	1100	06/18/97	HS
				Chloride (meqs)					
143150	Duplicate	12	mg/l	12		0	1100	06/18/97	DLS
				Specific Conductance					
	Blank	1.2	umhos/cm				1100	06/13/97	SEL

Continued

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
	Standard	70	umhos/cm	71		99	1100	06/13/97	SEL
	Standard	350	umhos/cm	353		99	1100	06/13/97	SEL
	Standard	1410	umhos/cm	1412		100	1100	06/13/97	SEL
143087	Duplicate	80	umhos/cm	80		0	1100	06/13/97	SEL
				Bicarbonate (meqs)					
143087	Duplicate	40	mg/l	40		0	1100	06/18/97	HS
				pH					
	Standard	4.0	SU	4.0		100	1100	06/13/97	HS
	Standard	7.0	SU	7.0		100	1100	06/13/97	HS
	Standard	10.0	SU	10.0		100	1100	06/13/97	HS
143119	Duplicate	7.5	SU	7.5		0	1100	06/13/97	HS
				Boron					
	Standard	0.11	mg/l	0.10		110	1100	06/21/97	RKB
	Standard	1.0	mg/l	1.0		100	1100	06/21/97	RKB
	Standard	5.1	mg/l	5.0		102	1100	06/21/97	RKB
143121	Duplicate	0.47	mg/l	0.47		0	1100	06/21/97	RKB
143121	Spike		mg/l		0.74	105	1100	06/21/97	RKB
				Nitrate					
	Standard	4.3	mg/l	4.4		98	1100	06/23/97	DLS
	Standard	11	mg/l	11		100	1100	06/23/97	DLS
	Standard	22	mg/l	22		100	1100	06/23/97	DLS
	Standard	43	mg/l	44		98	1100	06/23/97	DLS
143259	Duplicate	<2.0	mg/l	<2.0		0	1100	06/23/97	DLS
143259	Spike		mg/l		11	100	1100	06/23/97	DLS
				Calcium (meqs)					
	Standard	5.0	mg/l	5.0		100	1100	06/13/97	DLS
	Standard	20	mg/l	20		100	1100	06/13/97	DLS
	Standard	50	mg/l	50		100	1100	06/13/97	DLS
142977	Duplicate	13	mg/l	13		0	1100	06/13/97	DLS
142977	Spike		mg/l		17	94	1100	06/13/97	DLS
				Magnesium (meqs)					
	Standard	1.1	mg/l	1.0		110	1100	06/13/97	DLS
	Standard	4.9	mg/l	5.0		98	1100	06/13/97	DLS
	Standard	10	mg/l	10		100	1100	06/13/97	DLS
	Standard	20	mg/l	20		100	1100	06/13/97	DLS
142977	Duplicate	7.6	mg/l	7.4		3	1100	06/13/97	DLS
142977	Spike		mg/l		8.8	100	1100	06/13/97	DLS
				Sodium (meqs)					
	Standard	5.3	mg/l	5.0		106	1100	06/13/97	DLS
	Standard	10	mg/l	10		100	1100	06/13/97	DLS
	Standard	25	mg/l	25		100	1100	06/13/97	DLS
	Standard	49	mg/l	50		98	1100	06/13/97	DLS
143026	Duplicate	30	mg/l	30		0	1100	06/13/97	DLS
143026	Spike		mg/l		28	100	1100	06/13/97	DLS
				Sulfate (meqs)					
	Standard	10	mg/l	10		100	1100	06/18/97	DLS

Continued

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
	Standard	20	mg/l	20		100	1100	06/18/97	DLS
	Standard	40	mg/l	40		100	1100	06/18/97	DLS
143087	Duplicate	0.8	mg/l	0.8		0	1100	06/18/97	DLS
143087	Spike		mg/l		11	109	1100	06/18/97	DLS

Monarch Laboratory, Inc.

WATER ANALYSIS

SUBMITTED BY: City Of Colusa
P.O. Box 1063
Colusa, CA 95932

ADVISOR:

INVOICE NO: 92670

DATE SUBMITTED: 6-19-97

DATE REPORTED: 7-03-97

CROP: Rice

P. O. NUMBER:

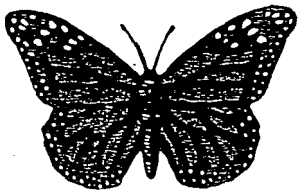
Lab Code	Sample Number	pH	EC X 10	Ca meq/l	Mg meq/l	Na meq/l	CO3 meq/l	HCO3 meq/l	Cl meq/l	SO4 meq/l	B ppm	NO3 ppm	SAR			
143291	Pond #6 Effluent	8.6	0.93	0.85	0.75	7.7	None	5.7	2.2	0.61	0.54	12	8.73			
143292	Overland Flow	9.2	1.17	1.1	1.0	9.7	None	6.7	2.9	1.1	0.73	< 2.0	9.26			
143293	Recirculation	7.4	1.36	1.2	1.4	11	None	7.2	3.2	1.6	0.74	8.4	9.6			
	Accept	7.0	0.5					5	5				5			
	Toxic	8.5	2.5					7	7				7			

EVALUATION AND RECOMMENDATIONS:

MONARCH LABORATORY
563 East Lindo Avenue
Chico, California 95926

Phone (916) 343-5818

Ron Barnes, Agronomist



Monarch Laboratory, Inc.

WATER ANALYSIS

INVOICE NO: 92670

SUBMITTED BY: City Of Colusa
P.O. Box 1063
Colusa, CA 95932

ADVISOR:

DATE SUBMITTED: 6-19-97

DATE REPORTED: 7-03-97

CROP: Rice

P. O. NUMBER:

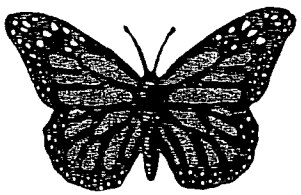
Lab Code	Sample Number	pH	EC X 10	Ca meq/l	Mg meq/l	Na meq/l	CO3 meq/l	HCO3 meq/l	Cl meq/l	SO4 meq/l	B ppm	NO3 ppm	SAR			
143473	Pond #6 Effluent	9.5	0.94	0.90	0.85	7.7	0.35	4.9	2.2	0.74	0.60	11	8.41			
143474	Overland Flow	8.1	1.36	1.1	1.2	11	None	8.1	3.3	0.82	0.77	9.0	10.4			
143475	Recirculation	7.7	1.45	1.2	1.5	11	None	7.5	3.7	2.2	0.75	4.4	9.7			
	Accept	7.0	0.5					5	5				5			
	Toxic	8.5	2.5					7	7				7			

EVALUATION AND RECOMMENDATIONS:

MONARCH LABORATORY
563 East Lindo Avenue
Chico, California 95926

Phone (916) 343-5818

Ron Barnes, Agronomist



Monarch Laboratory, Inc.

WATER ANALYSIS

INVOICE NO: 93368

SUBMITTED BY: City Of Colusa
P. O. Box 1063
Colusa, CA 95932

ADVISOR:

DATE SUBMITTED: 7-14-97

DATE REPORTED: 7-24-97

CROP: Rice

P. O. NUMBER:

Lab Code	Sample Number	pH	EC X 10	Ca meq/l	Mg meq/l	Na meq/l	CO3 meq/l	HCO3 meq/l	Cl meq/l	SO4 meq/l	B ppm	NO3 ppm	SAR			
144035	Effluent	7.9	1.77	1.4	1.8	13	None	8.6	4.4	2.1	0.80	7.4	9.92			
	Accept	7.0	0.5					5	5				5			
	Toxic	8.5	2.5					7	7				7			

EVALUATION AND RECOMMENDATIONS:

MONARCH LABORATORY
563 East Lindo Avenue
Chico, California 95926

Phone (916) 343-5818

Ron Barnes, Agronomist

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

TEST REPORT: 144035

CITY OF COLUSA
P.O. BOX 1063
COLUSA, CA 95932-0000
Attention: 0610002

Sample Identification:EFFLUENT, RICE
Collected By:DALE
Date & Time Taken:07/14/97 0835

Other Data: 4-2, IRRIGATION SUITABILITY
Sample Matrix: Liquid
Report Date: 07/28/97 Received: 07/14/97 Client: COL400

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Calcium (meqs)	1.4	meq/l	1100 07/16/97		EPA METHOD 215.1	DLS
Magnesium (meqs)	1.8	meq/l	1100 07/16/97		EPA METHOD 242.1	DLS
Sodium (meqs)	13	meq/l	1100 07/16/97		EPA METHOD 273.1	DLS
Boron	0.80	mg/l	1100 07/25/97	(0.03	EPA METHOD 212.3	RKB
Carbonate (meqs)	(0.1	meq/l	1100 07/20/97	0.1 meq/	EPA METHOD 310.1	HS
Chloride (meqs)	4.4	meq/l	1100 07/17/97		SM 407A	DLS
Specific Conductance	1.77	mmhos/cm	1100 07/15/97		EPA METHOD 120.1	SEL
Bicarbonate (meqs)	8.6	meq/l	1100 07/20/97		EPA METHOD 310.1	HS
Nitrate	7.4	mg/l	1100 07/15/97	2 mg/l	EPA Method 353.3	DLS
Sodium adsorption ratio	9.92		1100 07/17/97			DLS
Sulfate (meqs)	2.1	meq/l	1100 07/15/97	(0.01	SM 17th ed., 4500 E	DLS
pH	7.9	SU	1100 07/17/97		EPA Method 150.1	DLS

Quality Assurance for the SET with Sample 144035

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
				Calcium (meqs)					
	Standard	5.3	mg/l	5.0		106	1100	07/16/97	DLS
	Standard	20	mg/l	20		100	1100	07/16/97	DLS
	Standard	50	mg/l	50		100	1100	07/16/97	DLS
143936	Duplicate	22	mg/l	22		0	1100	07/16/97	DLS
143936	Spike		mg/l		36	103	1100	07/16/97	DLS

Continued

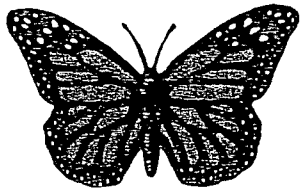
Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
				Magnesium (meqs)					
	Standard	1.1	mg/l	1.0		110	1100	07/16/97	DLS
	Standard	4.9	mg/l	5.0		98	1100	07/16/97	DLS
	Standard	10	mg/l	10		100	1100	07/16/97	DLS
	Standard	20	mg/l	20		100	1100	07/16/97	DLS
143934	Duplicate	11	mg/l	11		0	1100	07/16/97	DLS
143934	Spike		mg/l		11	100	1100	07/16/97	DLS
				Sodium (meqs)					
	Standard	5.1	mg/l	5.0		102	1100	07/16/97	DLS
	Standard	9.8	mg/l	10		98	1100	07/16/97	DLS
	Standard	25	mg/l	25		100	1100	07/16/97	DLS
	Standard	49	mg/l	50		98	1100	07/16/97	DLS
143936	Duplicate	12	mg/l	12		0	1100	07/16/97	DLS
143936	Spike		mg/l		19	100	1100	07/16/97	DLS
				Boron					
	Standard	1.0	mg/l	1.0		100	1100	07/25/97	RKB
	Standard	5.1	mg/l	5.0		102	1100	07/25/97	RKB
143830	Duplicate	3.2	mg/l	3.2		0	1100	07/25/97	RKB
143830	Spike		mg/l		4.1	104	1100	07/25/97	RKB
				Carbonate (meqs)					
143993	Duplicate	<0.1	meq/l	<0.1		0	1100	07/20/97	HS
				Chloride (meqs)					
143975	Duplicate	2.8	meq/l	2.8		0	1100	07/17/97	DLS
				Specific Conductance					
	Blank	0.8	umhos/cm				1100	07/15/97	SEL
	Standard	80	umhos/cm	71		113	1100	07/15/97	SEL
	Standard	350	umhos/cm	353		99	1100	07/15/97	SEL
	Standard	1410	umhos/cm	1412		100	1100	07/15/97	SEL
143975	Duplicate	0.99	mmhos/cm	0.99		0	1100	07/15/97	SEL
				Bicarbonate (meqs)					
143993	Duplicate	4.4	meq/l	4.4		0	1100	07/20/97	HS
				Nitrate					
	Standard	4.3	mg/l	4.4		98	1100	07/15/97	DLS
	Standard	11	mg/l	11		100	1100	07/15/97	DLS
	Standard	23	mg/l	22		105	1100	07/15/97	DLS
	Standard	43	mg/l	44		98	1100	07/15/97	DLS
143817	Duplicate	<2.0	mg/l	<2.0		0	1100	07/15/97	DLS
143817	Spike		mg/l		11	100	1100	07/15/97	DLS
				Sulfate (meqs)					
	Standard	10	mg/l	10		100	1100	07/15/97	DLS
	Standard	19	mg/l	20		95	1100	07/15/97	DLS
	Standard	41	mg/l	40		103	1100	07/15/97	DLS
143936	Duplicate	5.1	mg/l	5.2		2	1100	07/15/97	DLS
143936	Spike		mg/l		15	107	1100	07/15/97	DLS
				pH					
	Standard	4.0	SU	4.0		100	1100	07/17/97	DLS

Continued

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
	Standard	7.0	SU	7.0		100	1100	07/17/97	DLS
	Standard	10.0	SU	10.0		100	1100	07/17/97	DLS
144035	Duplicate	7.9	SU	7.9		0	1108	07/17/97	DLS



Monarch Laboratory, Inc.

WATER ANALYSIS

INVOICE NO: 93369

SUBMITTED BY: City Of Colusa
P. O. Box 1063
Colusa, CA 95932

ADVISOR:

DATE SUBMITTED: 7-15-97

DATE REPORTED: 7-24-97

CROP: Rice

P. O. NUMBER:

Lab Code	Sample Number	pH	EC X 10	Ca meq/l	Mg meq/l	Na meq/l	CO3 meq/l	HCO3 meq/l	Cl meq/l	SO4 meq/l	B ppm	NO3 ppm	SAR			
144062	Effluent	7.5	1.30	2.0	2.5	8.7	None	6.6	2.7	2.7	0.60	5.4	5.83			
	Accept	7.0	0.5					5	5				5			
	Toxic	8.5	2.5					7	7				7			

EVALUATION AND RECOMMENDATIONS:

MONARCH LABORATORY
563 East Lindo Avenue
Chico, California 95926

Phone (916) 343-5818

Ron Barnes, Agronomist

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

TEST REPORT: 144062

CITY OF COLUSA
P.O. BOX 1063
COLUSA, CA 95932-0000
Attention: 0610002

Sample Identification:EFFLUENT, RICE
Collected By:DALE
Date & Time Taken:07/15/97 0800

Other Data: 4-2, IRRIGATION SUITABILITY
Sample Matrix: Liquid
Report Date: 07/28/97 Received: 07/15/97 Client: COL400

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Calcium (meqs)	2.0	meq/l	1100 07/16/97		EPA METHOD 215.1	DLS
Magnesium (meqs)	2.5	meq/l	1100 07/16/97		EPA METHOD 242.1	DLS
Sodium (meqs)	8.7	meq/l	1100 07/16/97		EPA METHOD 273.1	DLS
Boron	0.60	mg/l	1100 07/25/97	(0.03	EPA METHOD 212.3	RKB
Carbonate (meqs)	(0.1	meq/l	1100 07/20/97	0.1 meq/	EPA METHOD 310.1	HS
Chloride (meqs)	2.7	meq/l	1100 07/17/97		SM 407A	DLS
Specific Conductance	1.30	mmhos/cm	1100 07/15/97		EPA METHOD 120.1	SEL
Bicarbonate (meqs)	6.6	meq/l	1100 07/20/97		EPA METHOD 310.1	HS
Nitrate	5.4	mg/l	1100 07/21/97	2 mg/l	EPA Method 353.3	DLS
Sodium adsorption ratio	5.83		1100 07/17/97			DLS
Sulfate (meqs)	2.7	meq/l	1100 07/15/97	(0.01	SM 17th ed., 4500 E	DLS
pH	7.5	SU	1100 07/17/97		EPA Method 150.1	DLS

Quality Assurance for the SET with Sample 144062

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
				Calcium (meqs)					
	Standard	5.3	mg/l	5.0		105	1100	07/16/97	DLS
	Standard	20	mg/l	20		100	1100	07/16/97	DLS
	Standard	50	mg/l	50		100	1100	07/16/97	DLS
143936	Duplicate	22	mg/l	22		0	1100	07/16/97	DLS
143936	Spike		mg/l		36	103	1100	07/16/97	DLS

Continued

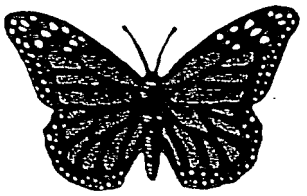
Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
				Magnesium (meqs)					
	Standard	1.1	mg/l	1.0		110	1100	07/16/97	DLS
	Standard	4.9	mg/l	5.0		98	1100	07/16/97	DLS
	Standard	10	mg/l	10		100	1100	07/16/97	DLS
	Standard	20	mg/l	20		100	1100	07/16/97	DLS
143934	Duplicate	11	mg/l	11		0	1100	07/16/97	DLS
143934	Spike		mg/l		11	100	1100	07/16/97	DLS
				Sodium (meqs)					
	Standard	5.1	mg/l	5.0		102	1100	07/16/97	DLS
	Standard	9.8	mg/l	10		98	1100	07/16/97	DLS
	Standard	25	mg/l	25		100	1100	07/16/97	DLS
	Standard	49	mg/l	50		98	1100	07/16/97	DLS
143936	Duplicate	12	mg/l	12		0	1100	07/16/97	DLS
143936	Spike		mg/l		19	100	1100	07/16/97	DLS
				Boron					
	Standard	1.0	mg/l	1.0		100	1100	07/25/97	RKB
	Standard	5.1	mg/l	5.0		102	1100	07/25/97	RKB
143830	Duplicate	3.2	mg/l	3.2		0	1100	07/25/97	RKB
143830	Spike		mg/l		4.1	104	1100	07/25/97	RKB
				Carbonate (meqs)					
143993	Duplicate	<0.1	meq/l	<0.1		0	1100	07/20/97	HS
				Chloride (meqs)					
143975	Duplicate	2.8	meq/l	2.8		0	1100	07/17/97	DLS
				Specific Conductance					
	Blank	0.8	uohos/cm				1100	07/15/97	SEL
	Standard	80	uohos/cm	71		113	1100	07/15/97	SEL
	Standard	350	uohos/cm	353		99	1100	07/15/97	SEL
	Standard	1410	uohos/cm	1412		100	1100	07/15/97	SEL
143975	Duplicate	0.99	mohos/cm	0.99		0	1100	07/15/97	SEL
				Bicarbonate (meqs)					
143993	Duplicate	4.4	meq/l	4.4		0	1100	07/20/97	HS
				Nitrate					
	Standard	4.3	mg/l	4.4		98	1100	07/21/97	DLS
	Standard	11	mg/l	11		100	1100	07/21/97	DLS
	Standard	23	mg/l	22		105	1100	07/21/97	DLS
	Standard	43	mg/l	44		98	1100	07/21/97	DLS
144091	Duplicate	<2.0	mg/l	<2.0		0	1100	07/21/97	DLS
144091	Spike		mg/l		11	100	1100	07/21/97	DLS
				Sulfate (meqs)					
	Standard	10	mg/l	10		100	1100	07/15/97	DLS
	Standard	19	mg/l	20		95	1100	07/15/97	DLS
	Standard	41	mg/l	40		103	1100	07/15/97	DLS
143936	Duplicate	5.1	mg/l	5.2		2	1100	07/15/97	DLS
143936	Spike		mg/l		15	107	1100	07/15/97	DLS
				pH					
	Standard	4.0	SU	4.0		100	1100	07/17/97	DLS

Continued

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
	Standard	7.0	SU	7.0		100	1100	07/17/97	DLS
	Standard	10.0	SU	10.0		100	1100	07/17/97	DLS
144035	Duplicate	7.9	SU	7.9		0	1100	07/17/97	DLS



Monarch Laboratory, Inc.

WATER ANALYSIS

INVOICE NO: 93681

SUBMITTED BY: City of Colusa
P. O. Box 1063
Colusa, CA 95932

ADVISOR:

DATE SUBMITTED: 7-17-97

DATE REPORTED: 7-28-97

CROP: Rice

P. O. NUMBER:

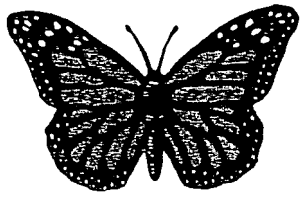
Lab Code	Sample Number	pH	EC X 10	Ca meq/l	Mg meq/l	Na meq/l	CO3 meq/l	HCO3 meq/l	Cl meq/l	SO4 meq/l	B ppm	NO3 ppm	SAR	Date		
144035	Effluent	7.9	1.77	1.4	1.8	13	None	8.6	4.4	2.1	0.80	7.4	9.9	7/14/97		
144062	Effluent	7.5	1.30	2.0	2.5	8.7	None	6.6	2.7	2.7	0.60	5.4	5.8	7/15/97		
144144	Effluent	7.5	1.44	1.5	1.8	11	None	7.7	3.8	2.7	0.68	6.7	8.4	7/17/97		
	Accept	7.0	0.5					5	5				5			
	Toxic	8.5	2.5					7	7				7			

EVALUATION AND RECOMMENDATIONS: Adding sulfuric acid to drop the water pH to 7.0 will reduce water bicarbonates to approximately 3-4 meg/l.

MONARCH LABORATORY
563 East Lindo Avenue
Chico, California 95926

Phone (916) 343-5818

Ron Barnes, Agronomist



Monarch Laboratory, Inc.

WATER ANALYSIS

INVOICE NO: 93681

SUBMITTED BY: City of Colusa
P. O. Box 1063
Colusa, CA 95932

ADVISOR:

DATE SUBMITTED: 7-17-97

DATE REPORTED: 7-28-97

CROP: Rice

P. O. NUMBER:

Lab Code	Sample Number	pH	EC X 10	Ca meq/l	Mg meq/l	Na meq/l	CO3 meq/l	HCO3 meq/l	Cl meq/l	SO4 meq/l	B ppm	NO3 ppm	SAR	Date		
144035	Effluent	7.9	1.77	1.4	1.8	13	None	8.6	4.4	2.1	0.80	7.4	9.9	7/14/97		
144062	Effluent	7.5	1.30	2.0	2.5	8.7	None	6.6	2.7	2.7	0.60	5.4	5.8	7/15/97		
144144	Effluent	7.5	1.44	1.5	1.8	11	None	7.7	3.8	2.7	0.68	6.7	8.4	7/17/97		
	Accept	7.0	0.5					5	5				5			
	Toxic	8.5	2.5					7	7				7			

EVALUATION AND RECOMMENDATIONS: Adding sulfuric acid to drop the water pH to 7.0 will reduce water bicarbonates to approximately 3-4 meg/l.

