

US EPA ARCHIVE DOCUMENT

**301(h)-Modified  
NPDES Permit Reissuance  
Questionnaire for Small Dischargers**

**Attachment C: Supporting Technical Analysis  
Receiving Water Data**

**UTULEI WASTEWATER  
TREATMENT PLANT**

**NPDES Permit No. AS0020001**

**Submitted By**

**AMERICAN SAMOA POWER AUTHORITY**

**May 1, 2006**

<b>Table 1</b> <b>Receiving Water, Pago Pago Harbor</b> <b>2002-2005 Results for Enterococci (Col/100ml)</b> American Samoa Water Quality Standard = 35/100 ml (geometric mean) or 104/100 ml (single sample maximum)													
Location	Station	Depth	Aug-02	Mar-03	Aug-03	Feb-04	Sep-04	Feb-05	Aug-05	Min	Avg	Max	
ZOM	A1	Near Surface (3 ft)	41	0	0	0	0	0	250	0	42	250	
		Mid Depth (60 ft)	0	30	727	10	20	85	41	0	130	727	
		Bottom (90-120 ft)	0	73	132	20	0	109	120	0	65	132	
	B1	Near Surface (3 ft)	327	0	10	10	41	0	238	0	89	327	
		Mid Depth (60 ft)	91	41	0	0	0	0	145	0	40	145	
		Bottom (120 ft)	0	428	10	0	0	0	134	0	82	428	
			Min	0	0	0	0	0	41				
			Avg	77	95	147	7	10	32	155			
			Max	327	428	727	20	41	109	250			
			<b>Geo.mean<sup>1</sup></b>	<b>10</b>	<b>18</b>	<b>15</b>	<b>4</b>	<b>3</b>	<b>5</b>	<b>134</b>	0	75	727
	Farfield	C	Near Surface (3 ft)	1421	0	0	52	0	0	0	0	210	1421
			Mid Depth (35-55 ft)	0	10	0	0	0	0	0	0	1	10
			Bottom (70-110 ft)	0	41	0	0	0	0	0	0	6	41
		16	Near Surface (3 ft)	0	0	0	10	0	0	0	0	1	10
Mid Depth (60 ft)			0	0	0	10	0	0	10	0	3	10	
Bottom (120 ft)			0	0	0	0	0	10	20	0	4	20	
18		Near Surface (3 ft)	0	0	0	0	20	0	10	0	4	20	
		Mid Depth (60 ft)	0	0	0	0	0	0	31	0	4	31	
		Bottom (120 ft)	0	0	0	10	0	41	0	0	7	41	
		Min	0	0	0	0	0	0	0				
		Avg	158	6	0	9	2	6	8				
		Max	1421	41	0	52	20	41	31				
		<b>Geo.mean<sup>1</sup></b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>2</b>	<b>3</b>	0	27	1421	
All Stations		Depth (ft)		Min	Avg	Max	Geo. Mean		Comments: Stations where no enterococci were found (a value of 0), a value of 1 was used in order to calculate geometric mean.				
		Surface		0	69	1421	4						
		Mid-depth		0	36	727	4						
		Bottom		0	33	428	4						
		All		0	46	1421	4						

