

## D and A Farms Dairy

Station Location	Sample Number	Analysis Type	Analyte	Result	Qualifier	Units
SO-05	10154235		Ammonia Solid	1060		mg/Kg
			NO3N/Total Solid	43.1		mg/Kg
			Total Nitrogen/Solid	13600		mg/Kg
		<i>Pesticides</i>	2,3,4,5-Tetrachlorophenol	37	U	ug/Kg
			2,3,4,6-Tetrachlorophenol	37	U	ug/Kg
			2,4,5-T	37	U	ug/Kg
			2,4,5-Trichlorophenol	37	U	ug/Kg
			2,4,6-Trichlorophenol	37	UJ	ug/Kg
			2,4-D	37	U	ug/Kg
			2,4-DB	37	U	ug/Kg
			3,5-Dichlorobenzoic acid	37	U	ug/Kg
			4-Nitrophenol	37	UJ	ug/Kg
			Acifluorfen	37	UJ	ug/Kg
			Alachlor	62	U	ug/Kg
			Atrazine	62	U	ug/Kg
			Azinphos-methyl	62	UJ	ug/Kg
			Bentazon	37	U	ug/Kg
			Benzonitrile, 2,6-dichloro-	62	U	ug/Kg
			Bromoxynil	37	U	ug/Kg
			Chloramben	37	UJ	ug/Kg
			Chlorpyrifos, Ethyl	8.6	J	ug/Kg
			Clopyralid	36	J	ug/Kg
			DACTHAL-DCPA	28	J	ug/Kg
			Diazinon	62	U	ug/Kg
			Dicamba	3.8	J	ug/Kg
			Dichlorprop	37	U	ug/Kg
			Diclofop, Methyl	37	U	ug/Kg
			Dinoseb	37	UJ	ug/Kg
			Diuron	8.3	J	ug/Kg
			Endosulfan I	62	U	ug/Kg
			Endosulfan II	62	U	ug/Kg
			Endosulfan Sulfate	62	U	ug/Kg
			Fenhexamid	62	UJ	ug/Kg
			Fenpropathrin	62	U	ug/Kg
			Imidan	62	UJ	ug/Kg
			Ioxynil	37	U	ug/Kg
			Kresoxim-methyl	62	U	ug/Kg
			MCPA	37	U	ug/Kg
			MCPP	37	U	ug/Kg
			Metribuzin	62	UJ	ug/Kg
			Myclobutanil	62	U	ug/Kg
			Oxyfluorfen	62	U	ug/Kg
			Pendimethalin	62	U	ug/Kg
			Pentachlorophenol	1.9	J	ug/Kg
			Picloram	37	U	ug/Kg
			Propargite	62	U	ug/Kg
			Silvex	37	U	ug/Kg
			Simazine	62	U	ug/Kg
			SURFLAN	120	UJ	ug/Kg
			Terbacil	62	U	ug/Kg

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	Trichlorpyr	37	U	ug/Kg
	Triflumizole	62	U	ug/Kg
	Trifluralin	62	U	ug/Kg
<i>Steroids / Hormones</i>	11-Keto Testosterone	0.1	U	ug/Kg
	17a-Hydroxyprogesterone	0.1	U	ug/Kg
	17alpha-trenbolone	0.1	U	ug/Kg
	17beta-estradiol	1.48		ug/Kg
	17beta-trenbolone	0.1	U	ug/Kg
	4-Androstenedione	5.63		ug/Kg
	a-Estradiol	0.1	U	ug/Kg
	Androstanedienedione	15.4		ug/Kg
	Androsterone	0.1	U	ug/Kg
	a-Zearalanol	0.1	U	ug/Kg
	a-Zearalenol	0.1	U	ug/Kg
	b-Zearalanol	0.1	U	ug/Kg
	b-Zearalenol	0.1	U	ug/Kg
	Epitestosterone	0.1	U	ug/Kg
	Estriol	0.1	U	ug/Kg
	Estrone	0.1	U	ug/Kg
	Ethynyl Estradiol	10.5		ug/Kg
	Melengesterol Acetate	0.1	U	ug/Kg
	Progesterone	33.1		ug/Kg
	Testosterone	0.1	U	ug/Kg
<i>Veterinary Pharmaceuticals</i>	Chlortetracycline(total)	17.7		mg/Kg
	Erythromycin	3.1		mg/Kg
	Lincomycin	0.5	U	mg/Kg
	Monensin	1329		mg/Kg
	Oxytetracycline	0.5	U	mg/Kg
	Ractopamine	0.5	U	mg/Kg
	Sulfachloropyridazine	0.5	U	mg/Kg
	Sulfadimethoxine	0.5	U	mg/Kg
	Sulfamerazine	0.5	U	mg/Kg
	Sulfamethazine	7.7		mg/Kg
	Sulfamethazole	0.5	U	mg/Kg
	Sulfamethoxazole	0.5	U	mg/Kg
	Sulfathiazole	0.5	U	mg/Kg
	Tetracycline	17.9		mg/Kg
	Tiamulin	0.5	U	mg/Kg
	Tylosin	0.5	U	mg/Kg
	Virginiamycin	0.5	U	mg/Kg
<i>Wastewater Pharmaceuticals</i>	Acetaminophen	100	U	ug/Kg
	Amphetamine	50	U	ug/Kg
	Azithromycin	NR		ug/Kg
	Caffeine	50	U	ug/Kg
	Carbamazepine	50	U	ug/Kg
	Cotinine	50	U	ug/Kg
	DEET	50	U	ug/Kg
	Diphenhydramine	50	U	ug/Kg
	Ibuprofen	50	U	ug/Kg
	Methamphetamine	50	U	ug/Kg