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Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

TEST REPORT: 144144

CITY OF COLUSA
P.O. BOX 1063
COLUSA, CA 95932-0000
Attention: 0610002

Sample Identification: EFFLUENT, RICE
Collected By: Client
Date & Time Taken: 07/17/97 0850

Other Data: 4-2, IRRIGATION SUITABILITY
Sample Matrix: Liquid
Report Date: 08/11/97 **Received:** 07/17/97 **Client:** COL400

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Calcium (meqs)	1.5	meq/l	1100 07/23/97			DLS
Magnesium (meqs)	1.8	meq/l	1100 07/23/97			DLS
Sodium (meqs)	11	meq/l	1100 07/23/97			DLS
Boron	0.68	mg/l	1100 07/25/97	(0.03	EPA METHOD 212.3	RKB
Carbonate (meqs)	(0.1	meq/l	1100 07/20/97	0.1 meq/		HS
Chloride (meqs)	3.8	meq/l	1100 07/25/97			DLS
Specific Conductance	1.44	mmhos/cm	1100 07/20/97		EPA METHOD 120.1	HS
Bicarbonate (meqs)	7.7	meq/l	1100 07/20/97			HS
Nitrate	6.7	mg/l	1100 07/21/97	2 mg/l	EPA Method 353.3	DLS
Sodium adsorption ratio	8.42		1100 07/24/97			DLS
Sulfate (meqs)	2.7	meq/l	1100 07/24/97	(0.01	SM 17th ed., 4500 E	DLS
pH	7.5	SU	1100 07/17/97		EPA Method 150.1	DLS

Quality Assurance for the SET with Sample 144144

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
			Calcium (meqs)						
	Standard	5.1	mg/l	5.0		102	1100	07/23/97	DLS
	Standard	20	mg/l	20		100	1100	07/23/97	DLS
	Standard	50	mg/l	50		100	1100	07/23/97	DLS
144144	Duplicate	1.5	meq/l	1.5		0	1100	07/23/97	DLS
144144	Spike		meq/l		2.0	105	1100	07/23/97	DLS

Continued

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Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
				Magnesium (meqs)					
	Standard	1.0	mg/l	1.0		100	1100	07/23/97	DLS
	Standard	4.8	mg/l	5.0		96	1100	07/23/97	DLS
	Standard	10	mg/l	10		100	1100	07/23/97	DLS
	Standard	20	mg/l	20		100	1100	07/23/97	DLS
144111	Duplicate	3.7	meq/l	3.7		0	1100	07/23/97	DLS
144111	Spike		meq/l		0.62	103	1100	07/23/97	DLS
				Sodium (meqs)					
	Standard	4.9	mg/l	5.0		98	1100	07/23/97	DLS
	Standard	9.9	mg/l	10		99	1100	07/23/97	DLS
	Standard	25	mg/l	25		100	1100	07/23/97	DLS
	Standard	51	mg/l	50		102	1100	07/23/97	DLS
144112	Duplicate	1.3	meq/l	1.3		0	1100	07/23/97	DLS
144112	Spike		meq/l		1.7	106	1100	07/23/97	DLS
				Boron					
	Standard	1.0	mg/l	1.0		100	1100	07/25/97	RKB
	Standard	5.1	mg/l	5.0		102	1100	07/25/97	RKB
143830	Duplicate	3.2	mg/l	3.2		0	1100	07/25/97	RKB
143830	Spike		mg/l		4.1	104	1100	07/25/97	RKB
				Carbonate (meqs)					
143993	Duplicate	<0.1	meq/l	<0.1		0	1100	07/20/97	HS
				Chloride (meqs)					
144343	Duplicate	16	mg/l	16		0	1100	07/25/97	DLS
				Specific Conductance					
	Blank	0.8	umhos/cm				1100	07/20/97	HS
	Standard	70	umhos/cm	71		99	1100	07/20/97	HS
	Standard	350	umhos/cm	353		99	1100	07/20/97	HS
	Standard	1410	umhos/cm	1412		100	1100	07/20/97	HS
144113	Duplicate	380	umhos/cm	380		0	1100	07/20/97	HS
				Bicarbonate (meqs)					
143993	Duplicate	4.4	meq/l	4.4		0	1100	07/20/97	HS
				Nitrate					
	Standard	4.3	mg/l	4.4		98	1100	07/21/97	DLS
	Standard	11	mg/l	11		100	1100	07/21/97	DLS
	Standard	23	mg/l	22		105	1100	07/21/97	DLS
	Standard	43	mg/l	44		98	1100	07/21/97	DLS
144091	Duplicate	<2.0	mg/l	<2.0		0	1100	07/21/97	DLS
144091	Spike		mg/l		11	100	1100	07/21/97	DLS
				Sulfate (meqs)					
	Standard	10	mg/l	10		100	1100	07/24/97	DLS
	Standard	20	mg/l	20		100	1100	07/24/97	DLS
	Standard	40	mg/l	40		100	1100	07/24/97	DLS
144343	Duplicate	19	mg/l	18		5	1100	07/24/97	DLS
144343	Spike		mg/l		29	97	1100	07/24/97	DLS
				pH					
	Standard	4.0	SU	4.0		100	1100	07/17/97	DLS

Continued

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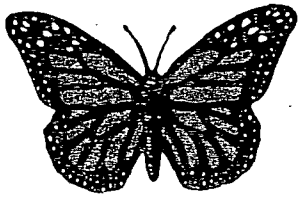
Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
	Standard	7.0	SU	7.0		100	1100	07/17/97	DLS
	Standard	10.0	SU	10.0		100	1100	07/17/97	DLS
144035	Duplicate	7.9	SU	7.9		0	1100	07/17/97	DLS



Monarch Laboratory, Inc.

WATER ANALYSIS

INVOICE NO: 94359

SUBMITTED BY: City of Colusa
P. O. Box 1063
Colusa, CA 95932

ADVISOR:

DATE SUBMITTED: 8/19/97

DATE REPORTED: 9/10/97

CROP: Rice

P. O. NUMBER:

Lab Code	Sample Number	pH	EC X 10	Ca meq/l	Mg meq/l	Na meq/l	CO3 meq/l	HCO3 meq/l	Cl meq/l	SO4 meq/l	B ppm	NO3 ppm	SAR	DATE		
144956	Effluent	6.3	2.1	1.5	2.5	14	None	2.2	5.6	12	0.72	<2.0	9.9	8/19/97		
145224	Hwy 20	7.9	0.95	2.4	3.5	4.1	None	6.5	1.5	2.9	0.28	3.7	2.3	8/28/97		
145225	Pipe-Overflow	7.8	1.16	1.1	0.98	8.7	None	8.0	2.7	0.41	0.56	8.5	8.6	8/28/97		
145226	End Overland Flw	7.8	1.6	1.3	1.3	12	None	11	3.6	<0.01	0.70	34	10	8/28/97		
145227	Effluent	7.2	1.66	1.5	1.8	12	None	8.3	4.0	3.7	0.65	5.7	9.2	8/28/97		
	Accept	7.0	0.5					5	5				5			
	Toxic	8.5	2.5					7	7				7			

EVALUATION AND RECOMMENDATIONS: Running water thru the Overland Flow to reduce suspended solids increases total soluble salts (TSS). Sodium chloride and sodium bicarbonate salts are the elements picked up in the Overland Flow.

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CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

TEST REPORT: 144956

CITY OF COLUSA
P.O. BOX 1063
COLUSA, CA 95932-0000
Attention: 0610002

Sample Identification:EFFLUENT, RICE
Collected By:Client
Date & Time Taken:08/19/97 1110

Other Data: 4-2, IRRIGATION SUITABILITY
Sample Matrix: Liquid
Report Date: 09/09/97 Received: 08/19/97 Client: COL400

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Calcium (meqs)	1.5	meq/l	1100 08/22/97		EPA METHOD 215.1	DLS
Sodium (meqs)	14	meq/l	1100 08/22/97		EPA METHOD 273.1	DLS
Boron	0.72	mg/l	1100 08/28/97	(0.03	EPA METHOD 212.3	RKB
Carbonate (meqs)	(0.1	meq/l	1100 08/24/97	0.1 meq/	EPA METHOD 310.1	HS
Chloride (meqs)	5.6	meq/l	1100 08/20/97		SM 407A	DLS
Specific Conductance	2.14	mmhos/cm	1100 08/21/97		EPA METHOD 120.1	HS
Bicarbonate (meqs)	2.2	meq/l	1100 08/24/97		EPA METHOD 310.1	HS
Nitrate	(2.0	mg/l	1100 08/25/97	2 mg/l	EPA Method 353.3	DLS
Sodium adsorption ratio	9.90		1100 08/28/97			DLS
Sulfate (meqs)	12	meq/l	1100 08/21/97	(0.01	SM 17th ed., 4500 E	DLS
pH	6.3	SU	1100 08/24/97		EPA Method 150.1	HS
Magnesium (meqs)	2.5	meq/l	1100 08/22/97		EPA METHOD 242.1	DLS

Quality Assurance for the SET with Sample 144956

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
				Calcium (meqs)					
	Standard	5.0	mg/l	5.0		100	1100	08/22/97	DLS
	Standard	20	mg/l	20		100	1100	08/22/97	DLS
	Standard	50	mg/l	50		100	1100	08/22/97	DLS
144984	Duplicate	17	mg/l	17		0	1100	08/22/97	DLS
144984	Spike		mg/l		34	100	1100	08/22/97	DLS

Continued

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563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
				Sodium (meqs)					
	Standard	4.9	mg/l	5.0		98	1100	08/22/97	DLS
	Standard	9.7	mg/l	10		97	1100	08/22/97	DLS
	Standard	24	mg/l	25		96	1100	08/22/97	DLS
	Standard	49	mg/l	50		98	1100	08/22/97	DLS
145003	Duplicate	3.4	mg/l	3.4		0	1100	08/22/97	DLS
145003	Spike		mg/l		6.7	96	1100	08/22/97	DLS
				Boron					
	Standard	0.50	mg/l	0.50		100	1100	08/28/97	RKB
	Standard	1.0	mg/l	1.0		100	1100	08/28/97	RKB
	Standard	2.5	mg/l	2.5		100	1100	08/28/97	RKB
145185	Duplicate	0.03	mg/l	0.03		0	1100	08/28/97	RKB
145185	Spike		mg/l		0.53	109	1100	08/28/97	RKB
				Carbonate (meqs)					
144983	Duplicate	<1.0	mg/l	<1.0		0	1100	08/24/97	HS
				Chloride (meqs)					
144936	Duplicate	2.0	mg/l	2.0		0	1100	08/20/97	DLS
				Specific Conductance					
	Blank	0.7	umhos/cm				1100	08/21/97	HS
	Standard	70	umhos/cm	71		99	1100	08/21/97	HS
	Standard	360	umhos/cm	353		102	1100	08/21/97	HS
	Standard	1420	umhos/cm	1412		101	1100	08/21/97	HS
144926	Duplicate	880	umhos/cm	880		0	1100	08/21/97	HS
				Bicarbonate (meqs)					
144983	Duplicate	49	mg/l	49		0	1100	08/24/97	HS
				Nitrate					
	Standard	4.3	mg/l	4.4		98	1100	08/25/97	DLS
	Standard	11	mg/l	11		100	1100	08/25/97	DLS
	Standard	22	mg/l	22		100	1100	08/25/97	DLS
	Standard	43	mg/l	44		98	1100	08/25/97	DLS
144878	Duplicate	27	mg/l	27		0	1100	08/25/97	DLS
144878	Spike		mg/l		28	100	1100	08/25/97	DLS
				Sulfate (meqs)					
	Standard	10	mg/l	10		100	1100	08/21/97	DLS
	Standard	19	mg/l	20		95	1100	08/21/97	DLS
	Standard	41	mg/l	40		103	1100	08/21/97	DLS
144936	Duplicate	0.8	mg/l	0.8		0	1100	08/21/97	DLS
144936	Spike		mg/l		11	109	1100	08/21/97	DLS
				pH					
	Standard	4.0	SU	4.0		100	1100	08/24/97	HS
	Standard	7.0	SU	7.0		100	1100	08/24/97	HS
	Standard	10.0	SU	10.0		100	1100	08/24/97	HS
144934	Duplicate	8.2	SU	8.2		0	1100	08/24/97	HS
				Magnesium (meqs)					
	Standard	1.1	mg/l	1.0		110	1100	08/22/97	DLS
	Standard	4.9	mg/l	5.0		98	1100	08/22/97	DLS

Continued

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
	Standard	10	ug/l	10		100	1100	08/22/97	DLS
	Standard	20	ug/l	20		100	1100	08/22/97	DLS
144998	Duplicate	14	ug/l	14		0	1100	08/22/97	DLS
144998	Spike		ug/l		17	100	1100	08/22/97	DLS

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

TEST REPORT: 145224

CITY OF COLUSA
P.O. BOX 1063
COLUSA, CA 95932-0000
Attention: 0610002

Sample Identification:HWY 20, CROP-RICE
Collected By:CLIENT
Date & Time Taken:08/28/97 0730

Other Data: 4-2, IRRIGATION SUITABILITY
Sample Matrix: Liquid
Report Date: 09/09/97 Received: 08/28/97 Client: COL400

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Calcium (meqs)	2.4	meq/l	1100 09/02/97		EPA METHOD 215.1	DLS
Magnesium (meqs)	3.5	meq/l	1100 09/02/97		EPA METHOD 242.1	DLS
Sodium (meqs)	4.1	meq/l	1100 09/02/97		EPA METHOD 273.1	DLS
Boron	0.28	mg/l	1100 09/08/97	(0.03	EPA METHOD 212.3	RKB
Carbonate (meqs)	(0.1	meq/l	1100 09/02/97	0.1 meq/	EPA METHOD 310.1	DLS
Chloride (meqs)	1.5	meq/l	1100 08/29/97		SM 407A	DLS
Specific Conductance	0.95	mmhos/cm	1100 09/02/97		EPA METHOD 120.1	DLS
Bicarbonate (meqs)	6.5	meq/l	1100 09/02/97		EPA METHOD 310.1	DLS
Nitrate	3.7	mg/l	1100 09/03/97	2 mg/l	EPA Method 353.3	DLS
Sodium adsorption ratio	2.37		1100 09/02/97			DLS
Sulfate (meqs)	2.90	meq/l	1100 08/29/97	(0.01	SM 17th ed., 4500 E	DLS
pH	7.9	SU	1100 09/03/97		EPA Method 150.1	DLS

Quality Assurance for the SET with Sample 145224

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
				Calcium (meqs)					
	Standard	5.1	mg/l	5.0		102	1100	09/02/97	DLS
	Standard	20	mg/l	20		100	1100	09/02/97	DLS
	Standard	50	mg/l	50		100	1100	09/02/97	DLS
145265	Duplicate	24	mg/l	25		4	1100	09/02/97	DLS
145265	Spike		mg/l		36	103	1100	09/02/97	DLS

Continued

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CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
				Magnesium (meqs)					
	Standard	1.0	mg/l	1.0		100	1100	09/02/97	DLS
	Standard	4.9	mg/l	5.0		98	1100	09/02/97	DLS
	Standard	10	mg/l	10		100	1100	09/02/97	DLS
	Standard	20	mg/l	20		100	1100	09/02/97	DLS
145198	Duplicate	2.9	mg/l	2.8		4	1100	09/02/97	DLS
145198	Spike		mg/l		6.5	98	1100	09/02/97	DLS
				Sodium (meqs)					
	Standard	5.1	mg/l	5.0		102	1100	09/02/97	DLS
	Standard	9.9	mg/l	10		99	1100	09/02/97	DLS
	Standard	25	mg/l	25		100	1100	09/02/97	DLS
	Standard	50	mg/l	50		100	1100	09/02/97	DLS
145265	Duplicate	11	mg/l	11		0	1100	09/02/97	DLS
145265	Spike		mg/l		18	100	1100	09/02/97	DLS
				Boron					
	Standard	0.52	mg/l	0.50		104	1100	09/08/97	RKB
	Standard	1.0	mg/l	1.0		100	1100	09/08/97	RKB
	Standard	5.0	mg/l	5.0		100	1100	09/08/97	RKB
145382	Duplicate	0.12	mg/l	0.13		8	1100	09/08/97	RKB
145382	Spike		mg/l		0.56	109	1100	09/08/97	RKB
				Carbonate (meqs)					
145265	Duplicate	<1.0	mg/l	<1.0		0	1100	09/02/97	DLS
				Chloride (meqs)					
145198	Duplicate	3.1	mg/l	3.1		0	1100	08/29/97	DLS
				Specific Conductance					
	Blank	0.8	umhos/cm				1100	09/02/97	DLS
	Standard	70	umhos/cm	71		99	1100	09/02/97	DLS
	Standard	360	umhos/cm	353		102	1100	09/02/97	DLS
	Standard	1410	umhos/cm	1412		100	1100	09/02/97	DLS
145198	Duplicate	65	umhos/cm	65		0	1100	09/02/97	DLS
				Bicarbonate (meqs)					
145265	Duplicate	170	mg/l	170		0	1100	09/02/97	DLS
				Nitrate					
	Standard	4.3	mg/l	4.4		98	1100	09/03/97	DLS
	Standard	11	mg/l	11		100	1100	09/03/97	DLS
	Standard	23	mg/l	22		105	1100	09/03/97	DLS
	Standard	42	mg/l	44		95	1100	09/03/97	DLS
145199	Duplicate	<2.0	mg/l	<2.0		0	1100	09/03/97	DLS
145199	Spike		mg/l		11	100	1100	09/03/97	DLS
				Sulfate (meqs)					
	Standard	10	mg/l	10		100	1100	08/29/97	DLS
	Standard	19	mg/l	20		95	1100	08/29/97	DLS
	Standard	41	mg/l	40		103	1100	08/29/97	DLS
145265	Duplicate	9.0	mg/l	9.0		0	1100	08/29/97	DLS
145265	Spike		mg/l		19	105	1100	08/29/97	DLS
				pH					

Continued

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
	Standard	4.0	SU	4.0		100	1100	09/03/97	DLS
	Standard	7.0	SU	7.0		100	1100	09/03/97	DLS
	Standard	10.0	SU	10.0		100	1100	09/03/97	DLS
145224	Duplicate	7.9	SU	7.9		0	1100	09/03/97	DLS

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

TEST REPORT: 145225

CITY OF COLUSA
P.O. BOX 1063
COLUSA, CA 95932-0000
Attention: 0610002

Sample Identification:PIPE OVERLAND FLOW, CROP-RICE
Collected By:Client
Date & Time Taken:08/28/97 0845

Other Data: 4-2, IRRIGATION SUITABILITY
Sample Matrix: Liquid
Report Date: 09/09/97 Received: 08/28/97 Client: COL400

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Calcium (meqs)	1.1	meq/l	1100 09/02/97		EPA METHOD 215.1	DLS
Magnesium (meqs)	0.98	meq/l	1100 09/02/97		EPA METHOD 242.1	DLS
Sodium (meqs)	8.7	meq/l	1100 09/02/97		EPA METHOD 273.1	DLS
Boron	0.56	mg/l	1100 09/08/97	(0.03	EPA METHOD 212.3	RKB
Carbonate (meqs)	(0.1	meq/l	1100 09/02/97	0.1 meq/	EPA METHOD 310.1	DLS
Chloride (meqs)	2.7	meq/l	1100 08/29/97		SM 407A	DLS
Specific Conductance	1.16	mmhos/cm	1100 09/02/97		EPA METHOD 120.1	DLS
Bicarbonate (meqs)	8.0	meq/l	1100 09/02/97		EPA METHOD 310.1	DLS
Nitrate	8.5	mg/l	1100 09/03/97	2 mg/l	EPA Method 353.3	DLS
Sodium adsorption ratio	8.59		1100 09/02/97			DLS
Sulfate (meqs)	0.41	meq/l	1100 08/29/97	(0.01	SM 17th ed., 4500 E	DLS
pH	7.8	SU	1100 09/03/97		EPA Method 150.1	DLS

Quality Assurance for the SET with Sample 145225

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
				Calcium (meqs)					
	Standard	5.1	mg/l	5.0		102	1100	09/02/97	DLS
	Standard	20	mg/l	20		100	1100	09/02/97	DLS
	Standard	50	mg/l	50		100	1100	09/02/97	DLS
145265	Duplicate	24	mg/l	25		4	1100	09/02/97	DLS
145265	Spike		mg/l		30	103	1100	09/02/97	DLS

Continued

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
				Magnesium (meqs)					
	Standard	1.0	mg/l	1.0		100	1100	09/02/97	DLS
	Standard	4.9	mg/l	5.0		98	1100	09/02/97	DLS
	Standard	10	mg/l	10		100	1100	09/02/97	DLS
	Standard	20	mg/l	20		100	1100	09/02/97	DLS
145198	Duplicate	2.9	mg/l	2.8		4	1100	09/02/97	DLS
145198	Spike		mg/l		6.5	98	1100	09/02/97	DLS
				Sodium (meqs)					
	Standard	5.1	mg/l	5.0		102	1100	09/02/97	DLS
	Standard	9.9	mg/l	10		99	1100	09/02/97	DLS
	Standard	25	mg/l	25		100	1100	09/02/97	DLS
	Standard	50	mg/l	50		100	1100	09/02/97	DLS
145265	Duplicate	11	mg/l	11		0	1100	09/02/97	DLS
145265	Spike		mg/l		18	100	1100	09/02/97	DLS
				Boron					
	Standard	0.52	mg/l	0.50		104	1100	09/08/97	RKB
	Standard	1.0	mg/l	1.0		100	1100	09/08/97	RKB
	Standard	5.0	mg/l	5.0		100	1100	09/08/97	RKB
145382	Duplicate	0.12	mg/l	0.13		8	1100	09/08/97	RKB
145382	Spike		mg/l		0.56	109	1100	09/08/97	RKB
				Carbonate (meqs)					
145265	Duplicate	<1.0	mg/l	<1.0		0	1100	09/02/97	DLS
				Chloride (meqs)					
145198	Duplicate	3.1	mg/l	3.1		0	1100	08/29/97	DLS
				Specific Conductance					
	Blank	0.8	uohos/cm				1100	09/02/97	DLS
	Standard	70	uohos/cm	71		99	1100	09/02/97	DLS
	Standard	360	uohos/cm	353		102	1100	09/02/97	DLS
	Standard	1410	uohos/cm	1412		100	1100	09/02/97	DLS
145198	Duplicate	65	uohos/cm	65		0	1100	09/02/97	DLS
				Bicarbonate (meqs)					
145265	Duplicate	170	mg/l	170		0	1100	09/02/97	DLS
				Nitrate					
	Standard	4.3	mg/l	4.4		98	1100	09/03/97	DLS
	Standard	11	mg/l	11		100	1100	09/03/97	DLS
	Standard	23	mg/l	22		105	1100	09/03/97	DLS
	Standard	42	mg/l	44		95	1100	09/03/97	DLS
145199	Duplicate	<2.0	mg/l	<2.0		0	1100	09/03/97	DLS
145199	Spike		mg/l		11	100	1100	09/03/97	DLS
				Sulfate (meqs)					
	Standard	10	mg/l	10		100	1100	08/29/97	DLS
	Standard	19	mg/l	20		95	1100	08/29/97	DLS
	Standard	41	mg/l	40		103	1100	08/29/97	DLS
145265	Duplicate	9.0	mg/l	9.0		0	1100	08/29/97	DLS
145265	Spike		mg/l		19	105	1100	08/29/97	DLS
				pH					

Continued

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
	Standard	4.0	SU	4.0		100	1100	09/03/97	DLS
	Standard	7.0	SU	7.0		100	1100	09/03/97	DLS
	Standard	10.0	SU	10.0		100	1100	09/03/97	DLS
145224	Duplicate	7.9	SU	7.9		0	1100	09/03/97	DLS

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

TEST REPORT: 145226

CITY OF COLUSA
P.O. BOX 1063
COLUSA, CA 95932-0000
Attention: 0610002

Sample Identification:END OVERLAND FLOW,CROP-RICE
Collected By:Client
Date & Time Taken:08/28/97 0840

Other Data: 4-2,IRRIGATION SUITABILITY
Sample Matrix: Liquid
Report Date: 09/09/97 Received: 08/28/97 Client: COL400

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Calcium (meqs)	1.3	meq/l	1100 09/02/97		EPA METHOD 215.1	DLS
Magnesium (meqs)	1.3	meq/l	1100 09/02/97		EPA METHOD 242.1	DLS
Sodium (meqs)	11.7	meq/l	1100 09/02/97		EPA METHOD 273.1	DLS
Boron	0.70	mg/l	1100 09/08/97	(0.03	EPA METHOD 212.3	RKB
Carbonate (meqs)	(0.1	meq/l	1100 09/02/97	0.1 meq/	EPA METHOD 310.1	DLS
Chloride (meqs)	3.6	meq/l	1100 08/29/97		SM 407A	DLS
Specific Conductance	1.57	mmhos/cm	1100 09/02/97		EPA METHOD 120.1	DLS
Bicarbonate (meqs)	10.9	meq/l	1100 09/02/97		EPA METHOD 310.1	DLS
Nitrate	34	mg/l	1100 09/03/97	2 mg/l	EPA Method 353.3	DLS
Sodium adsorption ratio	10.23		1100 09/02/97			DLS
Sulfate (meqs)	(0.01	meq/l	1100 08/29/97	(0.01	SM 17th ed., 4500 E	DLS
pH	7.8	SU	1100 09/03/97		EPA Method 150.1	DLS

Quality Assurance for the SET with Sample 145226

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
			Calcium (meqs)						
	Standard	5.1	mg/l	5.0		102	1100	09/02/97	DLS
	Standard	20	mg/l	20		100	1100	09/02/97	DLS
	Standard	50	mg/l	50		100	1100	09/02/97	DLS
145265	Duplicate	24	mg/l	25		4	1100	09/02/97	DLS
145265	Spike		mg/l		38	103	1100	09/02/97	DLS