**Table 2**  
**Receiving Water, Pago Pago Harbor**  
**2002-2005 Results for Water Temperature (°C)**

Location	Station	Depth (ft)	Aug-02	Mar-03	Aug-03	Feb-04	Sep-04	Feb-05	Aug-05	Min	Avg	Max	
Diffuser	U	3	27.3	30.6	27.7	30.1	28.0	29.4	N/A	27.3	28.9	30.6	
		60	27.3	29.9	27.7	29.5	27.9	29.2	N/A	27.3	28.6	29.9	
		90-120	27.2	29.7	27.7	29.5	27.9	29.1	N/A	27.2	28.5	29.7	
			Min	27.2	29.7	27.7	29.5	27.9	29.1	N/A	27.2	28.6	30.6
			Avg	27.3	30.1	27.7	29.7	27.9	29.2	N/A			
			Max	27.3	30.6	27.7	30.1	28.0	29.4	N/A			
ZOM	A1	3	27.3	30.4	28.2	29.9	28.3	29.7	N/A	27.3	29.0	30.4	
		60	27.3	30.0	27.7	29.5	27.9	29.2	N/A	27.3	28.6	30.0	
		90-120	27.2	29.7	27.8	29.3	27.8	29.0	N/A	27.2	28.5	29.7	
	B1	3	27.2	30.5	28.4	30.0	28.4	29.7	N/A	27.2	29.0	30.5	
		60	27.4	29.8	27.8	29.5	27.9	29.4	N/A	27.4	28.6	29.8	
		120	27.2	29.4	27.7	29.4	27.8	29.1	N/A	27.2	28.4	29.4	
			Min	27.2	29.4	27.7	29.3	27.8	29.0	N/A	27.2	28.7	30.5
			Avg	27.3	30.0	27.9	29.6	28.0	29.4	N/A			
			Max	27.4	30.5	28.4	30.0	28.4	29.7	N/A			
	Farfield	C	3	27.2	29.6	28.1	30.2	28.6	29.5	N/A	27.2	28.9	30.2
35			27.6	29.7	27.7	29.6	27.9	29.3	N/A	27.6	28.6	29.7	
70-110			27.5	29.6	27.7	29.6	27.8	29.2	N/A	27.5	28.6	29.6	
16		3	28.0	30.2	28.9	30.0	28.2	30.0	N/A	28.0	29.2	30.2	
		60	28.2	29.9	27.7	29.5	27.9	29.5	N/A	27.7	28.8	29.9	
		120	28.1	29.8	27.6	29.4	27.8	29.4	N/A	27.6	28.7	29.8	
18		3	28.4	30.1	27.8	29.8	28.1	30.0	N/A	27.8	29.0	30.1	
		60	28.0	29.9	27.7	29.5	27.9	29.4	N/A	27.7	28.7	29.9	
		120	27.6	29.8	27.6	29.4	27.8	29.4	N/A	27.6	28.6	29.8	
		Min	27.2	29.6	27.6	29.4	27.8	29.2	N/A	27.2	28.8	30.2	
		Avg	27.8	29.8	27.9	29.7	28.0	29.5	N/A				
		Max	28.4	30.2	28.9	30.2	28.6	30.0	N/A				
Reference		5	3	27.6	30.3	28.1	29.9	27.9	29.4	N/A	27.6	28.9	30.3
	60		27.4	29.9	28.0	29.5	27.9	29.4	N/A	27.4	28.7	29.9	
	120		27.2	29.8	28.1	29.6	27.8	29.3	N/A	27.2	28.6	29.8	
			Min	27.2	29.8	28.0	29.5	27.8	29.3	N/A	27.2	28.7	30.3
			Avg	27.4	30.0	28.1	29.7	27.9	29.4	N/A			
			Max	27.6	30.3	28.1	29.9	27.9	29.4	N/A			
All Stations	Depth (ft)		Min	Avg	Max	Comments:							
	Surface		27.2	29.0	30.6								
	Mid-depth		27.3	28.7	30.0								
	Bottom		27.2	28.6	29.8								
	All		27.2	28.7	30.6								

**Table 3**  
**Receiving Water, Pago Pago Harbor**  
**2002-2005 Results for Salinity (PSU)**

Location	Station	Depth (ft)	Aug-02	Mar-03	Aug-03	Feb-04	Sep-04	Feb-05	Aug-05	Min	Avg	Max
Diffuser	U	3	34.4	34.6	34.2	34.3	35.3	35.7	34.1	34.1	34.7	35.7
		60	35.5	35.1	34.2	34.8	35.4	35.7	34.2	34.2	35.0	35.7
		90-120	35.5	35.0	34.3	34.5	35.4	35.7	34.2	34.2	34.9	35.7
	Min	34.4	34.6	34.2	34.3	35.3	35.7	34.1	34.1	34.9	35.7	
	Avg	35.1	34.9	34.2	34.5	35.3	35.7	34.2				
Max	35.5	35.1	34.3	34.8	35.4	35.7	34.2					
ZOM	A1	3	34.7	34.9	34.1	34.3	35.3	35.1	33.0	33.0	34.5	35.3
		60	35.4	35.1	34.2	34.9	35.4	35.5	33.2	33.2	34.8	35.5
		90-120	35.5	35.2	34.3	34.9	35.4	35.6	33.4	33.4	34.9	35.6
	B1	3	34.4	34.9	34.8	34.5	35.3	35.3	34.6	34.4	34.8	35.3
		60	35.4	35.1	34.2	34.9	35.4	35.3	34.7	34.2	35.0	35.4
		120	35.5	35.1	34.3	34.9	35.4	35.3	34.8	34.3	35.0	35.5
	Min	34.4	34.9	34.1	34.3	35.3	35.1	33.0	33.0	34.8	35.6	
	Avg	35.2	35.1	34.3	34.7	35.4	35.4	34.0				
Max	35.5	35.2	34.8	34.9	35.4	35.6	34.8					
Farfield	C	3	33.2	35.2	33.8	34.4	35.3	35.1	35.3	33.2	34.6	35.3
		35	35.2	35.2	34.2	34.8	35.4	35.3	35.2	34.2	35.0	35.4
		70-110	35.4	35.3	34.2	34.9	35.4	35.4	35.0	34.2	35.1	35.4
	16	3	35.1	34.3	33.9	34.4	35.3	35.6	35.2	33.9	34.8	35.6
		60	35.3	35.0	34.2	34.8	35.4	35.7	35.4	34.2	35.1	35.7
		120	35.3	35.2	34.2	34.9	35.4	35.8	35.6	34.2	35.2	35.8
	18	3	35.0	34.7	33.9	34.2	35.3	35.5	36.0	33.9	34.9	36.0
		60	35.4	35.0	34.2	34.8	35.4	35.6	35.0	34.2	35.1	35.6
		120	35.5	35.1	34.3	34.9	35.4	35.5	34.8	34.3	35.1	35.5
	Min	33.2	34.3	33.8	34.2	35.3	35.1	34.8	33.2	35.0	36.0	
	Avg	35.0	35.0	34.1	34.7	35.4	35.5	35.3				
Max	35.5	35.3	34.3	34.9	35.4	35.8	36.0					
Reference	5	3	34.6	34.3	33.9	34.8	35.4	35.6	36.3	33.9	35.0	36.3
		60	35.6	35.1	34.3	34.9	35.4	35.0	36.4	34.3	35.2	36.4
		120	35.5	35.1	34.2	34.9	35.4	34.2	36.4	34.2	35.1	36.4
	Min	34.6	34.3	33.9	34.8	35.4	34.2	36.3	33.9	35.1	36.4	
	Avg	35.2	34.8	34.1	34.9	35.4	34.9	36.4				
Max	35.6	35.1	34.3	34.9	35.4	35.6	36.4					
All Stations	Depth (ft)	Min	Avg	Max	Comments:							
	Surface	33.0	34.8	36.3								
	Mid-depth	33.2	35.0	36.4								
	Bottom	33.4	35.0	36.4								
	All	33.0	34.9	36.4								

<b>Table 4</b> <b>Receiving Water, Pago Pago Harbor</b> <b>2002-2005 Results for DO (mg/l)</b> American Samoa Water Quality Standard = Not less than 70% saturation or less than 5.0 mg/l													
Location	Station	Depth (ft)	Aug-02	Mar-03	Aug-03	Feb-04	Sep-04	Feb-05	Aug-05	Min	Avg	Max	
Diffuser	U	3	6.17	6.52	6.17	6.22	6.14	5.82	6.45	5.82	6.21	6.52	
		60	6.09	6.18	6.12	6.07	6.34	5.90	6.60	5.90	6.19	6.60	
		90-120	5.94	5.78	6.13	6.01	6.13	5.63	6.39	5.63	6.00	6.39	
			Min	5.94	5.78	6.12	6.01	6.13	5.63	6.39	5.63	6.13	6.60
			Avg	6.07	6.16	6.14	6.10	6.20	5.78	6.48			
			Max	6.17	6.52	6.17	6.22	6.34	5.90	6.60			
			<b>Geo.mean</b>	<b>6.07</b>	<b>6.15</b>	<b>6.14</b>	<b>6.10</b>	<b>6.20</b>	<b>5.78</b>	<b>6.48</b>			
ZOM	A1	3	6.32	6.36	6.85	6.17	6.11	5.94	6.52	5.94	6.32	6.85	
		60	6.25	5.85	6.19	6.00	6.11	5.78	6.51	5.78	6.10	6.51	
		90-120	6.04	5.64	5.95	5.88	6.03	5.85	6.69	5.64	6.01	6.69	
	B1	3	6.30	6.11	6.23	6.03	6.18	5.87	6.47	5.87	6.17	6.47	
		60	6.21	5.89	6.18	6.14	6.19	5.91	6.28	5.89	6.11	6.28	
		120	6.18	5.08	6.08	6.01	5.97	5.93	6.37	5.08	5.95	6.37	
			Min	6.04	5.08	5.95	5.88	5.97	5.78	6.28	5.08	6.11	6.85
			Avg	6.22	5.82	6.25	6.04	6.10	5.88	6.47			
			Max	6.32	6.36	6.85	6.17	6.19	5.94	6.69			
			<b>Geo.mean</b>	<b>6.22</b>	<b>5.81</b>	<b>6.24</b>	<b>6.04</b>	<b>6.10</b>	<b>5.88</b>	<b>6.47</b>			
Farfield	C	3	5.84	5.86	5.69	5.64	7.37	5.15	6.87	5.15	6.06	7.37	
		35	5.97	5.84	6.17	5.99	6.19	5.73	6.69	5.73	6.08	6.69	
		70-110	6.01	5.67	6.19	5.80	6.14	5.63	6.71	5.63	6.02	6.71	
	16	3	6.18	6.05	6.24	5.77	6.15	5.84	6.79	5.77	6.15	6.79	
		60	6.22	6.09	6.28	6.10	6.12	5.90	6.56	5.90	6.18	6.56	
		120	6.07	5.86	6.17	5.83	6.22	5.80	6.88	5.80	6.12	6.88	
	18	3	6.37	6.17	6.32	6.06	6.12	5.97	6.53	5.97	6.22	6.53	
		60	6.27	6.05	6.30	5.76	5.98	5.98	6.86	5.76	6.17	6.86	
		120	6.14	5.90	6.13	6.04	6.05	5.97	7.04	5.90	6.18	7.04	
			Min	5.84	5.67	5.69	5.64	5.98	5.15	6.53	5.15	6.13	7.37
		Avg	6.12	5.94	6.17	5.89	6.26	5.77	6.77				
		Max	6.37	6.17	6.32	6.10	7.37	5.98	7.04				
		<b>Geo.mean</b>	<b>6.12</b>	<b>5.94</b>	<b>6.16</b>	<b>5.89</b>	<b>6.25</b>	<b>5.77</b>	<b>6.77</b>				
Reference	5	3	6.53	6.23	6.01	5.82	6.25	5.97	6.31	5.82	6.16	6.53	
		60	6.55	5.89	6.27	6.41	6.49	6.06	6.25	5.89	6.27	6.55	
		120	6.33	5.58	6.16	5.51	6.28	5.95	6.30	5.51	6.02	6.33	
			Min	6.33	5.58	6.01	5.51	6.25	5.95	6.25	5.51	6.15	6.55
			Avg	6.47	5.90	6.15	5.91	6.34	5.99	6.29			
			Max	6.55	6.23	6.27	6.41	6.49	6.06	6.31			
		<b>Geo.mean</b>	<b>6.47</b>	<b>5.89</b>	<b>6.15</b>	<b>5.90</b>	<b>6.34</b>	<b>5.99</b>	<b>6.29</b>				
All Stations	Depth (ft)		Min	Avg	Max	Comments:							
	Surface		5.15	6.18	7.37								
	Mid-depth		5.73	6.16	6.86								
	Bottom		5.08	6.04	7.04								
	All		5.08	6.13	7.37								

<b>Table 5</b> <b>Receiving Water, Pago Pago Harbor</b> <b>2002-2005 Results for pH (S.U.)</b> American Samoa Water Quality Standard = range shall be 6.5 to 8.6 and be within 0.2 pH units of that which occurs naturally												
Location	Station	Depth (ft)	Aug-02	Mar-03	Aug-03	Feb-04	Sep-04	Feb-05	Aug-05	Min	Avg	Max
Diffuser	U	3	8.12	8.16	8.14	8.05	8.23	8.12	8.29	8.05	8.16	8.29
		60	8.17	8.18	8.13	8.11	8.22	8.12	8.20	8.11	8.16	8.22
		90-120	8.12	8.15	8.07	8.10	8.14	8.11	8.24	8.07	8.13	8.24
	Min	8.12	8.15	8.07	8.05	8.14	8.11	8.20	8.05	8.15	8.29	
	Avg	8.14	8.16	8.11	8.09	8.20	8.12	8.24				
Max	8.17	8.18	8.14	8.11	8.23	8.12	8.29					
ZOM	A1	3	8.01	8.15	8.13	8.03	8.21	8.18	8.28	8.01	8.14	8.28
		60	8.14	8.11	8.11	8.05	8.20	8.18	8.26	8.05	8.15	8.26
		90-120	8.03	8.05	8.11	8.11	8.22	8.18	8.26	8.03	8.14	8.26
	B1	3	8.11	8.10	8.11	8.06	8.21	8.10	8.23	8.06	8.13	8.23
		60	8.18	8.15	8.14	8.13	8.22	8.23	8.20	8.13	8.18	8.23
		120	8.14	8.07	8.08	8.06	8.20	8.21	8.16	8.06	8.13	8.21
	Min	8.01	8.05	8.08	8.03	8.20	8.10	8.16	8.01	8.15	8.28	
	Avg	8.10	8.11	8.11	8.07	8.21	8.18	8.23				
	Max	8.18	8.15	8.14	8.13	8.22	8.23	8.28				
Farfield	C	3	7.99	8.06	8.01	7.96	8.24	8.05	7.99	7.96	8.04	8.24
		35	8.12	8.06	8.11	8.06	8.19	8.22	8.05	8.05	8.12	8.22
		70-110	8.17	7.96	8.13	8.08	8.22	8.15	7.98	7.96	8.10	8.22
	16	3	8.13	8.12	8.10	8.01	8.19	8.19	8.25	8.01	8.14	8.25
		60	8.14	8.18	8.11	8.04	8.20	8.20	8.26	8.04	8.16	8.26
		120	8.18	8.15	8.05	8.04	8.18	8.18	8.29	8.04	8.15	8.29
	18	3	8.17	8.17	8.04	8.07	8.17	8.22	8.32	8.04	8.17	8.32
		60	8.22	8.17	8.12	8.06	8.11	8.22	8.34	8.06	8.18	8.34
		120	8.21	8.14	8.05	8.04	8.17	8.24	8.27	8.04	8.16	8.27
	Min	7.99	7.96	8.01	7.96	8.11	8.05	7.98	7.96	8.14	8.34	
	Avg	8.15	8.11	8.08	8.04	8.19	8.19	8.19				
	Max	8.22	8.18	8.13	8.08	8.24	8.24	8.34				
Reference	5	3	8.22	8.18	8.08	7.95	8.20	8.19	8.29	7.95	8.16	8.29
		60	8.23	8.18	8.10	8.04	8.14	8.22	8.28	8.04	8.17	8.28
		120	8.15	8.14	7.97	7.97	8.14	8.10	8.28	7.97	8.11	8.28
	Min	8.15	8.14	7.97	7.95	8.14	8.10	8.28	7.95	8.15	8.29	
	Avg	8.20	8.17	8.05	7.99	8.16	8.17	8.28				
Max	8.23	8.18	8.10	8.04	8.20	8.22	8.29					
All Stations	Depth (ft)	Min	Avg	Max	Comments:							
	Surface	7.95	8.13	8.32								
	Mid-depth	8.04	8.16	8.34								
	Bottom	7.96	8.13	8.29								
	All	7.95	8.14	8.34								

<p align="center"><b>Table 6</b>  <b>Receiving Water, Pago Pago Harbor</b>  <b>2002-2005 Results for Turbidity (NTU)</b>                      American Samoa Water Quality Standard = Average not to exceed 0.75 NTU</p>															
Location	Station	Depth (ft)	Aug-02	Mar-03	Aug-03	Aug-03	Feb-04	Sep-04	Sep-04	Feb-05	Aug-05	Min	Avg	Max	
			Lab	Lab	Lab	CTD	Lab	Lab	CTD	Lab	Lab				
Diffuser	U	3	0.03	0.67	NS	0.20	NS	NS	0.55	0.17	0.16	0.03	0.30	0.67	
		60	0.13	0.36	NS	0.36	NS	NS	0.58	0.20	0.14	0.13	0.30	0.58	
		90-120	0.15	0.40	NS	0.27	NS	NS	0.44	0.19	0.12	0.12	0.26	0.44	
			Min	0.03	0.36	0.20	NS	0.44	0.17	0.12			0.03	0.28	0.67
			Avg	0.10	0.48	0.28	NS	0.52	0.19	0.14					
			Max	0.15	0.67	0.36	NS	0.58	0.20	0.16					
ZOM	A1	3	0.06	0.24	NS	0.32	NS	NS	0.69	0.15	0.12	0.06	0.26	0.69	
		60	0.07	0.20	NS	0.37	NS	NS	0.51	0.18	0.14	0.07	0.25	0.51	
		90-120	0.15	0.22	NS	0.51	NS	NS	0.93	0.20	0.15	0.15	0.36	0.93	
	B1	3	0.20	0.38	NS	0.31	NS	NS	0.59	0.15	0.16	0.15	0.30	0.59	
		60	0.06	0.14	NS	0.30	NS	NS	0.36	0.11	0.13	0.06	0.18	0.36	
		120	0.09	0.24	NS	0.28	NS	NS	0.62	0.16	0.18	0.09	0.26	0.62	
			Min	0.06	0.14	0.28	NS	0.36	0.11	0.12			0.06	0.27	0.93
			Avg	0.11	0.24	0.35	NS	0.62	0.16	0.15					
			Max	0.20	0.38	0.51	NS	0.93	0.20	0.18					
	Farfield	C	3	0.46	0.30	NS	0.29	NS	NS	0.67	0.20	0.12	0.12	0.34	0.67
35			0.10	0.16	NS	0.26	NS	NS	0.59	0.17	0.14	0.10	0.24	0.59	
70-110			0.05	0.41	NS	0.51	NS	NS	0.48	0.19	0.16	0.05	0.30	0.51	
16		3	0.05	0.15	0.31	0.44	0.20	0.20	0.60	0.18	0.13	0.05	0.25	0.60	
		60	0.08	0.13	0.05	0.27	0.12	0.16	0.33	0.14	0.14	0.05	0.16	0.33	
		120	0.09	0.10	0.06	0.38	1.60	0.17	0.31	0.19	0.15	0.06	0.34	1.60	
18		3	0.11	0.40	0.12	0.35	0.20	0.20	0.82	0.18	0.13	0.11	0.28	0.82	
		60	0.20	0.11	0.11	0.21	0.30	0.16	0.46	0.14	0.14	0.11	0.20	0.46	
		120	0.19	0.12	0.08	0.38	0.15	0.15	0.25	0.15	0.11	0.08	0.18	0.38	
		Min	0.05	0.10	0.05	0.12	0.15	0.14	0.11			0.05	0.25	1.60	
		Avg	0.15	0.21	0.25	0.43	0.37	0.17	0.14						
		Max	0.46	0.41	0.51	1.60	0.82	0.20	0.16						
Reference		5	3	0.07	0.12	0.70	0.28	NS	0.20	0.23	0.16	0.11	0.07	0.23	0.70
	60		0.12	0.24	0.45	0.27	NS	0.17	0.22	0.17	0.11	0.11	0.22	0.45	
	120		0.08	0.14	0.45	0.25	NS	0.18	0.28	0.15	0.13	0.08	0.21	0.45	
			Min	0.07	0.12	0.25	NS	0.17	0.15	0.11			0.07	0.22	0.70
			Avg	0.09	0.17	0.40	NS	0.21	0.16	0.12					
		Max	0.12	0.24	0.70	NS	0.28	0.17	0.13						
All Stations	Depth (ft)		Min	Avg	Max	Comments:									
	Surface		0.03	0.28	0.82	Lab = Value reported by laboratory									
	Mid-depth		0.05	0.22	0.59	CTD = Value reported by Sonde unit in the field									
	Bottom		0.05	0.27	1.60	NS = Not Samples									
	All		0.03	0.25	1.60										



<p align="center"><b>Table 7</b>  <b>Receiving Water, Pago Pago Harbor</b>  <b>2002-2005 Results for Total Nitrogen (TN) (mg/l)</b>                      American Samoa Water Quality Standard = 0.2 mg/l (200 µg/l)</p>												
Location	Station	Depth (ft)	Aug-02	Mar-03	Aug-03	Feb-04	Sep-04	Feb-05	Aug-05	Min	Avg	Max
Diffuser	U	3	0.06	0.32	0.15	0.21	0.11	0.12	0.11	0.06	0.15	0.32
		60	0.19	0.23	0.15	0.23	0.11	0.15	0.11	0.11	0.17	0.23
		90-120	0.18	0.36	0.15	0.30	0.11	0.11	0.11	0.11	0.19	0.36
	Min		0.06	0.23	0.15	0.21	0.11	0.11	0.11	0.06	0.17	0.36
	Avg		0.14	0.30	0.15	0.25	0.11	0.13	0.11			
Max		0.19	0.36	0.15	0.30	0.11	0.15	0.11				
ZOM	A1	3	0.06	0.25	0.12	0.23	0.12	0.12		0.06	0.15	0.25
		60	0.06	0.31	0.10	0.28	0.11	0.12	0.13	0.06	0.16	0.31
		90-120	0.18	0.26	0.14	0.18	0.12	0.11	0.19	0.11	0.17	0.26
	B1	3	0.08	0.28	0.05	0.16	0.12	0.12	0.15	0.05	0.14	0.28
		60	0.07	0.21	0.08	0.19	0.11	0.11	0.14	0.07	0.13	0.21
		120	0.06	0.28	0.09	0.31	0.12	0.11	0.16	0.06	0.16	0.31
	Min		0.06	0.21	0.05	0.16	0.11	0.11	0.13	0.05	0.15	0.31
	Avg		0.08	0.27	0.10	0.23	0.12	0.12	0.16			
Max		0.18	0.31	0.14	0.31	0.12	0.12	0.19				
Farfield	C	3	0.07	0.24	0.05	0.32	0.12	0.12	0.18	0.05	0.16	0.32
		35	0.06	0.23	0.09	0.27	0.11	0.14	0.12	0.06	0.15	0.27
		70-110	0.07	0.31	0.12	0.37	0.11	0.11	0.11	0.07	0.17	0.37
	16	3	0.16	0.06	0.15	0.19	0.12	0.12	0.11	0.06	0.13	0.19
		60	0.21	0.06	0.06	0.17	0.12	0.18	0.11	0.06	0.13	0.21
		120	0.26	0.05	0.20	0.17	0.11	0.31	0.11	0.05	0.17	0.31
	18	3	0.17	0.04	0.09	0.15	0.12	0.11	0.11	0.04	0.11	0.17
		60	0.18	0.06	0.09	0.16	0.11	0.21	0.11	0.06	0.13	0.21
		120	0.27	0.29	0.05	0.16	0.11	0.10	0.11	0.05	0.15	0.29
	Min		0.06	0.04	0.05	0.15	0.11	0.10	0.11	0.04	0.14	0.37
	Avg		0.16	0.15	0.10	0.22	0.11	0.16	0.12			
	Max		0.27	0.31	0.20	0.37	0.12	0.31	0.18			
Reference	5	3	0.40	0.13	0.14	0.18	0.22	1.20	0.11	0.11	0.34	1.20
		60	0.13	0.06	0.13	0.16	0.11	0.15	0.11	0.06	0.12	0.16
		120	0.15	0.05	0.17	0.14	0.11	0.11	0.11	0.05	0.12	0.17
	Min		0.13	0.05	0.13	0.14	0.11	0.11	0.11	0.05	0.19	1.20
	Avg		0.23	0.08	0.15	0.16	0.15	0.49	0.11			
Max		0.40	0.13	0.17	0.18	0.22	1.20	0.11				
All Stations	Depth (ft)		Min	Avg	Max	Comments:						
	Surface		0.04	0.17	1.20							
	Mid-depth		0.06	0.14	0.31							
	Bottom		0.05	0.16	0.37							
	All		0.04	0.16	1.20							

<b>Table 8</b> <b>Receiving Water, Pago Pago Harbor</b> <b>2002-2005 Results for Total Phosphorus (mg/l)</b> American Samoa Water Quality Standard = 0.03 mg/l (300 µg/l)													
Location	Station	Depth (ft)	Aug-02	Mar-03	Aug-03	Feb-04	Sep-04	Feb-05	Aug-05	Min	Avg	Max	
Diffuser	U	3	0.012	0.005	0.042	0.03	0.03	0.01	0.03	0.01	0.02	0.04	
		60	0.009	0.006	0.032	0.02	0.01	0.02	0.01	0.01	0.02	0.03	
		90-120	0.018	0.024	0.030	0.02	0.01	0.02	0.02	0.01	0.02	0.03	
	Min		0.009	0.005	0.030	0.02	0.01	0.01	0.01	0.01	0.02	0.04	
	Avg		0.013	0.012	0.035	0.02	0.02	0.02	0.02				
Max		0.018	0.024	0.042	0.03	0.03	0.02	0.03					
ZOM	A1	3	0.017	0.005	0.025	0.14	0.02	0.02		0.01	0.04	0.14	
		60	0.014	0.005	0.037	0.03	0.02	0.01	0.05	0.01	0.02	0.05	
		90-120	0.005	0.005	0.043	0.02	0.02	0.01	0.04	0.01	0.02	0.04	
	B1	3	0.015	0.005	0.043	0.03	0.01	0.02	0.02	0.01	0.02	0.04	
		60	0.005	0.005	0.017	0.02	0.01	0.01	0.03	0.01	0.01	0.03	
		120	0.005	0.016	0.031	0.03	0.02	0.01	0.02	0.01	0.02	0.03	
	Min		0.005	0.005	0.017	0.02	0.01	0.01	0.02	0.01	0.02	0.14	
	Avg		0.010	0.007	0.033	0.05	0.02	0.01	0.03				
Max		0.017	0.016	0.043	0.14	0.02	0.02	0.05					
Farfield	C	3	0.005	0.005	0.032	0.03	0.18	0.02	0.01	0.01	0.04	0.18	
		35	0.005	0.028	0.025	0.03	0.03	0.01	0.03	0.01	0.02	0.03	
		70-110	0.005	0.005	0.030	0.02	0.03	0.01	0.03	0.01	0.02	0.03	
	16	3	0.005	0.005	0.005	0.02	0.02	0.01	0.02	0.01	0.01	0.02	
		60	0.005	0.005	0.005	0.02	0.01	0.01	0.03	0.01	0.01	0.03	
		120	0.005	0.005	0.005	0.03	0.01	0.02	0.01	0.01	0.01	0.03	
	18	3	0.230	0.073	0.005	0.01	0.03	0.01	0.01	0.01	0.01	0.05	0.23
		60	0.180	0.005	0.005	0.03	0.01	0.01	0.01	0.01	0.04	0.18	
		120	0.056	0.005	0.005	0.02	0.01	0.01	0.01	0.01	0.02	0.06	
	Min		0.005	0.005	0.005	0.01	0.01	0.01	0.01	0.01	0.02	0.23	
	Avg		0.055	0.015	0.013	0.02	0.04	0.01	0.02				
Max		0.230	0.073	0.032	0.03	0.18	0.02	0.03					
Reference	5	3	0.005	0.005	0.032	0.03	0.01	0.02	0.01	0.01	0.02	0.03	
		60	0.071	0.005	0.022	0.03	0.02	0.02	0.02	0.01	0.03	0.07	
		120	0.021	0.005	0.020	0.02	0.02	0.02	0.01	0.01	0.02	0.02	
	Min		0.005	0.005	0.020	0.02	0.01	0.02	0.01	0.01	0.02	0.07	
	Avg		0.032	0.005	0.025	0.03	0.02	0.02	0.01				
Max		0.071	0.005	0.032	0.03	0.02	0.02	0.02					
All Stations	Depth (ft)		Min	Avg	Max	Comments:							
	Surface		0.005	0.029	0.230								
	Mid-depth		0.005	0.021	0.180								
	Bottom		0.005	0.018	0.056								
	All		0.005	0.022	0.230								

**Table 9**  
**Receiving Water, Pago Pago Harbor**  
**2002-2005 Results for Chlorophyll-a (mg/m3)**  
 American Samoa Water Quality Standard = 1.0 mg/m3

Location	Station	Depth (ft)	Aug-02	Mar-03	Aug-03	Feb-04	Sep-04	Feb-05	Aug-05	Min	Avg	Max
Diffuser	U	3	0.150	2.800	0.300	0.40	0.33	0.32	0.40	0.15	0.67	2.80
		60	0.550	1.500	0.700	0.27	0.53	0.30	0.80	0.27	0.66	1.50
		90-120	0.340	0.720	0.700	0.27	0.08	0.32	0.27	0.08	0.39	0.72
	Min		0.150	0.720	0.300	0.27	0.08	0.30	0.27	0.08	0.57	2.80
	Avg		0.347	1.673	0.567	0.31	0.31	0.31	0.49			
Max		0.550	2.800	0.700	0.40	0.53	0.32	0.80				
ZOM	A1	3	0.440	2.100	0.150	0.08	0.90	0.27	0.05	0.05	0.57	2.10
		60	0.560	1.200	0.300	0.40	0.53	0.03	0.27	0.03	0.47	1.20
		90-120	0.470	1.100	0.150	0.08	0.53	0.27	0.40	0.08	0.43	1.10
	B1	3	0.200	3.100	0.300	0.08	0.53	0.03	0.13	0.03	0.62	3.10
		60	0.350	0.940	0.830	0.08	0.27	0.14	0.13	0.08	0.39	0.94
		120	0.430	0.860	0.150	0.08	0.90	0.18	0.13	0.08	0.39	0.90
	Min		0.200	0.860	0.150	0.08	0.27	0.03	0.05	0.03	0.48	3.10
	Avg		0.408	1.550	0.313	0.13	0.61	0.15	0.19			
	Max		0.560	3.100	0.830	0.40	0.90	0.27	0.40			
Farfield	C	3	0.440	1.400	0.150	0.08	0.27	0.32	0.13	0.08	0.40	1.40
		35	0.560	0.820	0.150	0.08	0.08	0.50	0.13	0.08	0.33	0.82
		70-110	0.490	0.790	0.150	0.27	0.40	0.05	0.13	0.05	0.33	0.79
	16	3	0.340	0.910	0.440	0.08	0.27	0.03	0.13	0.03	0.31	0.91
		60	0.370	0.640	0.150	0.08	0.67	0.55	0.13	0.08	0.37	0.67
		120	0.360	0.740	0.150	0.50	0.53	0.14	0.27	0.14	0.38	0.74
	18	3	0.700	1.100	0.300	0.08	0.69	0.18	0.27	0.08	0.47	1.10
		60	0.460	0.490	0.150	0.08	0.08	0.40	0.27	0.08	0.28	0.49
		120	0.450	0.740	0.300	0.13	0.27	0.20	0.27	0.13	0.34	0.74
	Min		0.340	0.490	0.150	0.08	0.08	0.03	0.13	0.03	0.36	1.40
	Avg		0.463	0.848	0.216	0.15	0.36	0.26	0.19			
	Max		0.700	1.400	0.440	0.50	0.69	0.55	0.27			
Reference	5	3	0.360	0.780	0.430	0.08	0.13	0.32	0.13	0.08	0.32	0.78
		60	0.370	0.730	0.150	0.08	0.67	0.30	0.27	0.08	0.37	0.73
		120	0.150	0.740	0.170	0.08	1.10	0.40	0.13	0.08	0.40	1.10
	Min		0.150	0.730	0.150	0.08	0.13	0.30	0.13	0.08	0.36	1.10
	Avg		0.293	0.750	0.250	0.08	0.63	0.34	0.18			
Max		0.370	0.780	0.430	0.08	1.10	0.40	0.27				
All Stations	Depth (ft)		Min	Avg	Max	Comments:						
	Surface		0.025	0.481	3.100							
	Mid-depth		0.025	0.410	1.500							
	Bottom		0.045	0.378	1.100							
	All		0.025	0.423	3.100							

**Table 10**  
**Receiving Water, Pago Pago Harbor**  
**2002-2005 Results for Total Suspended Solids (TSS) (mg/l)**  
**(TSS is not a required monitoring parameter)**

Location	Station	Depth (ft)	Feb-05	Aug-05	Min	Avg	Max
Diffuser	U	3	1	NS	1	1	1
		60	1	NS	1	1	1
		90-120	1	NS	1	1	1
	Min		1	NS	1	1	1
	Avg		1	NS			
Max		1	NS				
ZOM	A1	3	1	NS	1	1	1
		60	1	NS	1	1	1
		90-120	1	NS	1	1	1
	B1	3	1	NS	1	1	1
		60	2	NS	2	2	2
		120	2	NS	2	2	2
	Min		1	NS	1	1	2
	Avg		1	NS			
	Max		2	NS			
	Farfield	C	3	2	NS	2	2
35			2	NS	2	2	2
70-110			5	NS	5	5	5
16		3	2	1	1	2	2
		60	2	2	2	2	2
		120	1	1	1	1	1
18		3	2	2	2	2	2
		60	11	2	2	7	11
		120	1	1	1	1	1
Min		1	1	1	2	11	
Avg		3	2				
Max		11	2				
Reference		5	3	2	1	1	2
	60		3	2	2	3	3
	120		2	2	2	2	2
	Min		2	1	1	2	3
	Avg		2	2			
Max		3	2				
All Stations	Depth (ft)		Min	Avg	Max		
	Surface		1	2	2		
	Mid-depth		1	3	11		
	Bottom		1	2	5		
	All		1	2	11		