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		Naproxen	50	U	ug/Kg
		Paraxanthine	50	U	ug/Kg
		Thiabendazole	50	U	ug/Kg
		Triclosan	50	U	ug/Kg
SO-06	10154236	Ammonium-N	6.8		mg/kg
		Nitrate-N/Nitrite	45.6		mg/kg
		Total Nitrogen/Solid	960		mg/kg
		<i>Pesticides</i> 2,3,4,5-Tetrachlorophenol	13	U	ug/Kg
		2,3,4,6-Tetrachlorophenol	13	U	ug/Kg
		2,4,5-T	13	U	ug/Kg
		2,4,5-Trichlorophenol	13	U	ug/Kg
		2,4,6-Trichlorophenol	13	UJ	ug/Kg
		2,4-D	13	U	ug/Kg
		2,4-DB	13	U	ug/Kg
		3,5-Dichlorobenzoic acid	13	U	ug/Kg
		4-Nitrophenol	1700	J	ug/Kg
		Acifluorfen	13	UJ	ug/Kg
		Alachlor	23	U	ug/Kg
		Atrazine	23	U	ug/Kg
		Azinphos-methyl	23	UJ	ug/Kg
		Bentazon	13	U	ug/Kg
		Benzonitrile, 2,6-dichloro-	23	U	ug/Kg
		Bromoxynil	13	U	ug/Kg
		Chloramben	13	UJ	ug/Kg
		Chlorpyrifos, Ethyl	5.9	J	ug/Kg
		Clopyralid	13	U	ug/Kg
		DACTHAL-DCPA	13	U	ug/Kg
		Diazinon	23	U	ug/Kg
		Dicamba	13	U	ug/Kg
		Dichlorprop	13	U	ug/Kg
		Diclofop, Methyl	13	U	ug/Kg
		Dinoseb	13	UJ	ug/Kg
		Diuron	23	UJ	ug/Kg
		Endosulfan I	23	U	ug/Kg
		Endosulfan II	23	U	ug/Kg
		Endosulfan Sulfate	23	U	ug/Kg
		Fenhexamid	23	UJ	ug/Kg
		Fenpropathrin	23	U	ug/Kg
		Imidan	23	UJ	ug/Kg
		Ioxynil	13	U	ug/Kg
		Kresoxim-methyl	23	U	ug/Kg
		MCPA	13	U	ug/Kg
		MCPP	13	U	ug/Kg
		Metribuzin	23	UJ	ug/Kg
		Myclobutanil	23	U	ug/Kg
		Oxyfluorfen	23	U	ug/Kg
		Pendimethalin	23	U	ug/Kg
		Pentachlorophenol	13	U	ug/Kg
		Picloram	13	U	ug/Kg
		Propargite	23	U	ug/Kg
		Silvex	13	U	ug/Kg

## D and A Farms Dairy

	Simazine	23	U	ug/Kg
	SURFLAN	47	UJ	ug/Kg
	Terbacil	23	U	ug/Kg
	Trichlorpyr	13	U	ug/Kg
	Triflumizole	23	U	ug/Kg
	Trifluralin	23	U	ug/Kg
<i>Steroids / Hormones</i>	11-Keto Testosterone	0.1	U	ug/Kg
	17a-Hydroxyprogesterone	0.1	U	ug/Kg
	17alpha-trenbolone	0.1	U	ug/Kg
	17beta-estradiol	0.1	U	ug/Kg
	17beta-trenbolone	0.1	U	ug/Kg
	4-Androstenedione	0.12		ug/Kg
	a-Estradiol	0.11		ug/Kg
	Androstenedione	0.1	U	ug/Kg
	Androsterone	0.1	U	ug/Kg
	a-Zearalanol	0.1	U	ug/Kg
	a-Zearalenol	0.1	U	ug/Kg
	b-Zearalanol	0.1	U	ug/Kg
	b-Zearalenol	0.1	U	ug/Kg
	Epitestosterone	0.1	U	ug/Kg
	Estriol	0.1	U	ug/Kg
	Estrone	0.1	U	ug/Kg
	Ethynyl Estradiol	0.1	U	ug/Kg
	Melengesterol Acetate	0.1	U	ug/Kg
	Progesterone	0.17		ug/Kg
	Testosterone	0.1	U	ug/Kg
<i>Veterinary Pharmaceuticals</i>	Chlortetracycline(total)	3		mg/Kg
	Erythromycin	0.5	U	mg/Kg
	Lincomycin	0.5	U	mg/Kg
	Monensin	5.1		mg/Kg
	Oxytetracycline	3.3		mg/Kg
	Ractopamine	0.5	U	mg/Kg
	Sulfachloropyridazine	0.5	U	mg/Kg
	Sulfadimethoxine	0.5	U	mg/Kg
	Sulfamerazine	0.5	U	mg/Kg
	Sulfamethazine	0.5	U	mg/Kg
	Sulfamethazole	0.5	U	mg/Kg
	Sulfamethoxazole	0.5	U	mg/Kg
	Sulfathiazole	0.5	U	mg/Kg
	Tetracycline	16.5		mg/Kg
	Tiamulin	0.5	U	mg/Kg
	Tylosin	0.5	U	mg/Kg
	Virginiamycin	0.5	U	mg/Kg
<i>Wastewater Pharmaceuticals</i>	Acetaminophen	100	U	ug/Kg
	Amphetamine	50	U	ug/Kg
	Azithromycin	NR		ug/Kg
	Caffeine	50	U	ug/Kg
	Carbamazepine	50	U	ug/Kg
	Cotinine	50	U	ug/Kg
	DEET	50	U	ug/Kg