Continued

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
				Magnesium (meqs)					
	Standard	1.0	mg/l	1.0		100	1100	09/02/97	DLS
	Standard	4.9	mg/l	5.0		98	1100	09/02/97	DLS
	Standard	10	mg/l	10		100	1100	09/02/97	DLS
	Standard	20	mg/l	20		100	1100	09/02/97	DLS
145198	Duplicate	2.9	mg/l	2.8		4	1100	09/02/97	DLS
145198	Spike		mg/l		6.5	98	1100	09/02/97	DLS
				Sodium (meqs)					
	Standard	5.1	mg/l	5.0		102	1100	09/02/97	DLS
	Standard	9.9	mg/l	10		99	1100	09/02/97	DLS
	Standard	25	mg/l	25		100	1100	09/02/97	DLS
	Standard	50	mg/l	50		100	1100	09/02/97	DLS
145265	Duplicate	11	mg/l	11		0	1100	09/02/97	DLS
145265	Spike		mg/l		18	100	1100	09/02/97	DLS
				Boron					
	Standard	0.52	mg/l	0.50		104	1100	09/08/97	RKB
	Standard	1.0	mg/l	1.0		100	1100	09/08/97	RKB
	Standard	5.0	mg/l	5.0		100	1100	09/08/97	RKB
145382	Duplicate	0.12	mg/l	0.13		8	1100	09/08/97	RKB
145382	Spike		mg/l		0.56	100	1100	09/08/97	RKB
				Carbonate (meqs)					
145265	Duplicate	<1.0	mg/l	<1.0		0	1100	09/02/97	DLS
				Chloride (meqs)					
145198	Duplicate	3.1	mg/l	3.1		0	1100	08/29/97	DLS
				Specific Conductance					
	Blank	0.8	umhos/cm				1100	09/02/97	DLS
	Standard	70	umhos/cm	71		99	1100	09/02/97	DLS
	Standard	360	umhos/cm	353		102	1100	09/02/97	DLS
	Standard	1410	umhos/cm	1412		100	1100	09/02/97	DLS
145198	Duplicate	65	umhos/cm	65		0	1100	09/02/97	DLS
				Bicarbonate (meqs)					
145265	Duplicate	170	mg/l	170		0	1100	09/02/97	DLS
				Nitrate					
	Standard	4.3	mg/l	4.4		98	1100	09/03/97	DLS
	Standard	11	mg/l	11		100	1100	09/03/97	DLS
	Standard	23	mg/l	22		105	1100	09/03/97	DLS
	Standard	42	mg/l	44		95	1100	09/03/97	DLS
145199	Duplicate	<2.0	mg/l	<2.0		0	1100	09/03/97	DLS
145199	Spike		mg/l		11	100	1100	09/03/97	DLS
				Sulfate (meqs)					
	Standard	10	mg/l	10		100	1100	08/29/97	DLS
	Standard	19	mg/l	20		95	1100	08/29/97	DLS
	Standard	41	mg/l	40		103	1100	08/29/97	DLS
145265	Duplicate	9.0	mg/l	9.0		0	1100	08/29/97	DLS
145265	Spike		mg/l		19	105	1100	08/29/97	DLS
				pH					

Continued

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
	Standard	4.0	SU	4.0		100	1100	09/03/97	DLS
	Standard	7.0	SU	7.0		100	1100	09/03/97	DLS
	Standard	10.0	SU	10.0		100	1100	09/03/97	DLS
145224	Duplicate	7.9	SU	7.9		0	1100	09/03/97	DLS

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

TEST REPORT: 145227

CITY OF COLUSA
P.O. BOX 1063
COLUSA, CA 95932-0000
Attention: 0610002

Sample Identification:EFFLUENT, CROP-RICE
Collected By:Client
Date & Time Taken:08/28/97 0805

Other Data: 4-2, IRRIGATION SUITABILITY
Sample Matrix: Liquid
Report Date: 09/09/97 Received: 08/28/97 Client: COL400

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Calcium (meqs)	1.5	meq/l	1100 09/02/97		EPA METHOD 215.1	DLS
Magnesium (meqs)	1.8	meq/l	1100 09/02/97		EPA METHOD 242.1	DLS
Sodium (meqs)	11.7	meq/l	1100 09/02/97		EPA METHOD 273.1	DLS
Boron	0.65	mg/l	1100 09/08/97	(0.03	EPA METHOD 212.3	RKB
Carbonate (meqs)	(0.1	meq/l	1100 09/02/97	0.1 meq/	EPA METHOD 310.1	DLS
Chloride (meqs)	4.0	meq/l	1100 08/29/97		SM 407A	DLS
Specific Conductance	1.66	mmhos/cm	1100 09/02/97		EPA METHOD 120.1	DLS
Bicarbonate (meqs)	8.3	meq/l	1100 09/02/97		EPA METHOD 310.1	DLS
Nitrate	5.7	mg/l	1100 09/03/97	2 mg/l	EPA Method 353.3	DLS
Sodium adsorption ratio	9.16		1100 09/02/97			DLS
Sulfate (meqs)	3.69	meq/l	1100 08/29/97	(0.01	SM 17th ed., 4500 E	DLS
pH	7.2	SU	1100 09/03/97		EPA Method 150.1	DLS

Quality Assurance for the SET with Sample 145227

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
				Calcium (meqs)					
	Standard	5.1	mg/l	5.0		102	1100	09/02/97	DLS
	Standard	20	mg/l	20		100	1100	09/02/97	DLS
	Standard	50	mg/l	50		100	1100	09/02/97	DLS
145265	Duplicate	24	mg/l	25		4	1100	09/02/97	DLS
145265	Spike		mg/l		38	103	1100	09/02/97	DLS

Continued

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
				Magnesium (meqs)					
	Standard	1.0	mg/l	1.0		100	1100	09/02/97	DLS
	Standard	4.9	mg/l	5.0		98	1100	09/02/97	DLS
	Standard	10	mg/l	10		100	1100	09/02/97	DLS
	Standard	20	mg/l	20		100	1100	09/02/97	DLS
145198	Duplicate	2.9	mg/l	2.8		4	1100	09/02/97	DLS
145198	Spike		mg/l		6.5	98	1100	09/02/97	DLS
				Sodium (meqs)					
	Standard	5.1	mg/l	5.0		102	1100	09/02/97	DLS
	Standard	9.9	mg/l	10		99	1100	09/02/97	DLS
	Standard	25	mg/l	25		100	1100	09/02/97	DLS
	Standard	50	mg/l	50		100	1100	09/02/97	DLS
145265	Duplicate	11	mg/l	11		0	1100	09/02/97	DLS
145265	Spike		mg/l		18	100	1100	09/02/97	DLS
				Boron					
	Standard	0.52	mg/l	0.50		104	1100	09/08/97	RKB
	Standard	1.0	mg/l	1.0		100	1100	09/08/97	RKB
	Standard	5.0	mg/l	5.0		100	1100	09/08/97	RKB
145382	Duplicate	0.12	mg/l	0.13		8	1100	09/08/97	RKB
145382	Spike		mg/l		0.56	109	1100	09/08/97	RKB
				Carbonate (meqs)					
145265	Duplicate	<1.0	mg/l	<1.0		0	1100	09/02/97	DLS
				Chloride (meqs)					
145198	Duplicate	3.1	mg/l	3.1		0	1100	08/29/97	DLS
				Specific Conductance					
	Blank	0.8	uohos/cm				1100	09/02/97	DLS
	Standard	70	uohos/cm	71		99	1100	09/02/97	DLS
	Standard	360	uohos/cm	353		102	1100	09/02/97	DLS
	Standard	1410	uohos/cm	1412		100	1100	09/02/97	DLS
145198	Duplicate	65	uohos/cm	65		0	1100	09/02/97	DLS
				Bicarbonate (meqs)					
145265	Duplicate	170	mg/l	170		0	1100	09/02/97	DLS
				Nitrate					
	Standard	4.3	mg/l	4.4		98	1100	09/03/97	DLS
	Standard	11	mg/l	11		100	1100	09/03/97	DLS
	Standard	23	mg/l	22		105	1100	09/03/97	DLS
	Standard	42	mg/l	44		95	1100	09/03/97	DLS
145199	Duplicate	<2.0	mg/l	<2.0		0	1100	09/03/97	DLS
145199	Spike		mg/l		11	100	1100	09/03/97	DLS
				Sulfate (meqs)					
	Standard	10	mg/l	10		100	1100	08/29/97	DLS
	Standard	19	mg/l	20		95	1100	08/29/97	DLS
	Standard	41	mg/l	40		103	1100	08/29/97	DLS
145265	Duplicate	9.0	mg/l	9.0		0	1100	08/29/97	DLS
145265	Spike		mg/l		19	105	1100	08/29/97	DLS
				pH					

Continued

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
	Standard	4.0	SU	4.0		100	1100	09/03/97	DLS
	Standard	7.0	SU	7.0		100	1100	09/03/97	DLS
	Standard	10.0	SU	10.0		100	1100	09/03/97	DLS
145224	Duplicate	7.9	SU	7.9		0	1100	09/03/97	DLS

Monarch Laboratory, Inc.

WATER ANALYSIS

INVOICE NO: 94447

SUBMITTED BY: City of Colusa
P. O. Box 1063
Colusa, CA 95932

ADVISOR:

DATE SUBMITTED: 9/2/97

DATE REPORTED: 9/15/97

CROP: Rice

P. O. NUMBER:

Lab Code	Sample Number	pH	EC X 10	Ca meq/l	Mg meq/l	Na meq/l	CO3 meq/l	HCO3 meq/l	Cl meq/l	SO4 meq/l	B ppm	NO3 ppm	SAR	DATE		
145307	Effluent	7.6	1.68	1.5	1.9	12.6	None	9.3	4.0	3.6	0.70	6.8	9.65	9/2/97		
145381	Effluent	7.1	1.59	1.4	1.8	12.2	None	7.3	3.7	5.0	0.70	8.3	9.65	9/4/97		
	Accept	7.0	0.5					5	5				5			
	Toxic	8.5	2.5					7	7				7			

EVALUATION AND RECOMMENDATIONS:

MONARCH LABORATORY
563 East Lindo Avenue
Chico, California 95926

Phone (916) 343-5818

Ron Barnes, Agronomist

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

TEST REPORT: 145307

CITY OF COLUSA
P.O. BOX 1063
COLUSA, CA 95932-0000
Attention: 0610002

Sample Identification:EFFLUENT, RICE
Collected By:RON LOUDON
Date & Time Taken:09/02/97 0835

Other Data: 4-2,IRRIGATION SUITABILITY
Sample Matrix: Liquid
Report Date: 09/16/97 Received: 09/02/97 Client: COL400

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Calcium (meqs)	1.5	meq/l	1100 09/10/97		EPA METHOD 215.1	DLS
Magnesium (meqs)	1.9	meq/l	1100 09/10/97		EPA METHOD 242.1	DLS
Sodium (meqs)	12.6	meq/l	1100 09/10/97		EPA METHOD 273.1	DLS
Boron	0.70	mg/l	1100 09/08/97	(0.03	EPA METHOD 212.3	RKB
Carbonate (meqs)	(0.1	meq/l	1100 09/10/97	0.1 meq/	EPA METHOD 310.1	DLS
Chloride (meqs)	4.0	meq/l	1100 09/09/97		SM 407A	DLS
Specific Conductance	1.68	mmhos/cm	1100 09/02/97		EPA METHOD 120.1	DLS
Bicarbonate (meqs)	9.3	meq/l	1100 09/10/97		EPA METHOD 310.1	DLS
Nitrate	6.8	mg/l	1100 09/03/97	2 mg/l	EPA Method 353.3	DLS
Sodium adsorption ratio	9.65		1100 09/10/97			DLS
Sulfate (meqs)	3.6	meq/l	1100 09/10/97	(0.01	SM 17th ed., 4500 E	DLS
pH	7.6	SU	1100 09/03/97		EPA Method 150.1	DLS

Quality Assurance for the SET with Sample 145307

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
			Calcium (meqs)						
	Standard	5.2	mg/l	5.0		104	1100	09/10/97	DLS
	Standard	20	mg/l	20		100	1100	09/10/97	DLS
	Standard	50	mg/l	50		100	1100	09/10/97	DLS
145361	Duplicate	16	mg/l	16		0	1100	09/10/97	DLS
145361	Spike		mg/l		18	106	1100	09/10/97	DLS

Continued

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
				Magnesium (meqs)					
	Standard	1.1	mg/l	1.0		110	1100	09/10/97	DLS
	Standard	4.9	mg/l	5.0		98	1100	09/10/97	DLS
	Standard	10	mg/l	10		100	1100	09/10/97	DLS
	Standard	20	mg/l	20		100	1100	09/10/97	DLS
145361	Duplicate	2.7	mg/l	2.7		0	1100	09/10/97	DLS
145361	Spike		mg/l		6.4	105	1100	09/10/97	DLS
				Sodium (meqs)					
	Standard	5.0	mg/l	5.0		100	1100	09/10/97	DLS
	Standard	10	mg/l	10		100	1100	09/10/97	DLS
	Standard	24	mg/l	25		96	1100	09/10/97	DLS
	Standard	50	mg/l	50		100	1100	09/10/97	DLS
145438	Duplicate	15	mg/l	15		0	1100	09/10/97	DLS
145438	Spike		mg/l		20	100	1100	09/10/97	DLS
				Boron					
	Standard	0.52	mg/l	0.50		104	1100	09/08/97	RKB
	Standard	1.0	mg/l	1.0		100	1100	09/08/97	RKB
	Standard	5.0	mg/l	5.0		100	1100	09/08/97	RKB
145382	Duplicate	0.12	mg/l	0.13		8	1100	09/08/97	RKB
145382	Spike		mg/l		0.56	109	1100	09/08/97	RKB
				Carbonate (meqs)					
145361	Duplicate	<1.0	mg/l	<1.0		0	1100	09/10/97	DLS
				Chloride (meqs)					
145265	Duplicate	4.0	mg/l	4.0		0	1100	09/09/97	DLS
				Specific Conductance					
	Blank	0.8	umhos/cm				1100	09/02/97	DLS
	Standard	70	umhos/cm	71		99	1100	09/02/97	DLS
	Standard	360	umhos/cm	353		102	1100	09/02/97	DLS
	Standard	1410	umhos/cm	1412		100	1100	09/02/97	DLS
145198	Duplicate	65	umhos/cm	65		0	1100	09/02/97	DLS
				Bicarbonate (meqs)					
145361	Duplicate	37	mg/l	37		0	1100	09/10/97	DLS
				Nitrate					
	Standard	4.3	mg/l	4.4		98	1100	09/03/97	DLS
	Standard	11	mg/l	11		100	1100	09/03/97	DLS
	Standard	23	mg/l	22		105	1100	09/03/97	DLS
	Standard	42	mg/l	44		95	1100	09/03/97	DLS
145199	Duplicate	<2.0	mg/l	<2.0		0	1100	09/03/97	DLS
145199	Spike		mg/l		11	100	1100	09/03/97	DLS
				Sulfate (meqs)					
	Standard	10	mg/l	10		100	1100	09/10/97	DLS
	Standard	19	mg/l	20		95	1100	09/10/97	DLS
	Standard	41	mg/l	40		103	1100	09/10/97	DLS
145438	Duplicate	18	mg/l	17		6	1100	09/10/97	DLS
145438	Spike		mg/l		28	93	1100	09/10/97	DLS
				pH					

Continued

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
	Standard	4.0	SU	4.0		100	1100	09/03/97	DLS
	Standard	7.0	SU	7.0		100	1100	09/03/97	DLS
	Standard	10.0	SU	10.0		100	1100	09/03/97	DLS
145224	Duplicate	7.9	SU	7.9		0	1100	09/03/97	DLS

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

TEST REPORT: 145381

CITY OF COLUSA
P.O. BOX 1063
COLUSA, CA 95932-0000
Attention: 0610002

Sample Identification: EFFLUENT, RICE
Collected By: RON
Date & Time Taken: 09/04/97 0740

Other Data: 4-2, IRRIGATION SUITABILITY
Sample Matrix: Liquid
Report Date: 09/16/97 Received: 09/04/97 Client: COL400

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Calcium (meqs)	1.4	meq/l	1100 09/10/97		EPA METHOD 215.1	DLS
Magnesium (meqs)	1.8	meq/l	1100 09/10/97		EPA METHOD 242.1	DLS
Sodium (meqs)	12.2	meq/l	1100 09/10/97		EPA METHOD 273.1	DLS
Boron	0.70	mg/l	1100 09/08/97	(0.03	EPA METHOD 212.3	MKB
Carbonate (meqs)	(0.1	meq/l	1100 09/10/97	0.1 meq/	EPA METHOD 310.1	DLS
Chloride (meqs)	3.7	meq/l	1100 09/09/97		SM 407A	DLS
Specific Conductance	1.59	mmhos/cm	1100 09/09/97		EPA METHOD 120.1	DLS
Bicarbonate (meqs)	7.3	meq/l	1100 09/10/97		EPA METHOD 310.1	DLS
Nitrate	8.3	mg/l	1100 09/05/97	2 mg/l	EPA Method 353.3	DLS
Sodium adsorption ratio	9.65		1100 09/10/97			DLS
Sulfate (meqs)	5.0	meq/l	1100 09/10/97	(0.01	SM 17th ed., 4500 E	DLS
pH	7.1	SU	1100 09/09/97		EPA Method 150.1	DLS

Quality Assurance for the SET with Sample 145381

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
			Calcium (meqs)						
	Standard	5.2	mg/l	5.0		104	1100	09/10/97	DLS
	Standard	20	mg/l	20		100	1100	09/10/97	DLS
	Standard	50	mg/l	50		100	1100	09/10/97	DLS
145361	Duplicate	16	mg/l	16		0	1100	09/10/97	DLS
145361	Spike		mg/l		18	106	1100	09/10/97	DLS

Continued

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
				Magnesium (meqs)					
	Standard	1.1	mg/l	1.0		110	1100	09/10/97	DLS
	Standard	4.9	mg/l	5.0		98	1100	09/10/97	DLS
	Standard	10	mg/l	10		100	1100	09/10/97	DLS
	Standard	20	mg/l	20		100	1100	09/10/97	DLS
145361	Duplicate	2.7	mg/l	2.7		0	1100	09/10/97	DLS
145361	Spike		mg/l		6.4	105	1100	09/10/97	DLS
				Sodium (meqs)					
	Standard	5.0	mg/l	5.0		100	1100	09/10/97	DLS
	Standard	10	mg/l	10		100	1100	09/10/97	DLS
	Standard	24	mg/l	25		96	1100	09/10/97	DLS
	Standard	50	mg/l	50		100	1100	09/10/97	DLS
145438	Duplicate	15	mg/l	15		0	1100	09/10/97	DLS
145438	Spike		mg/l		20	100	1100	09/10/97	DLS
				Boron					
	Standard	0.52	mg/l	0.50		104	1100	09/08/97	RKB
	Standard	1.0	mg/l	1.0		100	1100	09/08/97	RKB
	Standard	5.0	mg/l	5.0		100	1100	09/08/97	RKB
145382	Duplicate	0.12	mg/l	0.13		8	1100	09/08/97	RKB
145382	Spike		mg/l		0.56	109	1100	09/08/97	RKB
				Carbonate (meqs)					
145361	Duplicate	<1.0	mg/l	<1.0		0	1100	09/10/97	DLS
				Chloride (meqs)					
145265	Duplicate	4.0	mg/l	4.0		0	1100	09/09/97	DLS
				Specific Conductance					
	Blank	0.0	umhos/cm				1100	09/09/97	DLS
	Standard	70	umhos/cm	71		99	1100	09/09/97	DLS
	Standard	360	umhos/cm	353		102	1100	09/09/97	DLS
	Standard	1410	umhos/cm	1412		100	1100	09/09/97	DLS
145361	Duplicate	260	umhos/cm	260		0	1100	09/09/97	DLS
				Bicarbonate (meqs)					
145361	Duplicate	37	mg/l	37		0	1100	09/10/97	DLS
				Nitrate					
	Standard	4.3	mg/l	4.4		98	1100	09/05/97	DLS
	Standard	11	mg/l	11		100	1100	09/05/97	DLS
	Standard	22	mg/l	22		100	1100	09/05/97	DLS
	Standard	43	mg/l	44		98	1100	09/05/97	DLS
145351	Duplicate	32	mg/l	32		0	1100	09/05/97	DLS
145351	Spike		mg/l		27	104	1100	09/05/97	DLS
				Sulfate (meqs)					
	Standard	10	mg/l	10		100	1100	09/10/97	DLS
	Standard	19	mg/l	20		95	1100	09/10/97	DLS
	Standard	41	mg/l	40		103	1100	09/10/97	DLS
145438	Duplicate	18	mg/l	17		6	1100	09/10/97	DLS
145438	Spike		mg/l		28	93	1100	09/10/97	DLS
				pH					

Continued

Monarch Laboratory, Inc.
563 EAST LINDO AVENUE
CHICO, CALIFORNIA 95926
PHONE (916) 343-5818

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
	Standard	4.0	SU	4.0		100	1100	09/09/97	DLS
	Standard	7.0	SU	7.0		100	1100	09/09/97	DLS
	Standard	10.0	SU	10.0		100	1100	09/09/97	DLS
145361	Duplicate	6.3	SU	6.3		0	1100	09/09/97	DLS

Monarch Laboratory, Inc.

WATER ANALYSIS

INVOICE NO:

SUBMITTED BY: City of Colusa
P. O. Box 1063
Colusa, CA 95932

ADVISOR:

DATE SUBMITTED:

DATE REPORTED:

CROP: Rice

P. O. NUMBER:

Lab Code	Sample Number	pH	EC X 10	CALCIUM Ca meq/l	MAGNESIUM Mg meq/l	SODIUM Na meq/l	CO3 meq/l	HCO3 meq/l	CHLORIDE Cl meq/l	SULFUR SO4 meq/l	B ppm	NO3 ppm	IRON Fe ppm	MANGANESE Mn ppm	ZINC Zn ppm	COPPER Cu ppm
41639	Pond 6	8.8	0.98	0.85	0.91	7.8	None	5.7	2.4	0.93			0.27	0.13	0.06	<0.5
41640	Old Pump Slough	8.3	0.65	1.7	2.2	2.8	None	3.9	0.77	2.1			0.81	0.19	<0.05	<0.5
41641	Slough 406	8.6	0.78	1.6	2.2	3.9	None	3.9	1.1	2.5			0.48	0.15	<0.05	<0.5
41642	Slough Pump 404	8.6	0.60	1.6	2.2	4.1	None	4.1	1.1	2.7			0.65	0.23	<0.05	<0.5
4164	2017 Pm SW 406	8.2	0.52	1.5	1.6	2.0	None	2.7	0.74	1.3			0.52	0.09	<0.05	<0.5
	Accept	7.0	0.4					3	3							
	Problem	8.0	1.8					5	5							
	Toxic	8.5	2.5					7	7							

/ALUATION AND RECOMMENDATIONS:
ater pH and bicarbonates (HCO3) can cause a stand establishment problem, especially in stagnent areas the field. Water pH over 8.3 ties up phosphorus and micronutrients.

MONARCH LABORATORY
563 East Lindo Avenue
Chico, California 95926

Phone (916) 343-5818

Ron Barnes, Agronomist

MACS Lab, Inc.
2070A Walsh Avenue
Santa Clara, CA 95050-2542

(408) 727-9727

Asbestos in Water by TEM
EPA 600/R-94/134
aka Method 100.2
Report

Anlab Analytical Laboratory
1910 S Street

Sacramento CA 95814

Person to contact: Erin Takehare

Contact phone: (916) 447-2946

FAX phone: (916) 447-8321

Corresponding invoice number: 51505

Job:

Job Number: 44

Note: This sample may or may not be a drinking water sample. Please see the chain of custody from the party that sampled the water. The detection limit may not meet the requirements of drinking water if the sample contains large amounts of particulates. Therefore if the Detection limit is >0.2 mf/l this analysis is NOT valid for drinking water.

Job Description: AG08518 AG08519

Sample:

MACS Lab Sample Number: H51505-1 **Client Sample Number:** AG08518

Client Sample Description: Hulbert rice drain

Filter type and size: MCE 0.2µm pore size
Filter Diameter = 25 mm Filter lot no.: H7AM11649
Filter Manufacturer: Millipore
Received OK: Yes Accepted for analysis: Yes

Date and time sampled (from client): June 2, 1997 at 08:15
Sample received: June 3, 1997 at 10:22
Sample ozonated: June 9, 1997 at 13:30
Sample filtered on: June 9, 1997 at 18:05
Analyzed on: June 10, 1997 at 10:22

Analysis Results:

Type of Asbestos:	million fibers/liter
Total asbestos	< 0.9886

Detection limit, mf/l 0.989

TEM magnification:	10,000 X
Grid area analyzed:	0.228 mm^2
Grids counted:	20
Sonication time:	10 min
Filter area:	225 mm^2
Total fibers counted:	0
Volume filtered:	1.0 ml

Approximate volume of sample received: 1000 milliliters

Fiber Concentration in Water in Million Fibers per Liter = $\frac{\text{fibers/mm}^2 \text{ X filter area (mm}^2\text{)}}{\text{sample volume filtered in L}}$ X 0.000001

fibers/mm^2 = total fibers / grid area analyzed

Blank Vol. filtered:	100.0 ml
Blank concentration:	< 0.028 mf/l

95% confidence interval: 0.0 to 3.65 mf/l

Microscopist: _____ (signature) Laboratory manager: _____

MACS Lab, Inc.
2070A Walsh Avenue
Santa Clara, CA 95050-2542

(408) 727-9727

Asbestos in Water by TEM
EPA 600/R-94/134
aka Method 100.2
Report

Job:
Job Number: 44

Note: This sample may or may not be a drinking water sample. Please see the chain of custody from the party that sampled the water. The detection limit may not meet the requirements of drinking water if the sample contains large amounts of particulates. Therefore if the Detection limit is >0.2 mf/l this analysis is NOT valid for drinking water.

Job Description: AG08518 AG08519

Sample:
MACS Lab Sample Number: H51505-2 **Client Sample Number:** AG08519

Client Sample Description: Andreottil steidlemeyer

Filter type and size: MCE 0.2µm pore size
Filter Diameter = 25 mm Filter lot no.: H7AM11649
Filter Manufacturer: Millipore
Received OK: Yes Accepted for analysis: Yes

Date and time sampled (from client): June 2, 1997 at 09:00
Sample received: June 3, 1997 at 10:22
Sample ozonated: June 9, 1997 at 13:30
Sample filtered on: June 9, 1997 at 18:05
Analyzed on: June 10, 1997 at 10:22

Analysis Results:

Type of Asbestos:	million fibers/liter
Total asbestos	< 0.1977

Detection limit, mf/l 0.198

TEM magnification:	10,000 X
Grid area analyzed:	0.228 mm^2
Grids counted:	20
Sonication time:	10 min
Filter area:	225 mm^2
Total fibers counted:	0
Volume filtered:	5.0 ml

Approximate volume of sample received: 1000 milliliters

Fiber Concentration in Water in Million Fibers per Liter $= \frac{\text{fibers/mm}^2 \times \text{filter area (mm}^2\text{)}}{\text{sample volume filtered in L}} \times 0.000001$

fibers/mm^2 = total fibers / grid area analyzed

Blank Vol. filtered:	100.0 ml
Blank concentration:	< 0.028 mf/l

95% confidence interval: 0.0 to 0.729 mf/l

End of report.

Microscopist: _____ (signature) Laboratory manager: _____

NATIONAL TOXICS TESTING

Anlab
ANALYTICAL LABORATORY
1910 S STREET SACRAMENTO, CALIFORNIA 95814 • 916-447-2946 • FAX 916-447-8321

March 5, 1996

City of Colusa
PO Box 1063
Colusa, CA 95932
Attn: Ron Loudon

Anlab I.D. AF02382 — Client Code: 44
SAMPLE DESCRIPTION: DISCHARGE EFFLUENT — Matrix: WW
Sample collection date: 02/06/96 — Time: 14:30
Lab submittal date: 02/07/96 — Time: 10:36
Turn-Around-Time: REG — Sample Disposal: LAB

TEST PARAMETER	UNITS	TEST RESULT	DETECTION LIMIT
Cyanide by EPA 335.2	mg/l	ND	0.0030
Multicomponent analysis: EPA 601 PURGEABLE HALOCARBONS			
Surrogate (4-Brflbenz)	ug/l	81	60-130
Bromodichloromethane	ug/l	ND	0.50
Bromoform	ug/l	ND	0.50
Bromomethane	ug/l	ND	0.50
Carbon tetrachloride	ug/l	ND	0.50
Chlorobenzene	ug/l	ND	0.50
Chloroethane	ug/l	ND	0.50
2-Chloroethyl vinyl ether	ug/l	ND	1.0
Chloroform	ug/l	ND	0.50
Chloromethane	ug/l	ND	0.50
Dibromochloromethane	ug/l	ND	0.50
1,2-Dichlorobenzene (o-DCB)	ug/l	ND	0.50
1,3-Dichlorobenzene (m-DCB)	ug/l	ND	0.50
1,4-Dichlorobenzene (p-DCB)	ug/l	ND	0.50
Dichlorodifluoromethane	ug/l	ND	0.50
1,1-Dichloroethane (1,1-DCA)	ug/l	ND	0.50
1,2-Dichloroethane (1,2-DCA)	ug/l	ND	0.50
1,1-Dichloroethene (1,1-DCE)	ug/l	ND	0.20
trans-1,2-Dichloroethene	ug/l	ND	0.50
1,2-Dichloropropane	ug/l	ND	0.50
cis-1,3-Dichloropropene	ug/l	ND	0.50
trans-1,3-Dichloropropene	ug/l	ND	0.50
Dichloromethane (MeCl2)	ug/l	ND	1.0
1,1,2,2-Tetrachloroethane	ug/l	ND	0.50
Tetrachloroethene (PCE)	ug/l	ND	0.50
1,1,1-Trichloroethane (1,1,1-TCA)	ug/l	3.1	0.50
1,1,2-Trichloroethane (1,1,2-TCA)	ug/l	ND	0.50
Trichloroethene (TCE)	ug/l	ND	0.50
Trichlorofluoromethane (Freon 11)	ug/l	ND	0.50
Vinyl chloride (VC)	ug/l	ND	1.0

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March 5, 1996
City of Colusa Anlab I.D. AF02382 (continued)

TEST PARAMETER	UNITS	TEST RESULT	DETECTION LIMIT
Multicomponent analysis: EPA 602 PURGEABLE AROMATICS			
Surrogate (4-Brflbenz)	ug/l	92	60-130
Benzene	ug/l	ND	0.50
Chlorobenzene	ug/l	ND	0.50
1,2-Dichlorobenzene (o-DCB)	ug/l	ND	0.50
1,3-Dichlorobenzene (m-DCB)	ug/l	ND	0.50
1,4-Dichlorobenzene (p-DCB)	ug/l	ND	0.50
Ethylbenzene	ug/l	ND	0.50
Toluene	ug/l	ND	0.50
Xylenes	ug/l	ND	0.50
Multicomponent analysis: EPA 603 ACROLEIN, ACRYLONITRILE			
Acrolein	ug/l	ND	30
Acrylonitrile	ug/l	ND	5.0
Multicomponent analysis: EPA 604 PHENOLS			
Surrogate (2,4,6-Tribromophenol)	ug/l	82	17-127
4-Chloro-3-methylphenol	ug/l	ND	13
2-Chlorophenol	ug/l	ND	3.0
2,4-Dichlorophenol	ug/l	ND	2.0
2,4-Dimethylphenol	ug/l	ND	3.0
2,4-Dinitrophenol	ug/l	ND	24
2-Methyl-4,6-dinitrophenol	ug/l	ND	23
2-Nitrophenol	ug/l	ND	2.5
4-Nitrophenol	ug/l	ND	26
Pentachlorophenol	ug/l	ND	29
Phenol	ug/l	ND	3.0
2,4,6-Trichlorophenol	ug/l	ND	7.0
EPA 611		♦	
EPA 605		♦	

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March 5, 1996
City of Colusa Anlab I.D. AF02382 (continued)

TEST PARAMETER	UNITS	TEST RESULT	DETECTION LIMIT
Multicomponent analysis: EPA 612 TICH			
Surrogate(1245-TetraClbenz)	ug/l	51	65-135
1,2,4-Trichlorobenzene	ug/l	ND	2.0
Hexachlorobenzene	ug/l	ND	1.0
Hexachloroethane	ug/l	ND	1.5
2-Chloronaphthalene	ug/l	ND	10
1,2-Dichlorobenzene	ug/l	ND	5.0
1,3-Dichlorobenzene	ug/l	ND	5.0
1,4-Dichlorobenzene	ug/l	ND	5.0
Hexachlorobutadiene	ug/l	ND	0.40
Hexachlorocyclopentadiene	ug/l	ND	1.0
Multicomponent analysis: EPA 625 SEMI-VOL ORGANICS			
Surrogate 1 (2-Flphenol)	ug/l	66	21-100
Surrogate 2 (Phenol-D5)	ug/l	42	35-114
Surrogate 3 (Nitrobenz-D5)	ug/l	77	35-114
Surrogate 4 (2-Flbiphenyl)	ug/l	81	43-116
Surrogate 5 (246-TriBRphen)	ug/l	100	10-123
Surrogate 6 (Terphenyl-d14)	ug/l	87	33-141
Acenaphthene	ug/l	ND	5.0
Acenaphthylene	ug/l	ND	5.0
Anthracene	ug/l	ND	5.0
Benzo(a)anthracene	ug/l	ND	5.0
Benzo(b)fluoranthene	ug/l	ND	5.0
Benzo(k)fluoranthene	ug/l	ND	5.0
Benzo(a)pyrene	ug/l	ND	5.0
Benzo(g,h,i)perylene	ug/l	ND	10
Benzyl butyl phthalate	ug/l	ND	5.0
bis(2-chloroethyl)ether	ug/l	ND	5.0
bis(2-chloroethoxy)methane	ug/l	ND	5.0
bis(2-ethylhexyl)phthalate	ug/l	ND	15
bis(2-chloroisopropyl)ether	ug/l	ND	10
4-Bromophenyl phenyl ether	ug/l	ND	5.0
2-Chloronaphthalene	ug/l	ND	5.0
4-Chlorophenyl phenyl ether	ug/l	ND	5.0
Chrysene	ug/l	ND	5.0
Dibenzo(a,h)anthracene	ug/l	ND	5.0
Di-n-butylphthalate	ug/l	ND	5.0
1,3-Dichlorobenzene	ug/l	ND	5.0
1,2-Dichlorobenzene	ug/l	ND	10
1,4-Dichlorobenzene	ug/l	ND	5.0

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March 5, 1996
City of Colusa Anlab I.D. AF02382 (continued)

TEST PARAMETER	UNITS	TEST RESULT	DETECTION LIMIT
Multicomponent analysis: EPA 625 SEMI-VOL ORGANICS (continued)			
3,3'-Dichlorobenzidine	ug/l	ND	5.0
Diethyl phthalate	ug/l	ND	5.0
Dimethyl phthalate	ug/l	ND	5.0
2,4-Dinitrotoluene	ug/l	ND	5.0
2,6-Dinitrotoluene	ug/l	ND	5.0
Di-n-octylphthalate	ug/l	ND	10
Fluoranthene	ug/l	ND	5.0
Fluorene	ug/l	ND	5.0
Hexachlorobenzene	ug/l	ND	5.0
Hexachlorobutadiene	ug/l	ND	5.0
Hexachloroethane	ug/l	ND	5.0
Indeno(1,2,3-cd)pyrene	ug/l	ND	5.0
Isophorone	ug/l	ND	5.0
Naphthalene	ug/l	ND	5.0
Nitrobenzene	ug/l	ND	10
N-Nitroso-di-n-propylamine	ug/l	ND	10
Phenanthrene	ug/l	ND	5.0
Pyrene	ug/l	ND	10
1,2,4-Trichlorobenzene	ug/l	ND	5.0
Benzidine	ug/l	ND	100
Hexachlorocyclopentadiene	ug/l	ND	5.0
N-Nitrosodimethylamine	ug/l	ND	5.0
N-Nitrosodiphenylamine	ug/l	ND	5.0
4-Chloro-3-methylphenol	ug/l	ND	5.0
2-Chlorophenol	ug/l	ND	5.0
2,4-Dichlorophenol	ug/l	ND	5.0
2,4-Dimethylphenol	ug/l	ND	5.0
2,4-Dinitrophenol	ug/l	ND	5.0
2-Methyl-4,6-dinitrophenol	ug/l	ND	5.0
2-Nitrophenol	ug/l	ND	5.0
4-Nitrophenol	ug/l	ND	10
Pentachlorophenol	ug/l	ND	5.0
Phenol	ug/l	ND	10
2,4,6-Trichlorophenol	ug/l	ND	5.0
1,2-Diphenylhydrazine	ug/l	ND	25
ASBESTOS			

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April 2, 1997

City of Colusa
Attn: Ron Loudon
PO Box 1063
Colusa, CA 95932

Anlab I.D. AG05288
SAMPLE DESCRIPTION: EFFLUENT POND #6
Sample collection date: 03/27/97
Lab submittal date: 03/27/97
Turn-Around-Time: RUSH 5

Client Code: 44
Matrix: WW
Time: 08:30
Time: 09:30
Sample Disposal: LAB

TEST PARAMETER		UNITS	TEST RESULT	DETECTION LIMIT
Multicomponent analysis: METALS BY ICAP				
Antimony	EPA 200.7	mg/l	ND	0.050
Chromium	EPA 200.7	mg/l	ND	0.010
Thallium	EPA 200.7	mg/l	ND	0.10
Tot. Rec. Phenols by EPA 420.1		mg/l	ND	0.010

ND = Not Detected

	Date Extracted	Date Analyzed
Metals		04/01/97
EPA 420.1	03/31/97	04/01/97

Report Approved By: Patty Bucknell
ELAP ID #: 1468

:rr

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ATTACHMENT A
DATES OF ANALYSIS

			BEGIN	FINISH
AG08518	Antimony	EPA 204.2	06/03/97	06/03/97
AG08518	Chromium	EPA 218.2	06/03/97	06/03/97
AG08518	Thallium	EPA 279.2	06/04/97	06/04/97
AG08518	EPA 601	PURGEABLE HALOCARBONS	06/03/97	06/03/97
AG08518	EPA 602	PURGEABLE AROMATICS	06/03/97	06/03/97
AG08518	EPA 603	ACROLEIN, ACRYLONITRILE	06/04/97	06/04/97
AG08518	EPA 604	PHENOLS	06/05/97	06/06/97
AG08518	EPA 612	TICH	06/04/97	06/04/97
AG08518	EPA 625	SEMI-VOL ORGANICS	06/04/97	06/14/97
AG08518	Cyanide by EPA 335.2		06/04/97	06/04/97
AG08519	Antimony	EPA 204.2	06/03/97	06/03/97
AG08519	Chromium	EPA 218.2	06/03/97	06/03/97
AG08519	Thallium	EPA 279.2	06/04/97	06/04/97
AG08519	EPA 601	PURGEABLE HALOCARBONS	06/03/97	06/03/97
AG08519	EPA 602	PURGEABLE AROMATICS	06/03/97	06/03/97
AG08519	EPA 603	ACROLEIN, ACRYLONITRILE	06/04/97	06/04/97
AG08519	EPA 604	PHENOLS	06/05/97	06/06/97
AG08519	EPA 612	TICH	06/04/97	06/04/97
AG08519	EPA 625	SEMI-VOL ORGANICS	06/04/97	06/14/97
AG08519	Cyanide by EPA 335.2		06/04/97	06/04/97
AG08520	EPA 601	PURGEABLE HALOCARBONS	06/03/97	06/03/97
AG08520	EPA 602	PURGEABLE AROMATICS	06/03/97	06/03/97
AG08520	EPA 603	ACROLEIN, ACRYLONITRILE	06/04/97	06/04/97

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June 9, 1997

City of Colusa
Attn: Ron Loudon
PO Box 1063
Colusa, CA 95932

Anlab I.D. AG08518 Client Code: 44
SAMPLE DESCRIPTION: HULBERT RICE DRAIN Matrix: WW
Sample collection date: 06/02/97 Time: 08:15
Lab submittal date: 06/02/97 Time: 10:48
Turn-Around-Time: RUSH 5 Sample Disposal: LAB

TEST PARAMETER		UNITS	TEST RESULT	DETECTION LIMIT
Antimony	EPA 204.2	ug/l	ND	5.0
Chromium	EPA 218.2	ug/l	ND	1.0
Thallium	EPA 279.2	ug/l	ND	1.0
Multicomponent analysis: EPA 601 PURGEABLE HALOCARBONS				
Surrogate (1-Cl-2-flbenz)		ug/l	89	60-130
Bromodichloromethane		ug/l	ND	0.50
Bromoform		ug/l	ND	0.50
Bromomethane		ug/l	ND	0.50
Carbon tetrachloride		ug/l	ND	0.50
Chlorobenzene		ug/l	ND	0.50
Chloroethane		ug/l	ND	0.50
2-Chloroethyl vinyl ether		ug/l	ND	1.0
Chloroform		ug/l	ND	0.50
Chloromethane		ug/l	ND	0.50
Dibromochloromethane		ug/l	ND	0.50
1,2-Dichlorobenzene (o-DCB)		ug/l	ND	0.50
1,3-Dichlorobenzene (m-DCB)		ug/l	ND	0.50
1,4-Dichlorobenzene (p-DCB)		ug/l	ND	0.50
Dichlorodifluoromethane		ug/l	ND	0.50
1,1-Dichloroethane (1,1-DCA)		ug/l	ND	0.50
1,2-Dichloroethane (1,2-DCA)		ug/l	ND	0.50
1,1-Dichloroethene (1,1-DCE)		ug/l	ND	0.20
trans-1,2-Dichloroethene		ug/l	ND	0.50
1,2-Dichloropropane		ug/l	ND	0.50
cis-1,3-Dichloropropene		ug/l	ND	0.50
trans-1,3-Dichloropropene		ug/l	ND	0.50
Dichloromethane (MeCl2)		ug/l	ND	1.0
1,1,2,2-Tetrachloroethane		ug/l	ND	0.50
Tetrachloroethene (PCE)		ug/l	ND	0.50

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June 9, 1997
City of Colusa Anlab I.D. AG08518 (continued)

TEST PARAMETER	UNITS	TEST RESULT	DETECTION LIMIT
Multicomponent analysis: EPA 601 PURGEABLE HALOCARBONS (continued)			
1,1,1-Trichloroethane (1,1,1-TCA)	ug/l	ND	0.50
1,1,2-Trichloroethane (1,1,2-TCA)	ug/l	ND	0.50
Trichloroethene (TCE)	ug/l	ND	0.50
Trichlorofluoromethane (Freon 11)	ug/l	ND	0.50
Vinyl chloride (VC)	ug/l	ND	1.0
Multicomponent analysis: EPA 602 PURGEABLE AROMATICS			
Surrogate (1-Cl-2-flbenz)	ug/l	89	60-130
Benzene	ug/l	ND	0.50
Chlorobenzene	ug/l	ND	0.50
1,2-Dichlorobenzene (o-DCB)	ug/l	ND	0.50
1,3-Dichlorobenzene (m-DCB)	ug/l	ND	0.50
1,4-Dichlorobenzene (p-DCB)	ug/l	ND	0.50
Ethylbenzene	ug/l	ND	0.50
Toluene	ug/l	ND	0.50
Xylenes	ug/l	ND	0.50
Multicomponent analysis: EPA 603 ACROLEIN, ACRYLONITRILE			
Acrolein	ug/l	ND	30
Acrylonitrile	ug/l	ND	5.0
Multicomponent analysis: EPA 604 PHENOLS			
Surrogate (2,4,6-Tribromophenol)	ug/l	18	17-127
4-Chloro-3-methylphenol	ug/l	ND	13
2-Chlorophenol	ug/l	ND	3.0
2,4-Dichlorophenol	ug/l	ND	2.0
2,4-Dimethylphenol	ug/l	ND	3.0
2,4-Dinitrophenol	ug/l	ND	24
2-Methyl-4,6-dinitrophenol	ug/l	ND	23
2-Nitrophenol	ug/l	ND	2.5
4-Nitrophenol	ug/l	ND	26
Pentachlorophenol	ug/l	ND	29
Phenol	ug/l	ND	3.0
2,4,6-Trichlorophenol	ug/l	ND	7.0
Multicomponent analysis: EPA 612 TICH			
Surrogate(1245-TetraClbenz)	ug/l	74	65-135
1,2,4-Trichlorobenzene	ug/l	ND	2.0
Hexachlorobenzene	ug/l	ND	1.0
Hexachloroethane	ug/l	ND	1.5

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TEST PARAMETER	UNITS	TEST RESULT	DETECTION LIMIT
Multicomponent analysis: EPA 612 TICH (continued)			
2-Chloronaphthalene	ug/l	ND	10
1,2-Dichlorobenzene	ug/l	ND	5.0
1,3-Dichlorobenzene	ug/l	ND	5.0
1,4-Dichlorobenzene	ug/l	ND	5.0
Hexachlorobutadiene	ug/l	ND	0.40
Hexachlorocyclopentadiene	ug/l	ND	1.0
EPA 625 SEMI-VOL ORGANICS	ug/l	♦	
ASBESTOS		♦	
Cyanide by EPA 335.2	mg/l	ND	0.0030

Anlab I.D. AG08519
SAMPLE DESCRIPTION: ANDREOTTI/STEIDLEMEYER
Matrix: WW Client Code: 44
Sample collection date: 06/02/97 Time: 09:00
Lab submittal date: 06/02/97 Time: 10:48
Turn-Around-Time: RUSH 5 Sample Disposal: LAB

TEST PARAMETER		UNITS	TEST RESULT	DETECTION LIMIT
Antimony	EPA 204.2	ug/l	ND	5.0
Chromium	EPA 218.2	ug/l	1.3	1.0
Thallium	EPA 279.2	ug/l	ND	1.0
Multicomponent analysis: EPA 601 PURGEABLE HALOCARBONS				
Surrogate (1-Cl-2-flbenz)		ug/l	91	60-130
Bromodichloromethane		ug/l	ND	0.50
Bromoform		ug/l	ND	0.50
Bromomethane		ug/l	ND	0.50
Carbon tetrachloride		ug/l	ND	0.50
Chlorobenzene		ug/l	ND	0.50
Chloroethane		ug/l	ND	0.50
2-Chloroethyl vinyl ether		ug/l	ND	1.0
Chloroform		ug/l	ND	0.50
Chloromethane		ug/l	ND	0.50

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June 9, 1997
City of Colusa Anlab I.D. A008519 (continued)

TEST PARAMETER	UNITS	TEST RESULT	DETECTION LIMIT
Multicomponent analysis: EPA 601 PURGEABLE HALOCARBONS (continued)			
Dibromochloromethane	ug/l	ND	0.50
1,2-Dichlorobenzene (o-DCB)	ug/l	ND	0.50
1,3-Dichlorobenzene (m-DCB)	ug/l	ND	0.50
1,4-Dichlorobenzene (p-DCB)	ug/l	ND	0.50
Dichlorodifluoromethane	ug/l	ND	0.50
1,1-Dichloroethane (1,1-DCA)	ug/l	ND	0.50
1,2-Dichloroethane (1,2-DCA)	ug/l	ND	0.50
1,1-Dichloroethene (1,1-DCE)	ug/l	ND	0.20
trans-1,2-Dichloroethene	ug/l	ND	0.50
1,2-Dichloropropane	ug/l	ND	0.50
cis-1,3-Dichloropropene	ug/l	ND	0.50
trans-1,3-Dichloropropene	ug/l	ND	0.50
Dichloromethane (MeCl2)	ug/l	ND	1.0
1,1,2,2-Tetrachloroethene	ug/l	ND	0.50
Tetrachloroethene (PCE)	ug/l	ND	0.50
1,1,1-Trichloroethane (1,1,1-TCA)	ug/l	ND	0.50
1,1,2-Trichloroethane (1,1,2-TCA)	ug/l	ND	0.50
Trichloroethene (TCE)	ug/l	ND	0.50
Trichlorofluoromethane (Freon 11)	ug/l	ND	0.50
Vinyl chloride (VC)	ug/l	ND	1.0
Multicomponent analysis: EPA 602 PURGEABLE AROMATICS			
Surrogate (1-Cl-2-flbenz)	ug/l	91	60-130
Benzene	ug/l	ND	0.50
Chlorobenzene	ug/l	ND	0.50
1,2-Dichlorobenzene (o-DCB)	ug/l	ND	0.50
1,3-Dichlorobenzene (m-DCB)	ug/l	ND	0.50
1,4-Dichlorobenzene (p-DCB)	ug/l	ND	0.50
Ethylbenzene	ug/l	ND	0.50
Toluene	ug/l	ND	0.50
Xylenes	ug/l	ND	0.50
Multicomponent analysis: EPA 603 ACROLEIN, ACRYLONITRILE			
Acrolein	ug/l	ND	30
Acrylonitrile	ug/l	ND	5.0