**D and A Farms Dairy**

		Diphenhydramine	50	U	ug/Kg
		Ibuprofen	50	U	ug/Kg
		Methamphetamine	50	U	ug/Kg
		Naproxen	50	U	ug/Kg
		Paraxanthine	50	U	ug/Kg
		Thiabendazole	50	U	ug/Kg
		Triclosan	50	U	ug/Kg
LG-07	10164237	Ammonia (NH <sub>3</sub> +NH <sub>4</sub> ) as N	950	J	mg/L
		Nitrate+Nitrite as N	3.1	J	mg/L
		Phosphorus, total	221		mg/L
		Total Kjeldahl Nitrogen	1700	J	mg/L
		<i>Bacteria</i> Escherichia coli	5400000	J	per100ml
		Fecal Coliform	5400000		per100ml
		BAC32		Present	
		<i>Bacteroides</i> PCR (ruminant)	CF 128	Present	
		<i>Bacteroides</i> PCR (ruminant)	CF 193	ND	
		<i>Bacteroides</i> PCR (human)	HF 134	Absent	
		<i>Bacteroides</i> PCR (human)	HF 183	Absent	
		<i>General Chemistry</i> Alkalinity as CaCO <sub>3</sub>	6210		mg/L
		Bromide	10	U	mg/L
		Chloride	633		mg/L
		Fluoride	2	U	mg/L
		Sulfate	304		mg/L
		<i>Metals</i> Arsenic	190	U	ug/L
		Barium	1080		ug/L
		Cadmium	13	U	ug/L
		Calcium	578000		ug/L
		Chromium	70		ug/L
		Copper	1850		ug/L
		Iron	53000		ug/L
		Lead	100	U	ug/L
		Magnesium	358000		ug/L
		Manganese	7780		ug/L
		Mercury	0.25	UJ	ug/L
		Potassium	1930000		ug/L
		Selenium	210	U	ug/L
		Silver	42	U	ug/L
		Sodium	443000		ug/L
		Zinc	6080		ug/L
		<i>Wastewater Organics</i> 1,4-dichlorobenzene	2	UJ	ug/L
		1-methylnaphthalene	2	R	ug/L
		2,2',4,4'-tetrabromodiphenyl ether	2	UJ	ug/L
		2,6-dimethylnaphthalene	2	R	ug/L
		2-methylnaphthalene	2	R	ug/L
		3,4-dichlorophenyl isocyanate	2	UJ	ug/L
		3-beta-coprostanol	14.9	J	ug/L
		3-methyl-1h-indole (skatol)	34.9	J	ug/L
		3-tert-butyl-4-hydroxyanisole (bha)	2	UJ	ug/L

## D and A Farms Dairy

4-cumylphenol	2	R	ug/L
4-n-octylphenol	2	R	ug/L
4-nonylphenol monoethoxylate - total (np1eo)	8.09	J	ug/L
4-octylphenol diethoxylate (op2eo)	2	R	ug/L
4-octylphenol monoethoxylate (op1eo)	2	J	ug/L
4-tert-octylphenol	2	R	ug/L
5-methyl-1h-benzotriazole	2	UJ	ug/L
acetophenone	2	R	ug/L
acetyl-hexamethyl-tetrahydro-naphthalene (ahtn)	2	UJ	ug/L
anthracene	2	R	ug/L
anthraquinone	2	UJ	ug/L
atrazine	2	UJ	ug/L
benz[a]pyrene	2	R	ug/L
benzophenone	2	R	ug/L
beta-sitosterol	23.7	J	ug/L
beta-stigmastanol	19.3	J	ug/L
bis-(2-ethylhexyl) phthalate (dehp)	2	UJ	ug/L
bisphenol a	2	R	ug/L
bromacil	2	UJ	ug/L
bromoform	2	UJ	ug/L
caffeine	2	R	ug/L
camphor	2	UJ	ug/L
carbaryl	2	UJ	ug/L
carbazole	2	UJ	ug/L
chlorpyrifos	2	UJ	ug/L
cholesterol	37.3	J	ug/L
cotinine	2	UJ	ug/L
diazinon	2	UJ	ug/L
dichlorvos	2	UJ	ug/L
diethoxynonylphenols- total (np2eo)	4.87	J	ug/L
diethyl phthalate	2	UJ	ug/L
d-limonene	2	UJ	ug/L
fluoranthene	2	R	ug/L
hexahydrohexamethyl cyclopentabenzopyran (hhcb)	2	UJ	ug/L
indole	20.1	J	ug/L
isoborneol	2	UJ	ug/L
isophorone	2	UJ	ug/L
isopropylbenzene (cumene)	2	UJ	ug/L
isoquinoline	2	UJ	ug/L
menthol	2	UJ	ug/L
metalaxyl	2	UJ	ug/L
methyl salicylate	2	UJ	ug/L
metolachlor	2	UJ	ug/L
n,n-diethyl-meta-toluamide (deet)	2	UJ	ug/L
naphthalene	2	R	ug/L
para-nonylphenol total	2	UJ	ug/L
p-cresol	1880	J	ug/L
pentachlorophenol	2	R	ug/L
phenanthrene	2	R	ug/L
phenol	245	J	ug/L
prometon	2	UJ	ug/L
pyrene	2	UJ	ug/L
tetrachloroethylene	2	UJ	ug/L

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	tri(2-butoxyethyl) phosphate	2	UJ	ug/L
	tri(2-chloroethyl) phosphate	2	UJ	ug/L
	tri(dichloroisopropyl) phosphate	2	UJ	ug/L
	tributyl phosphate	2	UJ	ug/L
	triclosan	2	UJ	ug/L
	triethyl citrate (ethyl citrate)	2	UJ	ug/L
	triphenyl phosphate	2	UJ	ug/L
<i>Pesticides</i> Due to matrix interference the laboratory could not provide quantitative results for the pesticide analysis of the lagoon sludge samples.				
<i>Hormones</i>	17-a-estradiol	1730		ng/L
	17-a-ethynyl-estradiol	20	U	ng/L
	17-b-estradiol	38.2		ng/L
	Estriol	8.8	U	ng/L
	Estrone	592		ng/L
<i>Steroids / Hormones</i>	11-Keto Testosterone	0.765		ug/L
	17a-Hydroxyprogesterone	0.002	U	ug/L
	17alpha-trenbolone	0.002	U	ug/L
	17beta-estradiol	0.002	U	ug/L
	17beta-trenbolone	0.002	U	ug/L
	4-Androstenedione	0.107		ug/L
	a-Estradiol	0.002	U	ug/L
	Androstenedione	0.002	U	ug/L
	Androsterone	0.002	U	ug/L
	a-Zearalanol	11.3		ug/L
	a-Zearalenol	0.002	U	ug/L
	b-Zearalanol	0.002	U	ug/L
	b-Zearalenol	0.002	U	ug/L
	Epitestosterone	0.002	U	ug/L
	Estriol	0.002	U	ug/L
	Estrone	0.002	U	ug/L
	Ethynyl Estradiol	0.002	U	ug/L
	Melengesterol Acetate	0.002	U	ug/L
	Progesterone	0.757		ug/L
Testosterone	0.016		ug/L	
<i>Veterinary Pharmaceuticals</i>	Chlortetracycline(total)	0.02	R	ug/L
	Erythromycin	0.02	R	ug/L
	Lincomycin	0.02	R	ug/L
	Monensin	0.02	R	ug/L
	Oxytetracycline	0.02	R	ug/L
	Ractopamine	0.02	R	ug/L
	Sulfachloropyridazine	0.095	J	ug/L
	Sulfadimethoxine	0.02	R	ug/L
	Sulfamerazine	0.02	R	ug/L
	Sulfamethazine	0.02	R	ug/L
	Sulfamethazole	0.02	R	ug/L
	Sulfamethoxazole	0.02	R	ug/L
	Sulfathiazole	0.02	R	ug/L
	Tetracycline	0.442	J	ug/L