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June 9, 1997
City of Colusa Anlab I.D. AG08519 (continued)

TEST PARAMETER	UNITS	TEST RESULT	DETECTION LIMIT
Multicomponent analysis; EPA 604 PHENOLS			
Surrogate (2,4,6-Tribromophenol)	ug/l	21	17-127
4-Chloro-3-methylphenol	ug/l	ND	13
2-Chlorophenol	ug/l	ND	3.0
2,4-Dichlorophenol	ug/l	ND	2.0
2,4-Dimethylphenol	ug/l	ND	3.0
2,4-Dinitrophenol	ug/l	ND	24
2-Methyl-4,6-dinitrophenol	ug/l	ND	23
2-Nitrophenol	ug/l	ND	2.5
4-Nitrophenol	ug/l	ND	26
Pentachlorophenol	ug/l	ND	29
Phenol	ug/l	ND	3.0
2,4,6-Trichlorophenol	ug/l	ND	7.0
Multicomponent analysis; EPA 612 TICH			
Surrogate(1245-TetraClBenz)	ug/l	91	65-135
1,2,4-Trichlorobenzene	ug/l	ND	2.0
Hexachlorobenzene	ug/l	ND	1.0
Hexachloroethane	ug/l	ND	1.5
2-Chloronaphthalene	ug/l	ND	10
1,2-Dichlorobenzene	ug/l	ND	5.0
1,3-Dichlorobenzene	ug/l	ND	5.0
1,4-Dichlorobenzene	ug/l	ND	5.0
Hexachlorobutadiene	ug/l	ND	0.40
Hexachlorocyclopentadiene	ug/l	ND	1.0
EPA 625 SEMI-VOL ORGANICS	ug/l	∞	
ASBESTOS		♦	
Cyanide by EPA 335.2	mg/l	ND	0.0030

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June 9, 1997
City of Colusa

Anlab I.D. AG08520 — Client Code: 44
SAMPLE DESCRIPTION: TRAVEL BLANK — Matrix: W
Sample collection date: — Time:
Lab submittal date: 06/02/97 — Time: 10:46
Turn-Around-Time: RUSH 5 — Sample Disposal: LAB

TEST PARAMETER	UNITS	TEST RESULT	DETECTION LIMIT
Multicomponent analysis: EPA 601 PURGEABLE HALOCARBONS			
Surrogate (1-Cl-2-flbenz)	ug/l	94	60-130
Bromodichloromethane	ug/l	ND	0.50
Bromoform	ug/l	ND	0.50
Bromomethane	ug/l	ND	0.50
Carbon tetrachloride	ug/l	ND	0.50
Chlorobenzene	ug/l	ND	0.50
Chloroethane	ug/l	ND	0.50
2-Chloroethyl vinyl ether	ug/l	ND	1.0
Chloroform	ug/l	ND	0.50
Chloromethane	ug/l	ND	0.50
Dibromochloromethane	ug/l	ND	0.50
1,2-Dichlorobenzene (o-DCB)	ug/l	ND	0.50
1,3-Dichlorobenzene (m-DCB)	ug/l	ND	0.50
1,4-Dichlorobenzene (p-DCB)	ug/l	ND	0.50
Dichlorodifluoromethane	ug/l	ND	0.50
1,1-Dichloroethane (1,1-DCA)	ug/l	ND	0.50
1,2-Dichloroethane (1,2-DCA)	ug/l	ND	0.50
1,1-Dichloroethene (1,1-DCE)	ug/l	ND	0.20
trans-1,2-Dichloroethene	ug/l	ND	0.50
1,2-Dichloropropane	ug/l	ND	0.50
cis-1,3-Dichloropropene	ug/l	ND	0.50
trans-1,3-Dichloropropene	ug/l	ND	0.50
Dichloromethane (MeCl2)	ug/l	ND	1.0
1,1,2,2-Tetrachloroethane	ug/l	ND	0.50
Tetrachloroethene (PCE)	ug/l	ND	0.50
1,1,1-Trichloroethane (1,1,1-TCA)	ug/l	ND	0.50
1,1,2-Trichloroethane (1,1,2-TCA)	ug/l	ND	0.50
Trichloroethene (TCE)	ug/l	ND	0.50
Trichlorofluoromethane (Freon 11)	ug/l	ND	0.50
Vinyl chloride (VC)	ug/l	ND	1.0
Multicomponent analysis: EPA 602 PURGEABLE AROMATICS			
Surrogate (1-Cl-2-flbenz)	ug/l	103	60-130
Benzene	ug/l	ND	0.50
Chlorobenzene	ug/l	ND	0.50

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TEST PARAMETER	UNITS	TEST RESULT	DETECTION LIMIT
Multicomponent analysis: EPA 602 PURGEABLE AROMATICS (continued)			
1,2-Dichlorobenzene (o-DCB)	ug/l	ND	0.50
1,3-Dichlorobenzene (m-DCB)	ug/l	ND	0.50
1,4-Dichlorobenzene (p-DCB)	ug/l	ND	0.50
Ethylbenzene	ug/l	ND	0.50
Toluene	ug/l	ND	0.50
Xylenes	ug/l	ND	0.50
Multicomponent analysis: EPA 603 ACROLEIN, ACRYLONITRILE			
Acrolein	ug/l	ND	30
Acrylonitrile	ug/l	ND	5.0

ND = Not Detected

NOTES:

The surrogate results are in percent recovery units. The detection limit field represents the acceptable quality control range for recoveries. Surrogates are organic compounds that are similar in chemical composition to the target analyte, but are not normally found in environmental samples. The surrogate is used to track method efficiency and does not represent a compound result.

Method blank was non-detected.

See Attachment A for dates of analysis.

∞ Results to follow.

ϕ Outside laboratory report to follow.

Case Narrative: EPA 612

Problem: The following parameter is outside of the acceptable quality control limit:

Parameter	Surrogates	Control Limits
Method Blank	62	65-135

Data Qualification: The integrity of the analytical data was established based on the fact that acceptable quality control recoveries were obtained for the LCS, the MS/MSD compounds, and the sample surrogates.

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June 9, 1997
City of Colusa

Anlab ID # AG08518-20 (Continued)

MS = Matrix Spike
MSD = Matrix Spike Duplicate
LCS = Laboratory Control Standard
RPD = Relative Percent Difference

Report Approved By: Jeffrey Dickerson
ELAP ID #: 1468

:rr

Anlab
ANALYTICAL LABORATORY
1910 S STREET SACRAMENTO, CALIFORNIA 95814 • 916-447-2946 • FAX 916-447-8321

June 17, 1997

City of Colusa
Attn: Ron Loudon
PO Box 1063
Colusa, CA 95932

Anlab I.D. AG08518 Client Code: 44
SAMPLE DESCRIPTION: HULBERT RICE DRAIN Matrix: WW
Sample collection date: 06/02/97 Time: 08:15
Lab submittal date: 06/02/97 Time: 10:48
Turn-Around-Time: RUSH 5 Sample Disposal: LAB

TEST PARAMETER		UNITS	TEST RESULT	DETECTION LIMIT
Antimony	EPA 204.2	ug/l	ND	5.0
Chromium	EPA 218.2	ug/l	ND	1.0
Thallium	EPA 279.2	ug/l	ND	1.0
Multicomponent analysis: EPA 601 PURGEABLE HALOCARBONS				
Surrogate (1-Cl-2-flbenz)		ug/l	89	60-130
Bromodichloromethane		ug/l	ND	0.50
Bromoform		ug/l	ND	0.50
Bromomethane		ug/l	ND	0.50
Carbon tetrachloride		ug/l	ND	0.50
Chlorobenzene		ug/l	ND	0.50
Chloroethane		ug/l	ND	0.50
2-Chloroethyl vinyl ether		ug/l	ND	1.0
Chloroform		ug/l	ND	0.50
Chloromethane		ug/l	ND	0.50
Dibromochloromethane		ug/l	ND	0.50
1,2-Dichlorobenzene (o-DCB)		ug/l	ND	0.50
1,3-Dichlorobenzene (m-DCB)		ug/l	ND	0.50
1,4-Dichlorobenzene (p-DCB)		ug/l	ND	0.50
Dichlorodifluoromethane		ug/l	ND	0.50
1,1-Dichloroethane (1,1-DCA)		ug/l	ND	0.50
1,2-Dichloroethane (1,2-DCA)		ug/l	ND	0.50
1,1-Dichloroethene (1,1-DCE)		ug/l	ND	0.20
trans-1,2-Dichloroethene		ug/l	ND	0.50
1,2-Dichloropropane		ug/l	ND	0.50
cis-1,3-Dichloropropene		ug/l	ND	0.50
trans-1,3-Dichloropropene		ug/l	ND	0.50
Dichloromethane (MeCl2)		ug/l	ND	1.0
1,1,2,2-Tetrachloroethane		ug/l	ND	0.50
Tetrachloroethene (PCE)		ug/l	ND	0.50
1,1,1-Trichloroethane (1,1,1-TCA)		ug/l	ND	0.50

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June 17, 1997
City of Colusa Anlab I.D. AG08518 (continued)

TEST PARAMETER	UNITS	TEST RESULT	DETECTION LIMIT
Multicomponent analysis: EPA 601 PURGEABLE HALOCARBONS (continued)			
1,1,2-Trichloroethane (1,1,2-TCA)	ug/l	ND	0.50
Trichloroethene (TCE)	ug/l	ND	0.50
Trichlorofluoromethane (Freon 11)	ug/l	ND	0.50
Vinyl chloride (VC)	ug/l	ND	1.0
Multicomponent analysis: EPA 602 PURGEABLE AROMATICS			
Surrogate (1-Cl-2-flbenz)	ug/l	89	60-130
Benzene	ug/l	ND	0.50
Chlorobenzene	ug/l	ND	0.50
1,2-Dichlorobenzene (o-DCB)	ug/l	ND	0.50
1,3-Dichlorobenzene (m-DCB)	ug/l	ND	0.50
1,4-Dichlorobenzene (p-DCB)	ug/l	ND	0.50
Ethylbenzene	ug/l	ND	0.50
Toluene	ug/l	ND	0.50
Xylenes	ug/l	ND	0.50
Multicomponent analysis: EPA 603 ACROLEIN, ACRYLONITRILE			
Acrolein	ug/l	ND	30
Acrylonitrile	ug/l	ND	5.0
Multicomponent analysis: EPA 604 PHENOLS			
Surrogate (2,4,6-Tribromophenol)	ug/l	18	17-127%
4-Chloro-3-methylphenol	ug/l	ND	13
2-Chlorophenol	ug/l	ND	3.0
2,4-Dichlorophenol	ug/l	ND	2.0
2,4-Dimethylphenol	ug/l	ND	3.0
2,4-Dinitrophenol	ug/l	ND	24
2-Methyl-4,6-dinitrophenol	ug/l	ND	23
2-Nitrophenol	ug/l	ND	2.5
4-Nitrophenol	ug/l	ND	26
Pentachlorophenol	ug/l	ND	29
Phenol	ug/l	ND	3.0
2,4,6-Trichlorophenol	ug/l	ND	7.0
Multicomponent analysis: EPA 612 TICH			
Surrogate(1245-TetraClbenz)	ug/l	74	65-135
1,2,4-Trichlorobenzene	ug/l	ND	2.0
Hexachlorobenzene	ug/l	ND	1.0
Hexachloroethane	ug/l	ND	1.5
2-Chloronaphthalene	ug/l	ND	10

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June 17, 1997
City of Colusa Anlab I.D. AG08518 (continued)

TEST PARAMETER	UNITS	TEST RESULT	DETECTION LIMIT
Multicomponent analysis: EPA 612 TICH (continued)			
1,2-Dichlorobenzene	ug/l	ND	5.0
1,3-Dichlorobenzene	ug/l	ND	5.0
1,4-Dichlorobenzene	ug/l	ND	5.0
Hexachlorobutadiene	ug/l	ND	0.40
Hexachlorocyclopentadiene	ug/l	ND	1.0
Multicomponent analysis: EPA 625 SEMI-VOL ORGANICS			
Surrogate 1 (2-Flphenol)	ug/l	57	21-100
Surrogate 2 (Phenol-D5)	ug/l	35	35-114
Surrogate 3 (Nitrobenz-D5)	ug/l	74	35-114
Surrogate 4 (2-Flbiphenyl)	ug/l	73	43-116
Surrogate 5 (246-TriBRphen)	ug/l	96	10-123
Surrogate 6 (Terphenyl-d14)	ug/l	62	33-141
Acenaphthene	ug/l	ND	5.0
Acenaphthylene	ug/l	ND	5.0
Anthracene	ug/l	ND	5.0
Benzo(a)anthracene	ug/l	ND	5.0
Benzo(b)fluoranthene	ug/l	ND	5.0
Benzo(k)fluoranthene	ug/l	ND	5.0
Benzo(a)pyrene	ug/l	ND	5.0
Benzo(g,h,i)perylene	ug/l	ND	10
Benzyl butyl phthalate	ug/l	ND	5.0
bis(2-chloroethyl)ether	ug/l	ND	5.0
bis(2-chloroethoxy)methane	ug/l	ND	5.0
bis(2-ethylhexyl)phthalate	ug/l	ND	15
bis(2-chloroisopropyl)ether	ug/l	ND	10
4-Bromophenyl phenyl ether	ug/l	ND	5.0
2-Chloronaphthalene	ug/l	ND	5.0
4-Chlorophenyl phenyl ether	ug/l	ND	5.0
Chrysene	ug/l	ND	5.0
Dibenzo(a,h)anthracene	ug/l	ND	5.0
Di-n-butylphthalate	ug/l	ND	5.0
1,3-Dichlorobenzene	ug/l	ND	5.0
1,2-Dichlorobenzene	ug/l	ND	10
1,4-Dichlorobenzene	ug/l	ND	5.0
3,3'-Dichlorobenzidine	ug/l	ND	5.0
Diethyl phthalate	ug/l	ND	5.0
Dimethyl phthalate	ug/l	ND	5.0
2,4-Dinitrotoluene	ug/l	ND	5.0
2,6-Dinitrotoluene	ug/l	ND	5.0

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June 17, 1997
City of Colusa Anlab I.D. AG08518 (continued)

TEST PARAMETER	UNITS	TEST RESULT	DETECTION LIMIT
Multicomponent analysis: EPA 625 SEMI-VOL ORGANICS (continued)			
Di-n-octylphthalate	ug/l	ND	10
Fluoranthene	ug/l	ND	5.0
Fluorene	ug/l	ND	5.0
Hexachlorobenzene	ug/l	ND	5.0
Hexachlorobutadiene	ug/l	ND	5.0
Hexachloroethane	ug/l	ND	5.0
Indeno(1,2,3-cd)pyrene	ug/l	ND	5.0
Isophorone	ug/l	ND	5.0
Naphthalene	ug/l	ND	5.0
Nitrobenzene	ug/l	ND	10
N-Nitroso-di-n-propylamine	ug/l	ND	10
Phenanthrene	ug/l	ND	5.0
Pyrene	ug/l	ND	10
1,2,4-Trichlorobenzene	ug/l	ND	5.0
Benzidine	ug/l	ND	100
Hexachlorocyclopentadiene	ug/l	ND	5.0
N-Nitrosodimethylamine	ug/l	ND	5.0
N-Nitrosodiphenylamine	ug/l	ND	5.0
4-Chloro-3-methylphenol	ug/l	ND	5.0
2-Chlorophenol	ug/l	ND	5.0
2,4-Dichlorophenol	ug/l	ND	5.0
2,4-Dimethylphenol	ug/l	ND	5.0
2,4-Dinitrophenol	ug/l	ND	5.0
2-Methyl-4,6-dinitrophenol	ug/l	ND	5.0
2-Nitrophenol	ug/l	ND	5.0
4-Nitrophenol	ug/l	ND	10
Pentachlorophenol	ug/l	ND	5.0
Phenol	ug/l	ND	10
2,4,6-Trichlorophenol	ug/l	ND	5.0
1,2-Diphenylhydrazine	ug/l	ND	25
ASBESTOS		♦	
Cyanide by EPA 335.2	mg/l	ND	0.0030

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June 17, 1997
City of Colusa

Anlab I.D. AG08519
SAMPLE DESCRIPTION: ANDREOTTI/STEIDLEMEYER
Matrix: WW Client Code: 44
Sample collection date: 06/02/97 Time: 09:00
Lab submittal date: 06/02/97 Time: 10:48
Turn-Around-Time: RUSH 5 Sample Disposal: LAB

TEST PARAMETER		UNITS	TEST RESULT	DETECTION LIMIT
Antimony	EPA 204.2	ug/l	ND	5.0
Chromium	EPA 218.2	ug/l	1.3	1.0
Thallium	EPA 279.2	ug/l	ND	1.0
Multicomponent analysis: EPA 601 PURGEABLE HALOCARBONS				
Surrogate (1-Cl-2-flbenz)		ug/l	91	60-130
Bromodichloromethane		ug/l	ND	0.50
Bromoform		ug/l	ND	0.50
Bromomethane		ug/l	ND	0.50
Carbon tetrachloride		ug/l	ND	0.50
Chlorobenzene		ug/l	ND	0.50
Chloroethane		ug/l	ND	0.50
2-Chloroethyl vinyl ether		ug/l	ND	1.0
Chloroform		ug/l	ND	0.50
Chloromethane		ug/l	ND	0.50
Dibromochloromethane		ug/l	ND	0.50
1,2-Dichlorobenzene (o-DCB)		ug/l	ND	0.50
1,3-Dichlorobenzene (m-DCB)		ug/l	ND	0.50
1,4-Dichlorobenzene (p-DCB)		ug/l	ND	0.50
Dichlorodifluoromethane		ug/l	ND	0.50
1,1-Dichloroethane (1,1-DCA)		ug/l	ND	0.50
1,2-Dichloroethane (1,2-DCA)		ug/l	ND	0.50
1,1-Dichloroethene (1,1-DCE)		ug/l	ND	0.20
trans-1,2-Dichloroethene		ug/l	ND	0.50
1,2-Dichloropropane		ug/l	ND	0.50
cis-1,3-Dichloropropene		ug/l	ND	0.50
trans-1,3-Dichloropropene		ug/l	ND	0.50
Dichloromethane (MeCl2)		ug/l	ND	1.0
1,1,2,2-Tetrachloroethane		ug/l	ND	0.50
Tetrachloroethene (PCE)		ug/l	ND	0.50
1,1,1-Trichloroethane (1,1,1-TCA)		ug/l	ND	0.50
1,1,2-Trichloroethane (1,1,2-TCA)		ug/l	ND	0.50
Trichloroethene (TCE)		ug/l	ND	0.50
Trichlorofluoromethane (Freon 11)		ug/l	ND	0.50
Vinyl chloride (VC)		ug/l	ND	1.0

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June 17, 1997
City of Colusa Anlab I.D. AG08519 (continued)

TEST PARAMETER	UNITS	TEST RESULT	DETECTION LIMIT
Multicomponent analysis: EPA 602 PURGEABLE AROMATICS			
Surrogate (1-Cl-2-flbenz)	ug/l	91	60-130
Benzene	ug/l	ND	0.50
Chlorobenzene	ug/l	ND	0.50
1,2-Dichlorobenzene (o-DCB)	ug/l	ND	0.50
1,3-Dichlorobenzene (m-DCB)	ug/l	ND	0.50
1,4-Dichlorobenzene (p-DCB)	ug/l	ND	0.50
Ethylbenzene	ug/l	ND	0.50
Toluene	ug/l	ND	0.50
Xylenes	ug/l	ND	0.50
Multicomponent analysis: EPA 603 ACROLEIN, ACRYLONITRILE			
Acrolein	ug/l	ND	30
Acrylonitrile	ug/l	ND	5.0
Multicomponent analysis: EPA 604 PHENOLS			
Surrogate (2,4,6-Tribromophenol)	ug/l	21	17-127%
4-Chloro-3-methylphenol	ug/l	ND	13
2-Chlorophenol	ug/l	ND	3.0
2,4-Dichlorophenol	ug/l	ND	2.0
2,4-Dimethylphenol	ug/l	ND	3.0
2,4-Dinitrophenol	ug/l	ND	24
2-Methyl-4,6-dinitrophenol	ug/l	ND	23
2-Nitrophenol	ug/l	ND	2.5
4-Nitrophenol	ug/l	ND	26
Pentachlorophenol	ug/l	ND	29
Phenol	ug/l	ND	3.0
2,4,6-Trichlorophenol	ug/l	ND	7.0
Multicomponent analysis: EPA 612 TICH			
Surrogate(1245-TetraClbenz)	ug/l	91	65-135
1,2,4-Trichlorobenzene	ug/l	ND	2.0
Hexachlorobenzene	ug/l	ND	1.0
Hexachloroethane	ug/l	ND	1.5
2-Chloronaphthalene	ug/l	ND	10
1,2-Dichlorobenzene	ug/l	ND	5.0
1,3-Dichlorobenzene	ug/l	ND	5.0
1,4-Dichlorobenzene	ug/l	ND	5.0
Hexachlorobutadiene	ug/l	ND	0.40
Hexachlorocyclopentadiene	ug/l	ND	1.0

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June 17, 1997
City of Colusa Anlab I.D. AG08519 (continued)

TEST PARAMETER	UNITS	TEST RESULT	DETECTION LIMIT
Multicomponent analysis: EPA 625 SEMI-VOL ORGANICS			
Surrogate 1 (2-Flphenol)	ug/l	43	21-100
Surrogate 2 (Phenol-D5)	ug/l	30	35-114
Surrogate 3 (Nitrobenz-D5)	ug/l	72	35-114
Surrogate 4 (2-Flbiphenyl)	ug/l	71	43-116
Surrogate 5 (246-TriBRphen)	ug/l	75	10-123
Surrogate 6 (Terphenyl-d14)	ug/l	70	33-141
Acenaphthene	ug/l	ND	5.0
Acenaphthylene	ug/l	ND	5.0
Anthracene	ug/l	ND	5.0
Benzo(a)anthracene	ug/l	ND	5.0
Benzo(b)fluoranthene	ug/l	ND	5.0
Benzo(k)fluoranthene	ug/l	ND	5.0
Benzo(a)pyrene	ug/l	ND	5.0
Benzo(g,h,i)perylene	ug/l	ND	10
Benzyl butyl phthalate	ug/l	ND	5.0
bis(2-chloroethyl)ether	ug/l	ND	5.0
bis(2-chloroethoxy)methane	ug/l	ND	5.0
bis(2-ethylhexyl)phthalate	ug/l	ND	15
bis(2-chloroisopropyl)ether	ug/l	ND	10
4-Bromophenyl phenyl ether	ug/l	ND	5.0
2-Chloronaphthalene	ug/l	ND	5.0
4-Chlorophenyl phenyl ether	ug/l	ND	5.0
Chrysene	ug/l	ND	5.0
Dibenzo(a,h)anthracene	ug/l	ND	5.0
Di-n-butylphthalate	ug/l	ND	5.0
1,3-Dichlorobenzene	ug/l	ND	5.0
1,2-Dichlorobenzene	ug/l	ND	10
1,4-Dichlorobenzene	ug/l	ND	5.0
3,3'-Dichlorobenzidine	ug/l	ND	5.0
Diethyl phthalate	ug/l	ND	5.0
Dimethyl phthalate	ug/l	ND	5.0
2,4-Dinitrotoluene	ug/l	ND	5.0
2,6-Dinitrotoluene	ug/l	ND	5.0
Di-n-octylphthalate	ug/l	ND	10
Fluoranthene	ug/l	ND	5.0
Fluorene	ug/l	ND	5.0
Hexachlorobenzene	ug/l	ND	5.0
Hexachlorobutadiene	ug/l	ND	5.0
Hexachloroethane	ug/l	ND	5.0
Indeno(1,2,3-cd)pyrene	ug/l	ND	5.0

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June 17, 1997
City of Colusa

Anlab ID # AG08519 (Continued)

TEST PARAMETER	UNITS	TEST RESULT	DETECTION LIMIT
Multicomponent analysis: EPA 625 SEMI-VOL ORGANICS (continued)			
Isophorone	ug/l	ND	5.0
Naphthalene	ug/l	ND	5.0
Nitrobenzene	ug/l	ND	10
N-Nitroso-di-n-propylamine	ug/l	ND	10
Phenanthrene	ug/l	ND	5.0
Pyrene	ug/l	ND	10
1,2,4-Trichlorobenzene	ug/l	ND	5.0
Benzidine	ug/l	ND	100
Hexachlorocyclopentadiene	ug/l	ND	5.0
N-Nitrosodimethylamine	ug/l	ND	5.0
N-Nitrosodiphenylamine	ug/l	ND	5.0
4-Chloro-3-methylphenol	ug/l	ND	5.0
2-Chlorophenol	ug/l	ND	5.0
2,4-Dichlorophenol	ug/l	ND	5.0
2,4-Dimethylphenol	ug/l	ND	5.0
2,4-Dinitrophenol	ug/l	ND	5.0
2-Methyl-4,6-dinitrophenol	ug/l	ND	5.0
2-Nitrophenol	ug/l	ND	5.0
4-Nitrophenol	ug/l	ND	10
Pentachlorophenol	ug/l	ND	5.0
Phenol	ug/l	ND	10
2,4,6-Trichlorophenol	ug/l	ND	5.0
1,2-Diphenylhydrazine	ug/l	ND	25
ASBESTOS		♦	
Cyanide by EPA 335.2	mg/l	ND	0.0030

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June 17, 1997
City of Colusa

Anlab I.D. AG08520 Client Code: 44
SAMPLE DESCRIPTION: TRAVEL BLANK Matrix: W
Sample collection date: Time:
Lab submittal date: 06/02/97 Time: 10:48
Turn-Around-Time: RUSH 5 Sample Disposal: LAB

TEST PARAMETER	UNITS	TEST RESULT	DETECTION LIMIT
Multicomponent analysis: EPA 601 PURGEABLE HALOCARBONS			
Surrogate (1-Cl-2-flbenz)	ug/l	94	60-130
Bromodichloromethane	ug/l	ND	0.50
Bromoform	ug/l	ND	0.50
Bromomethane	ug/l	ND	0.50
Carbon tetrachloride	ug/l	ND	0.50
Chlorobenzene	ug/l	ND	0.50
Chloroethane	ug/l	ND	0.50
2-Chloroethyl vinyl ether	ug/l	ND	1.0
Chloroform	ug/l	ND	0.50
Chloromethane	ug/l	ND	0.50
Dibromochloromethane	ug/l	ND	0.50
1,2-Dichlorobenzene (o-DCB)	ug/l	ND	0.50
1,3-Dichlorobenzene (m-DCB)	ug/l	ND	0.50
1,4-Dichlorobenzene (p-DCB)	ug/l	ND	0.50
Dichlorodifluoromethane	ug/l	ND	0.50
1,1-Dichloroethane (1,1-DCA)	ug/l	ND	0.50
1,2-Dichloroethane (1,2-DCA)	ug/l	ND	0.50
1,1-Dichloroethene (1,1-DCE)	ug/l	ND	0.20
trans-1,2-Dichloroethene	ug/l	ND	0.50
1,2-Dichloropropane	ug/l	ND	0.50
cis-1,3-Dichloropropene	ug/l	ND	0.50
trans-1,3-Dichloropropene	ug/l	ND	0.50
Dichloromethane (MeCl2)	ug/l	ND	1.0
1,1,2,2-Tetrachloroethane	ug/l	ND	0.50
Tetrachloroethene (PCE)	ug/l	ND	0.50
1,1,1-Trichloroethane (1,1,1-TCA)	ug/l	ND	0.50
1,1,2-Trichloroethane (1,1,2-TCA)	ug/l	ND	0.50
Trichloroethene (TCE)	ug/l	ND	0.50
Trichlorofluoromethane (Freon 11)	ug/l	ND	0.50
Vinyl chloride (VC)	ug/l	ND	1.0
Multicomponent analysis: EPA 602 PURGEABLE AROMATICS			
Surrogate (1-Cl-2-flbenz)	ug/l	103	60-130
Benzene	ug/l	ND	0.50
Chlorobenzene	ug/l	ND	0.50

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June 17, 1997
City of Colusa Anlab I.D. AG08520 (continued)

TEST PARAMETER	UNITS	TEST RESULT	DETECTION LIMIT
Multicomponent analysis: EPA 602 PURGEABLE AROMATICS			
1,2-Dichlorobenzene (o-DCB)	ug/l	ND	0.50
1,3-Dichlorobenzene (m-DCB)	ug/l	ND	0.50
1,4-Dichlorobenzene (p-DCB)	ug/l	ND	0.50
Ethylbenzene	ug/l	ND	0.50
Toluene	ug/l	ND	0.50
Xylenes	ug/l	ND	0.50
Multicomponent analysis: EPA 603 ACROLEIN, ACRYLONITRILE			
Acrolein	ug/l	ND	30
Acrylonitrile	ug/l	ND	5.0

ND = Not Detected

NOTES: The surrogate results are in percent recovery units. The detection limit field represents the acceptable quality control range for recoveries. Surrogates are organic compounds that are similar in chemical composition to the target analyte, but are not normally found in environmental samples. The surrogate is used to track method efficiency and does not represent a compound result.

Method blank was non-detected.

See Attachment A for dates of analysis.

♦ Please refer to the attached outside laboratory report for AG08518 from MACS Lab, Inc. for Asbestos.

Case Narrative:

Analysis: EPA 612

Problem: The following parameter is outside of the acceptable quality control limits:

Parameter	Surrogate%	Control Limit%
Method Blank	62	65-135

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June 17, 1997
City of Colusa

Anlab ID #s AG08518-20 (Continued)

Data Qualification: The integrity of the analytical data was established based on the fact that acceptable quality control recoveries were obtained for the LCS, the remaining MS/MSD compounds, and the sample and QA/QC surrogates.

MS = Matrix Spike
MSD = Matrix Spike Duplicate
LCS = Laboratory Control Standard
RPD = Relative Percent Difference

Report Approved By: Patty Gucbell
ELAP ID #: 1468

:rr

COPY

CITY OF COLUSA

P.O. BOX 1063 • COLUSA, CALIFORNIA 95932 • Phone 530-458-4941 or 458-5622

March 2, 2001

California Regional Water Quality Control Board
Central Valley Region
Attn: Kyle Erickson
3443 Routier Road, Ste. A
Sacramento, CA 95827-3003

R31-D

RE: REPORT OF WASTE DISCHARGE APPLICATION FOR THE CITY OF COLUSA

Dear Mr. Erickson:

Please find attached the Report of Waste Discharge application for the City of Colusa, including Forms 200, 1, and 2A. This RWD is being submitted to renew the City's NPDES permit as required by Order No. 96-238, which expires September 1, 2001. We are not requesting a capacity expansion at this time, simply a renewal.

Based on recent meetings and workshops with Regional Board staff, we understand that new NPDES permits issued to wastewater treatment plants discharging to small receiving waters may include more restrictive discharge requirements than the current permits. More restrictive requirements may necessitate WWTP modifications such as addition of tertiary treatment and/or partial to complete application of the effluent to land.

Modifying current treatment/disposal facilities substantially will be expensive; and, designing, constructing, and funding modifications will take time to implement. The financial capabilities of the existing rate base are relatively limited in comparison to the potential costs to comply with future discharge requirements based on preliminary cost data. Obtaining some grant funding appears to be necessary if there is to be a substantial change in treatment and/or disposal methods for existing residents.

During preparation of the new tentative permit, the City would like to work with Regional Board staff to develop the permit requirements, and a compliance schedule. If you have any questions about the application, or need additional information, please feel free to contact the City, or Shane Brown at ECO:LOGIC Engineering.

Sincerely,

Ron S. Loudon
Water/Sewer Superintendent

EPA

Consolidated Permits Program
(Read the "General Instructions" before starting.)

F | ID

LABEL ITEMS

PA I.D. NUMBER

FACILITY NAME

FACILITY MAILING ADDRESS

FACILITY LOCATION

Colusa Wastewater Treatment Plant
425 Webster Street
Colusa CA 95932

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED	SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)	X			B. Does or will this facility *(either existing or proposed)* include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)		X		D. Is this a proposed facility *(other than those described in A or B above)* which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)		X		F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X		J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

1 | SKIP | COLUSA WASTEWATER TREATMENT PLANT

IV. FACILITY CONTACT

A. NAME & TITLE (last, first, & title)	B. PHONE (area code & no.)
2 LOUDON RON WATER/SEWER SUPT.	530 458 4941

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 425 Webster Street

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 COLUSA	CA	95932

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 2820 WILL S. GREEN RD.

B. COUNTY NAME

COLUSA

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE (if known)
6 COLUSA	CA	95932	

CONTINUE ON REVERSE

A. FIRST

52 (specify) Sanitary Services

B. SECOND

C 7 (specify)

C. THIRD

(specify)

D. FOURTH

C 7 (specify)

PERATOR INFORMATION

A. NAME

ALENOKES

B. Is the name listed in Item VIII-A also the owner? ☐ YES ☒ NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)

FEDERAL STATE PRIVATE M = PUBLIC (other than federal or state) O = OTHER (specify)

M (specify)

D. PHONE (area code & no.)

C A 530 458 4941

E. STREET OR P.O. BOX

25 Webster St

F. CITY OR TOWN

OLUSA

G. STATE

CA

H. ZIP CODE

95932

IX. INDIAN LAND

Is the facility located on Indian lands? ☐ YES ☒ NO

ISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)

CA 0078999

D. PSD (Air Emissions from Proposed Sources)

C T

9 P

B. UIC (Underground Injection of Fluids)

C T

9

E. OTHER (specify)

(specify)

C. RCRA (Hazardous Wastes)

C T

9

E. OTHER (specify)

(specify)

MAP

ttach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show e outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste eatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface ater bodies in the map area. See instructions for precise requirements.

NATURE OF BUSINESS (provide a brief description)

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)

WATER/SEWER SUPERINTENDENT

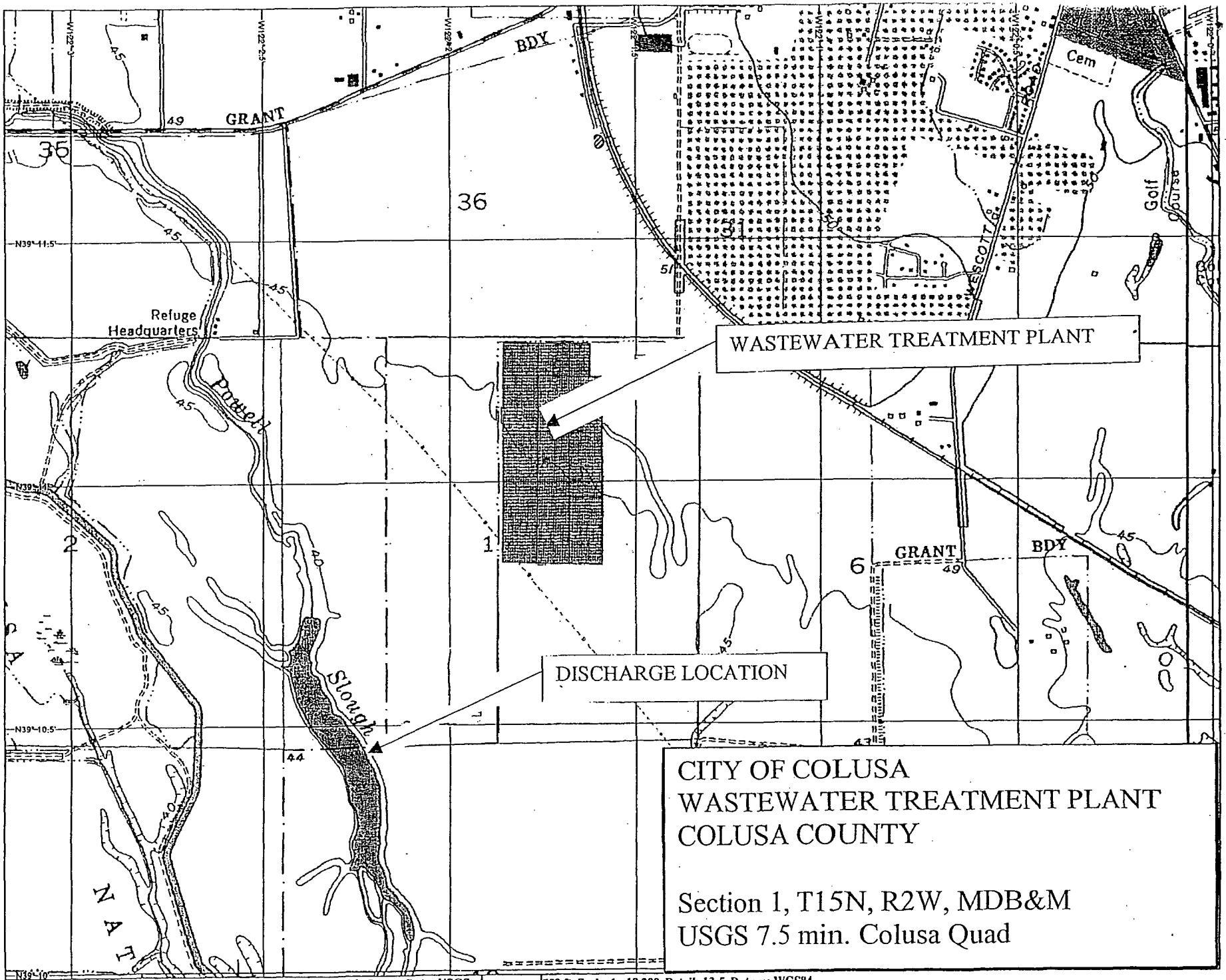
B. SIGNATURE

C. DATE SIGNED

03/02/2001

COMMENTS FOR OFFICIAL USE ONLY

C


WASTEWATER TREATMENT PLANT
DISCHARGE LOCATION
CITY OF COLUSA
WASTEWATER TREATMENT PLANT
COLUSA COUNTY
Section 1, T15N, R2W, MDB&M
USGS 7.5 min. Colusa Quad
GRANT
BDY
Refuge Headquarters
Powell
Slough
Golf Course
Cem
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
750 ft Scale: 1 : 19,200 Detail: 13-5 Datum: WGS84

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

State of California
Regional Water Quality Control Board

APPLICATION/REPORT OF WASTE DISCHARGE
GENERAL INFORMATION FORM FOR
WASTE DISCHARGE REQUIREMENTS OR NPDES PERMIT

I. FACILITY INFORMATION

A. Facility:

Name: City of Colusa Wastewater Treatment Plant			
Address: 425 Webster Street			
City: Colusa	County: Colusa	State: CA	Zip Code: 95932
Contact Person: Ron Loudon		Telephone Number: (530) 458-4941	

B. Facility Owner:

Name: City of Colusa			Owner Type (Check One) 1. ☐ Individual 2. ☐ Corporation
Address: 425 Webster Street			3. ☒ Governmental Agency 4. ☐ Partnership
City: Colusa	State: CA	Zip Code: 95932	5. ☐ Other:
Contact Person: Ron Loudon	Telephone Number: (530)458-4941	Federal Tax ID: 94-6000314	

C. Facility Operator (The agency or business, not the person):

Name: Same as B			Operator Type (Check One) 1. ☐ Individual 2. ☐ Corporation
Address:			3. ☐ Governmental Agency 4. ☐ Partnership
City:	State:	Zip Code:	5. ☐ Other:
Contact Person:	Telephone Number:		

D. Owner of the Land:

Name: Same as B			Owner Type (Check One) 1. ☐ Individual 2. ☐ Corporation
Address:			3. ☐ Governmental Agency 4. ☐ Partnership
City:	State:	Zip Code:	5. ☐ Other:
Contact Person:	Telephone Number:		

E. Address Where Legal Notice May Be Served:

Address: Same as B		
City:	State:	Zip Code:
Contact Person:	Telephone Number:	

F. Billing Address:

Address: Same as B		
City:	State:	Zip Code:
Contact Person:	Telephone Number:	

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

State of California
Regional Water Quality Control Board

APPLICATION/REPORT OF WASTE DISCHARGE
GENERAL INFORMATION FORM FOR
WASTE DISCHARGE REQUIREMENTS OR NPDES PERMIT

II. TYPE OF DISCHARGE

Check Type of Discharge(s) Described in this Application (A or B):

☐ A. WASTE DISCHARGE TO LAND ☒ B. WASTE DISCHARGE TO SURFACE WATER

Check all that apply:

- ☒ Domestic/Municipal Wastewater Treatment and Disposal
- ☐ Cooling Water
- ☐ Mining
- ☐ Waste Pile
- ☐ Wastewater Reclamation
- ☐ Other, please describe: _____
- ☐ Animal Waste Solids
- ☐ Land Treatment Unit
- ☐ Dredge Material Disposal
- ☐ Surface Impoundment
- ☐ Industrial Process Wastewater
- ☐ Animal or Aquacultural Wastewater
- ☐ Biosolids/Residual
- ☐ Hazardous Waste (see instructions)
- ☐ Landfill (see instructions)
- ☐ Storm Water

III. LOCATION OF THE FACILITY

Describe the physical location of the facility.

1. Assessor's Parcel Number(s)	2. Latitude	3. Longitude
Facility: 017 020 007 000	Facility: 39° 10' 50"	Facility: 122° 01' 48"
Discharge Point: Same	Discharge Point: Same	Discharge Point: Same

IV. REASON FOR FILING

- ☐ New Discharge or Facility
- ☐ Changes in Ownership/Operator (see instructions)
- ☐ Change in Design or Operation
- ☒ Waste Discharge Requirements Update or NPDES Permit Reissuance
- ☐ Change in Quantity/Type of Discharge
- ☐ Other: _____

V. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Name of Lead Agency: _____

Has a public agency determined that the proposed project is exempt from CEQA? ☐ Yes ☒ No

If Yes, state the basis for the exemption and the name of the agency supplying the exemption on the line below.

Basis for Exemption/Agency: _____

Has a "Notice of Determination" been filed under CEQA? ☐ Yes ☒ No

If Yes, enclose a copy of the CEQA document, Environmental Impact Report, or Negative Declaration. If no, identify the expected type of CEQA document and expected date of completion.

Expected CEQA Documents:

☐ EIR ☐ Negative Declaration

Expected CEQA Completion Date: _____

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

State of California
Regional Water Quality Control Board

APPLICATION/REPORT OF WASTE DISCHARGE GENERAL INFORMATION FORM FOR WASTE DISCHARGE REQUIREMENTS OR NPDES PERMIT

VI. OTHER REQUIRED INFORMATION

Please provide a COMPLETE characterization of your discharge. A complete characterization includes, but is not limited to, a list of constituents and the discharge concentration of each constituent, a list of other appropriate waste discharge characteristics, a description and schematic drawing of all treatment processes, a description of any Best Management Practices (BMPs) used, and a description of disposal methods.

Also include a site map showing the location of the facility and, if you are submitting this application for an NPDES permit, identify the surface water to which you propose to discharge. Please try to limit your maps to a scale of 1:24,000 (7.5' USGS Quadrangle) or a street map, if more appropriate.

VII. OTHER

Attach additional sheets to explain any responses which need clarification. List attachments with titles and dates below:

_____

_____

_____

You will be notified by a representative of the RWQCB within 30 days of receipt of your application. The notice will state if your application is complete or if there is additional information you must submit to complete your Application/Report of Waste Discharge, pursuant to Division 7, Section 13260 of the California Water Code.

VIII. CERTIFICATION

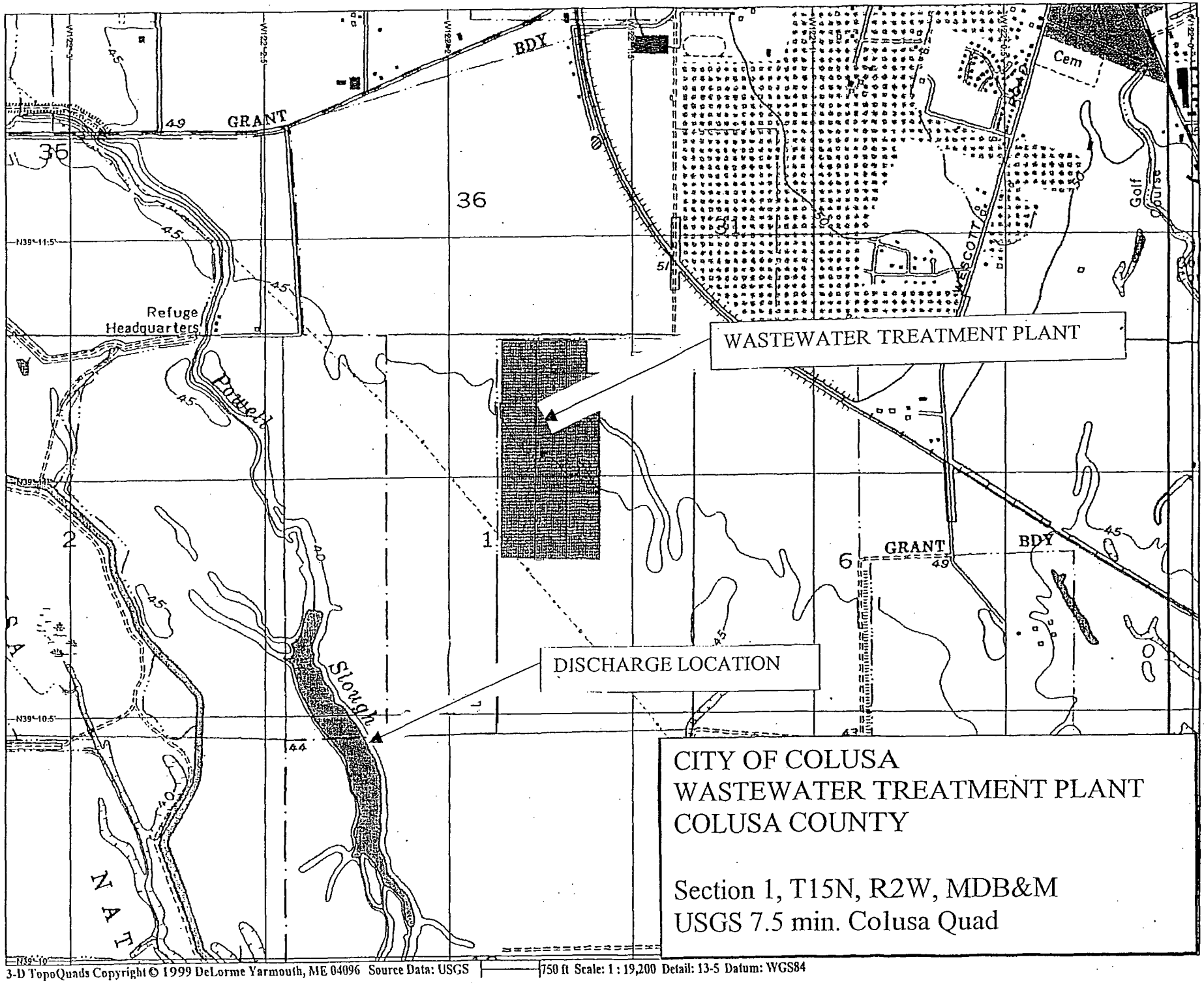
"I certify under penalty of law that this document, including all attachments and supplemental information, were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

Print Name: Ron S. Loudon Title: WATER/SEWER SUPERINTENDENT

Signature: [signature] Date: 03/02/2001

FOR OFFICE USE ONLY

Date Form 200 Received:	Letter to Discharger	Fee Amount Received:	Check #:


WASTEWATER TREATMENT PLANT
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Slough
Cem
Golf Course
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
750 ft Scale: 1 : 19,200 Detail: 13-5 Datum: WGS84

FACILITY NAME AND PERMIT NUMBER:

COLUSA WWTP CA0078999

Form Approved 1/14/99
OMB Number 2040-0086

FORM 2A NPDES

NPDES FORM 2A APPLICATION OVERVIEW

APPLICATION OVERVIEW

Form 2A has been developed in a modular format and consists of a "Basic Application Information" packet and a "Supplemental Application Information" packet. The Basic Application Information packet is divided into two parts. All applicants must complete Parts A and C. Applicants with a design flow greater than or equal to 0.1 mgd must also complete Part B. Some applicants must also complete the Supplemental Application Information packet. The following items explain which parts of Form 2A you must complete.