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		Tiamulin	0.02	R	ug/L
		Tylosin	0.184	J	ug/L
		Virginiamycin	0.02	R	ug/L
	<i>Wastewater Pharmaceuticals</i>	Acetaminophen	0.2	U	ug/L
		Amphetamine	0.2	U	ug/L
		Azithromycin	0.2	U	ug/L
		Caffeine	0.2	U	ug/L
		Carbamazepine	0.2	U	ug/L
		Cotinine	0.2	U	ug/L
		DEET	0.2	U	ug/L
		Diphenhydramine	1.3		ug/L
		Ibuprofen	0.2	U	ug/L
		Methamphetamine	0.2	U	ug/L
		Naproxen	0.2	U	ug/L
		Paraxanthine	0.2	U	ug/L
		Thiabendazole	0.2	U	ug/L
		Triclosan	0.2	U	ug/L
	<i>Isotopes</i>	Nitrate	NM		mg/L
		δ15N-NO3	NM		‰
		Ammonia	869		mg/L
		δ15N-NH4	5.36		‰
		δ18O-NO3	NM		‰ SMOW
LG-08	10154258	Ammonia (NH3+NH4) as N	730	J	mg/L
		Nitrate+Nitrite as N	1	UJ	mg/L
		Total Kjeldahl Nitrogen	1200	J	mg/L
	<i>Bacteria</i>	Escherichia coli	130000	J	per100ml
		Fecal Coliform	130000		per100ml
		BAC32		Present	
		<i>Bacteroides</i> PCR (ruminant)	CF 128	Present	
		<i>Bacteroides</i> PCR (ruminant)	CF 193	ND	
		<i>Bacteroides</i> PCR (human)	HF 134	Absent	
		<i>Bacteroides</i> PCR (human)	HF 183	Absent	
	<i>General Chemistry</i>	Alkalinity as CaCO3	5280		mg/L
		Bromide	10	U	mg/L
		Chloride	699		mg/L
		Fluoride	2	U	mg/L
		Phosphorus, total	90.8		mg/L
		Sulfate	15	U	mg/L
	<i>Metals</i>	Arsenic	190	U	ug/L
		Barium	720		ug/L
		Cadmium	13	U	ug/L
		Calcium	433000		ug/L
		Chromium	42	U	ug/L
		Copper	1290		ug/L
		Iron	23600		ug/L
		Lead	100	U	ug/L
		Magnesium	202000		ug/L



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	Manganese	3990		ug/L
	Mercury	0.25	UJ	ug/L
	Potassium	1820000		ug/L
	Selenium	210	U	ug/L
	Silver	42	U	ug/L
	Sodium	488000		ug/L
	Zinc	4160		ug/L
<i>Wastewater Organics</i>	1,4-dichlorobenzene	30	UJ	ug/L
	1-methylnaphthalene	30	UJ	ug/L
	2,2',4,4'-tetrabromodiphenyl ether	30	U	ug/L
	2,6-dimethylnaphthalene	30	UJ	ug/L
	2-methylnaphthalene	30	UJ	ug/L
	3,4-dichlorophenyl isocyanate	30	U	ug/L
	3-beta-coprostanol	200	J	ug/L
	3-methyl-1h-indole (skatol)	373	J	ug/L
	3-tert-butyl-4-hydroxyanisole (bha)	2	UJ	ug/L
	4-cumylphenol	30	U	ug/L
	4-n-octylphenol	30	U	ug/L
	4-nonylphenol monoethoxylate - total (np1eo)	165	J	ug/L
	4-octylphenol diethoxylate (op2eo)	48.4		ug/L
	4-octylphenol monoethoxylate (op1eo)	30	U	ug/L
	4-tert-octylphenol	30	U	ug/L
	5-methyl-1h-benzotriazole	2	UJ	ug/L
	acetophenone	30	U	ug/L
	acetyl-hexamethyl-tetrahydro-naphthalene (ahtn)	30	U	ug/L
	anthracene	30	UJ	ug/L
	anthraquinone	30	U	ug/L
	atrazine	30	U	ug/L
	benz[a]pyrene	30	UJ	ug/L
	benzophenone	30	UJ	ug/L
	beta-sitosterol	219	J	ug/L
	beta-stigmastanol	292	J	ug/L
	bis-(2-ethylhexyl) phthalate (dehp)	30	U	ug/L
	bisphenol a	30	U	ug/L
	bromacil	30	U	ug/L
	bromoform	30	U	ug/L
	caffeine	30	U	ug/L
	camphor	30	U	ug/L
	carbaryl	30	U	ug/L
	carbazole	30	U	ug/L
	chlorpyrifos	30	U	ug/L
	cholesterol	377	J	ug/L
	cotinine	2	UJ	ug/L
	diazinon	30	U	ug/L
	dichlorvos	30	U	ug/L
	diethoxynonylphenols- total (np2eo)	46.5	J	ug/L
	diethyl phthalate	30	U	ug/L
	d-limonene	30	U	ug/L
	fluoranthene	30	UJ	ug/L
	hexahydrohexamethyl cyclopentabenzopyran (hhcb)	30	U	ug/L
	indole	30	U	ug/L
	isoborneol	30	U	ug/L

## D and A Farms Dairy

isophorone	1.06	J	ug/L
isopropylbenzene (cumene)	30	U	ug/L
isoquinoline	30	U	ug/L
menthol	30	U	ug/L
metalaxyl	30	U	ug/L
methyl salicylate	30	U	ug/L
metolachlor	30	U	ug/L
n,n-diethyl-meta-toluamide (deet)	30	U	ug/L
naphthalene	30	UJ	ug/L
para-nonylphenol total	81.2	J	ug/L
p-cresol	9600	J	ug/L
pentachlorophenol	60	U	ug/L
phenanthrene	30	UJ	ug/L
phenol	2930	J	ug/L
prometon	30	U	ug/L
pyrene	30	UJ	ug/L
tetrachloroethylene	30	U	ug/L
tri(2-butoxyethyl) phosphate	30	U	ug/L
tri(2-chloroethyl) phosphate	30	U	ug/L
tri(dichloroisopropyl) phosphate	30	U	ug/L
tributyl phosphate	30	U	ug/L
triclosan	30	U	ug/L
triethyl citrate (ethyl citrate)	30	U	ug/L
triphenyl phosphate	30	U	ug/L

*Pesticides* Due to matrix interference the laboratory could not provide quantitative results for the pesticide analysis of the lagoon sludge samples.

<i>Hormones</i> 17-a-estradiol	1200		ng/L
17-a-ethynyl-estradiol	20	U	ng/L
17-b-estradiol	25.4		ng/L
Estriol	8.8	U	ng/L
Estrone	1020		ng/L

<i>Steroids / Hormones</i> 11-Keto Testosterone	0.549		ug/L
17a-Hydroxyprogesterone	0.002	U	ug/L
17alpha-trenbolone	0.002	U	ug/L
17beta-estradiol	0.002	U	ug/L
17beta-trenbolone	0.002	U	ug/L
4-Androstenedione	0.16		ug/L
a-Estradiol	0.383		ug/L
Androstenedionedione	0.002	U	ug/L
Androsterone	0.002	U	ug/L
a-Zearalanol	4.819		ug/L
a-Zearalenol	0.002	U	ug/L
b-Zearalanol	0.002	U	ug/L
b-Zearalenol	0.002	U	ug/L
Epitestosterone	0.002	U	ug/L
Estriol	0.002	U	ug/L
Estrone	0.002	U	ug/L
Ethynyl Estradiol	0.002	U	ug/L
Melengesterol Acetate	0.002	U	ug/L

**D and A Farms Dairy**

		Progesterone	0.184		ug/L
		Testosterone	0.09		ug/L
	<i>Veterinary Pharmaceuticals</i>	Chlortetracycline(total)	0.02	R	ug/L
		Erythromycin	0.02	R	ug/L
		Lincomycin	0.02	R	ug/L
		Monensin	449.6	J	ug/L
		Oxytetracycline	0.929	J	ug/L
		Ractopamine	0.02	R	ug/L
		Sulfachloropyridazine	0.254	J	ug/L
		Sulfadimethoxine	0.02	R	ug/L
		Sulfamerazine	0.02	R	ug/L
		Sulfamethazine	0.39	J	ug/L
		Sulfamethazole	0.02	R	ug/L
		Sulfamethoxazole	0.02	R	ug/L
		Sulfathiazole	0.872	J	ug/L
		Tetracyline	6.07	J	ug/L
		Tiamulin	0.02	R	ug/L
		Tylosin	0.02	R	ug/L
		Virginiamycin	0.02	R	ug/L
	<i>Wastewater Pharmaceuticals</i>	Acetaminophen	0.2	U	ug/L
		Amphetamine	0.2	U	ug/L
		Azithromycin	0.2	U	ug/L
		Caffeine	0.2	U	ug/L
		Carbamazepine	0.2	U	ug/L
		Cotinine	0.2	U	ug/L
		DEET	0.2	U	ug/L
		Diphenhydramine	2.3		ug/L
		Ibuprofen	0.2	U	ug/L
		Methamphetamine	0.2	U	ug/L
		Naproxen	0.2	U	ug/L
		Paraxanthine	0.2	U	ug/L
		Thiabendazole	1.9		ug/L
		Triclosan	0.2	U	ug/L
	<i>Isotopes</i>	Nitrate	NM		mg/L
		δ15N-NO3	NM		‰
		Ammonia	696		mg/L
		δ15N-NH4	10.27		‰
		δ18O-NO3	NM		‰ SMOW
LG-09	10154259	Ammonia (NH3+NH4) as N	760	J	mg/L
		Nitrate+Nitrite as N	1	UJ	mg/L
		Total Kjeldahl Nitrogen	1100	J	mg/L
	<i>Bacteria</i>	Escherichia coli	79000	J	per100ml
		Fecal Coliform	79000		per100ml
		BAC32		Present	
		<i>Bacteroides</i> PCR (ruminant)	CF 128	Present	
		<i>Bacteroides</i> PCR (ruminant)	CF 193	ND	
		<i>Bacteroides</i> PCR (human)	HF 134	Present	
		<i>Bacteroides</i> PCR (human)	HF 183	ND	

## D and A Farms Dairy

<i>General Chemistry</i>	Alkalinity as CaCO <sub>3</sub>	5280		mg/L
	Bromide	10	U	mg/L
	Chloride	722		mg/L
	Fluoride	2	U	mg/L
	Phosphorus, total	89.8		mg/L
	Sulfate	15	U	mg/L
<i>Metals</i>	Arsenic	160	U	ug/L
	Barium	720		ug/L
	Cadmium	11	U	ug/L
	Calcium	442000		ug/L
	Chromium	37		ug/L
	Copper	1290		ug/L
	Iron	23600		ug/L
	Lead	90	U	ug/L
	Magnesium	200000		ug/L
	Manganese	4010		ug/L
	Mercury	0.25	UJ	ug/L
	Potassium	1810000		ug/L
	Selenium	180	U	ug/L
	Silver	36	U	ug/L
	Sodium	487000		ug/L
Zinc	4290		ug/L	
<i>Wastewater Organics</i>	1,4-dichlorobenzene	2	UJ	ug/L
	1-methylnaphthalene	2	R	ug/L
	2,2',4,4'-tetrabromodiphenyl ether	2	UJ	ug/L
	2,6-dimethylnaphthalene	2	R	ug/L
	2-methylnaphthalene	2	R	ug/L
	3,4-dichlorophenyl isocyanate	2	UJ	ug/L
	3-beta-coprostanol	37.6	J	ug/L
	3-methyl-1h-indole (skatol)	170	J	ug/L
	3-tert-butyl-4-hydroxyanisole (bha)	2	UJ	ug/L
	4-cumylphenol	2	UJ	ug/L
	4-n-octylphenol	2	UJ	ug/L
	4-nonylphenol monoethoxylate - total (np1eo)	45.9	J	ug/L
	4-octylphenol diethoxylate (op2eo)	2	UJ	ug/L
	4-octylphenol monoethoxylate (op1eo)	2	UJ	ug/L
	4-tert-octylphenol	2	UJ	ug/L
	5-methyl-1h-benzotriazole	2	UJ	ug/L
	acetophenone	2	UJ	ug/L
	acetyl-hexamethyl-tetrahydro-naphthalene (ahtn)	2	UJ	ug/L
	anthracene	2	R	ug/L
	anthraquinone	2	UJ	ug/L
	atrazine	2	UJ	ug/L
	benz[a]pyrene	2	R	ug/L
	benzophenone	2	R	ug/L
	beta-sitosterol	56.6	J	ug/L
	beta-stigmastanol	52	J	ug/L
	bis-(2-ethylhexyl) phthalate (dehp)	2	UJ	ug/L
	bisphenol a	0.4	UJ	ug/L
	bromacil	2	UJ	ug/L

## D and A Farms Dairy

bromoform	2	UJ	ug/L
caffeine	2	UJ	ug/L
camphor	2	UJ	ug/L
carbaryl	2	UJ	ug/L
carbazole	2	UJ	ug/L
chlorpyrifos	2	UJ	ug/L
cholesterol	78.3	J	ug/L
cotinine	2	UJ	ug/L
diazinon	2	UJ	ug/L
dichlorvos	2	UJ	ug/L
diethoxynonylphenols- total (np2eo)	3.2	UJ	ug/L
diethyl phthalate	2	UJ	ug/L
d-limonene	2	UJ	ug/L
fluoranthene	2	R	ug/L
hexahydrohexamethyl cyclopentabenzopyran (hhcb)	2	UJ	ug/L
indole	13	J	ug/L
isoborneol	2	UJ	ug/L
isophorone	2	UJ	ug/L
isopropylbenzene (cumene)	2	UJ	ug/L
isoquinoline	2	UJ	ug/L
menthol	2	UJ	ug/L
metalaxyl	2	UJ	ug/L
methyl salicylate	2	UJ	ug/L
metolachlor	2	UJ	ug/L
n,n-diethyl-meta-toluamide (deet)	2	UJ	ug/L
naphthalene	2	R	ug/L
para-nonylphenol total	18.1	J	ug/L
p-cresol	4690	J	ug/L
pentachlorophenol	2	UJ	ug/L
phenanthrene	2	R	ug/L
phenol	1120	J	ug/L
prometon	2	UJ	ug/L
pyrene	2	R	ug/L
tetrachloroethylene	2	UJ	ug/L
tri(2-butoxyethyl) phosphate	2	UJ	ug/L
tri(2-chloroethyl) phosphate	2	UJ	ug/L
tri(dichloroisopropyl) phosphate	2	UJ	ug/L
tributyl phosphate	2	UJ	ug/L
triclosan	2	UJ	ug/L
triethyl citrate (ethyl citrate)	2	UJ	ug/L
triphenyl phosphate	2	UJ	ug/L

*Pesticides* Due to matrix interference the laboratory could not provide quantitative results for the pesticide analysis of the lagoon sludge samples.

<i>Hormones</i> 17-a-estradiol	1270		ng/L
17-a-ethynyl-estradiol	20	U	ng/L
17-b-estradiol	22.3		ng/L
Estriol	8.8	U	ng/L
Estrone	1050		ng/L

<i>Steroids / Hormones</i> 11-Keto Testosterone	0.444		ug/L
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**D and A Farms Dairy**

	17a-Hydroxyprogesterone	0.002	U	ug/L
	17alpha-trenbolone	0.002	U	ug/L
	17beta-estradiol	0.002	U	ug/L
	17beta-trenbolone	0.002	U	ug/L
	4-Androstenedione	0.204		ug/L
	a-Estradiol	0.844		ug/L
	Androstenedione	0.002	U	ug/L
	Androsterone	0.002	U	ug/L
	a-Zearalanol	6.969		ug/L
	a-Zearalenol	0.002	U	ug/L
	b-Zearalanol	0.002	U	ug/L
	b-Zearalenol	0.002	U	ug/L
	Epiestosterone	0.002	U	ug/L
	Estriol	0.002	U	ug/L
	Estrone	0.002	U	ug/L
	Ethynyl Estradiol	0.002	U	ug/L
	Melengesterol Acetate	0.002	U	ug/L
	Progesterone	0.328		ug/L
	Testosterone	0.007		ug/L
<i>Veterinary Pharmaceuticals</i>	Chlortetracycline(total)	0.02	R	ug/L
	Erythromycin	1.87	J	ug/L
	Lincomycin	0.02	R	ug/L
	Monensin	337.7	J	ug/L
	Oxytetracycline	0.02	R	ug/L
	Ractopamine	0.02	R	ug/L
	Sulfachloropyridazine	0.02	R	ug/L
	Sulfadimethoxine	0.02	R	ug/L
	Sulfamerazine	0.02	R	ug/L
	Sulfamethazine	2.07	J	ug/L
	Sulfamethazole	0.02	R	ug/L
	Sulfamethoxazole	0.02	R	ug/L
	Sulfathiazole	0.02	R	ug/L
	Tetracycline	3.6	J	ug/L
	Tiamulin	0.02	R	ug/L
	Tylosin	1.07	J	ug/L
	Virginiamycin	0.02	R	ug/L
<i>Wastewater Pharmaceuticals</i>	Acetaminophen	0.2	U	ug/L
	Amphetamine	0.2	U	ug/L
	Azithromycin	0.2	U	ug/L
	Caffeine	0.2	U	ug/L
	Carbamazepine	0.2	U	ug/L
	Cotinine	0.2	U	ug/L
	DEET	0.4		ug/L
	Diphenhydramine	0.2	U	ug/L
	Ibuprofen	0.2	U	ug/L
	Methamphetamine	0.2	U	ug/L
	Naproxen	0.2	U	ug/L
	Paraxanthine	0.2	U	ug/L
	Thiabendazole	0.2	U	ug/L
	Triclosan	0.2	U	ug/L

## D and A Farms Dairy

	<i>Isotopes</i>	Nitrate	NM		mg/L
		δ15N-NO3	NM		‰
		Ammonia	658		mg/L
		δ15N-NH4	10.13		‰
		δ18O-NO3	NM		‰ SMOW
WW-08	10154208	Ammonia (NH3+NH4) as N	0.05	U	mg/L
		Nitrate - Field Test	10		mg/l
		Nitrate+Nitrite as N	12.9		mg/L
		Nitrate-N	11.7		mg/l
		Total Kjeldahl Nitrogen	2.5	U	mg/L
	<i>Bacteria</i>	Escherichia coli	< 1		per 100ml
		Fecal Coliform	< 1		per 100ml
		Total Coliform	< 1		per 100ml
	<i>General Chemistry</i>	Alkalinity as CaCO3	178		mg/L
		Bromide	0.336		mg/L
		Chloride	35		mg/L
		Fluoride	0.257		mg/L
		Phosphorus, total	0.0271		mg/L
		Sulfate	113		mg/L
	<i>Metals</i>	Arsenic	45	U	ug/L
		Barium	30.7		ug/L
		Cadmium	3	U	ug/L
		Calcium	81800		ug/L
		Chromium	10	U	ug/L
		Copper	5	U	ug/L
		Iron	20	U	ug/L
		Lead	25	U	ug/L
		Magnesium	25600		ug/L
		Manganese	2	U	ug/L
		Mercury	0.05	U	ug/L
		Potassium	4330		ug/L
		Selenium	50	U	ug/L
		Silver	10	U	ug/L
		Sodium	34200		ug/L
		Zinc	12		ug/L
	<i>Perchlorate</i>	Perchlorate	1400		ng/l
	<i>Wastewater Organics</i>	1,4-dichlorobenzene	0.2	U	ug/L
		1-methylnaphthalene	0.2	U	ug/L
		2,2',4,4'-tetrabromodiphenyl ether	0.3	U	ug/L
		2,6-dimethylnaphthalene	0.2	U	ug/L
		2-methylnaphthalene	0.2	U	ug/L
		3,4-dichlorophenyl isocyanate	1.6	U	ug/L
		3-beta-coprostanol	1.6	U	ug/L
		3-methyl-1h-indole (skatol)	0.2	U	ug/L
		3-tert-butyl-4-hydroxyanisole (bha)	0.2	UJ	ug/L
		4-cumylphenol	0.2	UJ	ug/L
		4-n-octylphenol	0.2	UJ	ug/L

## D and A Farms Dairy

4-nonylphenol monoethoxylate - total (np1eo)	1.6	UJ	ug/L
4-octylphenol diethoxylate (op2eo)	0.5	UJ	ug/L
4-octylphenol monoethoxylate (op1eo)	1	UJ	ug/L
4-tert-octylphenol	0.4	UJ	ug/L
5-methyl-1h-benzotriazole	1.6	UJ	ug/L
acetophenone	0.4	UJ	ug/L
acetyl-hexamethyl-tetrahydro-naphthalene (ahntn)	0.2	U	ug/L
anthracene	0.2	U	ug/L
anthraquinone	0.2	U	ug/L
atrazine	0.2	U	ug/L
benz[a]pyrene	0.2	U	ug/L
benzophenone	0.2	U	ug/L
beta-sitosterol	1.6	U	ug/L
beta-stigmastanol	1.7	U	ug/L
bis-(2-ethylhexyl) phthalate (dehp)	2	U	ug/L
bisphenol a	0.4	UJ	ug/L
bromacil	0.8	U	ug/L
bromoform	0.2	U	ug/L
caffeine	0.2	U	ug/L
camphor	0.2	U	ug/L
carbaryl	0.2	U	ug/L
carbazole	0.2	U	ug/L
chlorpyrifos	0.2	U	ug/L
cholesterol	1.6	U	ug/L
cotinine	0.8	UJ	ug/L
diazinon	0.2	U	ug/L
dichlorvos	0.2	U	ug/L
diethoxynonylphenols- total (np2eo)	3.2	U	ug/L
diethyl phthalate	0.2	U	ug/L
d-limonene	0.2	U	ug/L
fluoranthene	0.2	U	ug/L
hexahydrohexamethyl cyclopentabenzopyran (hhcb)	0.2	U	ug/L
indole	0.2	U	ug/L
isoborneol	0.2	U	ug/L
isophorone	0.2	U	ug/L
isopropylbenzene (cumene)	0.2	U	ug/L
isoquinoline	0.2	U	ug/L
menthol	0.2	U	ug/L
metalaxyl	0.2	U	ug/L
methyl salicylate	0.2	U	ug/L
metolachlor	0.2	U	ug/L
n,n-diethyl-meta-toluamide (deet)	0.2	U	ug/L
naphthalene	0.2	U	ug/L
para-nonylphenol total	1.6	UJ	ug/L
p-cresol	0.2	U	ug/L
pentachlorophenol	1.6	UJ	ug/L
phenanthrene	0.2	U	ug/L
phenol	0.2	UJ	ug/L
prometon	0.2	U	ug/L
pyrene	0.2	U	ug/L
tetrachloroethylene	0.4	U	ug/L
tri(2-butoxyethyl) phosphate	0.2	U	ug/L
tri(2-chloroethyl) phosphate	0.2	U	ug/L



## D and A Farms Dairy

	tri(dichloroisopropyl) phosphate	0.2	U	ug/L
	tributyl phosphate	0.2	U	ug/L
	triclosan	0.2	U	ug/L
	triethyl citrate (ethyl citrate)	0.2	U	ug/L
	triphenyl phosphate	0.2	U	ug/L
<i>Pesticides</i>	2,3,4,5-Tetrachlorophenol	0.19	U	ug/L
	2,3,4,6-Tetrachlorophenol	0.1	U	ug/L
	2,4,5-T	0.47	U	ug/L
	2,4,5-Trichlorophenol	0.19	U	ug/L
	2,4,6-Trichlorophenol	0.47	UJ	ug/L
	2,4-D	0.47	UJ	ug/L
	2,4-DB	0.1	U	ug/L
	3,5-Dichlorobenzoic acid	0.1	U	ug/L
	4-Nitrophenol	0.47	UJ	ug/L
	Acifluorfen	0.47	U	ug/L
	Alachlor	0.095	UJ	ug/L
	Atrazine	0.095	UJ	ug/L
	Azinphos-methyl	0.095	UJ	ug/L
	Bentazon	0.036	J	ug/L
	Benzonitrile, 2,6-dichloro-	0.095	UJ	ug/L
	Bromoxynil	0.1	U	ug/L
	Chloramben	0.19	UJ	ug/L
	Chlorpyrifos, Ethyl	0.095	UJ	ug/L
	Clopyralid	0.95	UJ	ug/L
	DACTHAL-DCPA	0.47	UJ	ug/L
	Diazinon	0.095	UJ	ug/L
	Dicamba	0.1	UJ	ug/L
	Dichlorprop	0.47	U	ug/L
	Diclofop, Methyl	0.1	U	ug/L
	Dinoseb	0.47	U	ug/L
	Diuron	0.095	UJ	ug/L
	Endosulfan I	0.095	UJ	ug/L
	Endosulfan II	0.095	UJ	ug/L
	Endosulfan Sulfate	0.095	UJ	ug/L
	Fenhexamid	0.95	UJ	ug/L
	Fenpropathrin	0.095	UJ	ug/L
	Imidan	0.19	UJ	ug/L
	Ioxynil	0.1	U	ug/L
	Kresoxim-methyl	0.095	UJ	ug/L
	MCPA	0.19	U	ug/L
	MCPP	0.1	U	ug/L
	Metribuzin	0.095	UJ	ug/L
	Myclobutanil	0.095	UJ	ug/L
	Oxyfluorfen	0.095	UJ	ug/L
	Pendimethalin	0.095	UJ	ug/L
	Pentachlorophenol	0.1	U	ug/L
	Picloram	0.95	UJ	ug/L
	Propargite	0.095	UJ	ug/L
	Silvex	0.19	U	ug/L
	Simazine	0.09	UJ	ug/L
	SURFLAN	1.9	UJ	ug/L
	Terbacil	1.9	UJ	ug/L

## D and A Farms Dairy

	Trichlorpyr	0.1	U	ug/L
	Triflumizole	0.38	UJ	ug/L
	Trifluralin	0.095	UJ	ug/L
<i>Hormones</i>	17-a-estradiol	0.21	U	ng/L
	17-a-ethynyl-estradiol	0.16	U	ng/L
	17-b-estradiol	0.14	U	ng/L
	Estriol	0.22	U	ng/L
	Estrone	0.21	U	ng/L
<i>Steroids / Hormones</i>	11-Keto Testosterone	0.002	U	ug/L
	17a-Hydroxyprogesterone	0.005	U	ug/L
	17alpha-trenbolone	0.004	U	ug/L
	17beta-estradiol	0.002	U	ug/L
	17beta-trenbolone	0.003		ug/L
	4-Androstenedione	0.004	U	ug/L
	a-Estradiol	0.003		ug/L
	Androstenedione	0.002	UJ	ug/L
	Androsterone	0.002	UJ	ug/L
	a-Zearalanol	0.009	J	ug/L
	a-Zearalenol	0.002	UJ	ug/L
	b-Zearalanol	0.002	UJ	ug/L
	b-Zearalenol	0.002	U	ug/L
	Epitestosterone	0.003		ug/L
	Estriol	0.002	U	ug/L
	Estrone	0.002	UJ	ug/L
	Ethynyl Estradiol	0.002	U	ug/L
	Melengesterol Acetate	0.004	U	ug/L
	Progesterone	0.007	UJ	ug/L
	Testosterone	0.003		ug/L
<i>Veterinary Pharmaceuticals</i>	Chlortetracycline(total)	0.02	U	ug/L
	Erythromycin	0.02	U	ug/L
	Lincomycin	0.02	U	ug/L
	Monensin	0.02	U	ug/L
	Oxytetracycline	0.02	U	ug/L
	Ractopamine	0.02	U	ug/L
	Sulfachloropyridazine	0.02	U	ug/L
	Sulfadimethoxine	0.02	U	ug/L
	Sulfamerazine	0.02	U	ug/L
	Sulfamethazine	0.02	U	ug/L
	Sulfamethazole	0.02	U	ug/L
	Sulfamethoxazole	0.02	U	ug/L
	Sulfathiazole	0.02	U	ug/L
	Tetracycline	5.17		ug/L
	Tiamulin	0.02	U	ug/L
	Tylosin	0.02	U	ug/L
	Virginiamycin	0.02	U	ug/L
<i>Wastewater Pharmaceuticals</i>	Acetaminophen	0.2	U	ug/L
	Amphetamine	0.2	U	ug/L
	Azithromycin	0.2	U	ug/L
	Caffeine	0.2	U	ug/L

## D and A Farms Dairy

	Carbamazepine	0.2	U	ug/L
	Cotinine	0.2	U	ug/L
	DEET	0.2	U	ug/L
	Diphenhydramine	0.2	U	ug/L
	Ibuprofen	0.2	U	ug/L
	Methamphetamine	0.2	U	ug/L
	Naproxen	0.2	U	ug/L
	Paraxanthine	0.2	U	ug/L
	Thiabendazole	0.2	U	ug/L
	Triclosan	0.2	U	ug/L
<i>Isotopes</i>	Nitrate	11.7		mg/L
	$\delta^{15}\text{N-NO}_3$	5.3		‰
	Ammonia	0.2		mg/L
	$\delta^{15}\text{N-NH}_4$	NM		‰
	$\delta^{18}\text{O-NO}_3$	22.6		‰ SMOW
<i>Age Dating</i>	Piston Flow Model SF6 Recharge Age	35.3-40.8		years

### Abbreviations

BAC32 - *Bacteroides*

ND - Analysis not done

NM - Not measured

PCR - Polymerase Chain Reaction

‰ = parts per thousand difference from the atmospheric standard

SMOW = standard mean of ocean water

TNTC - Too numerous to count

### Units

CFU/100 ml = colony forming unit per 100 milliliters

MPN/100 ml = most probable number per 100 milliliters

ng/L = nanograms per liter

ug/L = micrograms per liter

mg/L = milligrams per liter

mg/Kg = milligrams per kilogram

ug/Kg = micrograms per kilogram

### Data Qualifiers

< = less than

J = The analyte was positively identified. The associated numerical value is an estimate.

JN = There is evidence that the analyte is present. The associated numerical result is an estimate.

N = There is evidence the analyte is present in this sample.

R = The data are unusable for all purposes.