BASIC APPLICATION INFORMATION:

A. **Basic Application Information for all Applicants.** All applicants must complete questions A.1 through A.8. A treatment works that discharges effluent to surface waters of the United States must also answer questions A.9 through A.12.

B. **Additional Application Information for Applicants with a Design Flow ≥ 0.1 mgd.** All treatment works that have design flows greater than or equal to 0.1 million gallons per day must complete questions B.1 through B.6.

C. **Certification.** All applicants must complete Part C (Certification).

SUPPLEMENTAL APPLICATION INFORMATION:

D. **Expanded Effluent Testing Data.** A treatment works that discharges effluent to surface waters of the United States and meets one or more of the following criteria must complete Part D (Expanded Effluent Testing Data):

1. Has a design flow rate greater than or equal to 1 mgd,
2. Is required to have a pretreatment program (or has one in place), or
3. Is otherwise required by the permitting authority to provide the information.

E. **Toxicity Testing Data.** A treatment works that meets one or more of the following criteria must complete Part E (Toxicity Testing Data):

1. Has a design flow rate greater than or equal to 1 mgd,
2. Is required to have a pretreatment program (or has one in place), or
3. Is otherwise required by the permitting authority to submit results of toxicity testing.

F. **Industrial User Discharges and RCRA/CERCLA Wastes.** A treatment works that accepts process wastewater from any significant industrial users (SIUs) or receives RCRA or CERCLA wastes must complete Part F (Industrial User Discharges and RCRA/CERCLA Wastes). SIUs are defined as:

1. All industrial users subject to Categorical Pretreatment Standards under 40 Code of Federal Regulations (CFR) 403.6 and 40 CFR Chapter I, Subchapter N (see instructions); and
2. Any other industrial user that:
   a. Discharges an average of 25,000 gallons per day or more of process wastewater to the treatment works (with certain exclusions); or
   b. Contributes a process wastestream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the treatment plant; or
   c. Is designated as an SIU by the control authority.

G. **Combined Sewer Systems.** A treatment works that has a combined sewer system must complete Part G (Combined Sewer Systems).

ALL APPLICANTS MUST COMPLETE PART C (CERTIFICATION)

BASIC APPLICATION INFORMATION

PART A. BASIC APPLICATION INFORMATION FOR ALL APPLICANTS

All treatment works must complete questions A.1 through A.8 of this Basic Application Information packet.

A.1. Facility Information.

Facility name: City of Colusa Wastewater Treatment Plant

Mailing Address: 425 Webster Street
Colusa, CA 95932

Contact person: Ron Loudon

Title: Water / Sewer Superintendent

Telephone number: (530) 458-4941

Facility Address (not P.O. Box): 2820 Will S. Green Road
Colusa, CA 95932

A.2. Applicant Information. If the applicant is different from the above, provide the following:

Applicant name: Same as above

Mailing Address:

Contact person:

Title:

Telephone number:

Is the applicant the owner or operator (or both) of the treatment works?

XX owner _____ operator

Indicate whether correspondence regarding this permit should be directed to the facility or the applicant.

XX facility _____ applicant

A.3. Existing Environmental Permits. Provide the permit number of any existing environmental permits that have been issued to the treatment works (include state-issued permits).

NPDES CA0078999 PSD

UIC Other

RCRA Other

A.4. Collection System Information. Provide information on municipalities and areas served by the facility. Provide the name and population of each entity and, if known, provide information on the type of collection system (combined vs. separate) and its ownership (municipal, private, etc.).

Name	Population Served	Type of Collection System	Ownership
City of Colusa	5,500	Separate	Municipal

Total population served: 5,500

A.5. Indian Country.

a. Is the treatment works located in Indian Country?

____ Yes XX No

b. Does the treatment works discharge to a receiving water that is either in Indian Country or that is upstream from (and eventually flows through) Indian Country?

____ Yes XX No

A.6. Flow. Indicate the design flow rate of the treatment plant (i.e., the wastewater flow rate that the plant was built to handle). Also provide the average daily flow rate and maximum daily flow rate for each of the last three years. Each year's data must be based on a 12-month time period with the 12th month of "this year" occurring no more than three months prior to this application submittal.

a. Design flow rate 0.90 mgd

	Two Years Ago	Last Year	This Year	
b. Annual average daily flow rate	.79	.67	.67	mgd
c. Maximum daily flow rate	2.07	1.93	.87	mgd

A.7. Collection System. Indicate the type(s) of collection system(s) used by the treatment plant. Check all that apply. Also estimate the percent contribution (by miles) of each.

XX Separate sanitary sewer 100 %

____ Combined storm and sanitary sewer ____ %

A.8. Discharges and Other Disposal Methods.

a. Does the treatment works discharge effluent to waters of the U.S.? XX Yes ____ No

If yes, list how many of each of the following types of discharge points the treatment works uses:

i. Discharges of treated effluent 1

ii. Discharges of untreated or partially treated effluent ____

iii. Combined sewer overflow points ____

iv. Constructed emergency overflows (prior to the headworks) ____

v. Other ____ ____

b. Does the treatment works discharge effluent to basins, ponds, or other surface impoundments that do not have outlets for discharge to waters of the U.S.? ____ Yes X No

If yes, provide the following for each surface impoundment:

Location: ____

Annual average daily volume discharged to surface impoundment(s) ____ mgd

Is discharge ____ continuous or ____ intermittent?

c. Does the treatment works land-apply treated wastewater? ____ Yes X No

If yes, provide the following for each land application site:

Location: ____

Number of acres: ____

Annual average daily volume applied to site: ____ Mgd

Is land application ____ continuous or ____ intermittent?

d. Does the treatment works discharge or transport treated or untreated wastewater to another treatment works? ____ Yes X No

If yes, describe the mean(s) by which the wastewater from the treatment works is discharged or transported to the other treatment works (e.g., tank truck, pipe).

_____

If transport is by a party other than the applicant, provide:

Transporter name: N/A

Mailing Address: _____

_____

Contact person: N/A

Title: _____

Telephone number: _____

For each treatment works that receives this discharge, provide the following:

Name: _____

Mailing Address: _____

_____

Contact person: _____

Title: _____

Telephone number: _____

If known, provide the NPDES permit number of the treatment works that receives this discharge. _____

Provide the average daily flow rate from the treatment works into the receiving facility. _____ mgd

e. Does the treatment works discharge or dispose of its wastewater in a manner not included in A.8.a through A.8.d above (e.g., underground percolation, well injection)? _____ Yes XX No

If yes, provide the following for each disposal method:

Description of method (including location and size of site(s) if applicable):

_____

Annual daily volume disposed of by this method: _____

Is disposal through this method _____ continuous or _____ intermittent?

WASTEWATER DISCHARGES:

If you answered "yes" to question A.8.a, complete questions A.9 through A.12 once for each outfall (including bypass points) through which effluent is discharged. Do not include information on combined sewer overflows in this section. If you answered "no" to question A.8.a, go to Part B, "Additional Application Information for Applicants with a Design Flow Greater than or Equal to 0.1 mgd."

A.9. Description of Outfall.

a. Outfall number 1

b. Location

Colusa — 95932
(City or town, if applicable) (Zip Code)

Colusa — CA
(County) (State)

39° 10' 50" — 122° 01' 48"
(Latitude) (Longitude)

c. Distance from shore (if applicable) N/A ft.

d. Depth below surface (if applicable) N/A ft.

e. Average daily flow rate 0.60 (year 2000) mgd.

f. Does this outfall have either an intermittent or a periodic discharge? ____ Yes X No (go to A.9.g.)

If yes, provide the following information:

Number of times per year discharge occurs: ____

Average duration of each discharge: ____

Average flow per discharge: ____ mgd

Months in which discharge occurs: ____

g. Is outfall equipped with a diffuser? ____ Yes X No

A.10. Description of Receiving Waters.

a. Name of receiving water Colusa Basin Drain

b. Name of watershed (if known) Sacramento -Stone Corral

United States Soil Conservation Service 14-digit watershed code (if known): ____

c. Name of State Management/River Basin (if known): SacramentoRiver Basin

United States Geological Survey 8-digit hydrologic cataloging unit code (if known): 18020104

d. Critical low flow of receiving stream (if applicable): No reliable dilution without further study
acute ____ cfs chronic ____ cfs

e. Total hardness of receiving stream at critical low flow (if applicable): ____ mg/l of $CaCO_3$

A.11. Description of Treatment.

a. What levels of treatment are provided? Check all that apply.

____ Primary X Secondary

____ Advanced ____ Other. Describe: _____

b. Indicate the following removal rates (as applicable):

Design BOD_5 removal or Design $CBOD_5$ removal _____ %

Design SS removal _____ %

Design P removal _____ %

Design N removal _____ %

Other _____ _____ %

c. What type of disinfection is used for the effluent from this outfall? If disinfection varies by season, please describe.

Chlorine gas for disinfection and sulfur dioxide for dechlorination

If disinfection is by chlorination, is dechlorination used for this outfall? XX Yes ____ No

d. Does the treatment plant have post aeration? ____ Yes XX No

A.12. Effluent Testing Information. All Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three samples and must be no more than four and one-half years apart.

Outfall number: 1

PARAMETER	MAXIMUM DAILY VALUE		AVERAGE DAILY VALUE		
	Value	Units	Value	Units	Number of Samples
pH (Minimum)	5.2	s.u.			
pH (Maximum)	10.0	s.u.			
Flow Rate	2.52	MGD	.66	MGD	934
Temperature (Winter)	48.2	°F	53.8	°F	70
Temperature (Summer)	86.0	°F	74.7	°F	70

* For pH please report a minimum and a maximum daily value

POLLUTANT		MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML / MDL
		Conc.	Units	Conc.	Units	Number of Samples		
CONVENTIONAL AND NONCONVENTIONAL COMPOUNDS.								
BIOCHEMICAL OXYGEN DEMAND (Report one)	BOD-5	203	mg/L	37	mg/L	305		
	CBOD-5							
FECAL COLIFORM		1600	MPN/100mL	57	MPN/100mL	315		
TOTAL SUSPENDED SOLIDS (TSS)		320	mg/L	96	mg/L	305		

END OF PART A.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

BASIC APPLICATION INFORMATION

PART B. ADDITIONAL APPLICATION INFORMATION FOR APPLICANTS WITH A DESIGN FLOW GREATER THAN OR EQUAL TO 0.1 MGD (100,000 gallons per day).

All applicants with a design flow rate ≥ 0.1 mgd must answer questions B.1 through B.6. All others go to Part C (Certification).

B.1. **Inflow and Infiltration.** Estimate the average number of gallons per day that flow into the treatment works from inflow and/or infiltration.

41,000 gpd

Briefly explain any steps underway or planned to minimize inflow and infiltration.

The City has made several repairs including sealing of manholes and replacement and rehabilitation of lines.

B.2. **Topographic Map.** Attach to this application a topographic map of the area extending at least one mile beyond facility property boundaries. This map must show the outline of the facility and the following information. (You may submit more than one map if one map does not show the entire area.)

a. The area surrounding the treatment plant, including all unit processes.

b. The major pipes or other structures through which wastewater enters the treatment works and the pipes or other structures through which treated wastewater is discharged from the treatment plant. Include outfalls from bypass piping, if applicable.

c. Each well where wastewater from the treatment plant is injected underground.

d. Wells, springs, other surface water bodies, and drinking water wells that are: 1) within 1/4 mile of the property boundaries of the treatment works, and 2) listed in public record or otherwise known to the applicant.

e. Any areas where the sewage sludge produced by the treatment works is stored, treated, or disposed.

f. If the treatment works receives waste that is classified as hazardous under the Resource Conservation and Recovery Act (RCRA) by truck, rail, or special pipe, show on the map where that hazardous waste enters the treatment works and where it is treated, stored, and/or disposed.

B.3. **Process Flow Diagram or Schematic.** Provide a diagram showing the processes of the treatment plant, including all bypass piping and all backup power sources or redundancy in the system. Also provide a water balance showing all treatment units, including disinfection (e.g, chlorination and dechlorination). The water balance must show daily average flow rates at influent and discharge points and approximate daily flow rates between treatment units. Include a brief narrative description of the diagram.

B.4. **Operation/Maintenance Performed by Contractor(s).**

Are any operational or maintenance aspects (related to wastewater treatment and effluent quality) of the treatment works the responsibility of a contractor? ___Yes _X_No

If yes, list the name, address, telephone number, and status of each contractor and describe the contractor's responsibilities (attach additional pages if necessary).

Name: _____

Mailing Address: _____

_____

Telephone Number: _____

Responsibilities of Contractor: _____

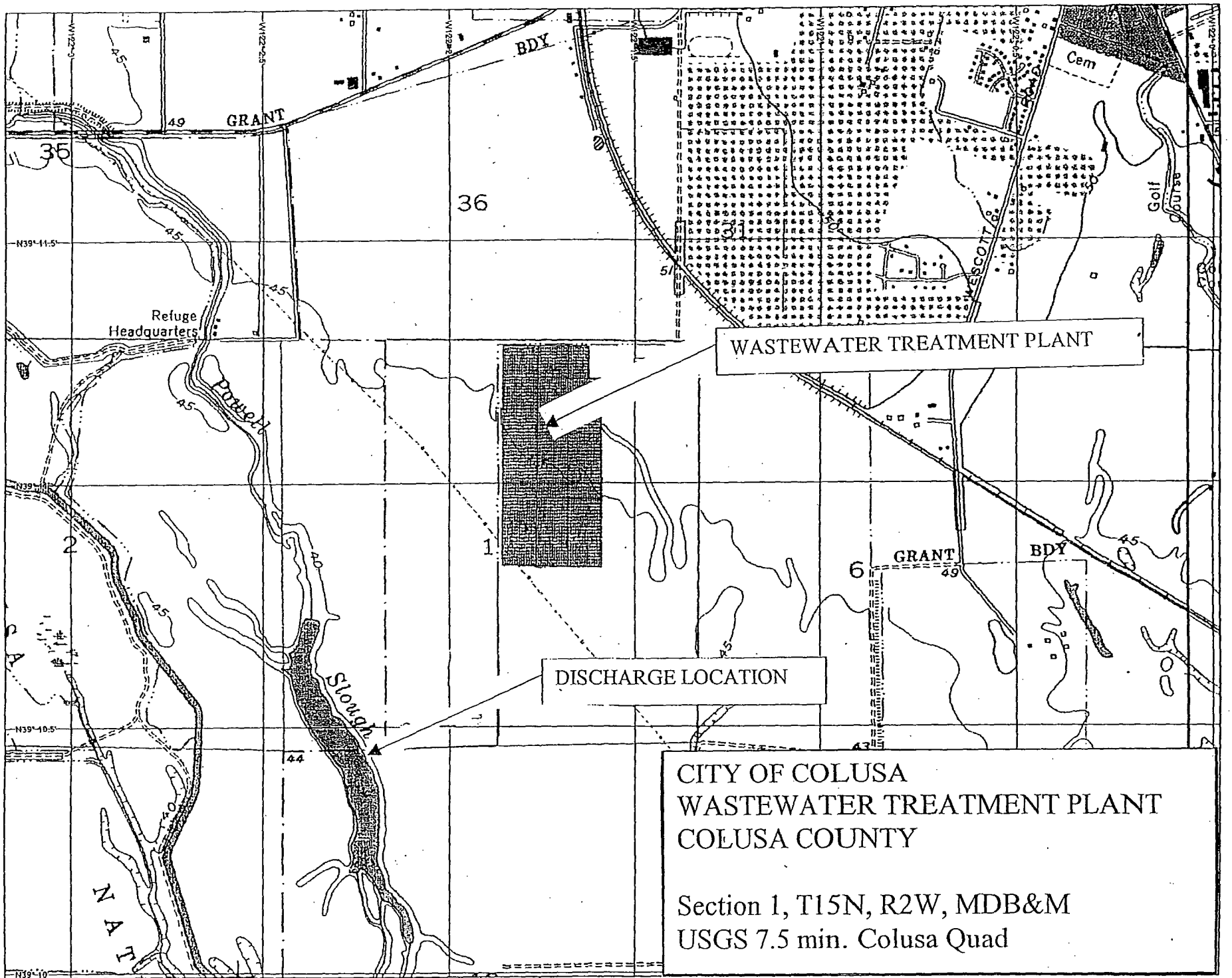
B.5. **Scheduled Improvements and Schedules of Implementation.** Provide information on any uncompleted implementation schedule or uncompleted plans for improvements that will affect the wastewater treatment, effluent quality, or design capacity of the treatment works. If the treatment works has several different implementation schedules or is planning several improvements, submit separate responses to question B.5 for each. (If none, go to question B.6.)

a. List the outfall number (assigned in question A.9) for each outfall that is covered by this implementation schedule.

_____

b. Indicate whether the planned improvements or implementation schedule are required by local, State, or Federal agencies.

___Yes ___No


WASTEWATER TREATMENT PLANT
DISCHARGE LOCATION
CITY OF COLUSA
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3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
750 ft Scale: 1 : 19,200 Detail: 13-5 Datum: WGS84

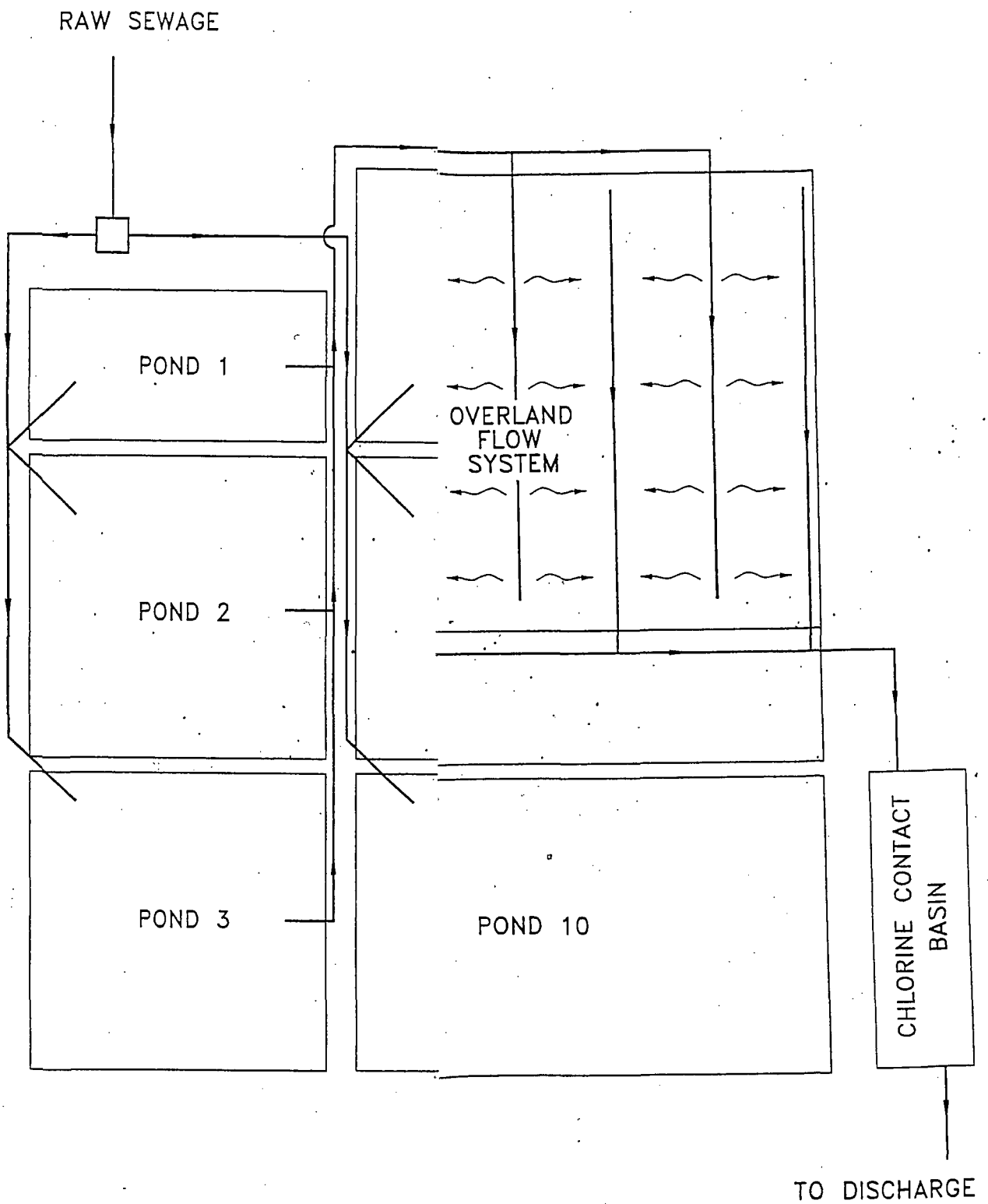


FIGURE 1
CITY OF COLUSA
WASTEWATER TREATMENT PLANT
FLOW SCHEMATIC

c If the answer to B.5.b is "Yes," briefly describe, including new maximum daily inflow rate (if applicable).

_____

d. Provide dates imposed by any compliance schedule or any actual dates of completion for the implementation steps listed below, as applicable. For improvements planned independently of local, State, or Federal agencies, indicate planned or actual completion dates, as applicable. Indicate dates as accurately as possible.

Implementation Stage	Schedule MM / DD / YYYY	Actual Completion MM / DD / YYYY
– Begin construction	__/__/____	__/__/____
– End construction	__/__/____	__/__/____
– Begin discharge	__/__/____	__/__/____
– Attain operational level	__/__/____	__/__/____

e. Have appropriate permits/clearances concerning other Federal/State requirements been obtained? ____Yes ____No

Describe briefly: _____

_____

B.6. EFFLUENT TESTING DATA (GREATER THAN 0.1 MGD ONLY).

Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three pollutant scans and must be no more than four and one-half years old.

Outfall Number:_____

POLLUTANT	MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML / MDL
	Conc.	Units	Conc.	Units	Number of Samples		
CONVENTIONAL AND NONCONVENTIONAL COMPOUNDS.							
AMMONIA (as N)	17.5	mg/L	4.7	mg/L	320		
CHLORINE (TOTAL RESIDUAL, TRC)	0.0	mg/L	0.0	mg/L	480		
DISSOLVED OXYGEN			ND	mg/L	1	EPA360.1	1 mg/L
TOTAL KJELDAHL NITROGEN (TKN)							
NITRATE PLUS NITRITE NITROGEN							
OIL and GREASE			ND	mg/L	1	EPA1664	5 mg/L
PHOSPHORUS (Total)			4.81	mg/L	1	EPA4500P	.05mg/L
TOTAL DISSOLVED SOLIDS (TDS)	910	mg/L	487	mg/L	4		
OTHER							

END OF PART B.

REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

FACILITY NAME AND PERMIT NUMBER:

COLUSA WWTP CA 0078999

Form Approved 1/14/99
OMB Number 2040-0086

BASIC APPLICATION INFORMATION

PART C. CERTIFICATION

All applicants must complete the Certification Section. Refer to instructions to determine who is an officer for the purposes of this certification. All applicants must complete all applicable sections of Form 2A, as explained in the Application Overview. Indicate below which parts of Form 2A you have completed and are submitting. By signing this certification statement, applicants confirm that they have reviewed Form 2A and have completed all sections that apply to the facility for which this application is submitted.

Indicate which parts of Form 2A you have completed and are submitting:

XX Basic Application Information packet

Supplemental Application Information packet:

X Part D (Expanded Effluent Testing Data)

X Part E (Toxicity Testing: Biomonitoring Data)

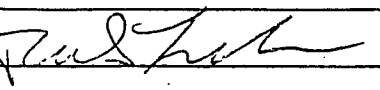
N/A Part F (Industrial User Discharges and RCRA/CERCLA Wastes)

N/A Part G (Combined Sewer Systems)

ALL APPLICANTS MUST COMPLETE THE FOLLOWING CERTIFICATION.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and official title: RON S. LOUDON, WATER/SEWER SUPERINTENDENT

Signature: 

Telephone number: (530) 458-4941

Date signed: 03/02/2001

Upon request of the permitting authority, you must submit any other information necessary to assess wastewater treatment practices at the treatment works or identify appropriate permitting requirements.

SEND COMPLETED FORMS TO:

FACILITY NAME AND PERMIT NUMBER:
COLUSA WWTP CA0078999

Form Approved 1/14/99
OMB Number 2040-0086

SUPPLEMENTAL APPLICATION INFORMATION

PART D. EXPANDED EFFLUENT TESTING DATA

Refer to the directions on the cover page to determine whether this section applies to the treatment works.

Effluent Testing: 1.0 mgd and Pretreatment Treatment Works. If the treatment works has a design flow greater than or equal to 1.0 mgd or it has (or is required to have) a pretreatment program, or is otherwise required by the permitting authority to provide the data, then provide effluent testing data for the following pollutants. Provide the indicated effluent testing information and any other information required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analyses conducted using 40 CFR Part 136 methods. In addition, these data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. Indicate in the blank rows provided below any data you may have on pollutants not specifically listed in this form. At a minimum, effluent testing data must be based on at least three pollutant scans and must be no more than four and one-half years old.

Outfall number: _____ (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
METALS (TOTAL RECOVERABLE), CYANIDE, PHENOLS, AND HARDNESS.											
ANTIMONY					ND	µg/L			1	EPA6010A	5 µg/L
ARSENIC					ND	µg/L			1	EPA6010A	5 µg/L
BERYLLIUM					ND	µg/L			1	EPA6010A	1 µg/L
CADMIUM					ND	µg/L			1	EPA6010A	1 µg/L
CHROMIUM					ND	µg/L			1	EPA6010A	2 µg/L
COPPER					8	µg/L			1	EPA6010A	2 µg/L
LEAD					ND	µg/L			1	EPA6010A	5 µg/L
MERCURY					.034	µg/L			1	EPA1631	.0002 µg/L
NICKEL					3	µg/L			1	EPA6010A	1 µg/L
SELENIUM					ND	µg/L			1	EPA6010A	5 µg/L
SILVER					ND	µg/L			1	EPA6010A	1 µg/L
THALLIUM					ND	µg/L			1	EPA6010A	5 µg/L
ZINC					22	µg/L			1	EPA6010A	20 µg/L
CYANIDE					ND	µg/L			2	EPA335.2 EPA4500CN	3 µg/L 10 µg/L
TOTAL PHENOLIC COMPOUNDS											
HARDNESS (AS $CaCO_3$)					50	µg/L			1	EPA2340	1 mg/L
Use this space (or a separate sheet) to provide information on other metals requested by the permit writer.											

Outfall number: _____ (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
VOLATILE ORGANIC COMPOUNDS.											
ACROLEIN					ND	µg/L			1	EPA603	30 µg/L
ACRYLONITRILE					ND	µg/L			1	EPA603	5 µg/L
BENZENE					ND	µg/L			2	EPA602 EPA624	.5 µg/L 5 µg/L
BROMOFORM					ND	µg/L			2	EPA601 EPA624	.5 µg/L 5 µg/L
CARBON TETRACHLORIDE					ND	µg/L			2	EPA601 EPA624	.5 µg/L 5 µg/L
CLOROBENZENE					ND	µg/L			2	EPA601 EPA624	.5µg/L 5 µg/L
CHLORODIBROMO-METHANE					ND	µg/L			2	EPA601 EPA624	.5 µg/L 5 µg/L
CHLOROETHANE					ND	µg/L			2	EPA601 EPA624	.5 µg/L 5 µg/L
2-CHLORO-ETHYLVINYL ETHER					ND	µg/L			1	EPA601	1 µg/L
CHLOROFORM					6.2	µg/L			2	EPA601 EPA624	.5 µg/L 5 µg/L
DICHLOROBROMO-METHANE					ND	µg/L			2	EPA601 EPA624	.5 µg/L 5 µg/L
1,1-DICHLOROETHANE					ND	µg/L			2	EPA601 EPA624	.5 µg/L 5 µg/L
1,2-DICHLOROETHANE					ND	µg/L			2	EPA601 EPA624	.5 µg/L 5 µg/L
TRANS-1,2-DICHLORO-ETHYLENE					ND	µg/L			2	EPA601 EPA624	.5µg/L 5 µg/L
1,1-DICHLOROETHYLENE					ND	µg/L			2	EPA601 EPA624	.5 µg/L 5 µg/L
1,2-DICHLOROPROPANE					ND	µg/L			2	EPA601 EPA624	.5 µg/L 5 µg/L
1,3-DICHLORO-PROPYLENE					ND	µg/L			2	EPA601 EPA624	.5 µg/L 5 µg/L
ETHYLBENZENE					ND	µg/L			2	EPA601 EPA624	.5 µg/L 5 µg/L
METHYL BROMIDE					ND	µg/L			2	EPA601 EPA624	.5 µg/L 5 µg/L
METHYL CHLORIDE					ND	µg/L			2	EPA601 EPA624	.5 µg/L 10 µg/L
METHYLENE CHLORIDE					19.7	µg/L			2	EPA601 EPA624	1 µg/L 5 µg/L
1,1,2,2-TETRACHLORO-ETHANE					ND	µg/L			2	EPA601 EPA624	.5 µg/L 5 µg/L
TETRACHLORO-ETHYLENE					ND	µg/L			2	EPA601 EPA624	.5 µg/L 5 µg/L
TOLUENE					ND	µg/L			2	EPA602 EPA624	.5 µg/L 5 µg/L

Outfall number: _____ (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE						
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples	ANALYTICAL METHOD	ML/MDL
1,1,1-TRICHLOROETHANE					3.1	µg/L			2	EPA601 EPA624	.5 µg/L 5 µg/L
1,1,2-TRICHLOROETHANE					ND	µg/L			2	EPA601 EPA624	.5 µg/L 5 µg/L
TRICHLORETHYLENE					ND	µg/L			2	EPA601 EPA624	.5 µg/L 5 µg/L
VINYL CHLORIDE					ND	µg/L			2	EPA601 EPA624	1.0 µg/L 5 µg/L
Use this space (or a separate sheet) to provide information on other volatile organic compounds requested by the permit writer.											
ACID-EXTRACTABLE COMPOUNDS											
P-CHLORO-M-CRESOL											
2-CHLOROPHENOL					ND	µg/L			2	EPA604 EPA8270	3 µg/L 10 µg/L
2,4-DICHLOROPHENOL					ND	µg/L			2	EPA604 EPA8270	2 µg/L 10 µg/L
2,4-DIMETHYLPHENOL					ND	µg/L			2	EPA604 EPA8270	2 µg/L 10 µg/L
4,6-DINITRO-O-CRESOL											
2,4-DINITROPHENOL					ND	µg/L			2	EPA604 EPA8270	24 µg/L 50 µg/L
2-NITROPHENOL					ND	µg/L			2	EPA604 EPA8270	2.5 µg/L 50 µg/L
4-NITROPHENOL					ND	µg/L			2	EPA604 EPA8270	26 µg/L 50 µg/L
PENTACHLOROPHENOL					ND	µg/L			2	EPA604 EPA8270	29 µg/L 10 µg/L
PHENOL					ND	µg/L			1	EPA604	3 µg/L
2,4,6-TRICHLOROPHENOL					ND	µg/L			2	EPA604 EPA8270	7 µg/L 10 µg/L
Use this space (or a separate sheet) to provide information on other acid-extractable compounds requested by the permit writer.											
BASE-NEUTRAL COMPOUNDS.											
ACENAPHTHENE					ND	µg/L			2	EPA625 EPA8270	5 µg/L 10 µg/L
ACENAPHTHYLENE					ND	µg/L			2	EPA625 EPA8270	5 µg/L 10 µg/L
ANTHRACENE					ND	µg/L			2	EPA625 EPA8270	5 µg/L 10 µg/L
BENZIDINE					ND	µg/L			2	EPA625 EPA8270	100 µg/L 50 µg/L
BENZO(A)ANTHRACENE					ND	µg/L			2	EPA625 EPA8270	5 µg/L 10 µg/L

EPA8270 10 mg/L

FACILITY NAME AND PERMIT NUMBER:

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Form Approved 1/14/99
OMB Number 2040-0086

Outfall number: _____ (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
3,4 BENZO-FLUORANTHENE					ND	µg/L			2	EPA625 EPA8270	5 µg/L 10 µg/L
BENZO(GHI)PERYLENE					ND	µg/L			2	EPA625 EPA8270	10 µg/L 10 µg/L
BENZO(K)FLUORANTHENE					ND	µg/L			2	EPA625 EPA8270	5 µg/L 10 µg/L
BIS (2-CHLOROETHOXY) METHANE					ND	µg/L			2	EPA625 EPA8270	5 µg/L 10 µg/L
BIS (2-CHLOROETHYL)-ETHER					ND	µg/L			2	EPA625 EPA8270	5 µg/L 10 µg/L
BIS (2-CHLOROISO-PROPYL) ETHER					ND	µg/L			2	EPA625 EPA8270	10 µg/L 10 µg/L
BIS (2-ETHYLHEXYL) PHTHALATE					ND	µg/L			2	EPA625 EPA8270	15 µg/L 10 µg/L
4-BROMOPHENYL PHENYL ETHER					ND	µg/L			2	EPA625 EPA8270	5 µg/L 10 µg/L
BUTYL BENZYL PHTHALATE					ND	µg/L			2	EPA625 EPA8270	5 µg/L 10 µg/L
2-CHLORONAPHTHALENE					ND	µg/L			2	EPA625 EPA8270	5 µg/L 10 µg/L
4-CHLORPHENYL PHENYL ETHER					ND	µg/L			2	EPA625 EPA8270	5 µg/L 10 µg/L
CHRYSENE					ND	µg/L			2	EPA625 EPA8270	5 µg/L 10 µg/L
DI-N-BUTYL PHTHALATE					ND	µg/L			2	EPA625 EPA8270	5 µg/L 10 µg/L
DI-N-OCTYL PHTHALATE					ND	µg/L			2	EPA625 EPA8270	10 µg/L 10 µg/L
DIBENZO(A,H) ANTHRACENE					ND	µg/L			2	EPA625 EPA8270	5 µg/L 10 µg/L
1,2-DICHLOROBENZENE					ND	µg/L			2	EPA625 EPA8270	10 µg/L 10 µg/L
1,3-DICHLOROBENZENE					ND	µg/L			2	EPA625 EPA8270	5 µg/L 10 µg/L
1,4-DICHLOROBENZENE					ND	µg/L			2	EPA625 EPA8270	5 µg/L 10 µg/L
3,3-DICHLOROBENZIDINE					ND	µg/L			2	EPA625 EPA8270	5 µg/L 50 µg/L
DIETHYL PHTHALATE					ND	µg/L			2	EPA625 EPA8270	5 µg/L 10 µg/L
DIMETHYL PHTHALATE					ND	µg/L			2	EPA625 EPA8270	5 µg/L 10 µg/L
2,4-DINITROTOLUENE					ND	µg/L			2	EPA625 EPA8270	5 µg/L 10 µg/L
2,6-DINITROTOLUENE					ND	µg/L			2	EPA625 EPA8270	5 µg/L 10 µg/L

1,2-DIPHENYLHYDRAZINE					ND mg/L				1	EPA625	25 mg/L	

FACILITY NAME AND PERMIT NUMBER:

COLUSA WWTP CA0078999

Form Approved 1/14/99
OMB Number 2040-0086

Outfall number: _____ (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
FLUORANTHENE					ND	µg/L			2	EPA625 EPA8270	5 µg/L 10 µg/L
FLUORENE					ND	µg/L			2	EPA625 EPA 8270	5 µg/L 10 µg/L
HEXACHLOROBENZENE					ND	µg/L			2	EPA625 EPA8270	5 µg/L 10 µg/L
HEXACHLOROBUTADIENE					ND	µg/L			2	EPA625 EPA8270	5 µg/L 10 µg/L
HEXACHLOROCYCLO-PENTADIENE					ND	µg/L			2	EPA625 EPA8270	5 µg/L 10 µg/L
HEXACHLOROETHANE					ND	µg/L			2	EPA625 EPA8270	5 µg/L 10 µg/L
INDENO(1,2,3-CD)PYRENE					ND	µg/L			2	EPA625 EPA8270	5 µg/L 10 µg/L
ISOPHORONE					ND	µg/L			2	EPA625 EPA8270	5 µg/L 10 µg/L
NAPHTHALENE					ND	µg/L			2	EPA625 EPA8270	5 µg/L 10 µg/L
NITROBENZENE					ND	µg/L			2	EPA625 EPA8270	10 µg/L 10 µg/L
N-NITROSODI-N-PROPYLAMINE					ND	µg/L			2	EPA625 EPA8270	10 µg/L 10 µg/L
N-NITROSODI- METHYLAMINE					ND	µg/L			2	EPA625 EPA8270	5 µg/L 20 µg/L
N-NITROSODI-PHENYLAMINE					ND	µg/L			2	EPA625 EPA8270	5 µg/L 10 µg/L
PHENANTHRENE					ND	µg/L			2	EPA625 EPA8270	5 µg/L 10 µg/L
PYRENE					ND	µg/L			2	EPA625 EPA8270	10 µg/L 10 µg/L
1,2,4-TRICHLOROBENZENE					ND	µg/L			2	EPA625 EPA8270	5 µg/L 10 µg/L

Use this space (or a separate sheet) to provide information on other base-neutral compounds requested by the permit writer.

Use this space (or a separate sheet) to provide information on other pollutants (e.g., pesticides) requested by the permit writer.

END OF PART D.

REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

FACILITY NAME AND PERMIT NUMBER:

COLUSA WWTP CA0078999

Form Approved 1/14/99
OMB Number 2040-0086

SUPPLEMENTAL APPLICATION INFORMATION

PART E. TOXICITY TESTING DATA

POTWs meeting one or more of the following criteria must provide the results of whole effluent toxicity tests for acute or chronic toxicity for each of the facility's discharge points: 1) POTWs with a design flow rate greater than or equal to 1.0 mgd; 2) POTWs with a pretreatment program (or those that are required to have one under 40 CFR Part 403); or 3) POTWs required by the permitting authority to submit data for these parameters.

- At a minimum, these results must include quarterly testing for a 12-month period within the past 1 year using multiple species (minimum of two species), or the results from four tests performed at least annually in the four and one-half years prior to the application, provided the results show no appreciable toxicity, and testing for acute and/or chronic toxicity, depending on the range of receiving water dilution. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136.
- In addition, submit the results of any other whole effluent toxicity tests from the past four and one-half years. If a whole effluent toxicity test conducted during the past four and one-half years revealed toxicity, provide any information on the cause of the toxicity or any results of a toxicity reduction evaluation, if one was conducted.
- If you have already submitted any of the information requested in Part E, you need not submit it again. Rather, provide the information requested in question E.4 for previously submitted information. If EPA methods were not used, report the reasons for using alternate methods. If test summaries are available that contain all of the information requested below, they may be submitted in place of Part E.

If no biomonitoring data is required, do not complete Part E. Refer to the Application Overview for directions on which other sections of the form to complete.

E.1. *Required Tests.* SEE ATTACHED RESULTS SUMMARY

Indicate the number of whole effluent toxicity tests conducted in the past four and one-half years.

_X_ chronic _X_ acute

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

a. *Test information.*	Test number:_____	Test number:_____	Test number:_____
Test species & test method number			
Age at initiation of test			
Outfall number			
Dates sample collected			
Date test started			
Duration			
b. Give toxicity test methods followed.			
Manual title			
Edition number and year of publication			
Page number(s)			
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite			
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)			
Before disinfection			
After disinfection			
After dechlorination			

	Test number:_____	Test number:_____	Test number:_____
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:			
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	SEE ATTACHED		
Acute toxicity			
g. Provide the type of test performed.			
Static			
Static-renewal			
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water			
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water			
Salt water			
j. Give the percentage effluent used for all concentrations in the test series.			
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH			
Salinity			
Temperature			
Ammonia			
Dissolved oxygen			
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			

Chronic:			
NOEC	%	%	%
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe)			

m. Quality Control/Quality Assurance.			
Is reference toxicant data available?			
Was reference toxicant test within acceptable bounds?			
What date was reference toxicant test run (MM/DD/YYYY)?			
Other (describe)			

E.3. Toxicity Reduction Evaluation. Is the treatment works involved in a Toxicity Reduction Evaluation?

____Yes _X_No If yes, describe: _____

_____

_____

E.4. Summary of Submitted Biomonitoring Test Information. If you have submitted biomonitoring test information, or information regarding the cause of toxicity, within the past four and one-half years, provide the dates the information was submitted to the permitting authority and a summary of the results.

Date submitted: _____ (MM/DD/YYYY)

Summary of results: (see instructions)

_____

_____

END OF PART E.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE.

City of Colusa
Wastewater Treatment Plant
Acute Toxicity Test Results

	96h % Survival			
Date of Sample	100% Effluent	Lab Control	100% Dechlorinated Effluent	Lab Control Dechlorinated
1/21/97	0	100	NA	NA
2/25/97	0	100	100	100
9/11/97	35	100	NA	NA
12/2/97	65	100	100	100
1/20/98	95	100	NA	NA
4/7/98	100	100	NA	NA
12/15/98	95	100	NA	NA
4/12/99	75	100	NA	NA
7/12/99	100	100	NA	NA
9/13/99	65	100	NA	NA
12/11/00	85	100	NA	NA

City of Colusa
Wastewater Treatment Plant
Chronic Toxicity Test Results

	Date of Sample		
	12/8/97	9/14/99	10/3/00
Dilution Water	RW	RW	RW
Sample Dechlorinated (y/n)	y	n	n
Sample Filtered (y/n)	n	n	y
Fat Head Minnow - Pimphales promelas			
LC 50, Survival	> 100	> 100	> 100
NOAEC, Survival	100	75	100
LOAEC, Survival	> 100	100	> 100
NOAEC, Weight	100	25	25
LOAEC, Weight	> 100	50	50
IC 50, Growth	> 100	> 100	84
IC 25, Growth	> 100	48	37
Water Flea - Ceriodaphnia dubia			
LC 50, Survival	> 100	> 100	> 100
NOAEC, Survival	100	100	100
LOAEC, Survival	> 100	> 100	> 100
NOAEC, Reproduction	100	75	< 12.5
LOAEC, Reproduction	> 100	100	12.5
IC 50, Reproduction	> 100	> 100	< 12.5
IC 25, Reproduction	> 100	41	< 12.5
Algae - Selenastrum capricornutum			
NOAEC, Growth	100	100	100
LOAEC, Growth	> 100	> 100	> 100
IC 50, Growth	> 100	> 100	> 100
IC 25, Growth	> 100	> 100	> 100
Effluent Water Quality Data			
Alkalinity (mg/l)	440	309	335
Dissolved Oxygen (mg/l)	8	3.3	5.5
Specific Conductance (uhmo/cm)	1330	1160	1090
Ammonia-N (mg/l)	2	4.6	4.6
pH	7.6	6.9	7
Hardness (mg/l)	150	136	164

RW = Receiving Water

SUPPLEMENTAL APPLICATION INFORMATION

PART F. INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES

All treatment works receiving discharges from significant industrial users or which receive RCRA, CERCLA, or other remedial wastes must complete Part F.

GENERAL INFORMATION:

F.1. Pretreatment Program. Does the treatment works have, or is it subject to, an approved pretreatment program?

____Yes ____No

F.2. Number of Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs). Provide the number of each of the following types of industrial users that discharge to the treatment works.

a. Number of non-categorical SIUs. _____

b. Number of CIUs. _____

SIGNIFICANT INDUSTRIAL USER INFORMATION:

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

F.3. Significant Industrial User Information. Provide the name and address of each SIU discharging to the treatment works. Submit additional pages as necessary.

Name: _____

Mailing Address: _____

_____

F.4. Industrial Processes. Describe all of the industrial processes that affect or contribute to the SIU's discharge.

_____

F.5. Principal Product(s) and Raw Material(s). Describe all of the principal processes and raw materials that affect or contribute to the SIU's discharge.

Principal product(s): _____

Raw material(s): _____

F.6. Flow Rate.

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

_____ gpd (____continuous or _____intermittent)

b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

_____ gpd (____continuous or _____intermittent)

F.7. Pretreatment Standards. Indicate whether the SIU is subject to the following:

a. Local limits ____Yes ____No

b. Categorical pretreatment standards ____Yes ____No

If subject to categorical pretreatment standards, which category and subcategory?

_____

F.8. **Problems at the Treatment Works Attributed to Waste Discharged by the SIU.** Has the SIU caused or contributed to any problems (e.g., upsets, interference) at the treatment works in the past three years?

____Yes ____No If yes, describe each episode.

_____

_____

RCRA HAZARDOUS WASTE RECEIVED BY TRUCK, RAIL, OR DEDICATED PIPELINE:

F.9. RCRA Waste. Does the treatment works receive or has it in the past three years received RCRA hazardous waste by truck, rail, or dedicated pipe?
____Yes ___No (go to F.12.)

F.10. Waste Transport. Method by which RCRA waste is received (check all that apply): N/A

_____Truck _____Rail _____Dedicated Pipe

F.11. Waste Description. Give EPA hazardous waste number and amount (volume or mass, specify units).

EPA Hazardous Waste Number	Amount	Units

CERCLA (SUPERFUND) WASTEWATER, RCRA REMEDIATION/CORRECTIVE ACTION WASTEWATER, AND OTHER REMEDIAL ACTIVITY WASTEWATER:

F.12. Remediation Waste. Does the treatment works currently (or has it been notified that it will) receive waste from remedial activities?

____Yes (complete F.13 through F.15.) ____No

Provide a list of sites and the requested information (F.13 - F.15.) for each current and future site.

F.13. Waste Origin. Describe the site and type of facility at which the CERCLA/RCRA/or other remedial waste originates (or is expected to originate in the next five years).

_____

_____

_____

F.14. Pollutants. List the hazardous constituents that are received (or are expected to be received). Include data on volume and concentration, if known. (Attach additional sheets if necessary).

_____

_____

F.15. Waste Treatment.

a. Is this waste treated (or will it be treated) prior to entering the treatment works?

____Yes ____No

If yes, describe the treatment (provide information about the removal efficiency):

_____

_____

b. Is the discharge (or will the discharge be) continuous or intermittent?

____Continuous ____Intermittent If intermittent, describe discharge schedule.

END OF PART F.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

SUPPLEMENTAL APPLICATION INFORMATION

PART G. COMBINED SEWER SYSTEMS

If the treatment works has a combined sewer system, complete Part G.

G.1. System Map. Provide a map indicating the following: (may be included with Basic Application Information)

a. All CSO discharge points.

b. Sensitive use areas potentially affected by CSOs (e.g., beaches, drinking water supplies, shellfish beds, sensitive aquatic ecosystems, and outstanding natural resource waters).

c. Waters that support threatened and endangered species potentially affected by CSOs.

G.2. System Diagram. Provide a diagram, either in the map provided in G.1. or on a separate drawing, of the combined sewer collection system that includes the following information: N/A

a. Locations of major sewer trunk lines, both combined and separate sanitary.

b. Locations of points where separate sanitary sewers feed into the combined sewer system.

c. Locations of in-line and off-line storage structures.

d. Locations of flow-regulating devices.

e. Locations of pump stations.

CSO OUTFALLS:

Complete questions G.3 through G.6 once for each CSO discharge point.

G.3. Description of Outfall.

a. Outfall number _____

b. Location _____
(City or town, if applicable) (Zip Code)

_____
(County) (State)

_____
(Latitude) (Longitude)

c. Distance from shore (if applicable) _____ ft.

d. Depth below surface (if applicable) _____ ft.

e. Which of the following were monitored during the last year for this CSO?

____Rainfall ____CSO pollutant concentrations ____CSO frequency

____CSO flow volume ____Receiving water quality

f. How many storm events were monitored during the last year? _____

G.4. CSO Events.

a. Give the number of CSO events in the last year.

_____ events (___ actual or ___ approx.)

b. Give the average duration per CSO event.

_____ hours (____ actual or ____ approx.)

c. Give the average volume per CSO event.

_____ million gallons (_____ actual or _____ approx.)

d. Give the minimum rainfall that caused a CSO event in the last year. N/A

_____ inches of rainfall

G.5. Description of Receiving Waters.

a. Name of receiving water: _____

b. Name of watershed/river/stream system: _____

United States Soil Conservation Service 14-digit watershed code (if known): _____

c. Name of State Management/River Basin: _____

United States Geological Survey 8-digit hydrologic cataloging unit code (if known): _____

G.6. CSO Operations.

Describe any known water quality impacts on the receiving water caused by this CSO (e.g., permanent or intermittent beach closings, permanent or intermittent shell fish bed closings, fish kills, fish advisories, other recreational loss, or violation of any applicable State water quality standard).

_____

_____

END OF PART G.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE.