



P.O. BX. 3010 AGANA GU. 96910

**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
1ST QUARTER 2016**

SAMPLE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
DATE	1/14/2016	1/14/2016	1/14/2016	1/14/2016	1/14/2016	1/14/2016	1/14/2016	1/14/2016	1/14/2016	1/14/2016	1/14/2016	1/14/2016	1/14/2016	01/14/16
LOCATION	A-1	A-2	A-3	A-4	A-5	A-6	A-7	A-8	A-9	A-10	A-11	A-12	A-13	A-14
TEMPERATURE (°C)	28.0	N/S	27.5	28.0	27.5	27.5	N/S	28.0	28.0	27.5	N/S	N/S	27.5	27.5
pH	7.36	N/S	7.32	7.11	7.23	7.17	N/S	7.59	7.28	7.22	N/S	N/S	7.16	7.01
TURBIDITY (NTU)	0.23	N/S	0.07	0.07	0.16	0.10	N/S	0.17	0.24	0.07	N/S	N/S	0.09	0.13
CONDUCTIVITY (μmho)	607	N/S	595	840	567	618	N/S	602	1390	1581	N/S	N/S	2150	1338
CALCIUM HARDNESS (mg/L CaCO ₃)	288.0	N/S	280.0	280.0	270.0	280.0	N/S	284.0	384.0	396.0	N/S	N/S	450.0	396.0
TOTAL HARDNESS (mg/L CaCO ₃)	232.0	N/S	288.0	292.0	276.0	286.0	N/S	296.0	420.0	410.0	N/S	N/S	496.0	404.0
CHLORIDES (Mg/l Cl ⁻)	27.0	N/S	40.0	91.5	27.0	53.0	N/S	64.0	235.9	292.4	N/S	N/S	431.8	215.4
TOTAL COLIFORM (cfu/100mL)	NEG	N/S	NEG	NEG	POS	POS	N/S	NEG	NEG	POS	N/S	N/S	POS	NEG
ECOLI (cfu/100mL)	NEG	N/S	NEG	NEG	NEG	POS	N/S	NEG	NEG	NEG	N/S	N/S	NEG	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	281	N/S	282	304	258	280	N/S	279	308	304	N/S	N/S	315	318

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER.

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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
1ST QUARTER 2016**

SAMPLE NO.	15	16	17	18	19	20	21	22	23	24	25	26	27	28
DATE	01/14/16	01/14/16	01/14/16	01/14/16	01/14/16	01/14/16	01/14/16	01/14/16	01/14/16	01/14/16	01/14/16	01/14/16	01/14/16	01/28/16
LOCATION	A-15	A-17	A-18	A-19	A-21	A-23	A-25	A-26	A-28	A-29	A-30	A-31	A-32	M-1
TEMPERATURE (OC)	28.0	28.0	27.5	28.0	27.5	28.0	28.0	N/S	N/S	N/S	27.5	27.5	28.0	N/S
pH	7.03	7.04	7.00	7.08	7.15	7.57	7.44	N/S	N/S	N/S	7.26	7.25	7.44	N/S
TURBIDITY (NTU)	0.08	0.08	0.08	0.08	0.07	0.10	0.11	N/S	N/S	N/S	0.07	0.11	0.09	N/S
CONDUCTIVITY (μmho)	983	1164	1493	1835	1558	583	556	N/S	N/S	N/S	599	609	572	N/S
CALCIUM HARDNESS (mg/L CaCO ₃)	284.0	248.0	396.0	380.0	310.0	264.0	252.0	N/S	N/S	N/S	270.0	270.0	250.0	N/S
TOTAL HARDNESS (mg/L CaCO ₃)	300.0	272.0	428.0	428.0	360.0	272.0	260.0	N/S	N/S	N/S	276.0	272.0	280.0	N/S
CHLORIDES (Mg/l Cl ⁻)	133.4	228.9	239.9	348.9	299.4	43.5	51.5	N/S	N/S	N/S	52.0	46.0	70.0	N/S
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	POS	POS	POS	N/S	N/S	N/S	NEG	POS	NEG	N/S
ECOLI (cfu/100mL)	NEG	N/S	N/S	N/S	NEG	NEG	NEG	N/S						
TOTAL ALKALINITY (mg/L CaCO ₃)	255	211	329	310	242	256	235	N/S	N/S	N/S	264	255	255	N/S

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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
1ST QUARTER 2016**

SAMPLE NO.	29	30	31	32	33	34	35	36	37	38	39	40	41	42
DATE	01/28/16	01/28/16	01/28/16	01/28/16	01/28/16	01/28/16	01/28/16	01/28/16	01/28/16	01/28/16	01/28/16	01/28/16	01/28/16	01/28/16
LOCATION	M-2	M-3	M-4	M-5	M-6	M-7	M-8	M-9	M-12	M-14	M-15	M-16	M-17A	M-17B
TEMPERATURE (0C)	27.5	27.5	27.5	27.0	N/S	27.0	27.0	27.5	N/S	N/S	27.5	N/S	N/S	N/S
pH	8.04	7.90	7.88	7.64	N/S	7.72	7.88	7.70	N/S	N/S	7.73	N/S	N/S	N/S
TURBIDITY (NTU)	0.12	0.18	0.08	0.08	N/S	0.07	0.11	0.14	N/S	N/S	0.08	N/S	N/S	N/S
CONDUCTIVITY (μmho)	659	501	464	586	N/S	568	441	1075	N/S	N/S	547	N/S	N/S	N/S
CALCIUM HARDNESS (mg/L CaCO ₃)	176.0	198.0	196.0	236.0	N/S	230.0	172.0	180.0	N/S	N/S	210.0	N/S	N/S	N/S
TOTAL HARDNESS (mg/L CaCO ₃)	232.0	200.0	220.0	252.0	N/S	248.0	212.0	264.0	N/S	N/S	250.0	N/S	N/S	N/S
CHLORIDES (Mg/l Cl ⁻)	77.0	49.5	49.5	60.5	N/S	74.5	39.5	206.4	N/S	N/S	53.0	N/S	N/S	N/S
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	N/S	NEG	POS	NEG	N/S	N/S	NEG	N/S	N/S	N/S
ECOLI (cfu/100mL)	NEG	NEG	NEG	NEG	N/S	NEG	NEG	NEG	N/S	N/S	NEG	N/S	N/S	N/S
TOTAL ALKALINITY (mg/L CaCO ₃)	180	182	174	212	N/S	199	170	178	N/S	N/S	193	N/S	N/S	N/S

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QUARTERLY CHEMICAL DEEPWELL ANALYSIS

1ST QUARTER 2016

SAMPLE NO.	43	44	45	46	47	48	49	50	51	52	53	54	55	56
DATE	01/28/16	01/28/16	01/28/16	01/28/16	01/28/16	02/04/16	02/04/16	02/04/16	02/04/16	02/04/16	02/04/16	02/04/16	02/04/16	02/04/16
LOCATION	M-18	M-20 A	M-21	M-23	EX-11	D-1	D-2	D-3	D-4	D-5	D-6	D-7	D-8	D-9
TEMPERATURE (0C)	27.5	27.0	27.5	27.5	27.5	27.0	N/S	N/S	27.0	N/S	27.0	N/S	27.0	27.0
pH	7.61	7.56	7.43	7.89	7.71	7.02	N/S	N/S	7.12	N/S	7.09	N/S	7.06	7.13
TURBIDITY (NTU)	0.08	0.10	0.09	0.07	0.11	0.08	N/S	N/S	0.08	N/S	0.11	N/S	0.24	0.42
CONDUCTIVITY (μmho)	591	671	778	463	621	690	N/S	N/S	602	N/S	646	N/S	1411	982
CALCIUM HARDNESS (mg/L CaCO ₃)	204.0	230.0	252.0	196.0	200.0	210.0	N/S	N/S	248.0	N/S	232.0	N/S	210.0	224.0
TOTAL HARDNESS (mg/L CaCO ₃)	224.0	256.0	276.0	216.0	256.0	256.0	N/S	N/S	260.0	N/S	264.0	N/S	292.0	292.0
CHLORIDES (Mg/l Cl ⁻)	74.0	68.5	88.0	47.5	67.5	96.5	N/S	N/S	82.0	N/S	73.0	N/S	316.9	172.4
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	NEG	NEG	N/S	N/S	NEG	N/S	NEG	N/S	NEG	POS
ECOLI (cfu/100mL)	NEG	NEG	NEG	NEG	NEG	NEG	N/S	N/S	NEG	N/S	NEG	N/S	NEG	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	187	205	213	205	205	215	N/S	N/S	217	N/S	216	N/S	169	216

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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
1ST QUARTER 2016**

SAMPLE NO.	57	58	59	60	61	62	63	64	65	66	67	68	69	70
DATE	02/04/16	02/04/16	02/04/16	02/04/16	02/04/16	02/04/16	02/04/16	02/04/16	02/04/16	02/04/16	02/04/16	02/04/16	02/04/16	02/04/16
LOCATION	D-10	D-11	D-12	D-13	D-14	D-15	D-16	D-17	D-18	D-19	D-20	D-21	D-22	D-24
TEMPERATURE (OC)	N/S	27.0	27.0	N/S	28.0	27.5	27.5	N/S	N/S	27.5	27.5	28.0	N/S	27.5
pH	N/S	7.21	7.33	N/S	7.23	7.85	7.74	N/S	N/S	7.76	7.67	7.66	N/S	7.74
TURBIDITY (NTU)	N/S	0.14	0.16	N/S	0.19	0.13	0.13	N/S	N/S	0.11	0.12	0.16	N/S	0.11
CONDUCTIVITY (μmho)	N/S	698	400	N/S	602	720	695	N/S	N/S	606	639	635	N/S	595
CALCIUM HARDNESS (mg/L CaCO ₃)	N/S	228.0	176.0	N/S	212.0	228.0	236.0	N/S	N/S	192.0	196.0	192.0	N/S	208.0
TOTAL HARDNESS (mg/L CaCO ₃)	N/S	270.0	200.0	N/S	232.0	264.0	256.0	N/S	N/S	224.0	236.0	230.0	N/S	248.0
CHLORIDES (Mg/l Cl ⁻)	N/S	100.5	56.5	N/S	76.0	102.5	87.5	N/S	N/S	98.5	88.0	94.5	N/S	76.0
TOTAL COLIFORM (cfu/100mL)	N/S	POS	NEG	N/S	NEG	NEG	NEG	N/S	N/S	NEG	NEG	POS	N/S	NEG
ECOLI (cfu/100mL)	N/S	POS	NEG	N/S	NEG	NEG	NEG	N/S	N/S	NEG	NEG	N/S	N/S	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	N/S	215	161	N/S	195	208	203	N/S	N/S	175	190	189	N/S	190

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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
1ST QUARTER 2016**

SAMPLE NO.	71	72	73	74	75	76	77	78	79	80	81	82	83	84
DATE	02/04/16	02/04/16	02/04/16	02/04/16	02/04/16	02/11/16	02/16/16	02/11/16	02/11/16	02/11/16	02/11/16	02/11/16	02/19/16	02/11/16
LOCATION	D-25	D-26	D-27	D-28	EX-5A	Y-1	Y-2	Y-3	Y-4A	Y-5	Y-6	Y-7	Y-9	Y-10
TEMPERATURE (°C)	28.0	27.5	28.0	27.5	27.0	28.0	28.0	27.5	28.0	27.0	27.5	28.0	27.5	28.5
pH	7.89	7.58	7.76	7.61	7.54	7.47	6.98	7.47	7.47	7.34	7.37	7.27	7.11	7.25
TURBIDITY (NTU)	0.10	0.19	0.10	0.11	0.12	0.17	0.09	0.21	0.11	0.07	0.07	0.10	0.10	0.08
CONDUCTIVITY (μmho)	411	750	420	594	600	535	557	516	571	723	524	594	585.0	609
CALCIUM HARDNESS (mg/L CaCO ₃)	164.0	204.0	188.0	196.0	220.0	200.0	214.0	214.0	226.0	224.0	224.0	256.0	252.0	214.0
TOTAL HARDNESS (mg/L CaCO ₃)	196.0	230.0	210.0	228.0	264.0	252.0	244.0	258.0	270.0	258.0	238.0	278.0	270.0	244.0
CHLORIDES (Mg/l Cl ⁻)	42.0	130.9	39.5	88.5	73.0	42.0	44.5	31.0	38.5	97.0	58.5	33.5	34.5	62.5
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	NEG	NEG	POS	NEG
ECOLI (cfu/100mL)	NEG	NEG	NEG	NEG	POS	NEG								
TOTAL ALKALINITY (mg/L CaCO ₃)	161	182	174	189	220	223	226	230	227	209	216	247	238	209

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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
1ST QUARTER 2016**

SAMPLE NO.	85	86	87	88	89	90	91	92	93	94	95	96	97	98
DATE	02/11/16	02/11/16	02/11/16	02/11/16	02/11/16	02/11/16	02/11/16	02/11/16	02/11/16	02/11/16	02/11/16	02/11/16	02/25/16	02/25/16
LOCATION	Y-12	Y-14	Y-15	Y-16	Y-17	Y-18	Y-19	Y-20	Y-21	Y-22	Y-23	GH-501	F-1	F-2
TEMPERATURE (°C)	27.0	27.0	27.5	28.0	27.0	28.0	28.0	27.0	28.0	28.0	27.0	28.0	28.0	N/S
pH	7.41	7.32	7.47	7.37	7.39	7.49	7.51	7.49	7.42	7.43	7.37	7.34	7.49	N/S
TURBIDITY (NTU)	0.06	0.09	0.06	0.08	0.07	0.09	0.08	0.07	0.06	0.07	0.07	0.07	0.07	N/S
CONDUCTIVITY (μmho)	691	699	388	592	497	484	605	512	642	480	514	774	701	N/S
CALCIUM HARDNESS (mg/L CaCO ₃)	226.0	218.0	166.0	228.0	230.0	196.0	238.0	198.0	236.0	224.0	234.0	222.0	200.0	N/S
TOTAL HARDNESS (mg/L CaCO ₃)	266.0	254.0	194.0	276.0	250.0	218.0	272.0	220.0	280.0	232.0	276.0	260.0	216.0	N/S
CHLORIDES (Mg/l Cl ⁻)	115.5	90.0	33.0	70.0	22.0	32.5	54.5	71.0	58.0	34.0	69.5	108.5	119.5	N/S
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	POS	NEG	NEG	NEG	NEG	POS	NEG	NEG	NEG	N/S
ECOLI (cfu/100mL)	NEG	N/S												
TOTAL ALKALINITY (mg/L CaCO ₃)	220	207	156	234	222	197	237	198	241	207	234	211	178	N/S

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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
1ST QUARTER 2016**

SAMPLE NO.	99	100	101	102	103	104	105	106	107	108	109	110	111	112
DATE	02/25/16	02/25/16	02/25/16	02/25/16	02/25/16	02/25/16	02/25/16	02/25/16	02/25/16	02/25/16	02/25/16	02/25/16	02/25/16	02/25/16
LOCATION	F-3	F-4	F-5	F-6	F-7	F-8	F-9	F-10	F-11	F-12	F-13	F-15	F-16	F-17
TEMPERATURE (OC)	27.0	N/S	27.0	28.0	28.0	27.0	27.5	27.0	27.0	27.5	27.0	27.5	28.0	27.5
pH	7.46	N/S	7.56	7.60	7.86	7.54	7.74	7.61	7.75	7.83	6.97	7.77	7.74	7.69
TURBIDITY (NTU)	0.27	N/S	0.09	0.08	0.08	0.08	0.09	0.09	0.11	0.07	0.09	0.09	0.06	0.09
CONDUCTIVITY (μmho)	720	N/S	688	1161	684	498	569	1044	729	472	897.0	521	464	444
CALCIUM HARDNESS (mg/L CaCO ₃)	200.0	N/S	208.0	208.0	204.0	204.0	200.0	204.0	212.0	220.0	186.0	216.0	196.0	212.0
TOTAL HARDNESS (mg/L CaCO ₃)	230.0	N/S	236.0	272.0	232.0	210.0	236.0	276.0	236.0	224.0	218.0	228.0	228.0	220.0
CHLORIDES (Mg/l Cl ⁻)	126.9	N/S	95.0	218.4	117.5	40.0	74.0	220.4	107.5	31.0	153.4	54.0	26.0	19.5
TOTAL COLIFORM (cfu/100mL)	NEG	N/S	POS	NEG	POS	NEG								
ECOLI (cfu/100mL)	NEG	N/S	NEG											
TOTAL ALKALINITY (mg/L CaCO ₃)	188	N/S	186	186	173	189	188	187	185	193	183	188	192	186

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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
1ST QUARTER 2016**

SAMPLE NO.	113	114	115	116	117	118	119	120	121	122	123	124	125	126
DATE	02/25/16	02/25/16	02/25/16	02/16/16	02/25/16	02/25/16	01/28/16	03/01/16	03/01/16	03/01/16	03/01/16	03/01/16	03/01/16	01/14/16
LOCATION	F-18	F-19	F-20	AG-1	AG-2A	HGC-2	H-1	MJ-1	MJ-5	ASAN	SRSP	FENA	UGUM	NAS-1
TEMPERATURE (°C)	27.5	28.0	27.0	27.0	27.0	27.0	27.5	N/S	N/S	N/S	26.5	26.5	28.0	27.5
pH	7.63	7.71	7.71	6.90	7.69	7.99	7.42	N/S	N/S	N/S	7.34	7.61	7.42	7.10
TURBIDITY (NTU)	0.06	0.09	0.09	0.28	0.05	0.07	0.08	N/S	N/S	N/S	0.13	0.14	0.30	0.07
CONDUCTIVITY (μmho)	447	1227	1164	516	453	443	1050	N/S	N/S	N/S	407	290	163	775
CALCIUM HARDNESS (mg/L CaCO ₃)	204.0	204.0	210.0	196.0	196.0	196.0	250.0	N/S	N/S	N/S	190.0	104.0	20.0	268.0
TOTAL HARDNESS (mg/L CaCO ₃)	212.0	276.0	276.0	206.0	216.0	212.0	292.0	N/S	N/S	N/S	196.0	112.0	58.0	270.0
CHLORIDES (Mg/L Cl ⁻)	20.0	240.9	230.4	55.0	30.0	52.0	185.4	N/S	N/S	N/S	23.5	29.0	31.0	94.0
TOTAL COLIFORM (cfu/100mL)	POS	NEG	NEG	NEG	NEG	NEG	NEG	N/S	N/S	N/S	POS	NEG	NEG	NEG
ECOLI (cfu/100mL)	NEG	N/S	N/S	N/S	NEG	NEG	NEG	NEG						
TOTAL ALKALINITY (mg/L CaCO ₃)	184	186	191	200	185	189	209	N/S	N/S	N/S	187	100	53	228

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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
1ST QUARTER 2016**

SAMPLE NO.	127	128	129																	
DATE	03/08/16	03/08/16	03/08/16																	
LOCATION	GIAA-1	GIAA-2	GIAA-3																	
TEMPERATURE (OC)	28.0	28.0	N/S																	
pH	7.81	7.78	N/S																	
TURBIDITY (NTU)	0.29	0.06	N/S																	
CONDUCTIVITY (μmho)	600	530	N/S																	
CALCIUM HARDNESS (mg/L CaCO ₃)	198.0	202.0	N/S																	
TOTAL HARDNESS (mg/L CaCO ₃)	234.0	212.0	N/S																	
CHLORIDES (Mg/l Cl ⁻)	71.0	54.5	N/S																	
TOTAL COLIFORM (cfu/100mL)	POS	NEG	N/S																	
ECOLI (cfu/100mL)	NEG	NEG	N/S																	
TOTAL ALKALINITY (mg/L CaCO ₃)	192	194	N/S																	

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER.

CERTIFIED BY: _____



P.O. BX. 3010 AGANA GU. 96910

QUARTERLY CHEMICAL DEEPWELL ANALYSIS

2ND QUARTER 2016

SAMPLE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
DATE	04/07/16	04/07/16	04/07/16	04/07/16	04/07/16	04/07/16	04/07/16	04/07/16	04/07/16	04/07/16	04/07/16	06/17/16	04/07/16	04/07/16
LOCATION	A-1	A-2	A-3	A-4	A-5	A-6	A-7	A-8	A-9	A-10	A-11	A-12	A-13	A-14
TEMPERATURE (0C)	27.5	N/S	27.0	28.0	27.5	27.5	N/S	27.5	28.0	28.0	N/S	29.0	28.0	27.0
pH	7.93	N/S	7.80	7.48	7.55	7.38	N/S	7.46	7.07	7.09	N/S	7.28	7.07	7.29
TURBIDITY (NTU)	0.17	N/S	0.19	0.16	0.09	0.07	N/S	0.27	0.12	0.08	N/S	0.23	0.17	0.12
CONDUCTIVITY (μmho)	801	N/S	638	859	573	629	N/S	605	1458	1787	N/S	641	2230	1385
CALCIUM HARDNESS (mg/L CaCO ₃)	230.0	N/S	240.0	318.0	272.0	274.0	N/S	278.0	350.0	408.0	N/S	280.0	346.0	310.0
TOTAL HARDNESS (mg/L CaCO ₃)	294.0	N/S	246.0	322.0	274.0	292.0	N/S	288.0	380.0	440.0	N/S	286.0	502.0	404.0
CHLORIDES (Mg/l Cl ⁻)	31.5	N/S	36.0	108.5	30.5	38.0	N/S	42.0	303.9	357.4	N/S	20.5	478.8	232.4
TOTAL COLIFORM (PRESENCE/ABSENCE)	NEG	N/S	NEG	NEG	NEG	POS	N/S	NEG	NEG	NEG	N/S	NEG	NEG	NEG
E COLI (PRESENCE/ABSENCE)	NEG	N/S	NEG	NEG	NEG	NEG	N/S	NEG	NEG	NEG	N/S	NEG	NEG	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	279	N/S	280	298	267	286	N/S	280	316	305	N/S	296	318	317

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER.

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P.O. BX. 3010 AGANA GU. 96910

QUARTERLY CHEMICAL DEEPWELL ANALYSIS

2ND QUARTER 2016

SAMPLE NO.	15	16	17	18	19	20	21	22	23	24	25	26	27	28
DATE	04/07/16	04/07/16	04/07/16	04/07/16	04/07/16	04/07/16	04/07/16	04/07/16	04/07/16	04/07/16	04/07/16	04/07/16	04/07/16	06/09/16
LOCATION	A-15	A-17	A-18	A-19	A-21	A-23	A-25	A-26	A-28	A-29	A-30	A-31	A-32	M-1
TEMPERATURE (0C)	28.0	28.0	28.0	28.0	28.0	28.0	27.5	N/S	N/S	N/S	27.5	28.0	27.5	27.5
pH	7.25	7.38	7.24	7.16	7.25	7.61	7.58	N/S	N/S	N/S	7.49	7.37	7.45	7.81
TURBIDITY (NTU)	0.29	0.19	0.13	0.18	0.09	0.18	0.14	N/S	N/S	N/S	0.24	0.14	0.14	0.31
CONDUCTIVITY (μmho)	1034	1244	1578	1937	1624	641	605	N/S	N/S	N/S	683	615	570	941.0
CALCIUM HARDNESS (mg/L CaCO ₃)	226.0	264.0	412.0	310.0	268.0	244.0	260.0	N/S	N/S	N/S	278.0	248.0	244.0	200.0
TOTAL HARDNESS (mg/L CaCO ₃)	328.0	286.0	472.0	430.0	392.0	304.0	266.0	N/S	N/S	N/S	296.0	280.0	260.0	250.0
CHLORIDES (Mg/l Cl ⁻)	181.4	249.4	283.9	394.3	333.4	49.5	63.0	N/S	N/S	N/S	52.5	45.0	56.5	154.4
TOTAL COLIFORM (PRESENCE/ABSENCE)	NEG	POS	POS	NEG	POS	POS	POS	N/S	N/S	N/S	NEG	POS	NEG	POS
E. COLI (PRESENCE/ABSENCE)	NEG	N/S	N/S	N/S	NEG	NEG	NEG	NEG						
TOTAL ALKALINITY (mg/L CaCO ₃)	258	210	319	311	255	256	240	N/S	N/S	N/S	271	259	256	196.0

REMARKS:

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WASTEWATER.

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P.O. BX. 3010 AGANA GU. 96910

QUARTERLY CHEMICAL DEEPWELL ANALYSIS

2ND QUARTER 2016

SAMPLE NO.	29	30	31	32	33	34	35	36	37	38	39	40	41	42
DATE	04/21/16	04/21/16	04/21/16	04/21/16	04/21/16	04/21/16	04/21/16	04/21/16	04/21/16	04/21/16	04/21/16	04/21/16	04/21/16	04/21/16
LOCATION	M-2	M-3	M-4	M-5	M-6	M-7	M-8	M-9	M-12	M-14	M-15	M-16	M-17A	M-17B
TEMPERATURE (0C)	27.5	27.5	27.5	27.0	N/S	27.0	27.0	27.5	N/S	N/S	27.0	N/S	N/S	27.0
pH	7.66	7.46	7.37	7.80	N/S	7.55	7.44	7.44	N/S	N/S	7.63	N/S	N/S	7.47
TURBIDITY (NTU)	0.14	0.07	0.06	0.06	N/S	0.07	0.15	0.09	N/S	N/S	0.08	N/S	N/S	0.15
CONDUCTIVITY (μmho)	669	501	480	534	N/S	575	443	1086	N/S	N/S	590	N/S	N/S	639
CALCIUM HARDNESS (mg/L CaCO ₃)	134.0	112.0	144.0	174.0	N/S	174.0	124.0	136.0	N/S	N/S	174.0	N/S	N/S	178.0
TOTAL HARDNESS (mg/L CaCO ₃)	202.0	218.0	188.0	218.0	N/S	220.0	184.0	240.0	N/S	N/S	222.0	N/S	N/S	242.0
CHLORIDES (Mg/l Cl ⁻)	86.5	42.5	41.0	49.5	N/S	58.5	40.5	218.4	N/S	N/S	85.0	N/S	N/S	60.0
TOTAL COLIFORM (PRESENCE/ABSENCE)	POS	NEG	NEG	NEG	N/S	NEG	NEG	POS	N/S	N/S	NEG	N/S	N/S	NEG
E COLI (PRESENCE/ABSENCE)	NEG	NEG	NEG	NEG	N/S	NEG	NEG	NEG	N/S	N/S	NEG	N/S	N/S	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	201	184	182	192	N/S	200	171	174	N/S	N/S	214	N/S	N/S	226

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER.

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P.O. BX. 3010 AGANA GU. 96910

QUARTERLY CHEMICAL DEEPWELL ANALYSIS

2ND QUARTER 2016

SAMPLE NO.	43	44	45	46	47	48	49	50	51	52	53	54	55	56
DATE	04/21/16	04/21/16	04/21/16	04/21/16	04/21/16	04/27/16	04/27/16	04/27/16	04/27/16	04/27/16	04/27/16	04/27/16	04/27/16	04/27/16
LOCATION	M-18	M-20 A	M-21	M-23	EX-11	D-1	D-2	D-3	D-4	D-5	D-6	D-7	D-8	D-9
TEMPERATURE (0C)	28.0	27.0	28.0	27.0	27.5	28.0	28.0	N/S	28.0	N/S	27.0	27.0	28.0	28.0
pH	7.44	7.46	7.31	7.40	7.34	7.38	7.32	N/S	7.28	N/S	7.10	7.27	7.19	7.27
TURBIDITY (NTU)	0.13	0.12	0.07	0.05	0.08	0.06	0.15	N/S	0.08	N/S	0.09	0.22	0.07	0.16
CONDUCTIVITY (μmho)	634	647	763	464	617	689	688	N/S	616	N/S	657	635	1083	975
CALCIUM HARDNESS (mg/L CaCO ₃)	178.0	224.0	212.0	164.0	166.0	186.0	186.0	N/S	196.0	N/S	206.0	198.0	184.0	206.0
TOTAL HARDNESS (mg/L CaCO ₃)	214.0	236.0	256.0	188.0	220.0	232.0	230.0	N/S	226.0	N/S	236.0	218.0	226.0	250.0
CHLORIDES (Mg/l Cl ⁻)	78.0	68.0	98.0	41.5	63.5	84.5	78.0	N/S	58.0	N/S	98.0	80.0	210.9	164.4
TOTAL COLIFORM (PRESENCE/ABSENCE)	NEG	N/S	NEG	N/S	NEG	NEG	NEG	NEG						
E. COLI (PRESENCE/ABSENCE)	NEG	N/S	NEG	N/S	NEG	NEG	NEG	NEG						
TOTAL ALKALINITY (mg/L CaCO ₃)	198	213	221	176	199	216	211	N/S	216	N/S	216	198	169	218

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER.

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QUARTERLY CHEMICAL DEEPWELL ANALYSIS

2ND QUARTER 2016

SAMPLE NO.	57	58	59	60	61	62	63	64	65	66	67	68	69	70
DATE	04/27/16	04/27/16	04/27/16	04/27/16	04/27/16	04/27/16	04/27/16	04/27/16	04/27/16	04/27/16	04/27/16	04/27/16	04/27/16	04/27/16
LOCATION	D-10	D-11	D-12	D-13	D-14	D-15	D-16	D-17	D-18	D-19	D-20	D-21	D-22	D-24
TEMPERATURE (°C)	N/S	28.0	27.0	N/S	27.0	28.0	28.0	N/S	N/S	27.0	27.0	27.5	N/S	27.5
pH	N/S	7.19	7.68	N/S	7.24	7.48	7.48	N/S	N/S	7.46	7.53	7.47	N/S	7.64
TURBIDITY (NTU)	N/S	0.07	0.06	N/S	0.10	0.06	0.07	N/S	N/S	0.08	0.08	0.10	N/S	0.07
CONDUCTIVITY (μmho)	N/S	769	406	N/S	625	717	686	N/S	N/S	614	628	628	N/S	591
CALCIUM HARDNESS (mg/L CaCO ₃)	N/S	206.0	160.0	N/S	186.0	210.0	192.0	N/S	N/S	192.0	182.0	184.0	N/S	196.0
TOTAL HARDNESS (mg/L CaCO ₃)	N/S	240.0	162.0	N/S	210.0	226.0	224.0	N/S	N/S	210.0	210.0	212.0	N/S	210.0
CHLORIDES (Mg/L Cl ⁻)	N/S	106.0	34.0	N/S	78.5	98.0	96.5	N/S	N/S	88.5	99.0	86.0	N/S	82.5
TOTAL COLIFORM (PRESENCE/ABSENCE)	N/S	POS	NEG	N/S	NEG	NEG	NEG	N/S	N/S	NEG	NEG	POS	N/S	POS
E. COLI (PRESENCE/ABSENCE)	N/S	NEG	NEG	N/S	NEG	NEG	NEG	N/S	N/S	NEG	NEG	NEG	N/S	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	N/S	213	159	N/S	194	208	201	N/S	N/S	167	186	185	N/S	189

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER.

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P.O. BX. 3010 AGANA GU. 96910

QUARTERLY CHEMICAL DEEPWELL ANALYSIS

2ND QUARTER 2016

SAMPLE NO.	71	72	73	74	75	76	77	78	79	80	81	82	83	84
DATE	04/27/16	04/27/16	04/27/16	04/27/16	04/27/16	04/29/16	06/23/16	04/28/16	04/28/16	04/28/16	04/28/16	04/28/16	04/28/16	04/29/16
LOCATION	D-25	D-26	D-27	D-28	EX-5A	Y-1	Y-2	Y-3	Y-4A	Y-5	Y-6	Y-7	Y-8	Y-10
TEMPERATURE (0C)	27.0	27.5	27.5	27.0	28.0	27.5	28.0	28.0	27.5	27.0	28.0	28.0	28.0	27.5
pH	7.70	7.45	7.59	7.40	7.28	7.58	7.34	7.47	7.64	7.42	7.45	7.38	7.34	7.20
TURBIDITY (NTU)	0.06	0.34	0.06	0.07	0.06	0.10	0.10	0.23	0.08	0.10	0.18	0.10	0.07	0.08
CONDUCTIVITY (μmho)	409	671	420	586	612	528	552	524	564	688	518	585	582	608
CALCIUM HARDNESS (mg/L CaCO ₃)	154.0	176.0	166.0	188.0	196.0	206	182.0	214.0	198.0	198.0	200.0	240.0	228.0	200.0
TOTAL HARDNESS (mg/L CaCO ₃)	178.0	194.0	178.0	190.0	230.0	242.0	228.0	236.0	260.0	236.0	264.0	264.0	260.0	222.0
CHLORIDES (Mg/l Cl ⁻)	49.0	100.0	44.0	76.0	80.0	47.5	23.0	46.5	55.5	97.0	60.5	43.5	44.5	89.0
TOTAL COLIFORM (PRESENCE/ABSENCE)	NEG	POS	NEG	NEG	NEG									
E. COLI (PRESENCE/ABSENCE)	NEG													
TOTAL ALKALINITY (mg/L CaCO ₃)	159	173	169	184	215	218	219	230	226	207	214	247	244	208

REMARKS:

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P.O. BX. 3010 AGANA GU. 96910

QUARTERLY CHEMICAL DEEPWELL ANALYSIS

2ND QUARTER 2016

SAMPLE NO.	85	86	87	88	89	90	91	92	93	94	95	96	97	98
DATE	04/29/16	04/28/16	04/28/16	04/29/16	04/28/16	05/12/16	04/28/16	04/28/16	04/28/16	04/28/16	04/28/16	05/12/16	05/05/16	05/05/16
LOCATION	Y-12	Y-14	Y-15	Y-16	Y-17	Y-18	Y-19	Y-20	Y-21	Y-22	Y-23	GH-501	F-1	F-2
TEMPERATURE (°C)	27.0	27.5	27.0	27.5	27.0	27.0	27.5	27.0	27.5	27.5	27.0	27.5	27.5	N/S
pH	7.10	7.44	7.48	7.14	7.43	7.02	7.12	7.15	7.10	7.13	7.37	7.03	7.24	N/S
TURBIDITY (NTU)	0.07	0.08	0.10	0.10	0.09	0.07	0.07	0.07	0.07	0.08	0.10	0.10	0.12	N/S
CONDUCTIVITY (µmho)	687.0	655.0	388	583	492	482	597	504	627	477	516	755	692	N/S
CALCIUM HARDNESS (mg/L CaCO ₃)	208.0	196.0	156.0	232.0	210.0	190.0	224.0	188.0	220.0	200.0	226.0	208.0	180.0	N/S
TOTAL HARDNESS (mg/L CaCO ₃)	234.0	230.0	168.0	234.0	238.0	208.0	244.0	204.0	254.0	208.0	244.0	244.0	216.0	N/S
CHLORIDES (Mg/l Cl ⁻)	99.5	94.0	55.5	53.0	43.5	48.0	65.0	52.0	66.5	39.0	34.5	100.5	95.0	N/S
TOTAL COLIFORM (PRESENCE/ABSENCE)	NEG	POS	N/S											
E. COLI (PRESENCE/ABSENCE)	NEG	N/S												
TOTAL ALKALINITY (mg/L CaCO ₃)	219	209	155	235	215	191	233	195	239	204	231	211	175	N/S

REMARKS:

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P.O. BX. 3010 AGANA GU. 96910

QUARTERLY CHEMICAL DEEPWELL ANALYSIS

2ND QUARTER 2016

SAMPLE NO.	99	100	101	102	103	104	105	106	107	108	109	110	111	112
DATE	05/05/16	05/05/16	05/05/16	05/05/16	05/05/16	05/05/16	05/05/16	05/05/16	05/05/16	05/05/16	05/05/16	05/05/16	05/05/16	05/05/16
LOCATION	F-3	F-4	F-5	F-6	F-7	F-8	F-9	F-10	F-11	F-12	F-13	F-15	F-16	F-17
TEMPERATURE (°C)	27.5	N/S	28.0	28.0	28.0	28.0	28.0	27.0	27.0	27.5	27.0	27.0	27.0	27.0
pH	7.25	N/S	7.24	7.22	7.24	7.26	7.19	7.35	7.52	7.55	7.66	7.59	7.58	7.62
TURBIDITY (NTU)	0.40	N/S	0.07	0.06	0.07	0.07	0.06	0.25	0.10	0.11	0.07	0.20	0.10	0.10
CONDUCTIVITY (µmho)	669	N/S	671	1117	679	496	564	991	699	471	976	500	459	442
CALCIUM HARDNESS (mg/L CaCO ₃)	184.0	N/S	196.0	204.0	184.0	192.0	196.0	200.0	200.0	196.0	212.0	188.0	196.0	188.0
TOTAL HARDNESS (mg/L CaCO ₃)	236.0	N/S	232.0	272.0	216.0	204.0	216.0	244.0	224.0	204.0	260.0	212.0	220.0	212.0
CHLORIDES (Mg/l Cl ⁻)	92.5	N/S	81.0	205.9	99.0	40.0	64.5	184.9	98.5	27.0	166.9	48.5	37.5	36.5
TOTAL COLIFORM (PRESENCE/ABSENCE)	NEG	N/S	NEG	NEG	POS	NEG	POS	NEG						
E. COLI (PRESENCE/ABSENCE)	NEG	N/S	NEG											
TOTAL ALKALINITY (mg/L CaCO ₃)	182	N/S	184	183	171	188	178	183	185	190	184	184	191	186

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER.

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P.O. BX. 3010 AGANA GU. 96910

QUARTERLY CHEMICAL DEEPWELL ANALYSIS

2ND QUARTER 2016

SAMPLE NO.	113	114	115	116	117	118	119	120	121	122	123	124	125	126
DATE	05/05/16	05/05/16	05/05/16	05/05/16	05/05/16	05/05/16	04/21/16	05/12/16	05/12/16	05/12/16	05/12/16	05/12/16	05/12/16	04/07/16
LOCATION	F-18	F-19	F-20	AG-1	AG-2A	HGC-2	H-1	MJ-1	MJ-5	ASAN	SRSP	FENA	UGUM	NAS-1
TEMPERATURE (0C)	27.0	28.0	28.0	N/S	27.0	27.5	27.0	N/S	N/S	N/S	27.0	29.0	29.5	28.0
pH	7.45	7.46	7.43	N/S	7.14	7.62	7.30	N/S	N/S	N/S	7.19	7.34	7.57	7.31
TURBIDITY (NTU)	0.08	0.08	0.08	N/S	0.06	0.09	0.08	N/S	N/S	N/S	0.07	0.16	0.07	0.08
CONDUCTIVITY (μmho)	445	1144	1098	N/S	448	440	1055	N/S	N/S	N/S	406	288	166	748
CALCIUM HARDNESS (mg/L CaCO ₃)	184.0	224.0	232.0	N/S	204.0	180.0	224.0	N/S	N/S	N/S	172.0	80.0	24.0	238.0
TOTAL HARDNESS (mg/L CaCO ₃)	216.0	260.0	260.0	N/S	208.0	204.0	260.0	N/S	N/S	N/S	192.0	100.0	56.0	278.0
CHLORIDES (Mg/l Cl ⁻)	44.5	210.9	221.9	N/S	43.5	44.0	197.4	N/S	N/S	N/S	35.0	41.5	40.0	86.5
TOTAL COLIFORM (PRESENCE/ABSENCE)	NEG	POS	NEG	N/S	NEG	NEG	POS	N/S	N/S	N/S	POS	NEG	NEG	NEG
E COLI (PRESENCE/ABSENCE)	NEG	NEG	NEG	N/S	NEG	NEG	NEG	N/S	N/S	N/S	POS	NEG	NEG	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	184	183	189	N/S	182	188	210	N/S	N/S	N/S	183	89	58	234

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER.

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P.O. BX. 3010 AGANA GU. 96910

QUARTERLY CHEMICAL DEEPWELL ANALYSIS

2ND QUARTER 2016

SAMPLE NO.	127	128	129									
DATE	06/07/16	06/07/16	06/07/16									
LOCATION	GIAA-1	GIAA-2	GIAA-3									
TEMPERATURE (0C)	28.0	28.0	N/S									
pH	7.68	7.45	N/S									
TURBIDITY (NTU)	0.24	0.15	N/S									
CONDUCTIVITY (μmho)	669	553.0	N/S									
CALCIUM HARDNESS (mg/L CaCO ₃)	206.0	200.0	N/S									
TOTAL HARDNESS (mg/L CaCO ₃)	228.0	218.0	N/S									
CHLORIDES (Mg/l Cl ⁻)	101.5	77.0	N/S									
TOTAL COLIFORM (PRESENCE/ABSENCE)	NEG	NEG	N/S									
E. COLI (PRESENCE/ABSENCE)	NEG	NEG	N/S									
TOTAL ALKALINITY (mg/L CaCO ₃)	193	190	N/S									

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER.

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GUAM WATERWORKS AUTHORITY

P.O. BX. 3010 AGANA GU. 96910

**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
3RD QUARTER 2016**

SAMPLE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
DATE	07/07/16	07/07/16	07/07/16	07/07/16	07/13/16	07/07/16	07/07/16	07/07/16	07/07/16	07/07/16	07/07/16	07/13/16	07/07/16	07/07/16
LOCATION	A-1	A-2	A-3	A-4	A-5	A-6	A-7	A-8	A-9	A-10	A-11	A-12	A-13	A-14
TEMPERATURE (0C)	28.0	N/S	28.0	28.0	28.0	28.0	N/S	28.0	28.0	28.0	N/S	28.0	28.0	28.0
pH	6.97	N/S	7.03	6.76	7.06	6.95	N/S	7.31	6.90	6.90	N/S	7.15	6.85	7.00
TURBIDITY (NTU)	0.18	N/S	0.22	0.10	0.20	0.11	N/S	0.22	0.08	0.08	N/S	0.10	0.15	0.49
CONDUCTIVITY (μmho)	593	N/S	581	873	574	637	N/S	599	1424	1938	N/S	1083	2230	1420
CALCIUM HARDNESS (mg/L CaCO ₃)	278.0	N/S	274.0	306.0	260.0	296.0	N/S	294.0	340.0	368.0	N/S	270.0	420.0	360.0
TOTAL HARDNESS (mg/L CaCO ₃)	296.0	N/S	294.0	320.0	280.0	300.0	N/S	312.0	450.0	476.0	N/S	316.0	498.0	436.0
CHLORIDES (Mg/l Cl ⁻)	36.0	N/S	40.5	109.5	40.0	63.5	N/S	62.0	237.4	383.8	N/S	193.9	443.8	237.4
TOTAL COLIFORM (cfu/100mL)	POS	N/S	NEG	POS	POS	POS	N/S	NEG	POS	POS	N/S	NEG	NEG	NEG
FECAL COLIFORM (cfu/100mL)	NEG	N/S	NEG	POS	NEG	NEG	N/S	NEG	NEG	NEG	N/S	NEG	NEG	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	280	N/S	278	300	268	288	N/S	278	312	306	N/S	262	320	322

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER.

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P.O. BX. 3010 AGANA GU. 96910

QUARTERLY CHEMICAL DEEPWELL ANALYSIS
3RD QUARTER 2016

SAMPLE NO.	15	16	17	18	19	20	21	22	23	24	25	26	27	28
DATE	07/07/16	07/07/16	07/07/16	07/07/16	07/07/16	07/07/16	07/07/16	07/07/16	07/07/16	07/07/16	07/12/16	07/07/16	07/07/16	07/13/16
LOCATION	A-15	A-17	A-18	A-19	A-21	A-23	A-25	A-26	A-28	A-29	A-30	A-31	A-32	M-1
TEMPERATURE (OC)	28.0	28.0	28.0	29.0	28.0	29.0	28.0	N/S	N/S	28.0	27.5	28.0	28.0	28.0
pH	7.06	7.13	7.10	6.97	7.05	7.35	7.32	N/S	N/S	7.36	7.07	7.31	7.33	7.43
TURBIDITY (NTU)	0.15	0.11	0.09	0.08	0.10	0.10	0.16	N/S	N/S	0.22	0.12	0.13	0.50	0.34
CONDUCTIVITY (μmho)	1081	1322	1674	2140	1705	747	700	N/S	N/S	660	1013	610	564	1060
CALCIUM HARDNESS (mg/L CaCO ₃)	288.0	230.0	408.0	400.0	310.0	280.0	272.0	N/S	N/S	288.0	284.0	268.0	262.0	156.0
TOTAL HARDNESS (mg/L CaCO ₃)	304.0	304.0	416.0	474.0	398.0	314.0	288.0	N/S	N/S	314.0	326.0	280.0	278.0	290.0
CHLORIDES (Mg/l Cl ⁻)	154.9	238.9	309.9	470.8	377.8	90.5	77.5	N/S	N/S	74.5	137.4	59.0	32.5	184.9
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	NEG	POS	POS	N/S	N/S	NEG	NEG	POS	NEG	NEG
FECAL COLIFORM (cfu/100mL)	NEG	N/S	N/S	NEG	NEG	POS	NEG	NEG						
TOTAL ALKALINITY (mg/L CaCO ₃)	264	218	326	314	254	248	234	N/S	N/S	272	280	256	255	161

REMARKS:

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WASTEWATER.

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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
3RD QUARTER 2016**

SAMPLE NO.	29	30	31	32	33	34	35	36	37	38	39	40	41	42
DATE	07/13/16	07/13/16	07/13/16	07/13/16	07/13/16	07/13/16	07/13/16	07/13/16	07/13/16	07/13/16	07/13/16	07/13/16	07/13/16	07/13/16
LOCATION	M-2	M-3	M-4	M-5	M-6	M-7	M-8	M-9	M-12	M-14	M-15	M-16	M-17A	M-17B
TEMPERATURE (0C)	28.0	28.0	N/S	27.5	N/S	27.0	28.0	28.0	N/S	N/S	27.5	N/S	N/S	28.0
pH	7.32	7.41	N/S	7.10	N/S	7.11	7.25	7.14	N/S	N/S	7.17	N/S	N/S	7.20
TURBIDITY (NTU)	0.25	0.13	N/S	0.14	N/S	0.08	0.08	0.11	N/S	N/S	0.08	N/S	N/S	0.10
CONDUCTIVITY (μmho)	657	498	N/S	587	N/S	572	451	1088	N/S	N/S	518	N/S	N/S	612
CALCIUM HARDNESS (mg/L CaCO ₃)	176.0	170.0	N/S	208.0	N/S	216.0	152.0	176.0	N/S	N/S	210.0	N/S	N/S	232.0
TOTAL HARDNESS (mg/L CaCO ₃)	230.0	236.0	N/S	248.0	N/S	244.0	204.0	268.0	N/S	N/S	248.0	N/S	N/S	252.0
CHLORIDES (Mg/l Cl ⁻)	113.5	46.5	N/S	81.5	N/S	68.0	47.0	233.4	N/S	N/S	74.0	N/S	N/S	61.5
TOTAL COLIFORM (cfu/100mL)	POS	NEG	N/S	NEG	N/S	NEG	NEG	NEG	N/S	N/S	NEG	N/S	N/S	POS
FECAL COLIFORM (cfu/100mL)	NEG	NEG	N/S	NEG	N/S	NEG	NEG	NEG	N/S	N/S	NEG	N/S	N/S	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	195	194	N/S	214	N/S	205	180	182	N/S	N/S	200	N/S	N/S	227

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER.

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P.O. BX. 3010 AGANA GU. 96910

QUARTERLY CHEMICAL DEEPWELL ANALYSIS

3RD QUARTER 2016

SAMPLE NO.	43	44	45	46	47	48	49	50	51	52	53	54	55	56
DATE	07/13/16	07/13/16	07/13/16	07/13/16	07/13/16	07/28/16	08/03/16	07/28/16	07/28/16	07/28/16	07/28/16	07/28/16	07/28/16	07/28/16
LOCATION	M-18	M-20 A	M-21	M-23	EX-11	D-1	D-2	D-3	D-4	D-5	D-6	D-7	D-8	D-9
TEMPERATURE (OC)	27.5	27.0	27.5	27.0	28.0	27.0	27.0	N/S	27.0	N/S	27.0	27.0	27.0	27.0
pH	7.18	7.12	7.06	7.20	7.20	7.70	7.32	N/S	7.52	N/S	7.42	7.41	7.21	7.31
TURBIDITY (NTU)	0.08	0.64	0.11	0.08	0.07	0.07	0.19	N/S	0.13	N/S	0.08	0.10	0.07	0.06
CONDUCTIVITY (μmho)	624	634	755	463	590	682	632	N/S	609	N/S	650	610	1111	931
CALCIUM HARDNESS (mg/L CaCO ₃)	212.0	216.0	230.0	188.0	176.0	196.0	210.0	N/S	186.0	N/S	232.0	228.0	200.0	236.0
TOTAL HARDNESS (mg/L CaCO ₃)	240.0	256.0	268.0	204.0	240.0	240.0	252.0	N/S	242.0	N/S	256.0	234.0	254.0	284.0
CHLORIDES (Mg/l Cl ⁻)	95.0	75.5	106.5	70.0	38.0	79.0	63.5	N/S	65.5	N/S	72.5	74.5	215.9	128.4
TOTAL COLIFORM (cfu/100mL)	NEG	N/S	NEG	N/S	NEG	NEG	NEG	NEG						
FECAL COLIFORM (cfu/100mL)	NEG	N/S	NEG	N/S	NEG	NEG	NEG	NEG						
TOTAL ALKALINITY (mg/L CaCO ₃)	205	217	220	205	184	216	217	N/S	214	N/S	217	202	171	221

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
3RD QUARTER 2016**

SAMPLE NO.	57	58	59	60	61	62	63	64	65	66	67	68	69	70
DATE	07/28/16	07/28/16	07/28/16	07/28/16	07/28/16	07/28/16	07/28/16	07/28/16	07/28/16	07/28/16	07/28/16	07/28/16	07/28/16	07/28/16
LOCATION	D-10	D-11	D-12	D-13	D-14	D-15	D-16	D-17	D-18	D-19	D-20	D-21	D-22	D-24
TEMPERATURE (0C)	N/S	27.0	27.0	N/S	28.0	N/S	27.5	N/S	N/S	27.0	27.0	27.0	N/S	28.0
pH	N/S	7.35	7.76	N/S	7.34	N/S	7.27	N/S	N/S	7.74	7.74	7.52	N/S	7.61
TURBIDITY (NTU)	N/S	0.07	0.07	N/S	0.14	N/S	0.08	N/S	N/S	0.07	0.06	0.09	N/S	0.07
CONDUCTIVITY (μmho)	N/S	767	405	N/S	631	N/S	698	N/S	N/S	590	625	631	N/S	580
CALCIUM HARDNESS (mg/L CaCO ₃)	N/S	226.0	172.0	N/S	212.0	N/S	228.0	N/S	N/S	184.0	194.0	204.0	N/S	210.0
TOTAL HARDNESS (mg/L CaCO ₃)	N/S	280.0	182.0	N/S	222.0	N/S	244.0	N/S	N/S	204.0	220.0	228.0	N/S	232.0
CHLORIDES (Mg/l Cl ⁻)	N/S	144.4	105.0	N/S	44.0	N/S	78.0	N/S	N/S	21.5	77.0	79.0	N/S	73.0
TOTAL COLIFORM (cfu/100mL)	N/S	NEG	NEG	N/S	NEG	N/S	NEG	N/S	N/S	NEG	NEG	POS	N/S	NEG
FECAL COLIFORM (cfu/100mL)	N/S	NEG	NEG	N/S	NEG	N/S	NEG	N/S	N/S	NEG	NEG	NEG	N/S	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	N/S	218	167	N/S	199	N/S	211	N/S	N/S	171	190	193	N/S	195

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER.

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P.O. BX. 3010 AGANA GU. 96910

**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
3RD QUARTER 2016**

SAMPLE NO.	71	72	73	74	75	76	77	78	79	80	81	82	83	84
DATE	07/28/16	07/28/16	07/28/16	07/28/16	07/28/16	08/09/16	08/09/16	08/09/16	08/09/16	09/15/16	08/09/16	08/09/16	08/09/16	08/09/16
LOCATION	D-25	D-26	D-27	D-28	EX-5A	Y-1	Y-2	Y-3	Y-4A	Y-5	Y-6	Y-7	Y-9	Y-10
TEMPERATURE (OC)	27.0	27.0	28.0	27.0	27.0	N/S	28.0	27.5	27.5	27.5	27.5	28.0	27.5	27.5
pH	7.77	7.50	7.66	7.48	7.35	N/S	7.22	7.26	7.16	7.02	7.17	7.19	7.08	6.98
TURBIDITY (NTU)	0.07	0.06	0.07	0.07	0.06	N/S	0.06	0.19	0.09	0.08	0.08	0.08	0.07	0.06
CONDUCTIVITY (μmho)	425	695	421	566	607	N/S	537	530	568	591	514	585	583	601
CALCIUM HARDNESS (mg/L CaCO ₃)	168.0	198.0	184.0	192.0	222.0	N/S	200.0	218.0	210.0	214.0	206.0	238.0	236.0	206.0
TOTAL HARDNESS (mg/L CaCO ₃)	180.0	222.0	192.0	220.0	252.0	N/S	230.0	272.0	246.0	240.0	228.0	266.0	270.0	234.0
CHLORIDES (Mg/l Cl ⁻)	81.0	82.0	39.5	92.0	58.5	N/S	37.0	36.5	43.0	60.0	38.0	34.5	34.5	67.5
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	POS	N/S	NEG	POS	NEG	POS	NEG	NEG	POS	NEG
FECAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	NEG	N/S	NEG	POS	NEG	NEG	NEG	NEG	POS	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	164	177	175	187	225	N/S	222	235	236	198	221	258	255	208

REMARKS: _____

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
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P.O. BX. 3010 AGANA GU. 96910

**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
3RD QUARTER 2016**

SAMPLE NO.	85	86	87	88	89	90	91	92	93	94	95	96	97	98
DATE	08/09/16	08/09/16	08/09/16	08/09/16	08/09/16	08/09/16	08/09/16	08/09/16	08/09/16	08/09/16	08/09/16	08/09/16	08/18/16	08/18/16
LOCATION	Y-12	Y-14	Y-15	Y-16	Y-17	Y-18	Y-19	Y-20	Y-21	Y-22	Y-23	GH-501	F-1	F-2
TEMPERATURE (0C)	27.0	27.5	27.5	28.0	27.5	27.0	28.0	27.0	27.5	27.5	27.5	27.5	27.5	27.5
pH	6.96	7.00	7.14	7.37	7.11	7.33	6.96	6.98	6.79	6.82	7.05	7.39	7.14	7.25
TURBIDITY (NTU)	0.06	0.10	0.09	0.07	0.07	0.10	0.07	0.08	0.07	0.07	0.08	0.10	0.10	0.10
CONDUCTIVITY (μmho)	663	655	387	583	493	482	584	500	607	478	521	765	666	806
CALCIUM HARDNESS (mg/L CaCO ₃)	204.0	204.0	156.0	216.0	226.0	190.0	234.0	182.0	230.0	196.0	238.0	208.0	190.0	194.0
TOTAL HARDNESS (mg/L CaCO ₃)	226.0	230.0	172.0	246.0	230.0	204.0	250.0	206.0	254.0	212.0	240.0	242.0	204.0	224.0
CHLORIDES (Mg/l Cl ⁻)	80.0	77.5	41.0	42.5	32.0	69.0	73.0	57.5	63.0	49.5	34.0	97.5	103.0	133.9
TOTAL COLIFORM (cfu/100mL)	NEG	POS												
FECAL COLIFORM (cfu/100mL)	NEG													
TOTAL ALKALINITY (mg/L CaCO ₃)	222	213	162	238	210	199	239	198	241	208	240	217	180	190

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER.

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P.O. BX. 3010 AGANA GU. 96910

**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
3RD QUARTER 2016**

SAMPLE NO.	99	100	101	102	103	104	105	106	107	108	109	110	111	112
DATE	08/18/16	08/18/16	08/18/16	08/18/16	08/18/16	08/18/16	08/18/16	08/18/16	08/18/16	08/18/16	08/18/16	08/18/16	08/18/16	08/18/16
LOCATION	F-3	F-4	F-5	F-6	F-7	F-8	F-9	F-10	F-11	F-12	F-13	F-15	F-16	F-17
TEMPERATURE (OC)	27.0	N/S	27.0	27.5	27.5	27.5	27.0	27.0	27.5	27.5	N/S	27.0	27.0	27.0
pH	7.25	N/S	7.29	7.12	7.25	7.19	7.10	7.11	7.30	7.13	N/S	7.12	7.17	7.14
TURBIDITY (NTU)	0.44	N/S	0.08	0.06	0.13	0.06	0.06	0.34	0.08	0.06	N/S	0.09	0.06	0.07
CONDUCTIVITY (μmho)	656	N/S	674	1068	671	491	566	961	697	470	N/S	487	456	438
CALCIUM HARDNESS (mg/L CaCO ₃)	194.0	N/S	202.0	202.0	186.0	202.0	204.0	196.0	192.0	200.0	N/S	194.0	200.0	196.0
TOTAL HARDNESS (mg/L CaCO ₃)	224.0	N/S	224.0	254.0	208.0	218.0	218.0	244.0	222.0	216.0	N/S	206.0	212.0	200.0
CHLORIDES (Mg/l Cl ⁻)	105.0	N/S	99.5	207.9	92.0	36.0	71.0	174.9	95.5	35.0	N/S	42.5	21.5	20.0
TOTAL COLIFORM (cfu/100mL)	POS	N/S	NEG	NEG	NEG	NEG	POS	POS	NEG	NEG	N/S	NEG	NEG	NEG
FECAL COLIFORM (cfu/100mL)	NEG	N/S	NEG	N/S	NEG	NEG	NEG							
TOTAL ALKALINITY (mg/L CaCO ₃)	185	N/S	189	184	172	193	191	187	188	195	N/S	190	198	190

REMARKS:

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WASTEWATER.

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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
3RD QUARTER 2016**

SAMPLE NO.	113	114	115	116	117	118	119	120	121	122	123	124	125	126
DATE	08/18/16	08/18/16	08/18/16	08/18/16	08/18/16	08/18/16	07/13/16	08/25/16	08/25/16	08/25/16	08/25/16	08/25/16	08/25/16	07/07/16
LOCATION	F-18	F-19	F-20	AG-1	AG-2A	HGC-2	H-1	MJ-1	MJ-5	ASAN	SRSP	FENA	UGUM	NAS-1
TEMPERATURE (0C)	27.0	27.5	27.5	N/S	27.0	27.0	27.0	N/S	N/S	N/S	29.0	29.0	27.0	28.0
pH	7.13	7.31	7.33	N/S	7.49	7.54	7.07	N/S	N/S	N/S	7.45	7.22	7.70	7.15
TURBIDITY (NTU)	0.06	0.08	0.07	N/S	0.07	0.07	0.07	N/S	N/S	N/S	0.09	0.23	0.07	0.10
CONDUCTIVITY (μmho)	437	1081	1020	N/S	450	442	1021	N/S	N/S	N/S	298	291	238	751
CALCIUM HARDNESS (mg/L CaCO ₃)	196.0	214.0	204.0	N/S	188.0	188.0	236.0	N/S	N/S	N/S	100.0	96.0	20.0	258.0
TOTAL HARDNESS (mg/L CaCO ₃)	200.0	262.0	250.0	N/S	200.0	200.0	252.0	N/S	N/S	N/S	116.0	104.0	40.0	290.0
CHLORIDES (Mg/l Cl ⁻)	34.0	219.4	196.9	N/S	29.5	23.5	145.4	N/S	N/S	N/S	43.0	33.5	45.5	105.5
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	N/S	NEG	NEG	NEG	N/S	N/S	N/S	NEG	NEG	NEG	NEG
FECAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	N/S	NEG	NEG	NEG	N/S	N/S	N/S	NEG	NEG	NEG	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	182	184	190	N/S	189	185	211	N/S	N/S	N/S	116	114	34	230

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER.

CERTIFIED BY: _____



P.O. BX. 3010 AGANA GU. 96910

**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
3RD QUARTER 2016**

SAMPLE NO.	127	128	129	130																
DATE	08/29/16	08/29/16	08/29/16	09/14/16																
LOCATION	GIAA-1	GIAA-2	GIAA-3	TUMON MAUI WELL																
TEMPERATURE (0C)	27.0	27.0	N/S	28.0																
pH	6.74	6.82	N/S	7.05																
TURBIDITY (NTU)	0.07	0.07	N/S	0.06																
CONDUCTIVITY (μmho)	623	579	N/S	772																
CALCIUM HARDNESS (mg/L CaCO ₃)	216.0	210.0	N/S	218.0																
TOTAL HARDNESS (mg/L CaCO ₃)	224.0	226.0	N/S	256.0																
CHLORIDES (Mg/l Cl ⁻)	70.5	58.0	N/S	115.5																
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	N/S	NEG																
FECAL COLIFORM (cfu/100mL)	NEG	NEG	N/S	NEG																
TOTAL ALKALINITY (mg/L CaCO ₃)	200	205	N/S	210																

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER.

CERTIFIED BY: _____



P.O. BX. 3010 AGANA GU. 96910

**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
4TH QUARTER 2016**

SAMPLE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
DATE	10/06/16	10/06/16	10/06/16	10/05/16	10/06/16	10/06/16	10/06/16	10/06/16	10/05/16	10/06/16	10/06/16	10/06/16	10/05/16	10/06/16
LOCATION	A-1	A-2	A-3	A-4	A-5	A-6	A-7	A-8	A-9	A-10	A-11	A-12	A-13	A-14
TEMPERATURE (0C)	27.0	N/S	28.0	28.0	29.0	27.0	N/S	27.0	28.0	27.0	N/S	N/S	28.0	27.0
pH	7.56	N/S	7.50	7.26	7.47	7.29	N/S	7.41	7.07	7.10	N/S	N/S	7.58	7.21
TURBIDITY (NTU)	0.18	N/S	0.27	0.06	0.06	0.20	N/S	0.28	0.08	0.08	N/S	N/S	0.13	0.08
CONDUCTIVITY (μmho)	603	N/S	579	847	569	637	N/S	560	1424	1876	N/S	N/S	2220	1391
CALCIUM HARDNESS (mg/L CaCO ₃)	274.0	N/S	236.0	312.0	244.0	292.0	N/S	234.0	372.0	364.0	N/S	N/S	408.0	350.0
TOTAL HARDNESS (mg/L CaCO ₃)	276.0	N/S	280.0	338.0	250.0	302.0	N/S	278.0	422.0	450.0	N/S	N/S	454.0	410.0
CHLORIDES (Mg/l Cl ⁻)	17.0	N/S	35.0	87.0	40.0	47.0	N/S	40.5	237.4	358.4	N/S	N/S	438.8	231.9
TOTAL COLIFORM (cfu/100mL)	POS	N/S	NEG	NEG	NEG	POS	N/S	POS	NEG	POS	N/S	N/S	NEG	NEG
FECAL COLIFORM (cfu/100mL)	NEG	N/S	NEG	NEG	NEG	NEG	N/S	NEG	NEG	NEG	N/S	N/S	NEG	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	393	N/S	354	346	256	355	N/S	330	370	360	N/S	N/S	366	370

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER.

CERTIFIED BY: _____



P.O. BX. 3010 AGANA GU. 96910

**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
4TH QUARTER 2016**

SAMPLE NO.	15	16	17	18	19	20	21	22	23	24	25	26	27	28
DATE	10/06/16	10/06/16	10/05/16	10/06/16	10/06/16	10/06/16	10/06/16	10/06/16	10/06/16	10/06/16	10/06/16	10/06/16	10/06/16	10/12/16
LOCATION	A-15	A-17	A-18	A-19	A-21	A-23	A-25	A-26	A-28	A-29	A-30	A-31	A-32	M-1
TEMPERATURE (0C)	29.0	27.0	28.0	27.5	27.0	N/S	N/S	N/S	N/S	N/S	28.0	28.0	27.0	28.0
pH	7.95	7.40	7.35	7.14	7.22	N/S	N/S	N/S	N/S	N/S	7.11	7.13	7.64	7.44
TURBIDITY (NTU)	0.07	0.13	0.08	0.19	0.10	N/S	N/S	N/S	N/S	N/S	0.10	0.14	0.13	0.13
CONDUCTIVITY (μmho)	1058	1139	1707	2140	1581	N/S	N/S	N/S	N/S	N/S	759	612	568	970
CALCIUM HARDNESS (mg/L CaCO ₃)	274.0	202.0	386.0	348.0	274.0	N/S	N/S	N/S	N/S	N/S	250.0	240.0	242.0	160.0
TOTAL HARDNESS (mg/L CaCO ₃)	328.0	272.0	454.0	454.0	356.0	N/S	N/S	N/S	N/S	N/S	300.0	262.0	266.0	250.0
CHLORIDES (Mg/l Cl ⁻)	148.9	200.4	316.4	451.8	281.4	N/S	N/S	N/S	N/S	N/S	67.5	44.5	29.5	172.4
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	NEG	N/S	N/S	N/S	N/S	N/S	POS	POS	POS	POS
FECAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	NEG	N/S	N/S	N/S	N/S	N/S	NEG	POS	NEG	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	310	262	375	373	280	N/S	N/S	N/S	N/S	N/S	331	323	329	249

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER.

REMARKS: _____

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P.O. BX. 3010 AGANA GU. 96910

QUARTERLY CHEMICAL DEEPWELL ANALYSIS

4TH QUARTER 2016

SAMPLE NO.	29	30	31	32	33	34	35	36	37	38	39	40	41	42
DATE	10/12/16	10/12/16	10/12/16	10/13/16	10/12/16	10/13/16	10/12/16	10/12/16	10/12/16	10/12/16	10/13/16	10/12/16	10/12/16	10/12/16
LOCATION	M-2	M-3	M-4	M-5	M-6	M-7	M-8	M-9	M-12	M-14	M-15	M-16	M-17A	M-17B
TEMPERATURE (OC)	29.0	28.0	N/S	28.0	N/S	28.0	28.0	28.0	N/S	N/S	28.0	N/S	N/S	27.5
pH	7.46	7.41	N/S	7.47	N/S	7.41	7.48	7.68	N/S	N/S	7.41	N/S	N/S	7.32
TURBIDITY (NTU)	0.13	0.07	N/S	0.06	N/S	0.06	0.06	0.06	N/S	N/S	0.06	N/S	N/S	0.06
CONDUCTIVITY (μmho)	645	501	N/S	586	N/S	552	463	1185	N/S	N/S	530	N/S	N/S	630
CALCIUM HARDNESS (mg/L CaCO ₃)	162.0	160.0	N/S	198.0	N/S	200.0	144.0	164.0	N/S	N/S	204.0	N/S	N/S	222.0
TOTAL HARDNESS (mg/L CaCO ₃)	230.0	208.0	N/S	234.0	N/S	228.0	198.0	270.0	N/S	N/S	232.0	N/S	N/S	252.0
CHLORIDES (Mg/l Cl ⁻)	79.5	59.0	N/S	63.5	N/S	58.0	54.0	237.4	N/S	N/S	52.0	N/S	N/S	71.0
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	N/S	NEG	N/S	NEG	NEG	POS	N/S	N/S	POS	N/S	N/S	NEG
FECAL COLIFORM (cfu/100mL)	NEG	NEG	N/S	NEG	N/S	NEG	NEG	NEG	N/S	N/S	NEG	N/S	N/S	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	243	211	N/S	246	N/S	225	218	214	N/S	N/S	222	N/S	N/S	265

REMARKS: _____

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER.

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P.O. BX. 3010 AGANA GU. 96910

QUARTERLY CHEMICAL DEEPWELL ANALYSIS

4TH QUARTER 2016

SAMPLE NO.	43	44	45	46	47	48	49	50	51	52	53	54	55	56
DATE	10/13/16	10/13/16	10/13/16	10/12/16	10/12/16	10/20/16	10/20/16	10/20/16	10/20/16	10/20/16	10/20/16	10/20/16	10/20/16	10/20/16
LOCATION	M-18	M-20 A	M-21	M-23	EX-11	D-1	D-2	D-3	D-4	D-5	D-6	D-7	D-8	D-9
TEMPERATURE (0C)	27.5	27.5	27.5	27.0	28.0	27.5	27.5	N/S	27.5	N/S	27.5	28.0	28.0	27.5
pH	7.42	7.22	7.47	7.58	7.56	7.28	7.74	N/S	7.59	N/S	7.68	7.14	7.39	7.96
TURBIDITY (NTU)	0.06	0.13	0.15	0.05	0.06	0.07	0.11	N/S	0.11	N/S	0.08	0.10	0.07	0.07
CONDUCTIVITY (μmho)	532	656	761	469	584	681	679	N/S	679	N/S	646	619	1090	939
CALCIUM HARDNESS (mg/L CaCO ₃)	186.0	214.0	216.0	184.0	160.0	194.0	194.0	N/S	202.0	N/S	220.0	208.0	188.0	220.0
TOTAL HARDNESS (mg/L CaCO ₃)	212.0	252.0	264.0	196.0	226.0	242.0	258.0	N/S	232.0	N/S	238.0	250.0	268.0	270.0
CHLORIDES (Mg/l Cl ⁻)	64.0	77.0	95.0	37.5	61.5	82.5	88.5	N/S	62.5	N/S	65.0	72.0	214.4	132.4
TOTAL COLIFORM (cfu/100mL)	NEG	N/S	NEG	N/S	NEG	NEG	NEG	NEG						
FECAL COLIFORM (cfu/100mL)	NEG	N/S	NEG	N/S	NEG	NEG	NEG	NEG						
TOTAL ALKALINITY (mg/L CaCO ₃)	199	235	236	215	237	235	228	N/S	234	N/S	240	217	185	237

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER

REMARKS:

CERTIFIED BY: _____



P.O. BX. 3010 AGANA GU. 96910

QUARTERLY CHEMICAL DEEPWELL ANALYSIS

4TH QUARTER 2016

SAMPLE NO.	57	58	59	60	61	62	63	64	65	66	67	68	69	70
DATE	10/20/16	10/20/16	10/20/16	10/20/16	10/20/16	10/20/16	10/20/16	10/20/16	10/20/16	10/20/16	10/20/16	10/20/16	10/20/16	10/20/16
LOCATION	D-10	D-11	D-12	D-13	D-14	D-15	D-16	D-17	D-18	D-19	D-20	D-21	D-22	D-24
TEMPERATURE (0C)	N/S	27.5	28.0	N/S	27.5	28.0	28.0	N/S	N/S	28.0	29.0	28.0	N/S	27.0
pH	N/S	7.93	7.46	N/S	7.38	7.35	7.53	N/S	N/S	7.57	7.55	7.49	N/S	7.75
TURBIDITY (NTU)	N/S	0.27	0.06	N/S	0.06	0.06	0.06	N/S	N/S	0.05	0.06	0.06	N/S	0.07
CONDUCTIVITY (μmho)	N/S	729	412	N/S	626	684	716	N/S	N/S	594	643	916	N/S	588
CALCIUM HARDNESS (mg/L CaCO ₃)	N/S	216.0	176.0	N/S	200.0	212.0	212.0	N/S	N/S	200.0	196.0	200.0	N/S	210.0
TOTAL HARDNESS (mg/L CaCO ₃)	N/S	252.0	204.0	N/S	248.0	252.0	256.0	N/S	N/S	228.0	240.0	240.0	N/S	250.0
CHLORIDES (Mg/l Cl ⁻)	N/S	153.9	64.5	N/S	105.0	81.0	115.0	N/S	N/S	75.0	110.0	81.5	N/S	87.5
TOTAL COLIFORM (cfu/100mL)	N/S	NEG	NEG	N/S	NEG	POS	NEG	N/S	N/S	NEG	NEG	NEG	N/S	NEG
FECAL COLIFORM (cfu/100mL)	N/S	NEG	NEG	N/S	NEG	NEG	NEG	N/S	N/S	NEG	NEG	NEG	N/S	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	N/S	230	180	N/S	209	219	222	N/S	N/S	181	198	202	N/S	199

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
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P.O. BX. 3010 AGANA GU. 96910

QUARTERLY CHEMICAL DEEPWELL ANALYSIS

4TH QUARTER 2016

SAMPLE NO.	71	72	73	74	75	76	77	78	79	80	81	82	83	84
DATE	10/20/16	10/20/16	10/20/16	10/20/16	10/20/16	10/26/16	10/26/16	10/26/16	10/27/16	10/27/16	10/27/16	10/26/16	10/26/16	10/27/16
LOCATION	D-25	D-26	D-27	D-28	EX-5A	Y-1	Y-2	Y-3	Y-4A	Y-5	Y-6	Y-7	Y-9	Y-10
TEMPERATURE (0C)	27.0	28.0	28.0	28.0	27.5	N/S	28.0	28.0	27.5	27.0	27.5	28.0	28.0	28.0
pH	7.72	7.64	7.61	7.54	7.77	N/S	7.33	7.42	7.87	7.53	7.47	7.29	7.25	7.63
TURBIDITY (NTU)	0.18	0.06	0.05	0.05	0.07	N/S	0.08	0.18	0.10	0.08	0.06	0.09	0.07	0.11
CONDUCTIVITY (μmho)	436	705	425	568	602	N/S	535	509	554	652	507	581	569	563
CALCIUM HARDNESS (mg/L CaCO ₃)	172.0	192.0	188.0	196.0	206.0	N/S	236.0	222.0	216.0	216.0	216.0	248.0	240.0	196.0
TOTAL HARDNESS (mg/L CaCO ₃)	204.0	220.0	208.0	220.0	244.0	N/S	246.0	244.0	248.0	236.0	232.0	276.0	274.0	224.0
CHLORIDES (Mg/l Cl ⁻)	55.0	106.0	64.5	70.5	63.5	N/S	34.0	42.0	57.5	68.0	30.0	44.0	48.0	58.5
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	POS	N/S	NEG	POS	NEG	NEG	NEG	NEG	POS	NEG
FECAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	NEG	N/S	NEG	POS	NEG	NEG	NEG	NEG	NEG	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	171	191	187	192	231	N/S	225	231	234	211	219	256	257	210

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER.

CERTIFIED BY: _____



P.O. BX. 3010 AGANA GU. 96910

QUARTERLY CHEMICAL DEEPWELL ANALYSIS

4TH QUARTER 2016

SAMPLE NO.	85	86	87	88	89	90	91	92	93	94	95	96	97	98
DATE	10/27/16	10/27/16	10/26/16	10/27/16	12/30/16	10/27/16	10/27/16	10/27/16	10/27/16	10/27/16	10/26/16	10/27/16	11/01/16	11/01/16
LOCATION	Y-12	Y-14	Y-15	Y-16	Y-17	Y-18	Y-19	Y-20	Y-21	Y-22	Y-23	GH-501	F-1	F-2
TEMPERATURE (0C)	28.0	27.0	28.0	29.0	27.0	27.0	27.5	27.5	28.0	28.0	28.0	27.0	N/S	28.0
pH	7.47	7.50	7.44	7.39	7.02	7.46	7.37	7.47	7.33	7.32	7.23	7.29	N/S	7.68
TURBIDITY (NTU)	0.07	0.07	0.16	0.07	0.08	0.05	0.06	0.07	0.09	0.08	0.10	0.07	N/S	0.11
CONDUCTIVITY (μmho)	644	646	325	574	490	483	572	492	608	480	516	764	N/S	796
CALCIUM HARDNESS (mg/L CaCO ₃)	208.0	208.0	158.0	216.0	192.0	196.0	216.0	192.0	224.0	208.0	234.0	210.0	N/S	190.0
TOTAL HARDNESS (mg/L CaCO ₃)	244.0	244.0	166.0	260.0	204.0	228.0	270.0	220.0	268.0	228.0	250.0	256.0	N/S	236.0
CHLORIDES (Mg/l Cl ⁻)	64.5	65.0	57.5	49.5	30.0	45.0	44.0	42.5	56.5	35.0	64.5	93.5	N/S	95.5
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	POS	NEG	N/S	POS						
FECAL COLIFORM (cfu/100mL)	NEG	N/S	NEG											
TOTAL ALKALINITY (mg/L CaCO ₃)	222	215	161	239	215	199	235	200	265	207	241	218	N/S	189

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER.

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P.O. BX. 3010 AGANA GU. 96910

QUARTERLY CHEMICAL DEEPWELL ANALYSIS

4TH QUARTER 2016

SAMPLE NO.	99	100	101	102	103	104	105	106	107	108	109	110	111	112
DATE	11/01/16	11/01/16	11/01/16	11/01/16	11/01/16	11/01/16	11/01/16	11/01/16	11/01/16	11/01/16	11/01/16	11/01/16	11/01/16	11/01/16
LOCATION	F-3	F-4	F-5	F-6	F-7	F-8	F-9	F-10	F-11	F-12	F-13	F-15	F-16	F-17
TEMPERATURE (0C)	29.0	N/S	27.0	27.5	27.0	27.5	28.0	29.0	29.0	27.0	29.0	27.0	27.0	27.5
pH	7.49	N/S	7.40	7.39	7.86	7.55	7.56	7.79	7.77	7.56	7.99	7.80	7.59	7.53
TURBIDITY (NTU)	0.37	N/S	0.07	0.06	0.15	0.06	0.06	0.09	0.07	0.08	0.15	0.09	0.08	0.07
CONDUCTIVITY (μmho)	643	N/S	682	1094	674	490	573	974	706	472	282	499	461	437
CALCIUM HARDNESS (mg/L CaCO ₃)	190.0	N/S	212.0	224.0	204.0	212.0	196.0	204.0	216.0	208.0	196.0	196.0	204.0	200.0
TOTAL HARDNESS (mg/L CaCO ₃)	232.0	N/S	240.0	268.0	228.0	224.0	240.0	248.0	224.0	220.0	216.0	228.0	236.0	220.0
CHLORIDES (Mg/l Cl ⁻)	98.0	N/S	82.5	200.9	94.5	49.5	63.5	172.4	100.5	47.5	120.0	48.0	38.0	33.5
TOTAL COLIFORM (cfu/100mL)	NEG	N/S	NEG	NEG	POS	NEG	NEG	NEG	POS	NEG	POS	NEG	NEG	NEG
FECAL COLIFORM (cfu/100mL)	NEG	N/S	NEG											
TOTAL ALKALINITY (mg/L CaCO ₃)	191	N/S	191	185	190	184	186	188	196	191	185	196	194	189

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER

CERTIFIED BY: _____



P.O. BX. 3010 AGANA GU. 96910

QUARTERLY CHEMICAL DEEPWELL ANALYSIS

4TH QUARTER 2016

SAMPLE NO.	113	114	115	116	117	118	119	120	121	122	123	124	125	126
DATE	11/01/16	11/01/16	11/01/16	11/01/16	11/01/16	11/01/16	10/13/16	11/09/16	11/09/16	11/09/16	11/09/16	11/09/16	11/09/16	10/06/16
LOCATION	F-18	F-19	F-20	AG-1	AG-2A	HGC-2	H-1	MJ-1	MJ-5	ASAN	SRSP	FENA	UGUM	NAS-1
TEMPERATURE (0C)	27.0	28.0	27.0	N/S	27.0	28.0	27.0	N/S	N/S	N/S	28.0	27.0	28.0	N/S
pH	7.50	7.51	7.48	N/S	7.63	7.89	7.35	N/S	N/S	N/S	7.43	7.99	7.73	N/S
TURBIDITY (NTU)	0.19	0.11	0.07	N/S	0.07	0.07	0.05	N/S	N/S	N/S	0.66	0.15	0.08	N/S
CONDUCTIVITY (μmho)	438	1065	1047	N/S	450	442	996	N/S	N/S	N/S	423	282	127	N/S
CALCIUM HARDNESS (mg/L CaCO ₃)	196.0	208.0	208.0	N/S	188.0	188.0	222.0	N/S	N/S	N/S	188.0	84.0	12.0	N/S
TOTAL HARDNESS (mg/L CaCO ₃)	216.0	260.0	276.0	N/S	210.0	210.0	274.0	N/S	N/S	N/S	196.0	110.0	32.0	N/S
CHLORIDES (Mg/l Cl ⁻)	25.5	208.4	189.4	N/S	33.0	33.0	162.4	N/S	N/S	N/S	27.0	38.5	40.5	N/S
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	N/S	NEG	NEG	NEG	N/S	N/S	N/S	POS	NEG	NEG	N/S
FECAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	N/S	NEG	NEG	NEG	N/S	N/S	N/S	NEG	NEG	NEG	N/S
TOTAL ALKALINITY (mg/L CaCO ₃)	193	185	190	N/S	189	191	228	N/S	N/S	N/S	189	110	37	N/S

REMARKS:

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WASTEWATER.

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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
4TH QUARTER 2016**

SAMPLE NO.	127	128	129	130																
DATE	12/13/16	12/12/16	12/12/16	12/12/16																
LOCATION	GIAA-1	GIAA-2	GIAA-3	TUMON MAUI WELL																
TEMPERATURE (0C)	28.0	27.0	N/S	27.0																
pH	7.10	7.45	N/S	7.28																
TURBIDITY (NTU)	0.06	0.08	N/S	0.07																
CONDUCTIVITY (μmho)	590	527	N/S	787																
CALCIUM HARDNESS (mg/L CaCO ₃)	186.0	174.0	N/S	200.0																
TOTAL HARDNESS (mg/L CaCO ₃)	196.0	196.0	N/S	220.0																
CHLORIDES (Mg/l Cl ⁻)	67.0	59.0	N/S	108.0																
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	N/S	NEG																
FECAL COLIFORM (cfu/100mL)	NEG	NEG	N/S	NEG																
TOTAL ALKALINITY (mg/L CaCO ₃)	198	190	N/S	202																

REMARKS:

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WASTEWATER.

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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
1ST QUARTER 2017**

SAMPLE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
DATE	01/05/17	01/05/17	01/05/17	01/05/17	01/05/17	01/05/17	01/05/17	01/05/17	01/05/17	01/05/17	01/05/17	01/05/17	01/05/17	01/05/17
LOCATION	A-1	A-2	A-3	A-4	A-5	A-6	A-7	A-8	A-9	A-10	A-11	A-12	A-13	A-14
TEMPERATURE (°C)	28.0	N/S	28.0	28.0	27.5	27.5	N/S	28.0	28.0	27.5	N/S	N/S	28.0	28.0
pH	7.87	N/S	7.83	7.74	7.42	7.31	N/S	7.84	7.24	7.17	N/S	N/S	7.20	7.19
TURBIDITY (NTU)	0.09	N/S	0.07	0.05	0.07	0.06	N/S	0.15	0.05	0.06	N/S	N/S	0.10	0.15
CONDUCTIVITY (μmho)	591	N/S	585	855	569	622	N/S	595	1458	1723	N/S	N/S	2230	1411
CALCIUM HARDNESS (mg/L CaCO ₃)	196.0	N/S	216.0	284.0	224.0	264.0	N/S	260.0	360.0	350.0	N/S	N/S	400.0	350.0
TOTAL HARDNESS (mg/L CaCO ₃)	270.0	N/S	276.0	340.0	266.0	290.0	N/S	296.0	410.0	410.0	N/S	N/S	480.0	384.0
CHLORIDES (Mg/l Cl ⁻)	75.0	N/S	57.5	83.0	58.5	81.5	N/S	48.0	242.9	354.4	N/S	N/S	511.8	268.9
TOTAL COLIFORM (cfu/100mL)	NEG	N/S	NEG	NEG	NEG	NEG	N/S	POS	NEG	POS	N/S	N/S	NEG	NEG
FECAL COLIFORM (cfu/100mL)	NEG	N/S	NEG	NEG	NEG	NEG	N/S	NEG	NEG	NEG	N/S	N/S	NEG	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	292	N/S	260	289	274	284	N/S	272	305	303	N/S	N/S	314	314

REMARKS:

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P.O. BX. 3010 AGANA GU. 96910

**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
1ST QUARTER 2017**

SAMPLE NO.	15	16	17	18	19	20	21	22	23	24	25	26	27	28
DATE	01/05/17	01/05/17	01/05/17	01/05/17	01/05/17	01/05/17	01/05/17	01/05/17	01/05/17	01/05/17	01/05/17	01/05/17	01/05/17	01/11/17
LOCATION	A-15	A-17	A-18	A-19	A-21	A-23	A-25	A-26	A-28	A-29	A-30	A-31	A-32	M-1
TEMPERATURE (0C)	28.0	28.0	28.0	28.0	28.0	N/S	N/S	N/S	N/S	N/S	28.0	27.5	27.0	27.5
pH	7.26	7.39	7.13	7.67	7.22	N/S	N/S	N/S	N/S	N/S	8.05	7.75	7.87	7.56
TURBIDITY (NTU)	0.08	0.06	0.09	0.07	0.08	N/S	N/S	N/S	N/S	N/S	0.06	0.08	0.07	0.11
CONDUCTIVITY (μmho)	984	1101	1646	2180	1560	N/S	N/S	N/S	N/S	N/S	632	602	552	986
CALCIUM HARDNESS (mg/L CaCO ₃)	290.0	224.0	356.0	348.0	288.0	N/S	N/S	N/S	N/S	N/S	260.0	244.0	240.0	148.0
TOTAL HARDNESS (mg/L CaCO ₃)	316.0	290.0	432.0	444.0	356.0	N/S	N/S	N/S	N/S	N/S	276.0	270.0	256.0	244.0
CHLORIDES (Mg/l Cl ⁻)	159.9	220.4	319.9	484.3	322.9	N/S	N/S	N/S	N/S	N/S	77.5	50.5	49.5	165.4
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	POS	NEG	NEG	N/S	N/S	N/S	N/S	N/S	POS	POS	NEG	POS
FECAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	NEG	N/S	N/S	N/S	N/S	N/S	NEG	NEG	NEG	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	255	205	322	309	254	N/S	N/S	N/S	N/S	N/S	262	253	243	199

REMARKS:

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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
1ST QUARTER 2017**

SAMPLE NO.	29	30	31	32	33	34	35	36	37	38	39	40	41	42
DATE	01/11/17	01/11/17	01/12/17	01/12/17	01/11/17	01/12/17	01/11/17	01/12/17	01/12/17	01/12/17	01/12/17	01/12/17	01/12/17	01/12/17
LOCATION	M-2	M-3	M-4	M-5	M-6	M-7	M-8	M-9	M-12	M-14	M-15	M-16	M-17A	M-17B
TEMPERATURE (°C)	27.0	27.0	N/S	27.5	N/S	27.5	27.0	27.5	N/S	N/S	27.5	N/S	N/S	27.5
pH	7.43	7.38	N/S	7.10	N/S	7.12	7.40	7.24	N/S	N/S	7.36	N/S	N/S	7.28
TURBIDITY (NTU)	0.36	0.08	N/S	0.08	N/S	0.05	0.06	0.18	N/S	N/S	0.06	N/S	N/S	0.06
CONDUCTIVITY (μmho)	630	495	N/S	581	N/S	549	450	1061	N/S	N/S	536	N/S	N/S	624
CALCIUM HARDNESS (mg/L CaCO ₃)	148.0	164.0	N/S	192.0	N/S	196.0	142.0	170.0	N/S	N/S	196.0	N/S	N/S	224.0
TOTAL HARDNESS (mg/L CaCO ₃)	220.0	210.0	N/S	232.0	N/S	230.0	194.0	230.0	N/S	N/S	256.0	N/S	N/S	236.0
CHLORIDES (Mg/l Cl ⁻)	79.0	42.5	N/S	69.5	N/S	63.0	44.0	189.9	N/S	N/S	59.5	N/S	N/S	79.0
TOTAL COLIFORM (cfu/100mL)	POS	NEG	N/S	NEG	N/S	NEG	NEG	NEG	N/S	N/S	NEG	N/S	N/S	NEG
FECAL COLIFORM (cfu/100mL)	NEG	NEG	N/S	NEG	N/S	NEG	NEG	NEG	N/S	N/S	NEG	N/S	N/S	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	200	196	N/S	215	N/S	210	175	189	N/S	N/S	205	N/S	N/S	230

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER.

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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
1ST QUARTER 2017**

SAMPLE NO.	43	44	45	46	47	48	49	50	51	52	53	54	55	56
DATE	01/12/17	01/12/17	01/12/17	01/11/17	01/11/17	01/19/17	01/19/17	01/19/17	01/19/17	01/19/17	01/19/17	01/19/17	01/19/17	01/19/17
LOCATION	M-18	M-20 A	M-21	M-23	EX-11	D-1	D-2	D-3	D-4	D-5	D-6	D-7	D-8	D-9
TEMPERATURE (OC)	27.5	27.5	27.0	27.0	28.0	27.0	27.0	N/S	27.0	N/S	27.0	27.0	27.0	27.0
pH	7.18	7.19	7.21	7.42	7.35	7.13	7.11	N/S	7.09	N/S	7.04	7.20	7.29	7.25
TURBIDITY (NTU)	0.06	0.08	0.09	0.06	0.06	0.06	0.42	N/S	0.10	N/S	0.06	0.09	0.06	0.06
CONDUCTIVITY (μmho)	569	640	749	471	580	681	682	N/S	601	N/S	645	610	1076	952
CALCIUM HARDNESS (mg/L CaCO ₃)	196.0	224.0	224.0	174.0	160.0	192.0	112.0	N/S	220.0	N/S	222.0	220.0	232.0	218.0
TOTAL HARDNESS (mg/L CaCO ₃)	256.0	240.0	264.0	194.0	226.0	238.0	246.0	N/S	240.0	N/S	250.0	232.0	248.0	278.0
CHLORIDES (Mg/l Cl ⁻)	61.0	69.0	87.0	41.0	56.5	77.0	78.0	N/S	63.5	N/S	83.5	75.5	185.9	151.4
TOTAL COLIFORM (cfu/100mL)	NEG	N/S	NEG	N/S	NEG	NEG	NEG	NEG						
FECAL COLIFORM (cfu/100mL)	NEG	N/S	NEG	N/S	NEG	NEG	NEG	NEG						
TOTAL ALKALINITY (mg/L CaCO ₃)	192	215	230	186	205	223	223	N/S	226	N/S	221	201	175	229

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER.

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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
1ST QUARTER 2017**

SAMPLE NO.	57	58	59	60	61	62	63	64	65	66	67	68	69	70
DATE	01/19/17	01/19/17	01/19/17	01/19/17	01/19/17	01/19/17	01/19/17	01/19/17	01/19/17	01/19/17	01/19/17	01/19/17	01/19/17	01/19/17
LOCATION	D-10	D-11	D-12	D-13	D-14	D-15	D-16	D-17	D-18	D-19	D-20	D-21	D-22	D-24
TEMPERATURE (°C)	N/S	27.0	27.0	N/S	27.5	27.5	27.5	N/S	N/S	27.0	27.0	27.5	N/S	27.5
pH	N/S	7.57	7.50	N/S	7.37	7.32	7.28	N/S	N/S	7.35	7.33	7.30	N/S	7.28
TURBIDITY (NTU)	N/S	0.11	0.05	N/S	0.07	0.06	0.05	N/S	N/S	0.06	0.05	0.08	N/S	0.06
CONDUCTIVITY (μmho)	N/S	737	408	N/S	613	670	699	N/S	N/S	600	637	622	N/S	586
CALCIUM HARDNESS (mg/L CaCO ₃)	N/S	234.0	170.0	N/S	214.0	218.0	240.0	N/S	N/S	200.0	220.0	210.0	N/S	214.0
TOTAL HARDNESS (mg/L CaCO ₃)	N/S	252.0	190.0	N/S	224.0	242.0	252.0	N/S	N/S	206.0	228.0	228.0	N/S	230.0
CHLORIDES (Mg/l Cl ⁻)	N/S	92.5	44.0	N/S	72.5	77.0	89.5	N/S	N/S	87.0	106.0	76.5	N/S	69.0
TOTAL COLIFORM (cfu/100mL)	N/S	POS	NEG	N/S	NEG	NEG	NEG	N/S	N/S	NEG	NEG	POS	N/S	NEG
FECAL COLIFORM (cfu/100mL)	N/S	POS	NEG	N/S	NEG	NEG	NEG	N/S	N/S	NEG	NEG	NEG	N/S	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	N/S	213	164	N/S	201	216	211	N/S	N/S	177	194	198	N/S	199

REMARKS:

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QUARTERLY CHEMICAL DEEPWELL ANALYSIS

1ST QUARTER 2017

SAMPLE NO.	71	72	73	74	75	76	77	78	79	80	81	82	83	84
DATE	01/19/17	01/19/17	01/19/17	01/19/17	01/19/17	01/26/17	01/26/17	01/26/17	01/26/17	01/26/17	01/26/17	01/26/17	01/26/17	01/26/17
LOCATION	D-25	D-26	D-27	D-28	EX-5A	Y-1	Y-2	Y-3	Y-4A	Y-5	Y-6	Y-7	Y-9	Y-10
TEMPERATURE (°C)	27.0	27.0	27.5	27.0	27.0	N/S	27.5	27.5	27.0	27.0	27.0	27.5	27.5	27.5
pH	7.38	7.44	7.41	7.35	7.26	N/S	7.29	7.26	7.68	7.58	7.52	7.26	7.26	7.57
TURBIDITY (NTU)	0.07	0.10	0.07	0.06	0.06	N/S	0.07	0.20	0.16	0.06	0.08	0.08	0.07	0.07
CONDUCTIVITY (μmho)	450	766	419	567	598	N/S	529	504	551	651	508	580	563	562
CALCIUM HARDNESS (mg/L CaCO ₃)	180.0	204.0	192.0	202.0	214.0	N/S	204.0	210.0	216.0	212.0	216.0	260.0	236.0	208.0
TOTAL HARDNESS (mg/L CaCO ₃)	180.0	228.0	198.0	214.0	248.0	N/S	244.0	252.0	256.0	240.0	236.0	280.0	268.0	228.0
CHLORIDES (Mg/l Cl ⁻)	55.0	110.5	46.0	74.5	61.0	N/S	49.5	35.0	54.0	87.0	50.0	46.5	50.0	63.0
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	POS	POS	POS	N/S	NEG	POS	POS	NEG	NEG	NEG	POS	NEG
FECAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	NEG	N/S	NEG	POS	NEG	NEG	NEG	NEG	NEG	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	161	178	170	183	217	N/S	231	227	226	200	215	245	249	208

REMARKS: _____

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
1ST QUARTER 2017**

SAMPLE NO.	85	86	87	88	89	90	91	92	93	94	95	96	97	98
DATE	01/26/17	01/26/17	01/26/17	01/26/17	01/26/17	01/26/17	01/26/17	01/26/17	01/26/17	01/26/17	01/26/17	01/26/17	02/02/17	02/02/17
LOCATION	Y-12	Y-14	Y-15	Y-16	Y-17	Y-18	Y-19	Y-20	Y-21	Y-22	Y-23	GH-501	F-1	F-2
TEMPERATURE (°C)	27.0	27.0	27.5	27.5	27.0	27.0	27.5	27.0	28.0	27.5	27.0	27.5	27.0	27.5
pH	7.88	7.58	7.42	7.52	7.27	7.30	7.26	7.70	7.99	7.66	7.54	7.53	7.75	7.67
TURBIDITY (NTU)	0.06	0.21	0.15	0.08	0.07	0.05	0.06	0.07	0.07	0.06	0.06	0.07	0.07	0.10
CONDUCTIVITY (μmho)	632	632	378	577	488	478	568	489	592	480	514	759	673	815
CALCIUM HARDNESS (mg/L CaCO ₃)	210.0	210.0	164.0	216.0	220.0	192.0	220.0	188.0	212.0	204.0	230.0	220.0	164.0	188.0
TOTAL HARDNESS (mg/L CaCO ₃)	244.0	236.0	180.0	252.0	240.0	230.0	264.0	216.0	260.0	230.0	260.0	250.0	220.0	248.0
CHLORIDES (Mg/l Cl ⁻)	77.0	80.5	46.5	48.0	48.5	41.0	49.5	50.0	52.5	44.0	33.5	110.5	99.0	124.5
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	POS	NEG								
FECAL COLIFORM (cfu/100mL)	NEG													
TOTAL ALKALINITY (mg/L CaCO ₃)	219	211	160	239	222	194	226	192	238	205	232	218	180	201

REMARKS:

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QUARTERLY CHEMICAL DEEPWELL ANALYSIS

1ST QUARTER 2017

SAMPLE NO.	99	100	101	102	103	104	105	106	107	108	109	110	111	112
DATE	02/02/17	02/09/17	02/02/17	02/02/17	02/02/17	02/02/17	02/02/17	02/02/17	02/02/17	02/02/17	02/02/17	02/02/17	02/02/17	02/02/17
LOCATION	F-3	F-4	F-5	F-6	F-7	F-8	F-9	F-10	F-11	F-12	F-13	F-15	F-16	F-17
TEMPERATURE (°C)	27.5	27.0	27.5	N/S	27.5	27.5	27.5	27.5	27.0	27.5	27.0	27.0	N/S	27.0
pH	7.54	7.01	7.48	N/S	7.49	7.39	7.31	7.74	7.84	7.58	7.39	7.59	N/S	7.58
TURBIDITY (NTU)	0.42	0.15	0.09	N/S	0.08	0.05	0.06	0.13	0.12	0.07	0.67	0.07	N/S	0.06
CONDUCTIVITY (μmho)	674	676	697	N/S	674	494	589	1036	743	466	1003	519	N/S	439
CALCIUM HARDNESS (mg/L CaCO ₃)	190.0	202.0	196.0	N/S	192.0	208.0	200.0	196.0	0.0	200.0	196.0	196.0	N/S	196.0
TOTAL HARDNESS (mg/L CaCO ₃)	236.0	240.0	236.0	N/S	228.0	228.0	224.0	252.0	196.0	216.0	252.0	220.0	N/S	212.0
CHLORIDES (Mg/l Cl ⁻)	97.0	87.0	95.5	N/S	92.5	42.0	61.0	191.9	252.0	27.5	168.9	71.5	N/S	34.5
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	N/S	NEG	NEG	NEG	NEG	POS	NEG	NEG	NEG	N/S	NEG
FECAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	N/S	NEG	N/S	NEG							
TOTAL ALKALINITY (mg/L CaCO ₃)	196	213	187	N/S	178	201	196	191	190	200	190	195	N/S	191

REMARKS:

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WASTEWATER.

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P.O. BX. 3010 AGANA GU. 96910

QUARTERLY CHEMICAL DEEPWELL ANALYSIS

1ST QUARTER 2017

SAMPLE NO.	113	114	115	116	117	118	119	120	121	122	123	124	125	126
DATE	02/02/17	02/02/17	02/02/17	02/02/17	02/02/17	02/02/17	01/12/17	02/08/17	02/08/17	02/08/17	02/08/17	02/08/17	02/08/17	01/05/17
LOCATION	F-18	F-19	F-20	AG-1	AG-2A	HGC-2	H-1	MJ-1	MJ-5	ASAN	SRSP	FENA	UGUM	NAS-1
TEMPERATURE (°C)	27.5	27.5	27.5	N/S	27.0	27.0	27.0	N/S	N/S	N/S	27.0	27.0	29.0	N/S
pH	7.47	7.51	7.52	N/S	7.55	7.55	7.21	N/S	N/S	N/S	7.29	7.44	7.48	N/S
TURBIDITY (NTU)	0.06	0.08	0.14	N/S	0.06	0.06	0.07	N/S	N/S	N/S	0.09	0.08	0.14	N/S
CONDUCTIVITY (μmho)	442	1061	1094	N/S	458	450	996	N/S	N/S	N/S	407	323	138	N/S
CALCIUM HARDNESS (mg/L CaCO ₃)	200.0	216.0	192.0	N/S	192.0	196.0	236.0	N/S	N/S	N/S	176.0	120.0	22.0	N/S
TOTAL HARDNESS (mg/L CaCO ₃)	220.0	270.0	270.0	N/S	220.0	212.0	270.0	N/S	N/S	N/S	198.0	132.0	42.0	N/S
CHLORIDES (Mg/l Cl ⁻)	35.0	180.9	191.4	N/S	58.0	44.5	167.9	N/S	N/S	N/S	35.0	32.5	32.5	N/S
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	N/S	NEG	NEG	NEG	N/S	N/S	N/S	POS	NEG	NEG	N/S
FECAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	N/S	NEG	NEG	NEG	N/S	N/S	N/S	NEG	NEG	NEG	N/S
TOTAL ALKALINITY (mg/L CaCO ₃)	188	189	189	N/S	192	194	213	N/S	N/S	N/S	196	135	42	N/S

REMARKS: _____

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER.

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GUAM WATERWORKS AUTHORITY
P.O. BX. 3010 AGANA GU. 96910

**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
1ST QUARTER 2017**

SAMPLE NO.	127	128	129	130										
DATE	02/15/17	02/14/17	02/15/17	02/15/17										
LOCATION	GIAA-1	GIAA-2	GIAA-3	TUMON MAUI WELL										
TEMPERATURE (OC)	28.0	28.0	N/S	27.0										
pH	7.00	7.13	N/S	7.40										
TURBIDITY (NTU)	0.10	0.06	N/S	0.14										
CONDUCTIVITY (μmho)	580	538	N/S	765										
CALCIUM HARDNESS (mg/L CaCO ₃)	190.0	194.0	N/S	222.0										
TOTAL HARDNESS (mg/L CaCO ₃)	220.0	226.0	N/S	256.0										
CHLORIDES (Mg/l Cl ⁻)	64.5	63.0	N/S	118.0										
TOTAL COLIFORM (cfu/100mL)	POS	NEG	N/S	POS										
FECAL COLIFORM (cfu/100mL)	NEG	NEG	N/S	NEG										
TOTAL ALKALINITY (mg/L CaCO ₃)	205	201	N/S	212										

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER.

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P.O. BX. 3010 AGANA GU. 96910

QUARTERLY CHEMICAL DEEPWELL ANALYSIS

2ND QUARTER 2017

SAMPLE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
DATE	04/06/17	04/06/17	04/06/17	04/06/17	04/06/17	04/06/17	04/06/17	04/06/17	04/06/17	04/06/17	04/06/17	05/18/17	04/06/17	04/06/17
LOCATION	A-1	A-2	A-3	A-4	A-5	A-6	A-7	A-8	A-9	A-10	A-11	A-12	A-13	A-14
TEMPERATURE (0C)	30.0	N/S	27.0	28.0	27.5	27.0	N/S	27.0	28.0	28.0	N/S	28.0	28.0	28.0
pH	7.00	N/S	7.22	7.07	7.18	7.15	N/S	7.81	7.11	7.13	N/S	6.90	7.24	7.21
TURBIDITY (NTU)	0.11	N/S	0.10	0.09	0.05	0.10	N/S	0.12	0.10	0.10	N/S	0.20	0.15	0.28
CONDUCTIVITY (μmho)	555	N/S	548	827	534	592	N/S	562	1375	1785	N/S	638	2100	1358
CALCIUM HARDNESS (mg/L CaCO ₃)	248.0	N/S	252.0	280.0	248.0	280.0	N/S	280.0	376.0	360.0	N/S	310.0	436.0	364.0
TOTAL HARDNESS (mg/L CaCO ₃)	292.0	N/S	284.0	340.0	272.0	300.0	N/S	296.0	420.0	436.0	N/S	328.0	500.0	424.0
CHLORIDES (Mg/l Cl ⁻)	26.5	N/S	36.0	105.5	38.5	40.0	N/S	32.5	272.4	370.4	N/S	38.0	486.3	238.9
TOTAL COLIFORM (cfu/100mL)	NEG	N/S	NEG	NEG	NEG	NEG	N/S	NEG	NEG	NEG	N/S	NEG	NEG	NEG
FECAL COLIFORM (cfu/100mL)	NEG	N/S	NEG	NEG	NEG	NEG	N/S	NEG	NEG	NEG	N/S	NEG	NEG	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	289	N/S	295	317	269	302	N/S	294	326	316	N/S	314	325	330

REMARKS:

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QUARTERLY CHEMICAL DEEPWELL ANALYSIS

2ND QUARTER 2017

SAMPLE NO.	15	16	17	18	19	20	21	22	23	24	25	26	27	28
DATE	04/06/17	04/06/17	04/06/17	04/06/17	04/06/17	04/06/17	04/06/17	04/06/17	04/06/17	04/06/17	04/06/17	04/06/17	04/06/17	04/13/17
LOCATION	A-15	A-17	A-18	A-19	A-21	A-23	A-25	A-26	A-28	A-29	A-30	A-31	A-32	M-1
TEMPERATURE (0C)	27.0	27.0	28.0	27.5	27.0	N/S	N/S	N/S	N/S	N/S	27.5	27.0	28.0	28.0
pH	7.31	7.33	7.15	7.13	7.20	N/S	N/S	N/S	N/S	N/S	7.23	7.24	7.29	7.38
TURBIDITY (NTU)	0.10	0.21	0.19	0.40	0.12	N/S	N/S	N/S	N/S	N/S	0.12	0.11	0.20	0.10
CONDUCTIVITY (μmho)	949	791	1606	2080	1505	N/S	N/S	N/S	N/S	N/S	784	572	522	926
CALCIUM HARDNESS (mg/L CaCO ₃)	272.0	240.0	368.0	356.0	288.0	N/S	N/S	N/S	N/S	N/S	288.0	252.0	232.0	190.0
TOTAL HARDNESS (mg/L CaCO ₃)	316.0	276.0	456.0	472.0	356.0	N/S	N/S	N/S	N/S	N/S	290.0	284.0	264.0	268.0
CHLORIDES (Mg/l Cl ⁻)	149.9	124.5	321.4	474.8	318.4	N/S	N/S	N/S	N/S	N/S	110.0	66.0	52.0	175.4
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	POS	N/S	N/S	N/S	N/S	N/S	NEG	POS	POS	NEG
FECAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	NEG	N/S	N/S	N/S	N/S	N/S	NEG	NEG	NEG	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	265	221	336	318	263	N/S	N/S	N/S	N/S	N/S	274	259	252	204

REMARKS:

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QUARTERLY CHEMICAL DEEPWELL ANALYSIS

2ND QUARTER 2017

SAMPLE NO.	29	30	31	32	33	34	35	36	37	38	39	40	41	42
DATE	04/03/17	04/03/17	04/03/17	04/03/17	04/03/17	04/03/17	04/03/17	04/03/17	04/03/17	04/03/17	04/03/17	04/03/17	04/03/17	04/03/17
LOCATION	M-2	M-3	M-4	M-5	M-6	M-7	M-8	M-9	M-12	M-14	M-15	M-16	M-17A	M-17B
TEMPERATURE (0C)	28.0	28.0	N/S	27.0	N/S	27.0	28.0	28.0	N/S	N/S	27.0	N/S	N/S	28.0
pH	7.34	7.33	N/S	7.24	N/S	7.30	7.33	7.48	N/S	N/S	7.50	N/S	N/S	7.32
TURBIDITY (NTU)	0.50	0.10	N/S	0.30	N/S	0.10	0.10	0.20	N/S	N/S	0.10	N/S	N/S	0.10
CONDUCTIVITY (μmho)	590	467	N/S	559	N/S	524	421	579	N/S	N/S	513	N/S	N/S	590
CALCIUM HARDNESS (mg/L CaCO ₃)	156.0	148.0	N/S	196.0	N/S	196.0	152.0	156.0	N/S	N/S	208.0	N/S	N/S	232.0
TOTAL HARDNESS (mg/L CaCO ₃)	230.0	236.0	N/S	236.0	N/S	232.0	196.0	228.0	N/S	N/S	232.0	N/S	N/S	260.0
CHLORIDES (Mg/L Cl ⁻)	79.5	48.5	N/S	65.0	N/S	56.5	40.0	78.0	N/S	N/S	47.5	N/S	N/S	66.5
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	N/S	NEG	N/S	NEG	NEG	POS	N/S	N/S	NEG	N/S	N/S	NEG
FECAL COLIFORM (cfu/100mL)	NEG	NEG	N/S	NEG	N/S	NEG	NEG	NEG	N/S	N/S	NEG	N/S	N/S	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	198	198	N/S	219	N/S	214	184	192	N/S	N/S	206	N/S	N/S	235

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER

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QUARTERLY CHEMICAL DEEPWELL ANALYSIS

2ND QUARTER 2017

SAMPLE NO.	43	44	45	46	47	48	49	50	51	52	53	54	55	56
DATE	04/13/17	04/13/17	04/13/17	04/13/17	04/13/17	04/20/17	04/20/17	04/20/17	04/20/17	04/20/17	05/18/17	04/20/17	04/20/17	05/18/17
LOCATION	M-18	M-20 A	M-21	M-23	EX-11	D-1	D-2	D-3	D-4	D-5	D-6	D-7	D-8	D-9
TEMPERATURE (0C)	28.0	28.0	28.0	28.0	28.0	27.5	27.5	N/S	27.5	N/S	28.0	27.5	28.0	28.0
pH	7.35	7.36	7.35	7.39	7.41	6.93	7.02	N/S	7.15	N/S	7.10	7.29	7.34	7.02
TURBIDITY (NTU)	0.10	0.10	0.10	0.10	0.10	0.15	0.11	N/S	0.06	N/S	0.13	0.08	0.11	0.10
CONDUCTIVITY (μmho)	545	601	702	451	549	645	647	N/S	563	N/S	641	581	1058	980
CALCIUM HARDNESS (mg/L CaCO ₃)	212.0	216.0	216.0	184.0	168.0	212.0	208.0	N/S	210.0	N/S	214.0	210.0	204.0	220.0
TOTAL HARDNESS (mg/L CaCO ₃)	224.0	250.0	264.0	204.0	236.0	264.0	260.0	N/S	252.0	N/S	252.0	240.0	256.0	276.0
CHLORIDES (Mg/l Cl ⁻)	68.5	77.0	90.0	56.0	61.5	87.5	84.5	N/S	60.0	N/S	77.0	74.5	229.9	174.9
TOTAL COLIFORM (cfu/100mL)	NEG	N/S	NEG	N/S	POS	NEG	NEG	POS						
FECAL COLIFORM (cfu/100mL)	NEG	N/S	NEG	N/S	NEG	NEG	NEG	NEG						
TOTAL ALKALINITY (mg/L CaCO ₃)	204	223	232	190	202	222	220	N/S	221	N/S	230	213	180	228

REMARKS:

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P.O. BX. 3010 AGANA GU. 96910

QUARTERLY CHEMICAL DEEPWELL ANALYSIS

2ND QUARTER 2017

SAMPLE NO.	57	58	59	60	61	62	63	64	65	66	67	68	69	70
DATE	04/20/17	04/20/17	04/20/17	04/20/17	04/20/17	04/20/17	04/20/17	04/20/17	04/20/17	04/20/17	04/20/17	04/20/17	04/20/17	04/20/17
LOCATION	D-10	D-11	D-12	D-13	D-14	D-15	D-16	D-17	D-18	D-19	D-20	D-21	D-22	D-24
TEMPERATURE (0C)	N/S	28.0	27.5	N/S	27.5	27.5	27.5	N/S	N/S	27.5	27.5	27.5	N/S	28.0
pH	N/S	7.73	7.63	N/S	7.43	7.39	7.35	N/S	N/S	7.53	7.42	7.40	N/S	7.89
TURBIDITY (NTU)	N/S	0.11	0.06	N/S	0.08	0.07	0.12	N/S	N/S	0.07	0.06	0.11	N/S	0.09
CONDUCTIVITY (μmho)	N/S	649	391	N/S	579	630	659	N/S	N/S	566	609	595	N/S	545
CALCIUM HARDNESS (mg/L CaCO ₃)	N/S	216.0	170.0	N/S	204.0	216.0	208.0	N/S	N/S	196.0	200.0	200.0	N/S	204.0
TOTAL HARDNESS (mg/L CaCO ₃)	N/S	256.0	192.0	N/S	232.0	250.0	252.0	N/S	N/S	212.0	224.0	230.0	N/S	240.0
CHLORIDES (Mg/l Cl ⁻)	N/S	85.0	49.5	N/S	72.0	80.5	89.0	N/S	N/S	88.0	94.5	78.0	N/S	75.0
TOTAL COLIFORM (cfu/100mL)	N/S	POS	NEG	N/S	NEG	NEG	NEG	N/S	N/S	NEG	NEG	NEG	N/S	NEG
FECAL COLIFORM (cfu/100mL)	N/S	POS	NEG	N/S	NEG	NEG	NEG	N/S	N/S	NEG	NEG	NEG	N/S	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	N/S	220	170	N/S	201	218	212	N/S	N/S	183	197	201	N/S	195

REMARKS:

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WASTEWATER.

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P.O. BX. 3010 AGANA GU. 96910

QUARTERLY CHEMICAL DEEPWELL ANALYSIS

2ND QUARTER 2017

SAMPLE NO.	71	72	73	74	75	76	77	78	79	80	81	82	83	84
DATE	04/20/17	04/20/17	04/20/17	04/20/17	04/20/17	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17
LOCATION	D-25	D-26	D-27	D-28	EX-5A	Y-1	Y-2	Y-3	Y-4A	Y-5	Y-6	Y-7	Y-9	Y-10
TEMPERATURE (0C)	27.5	27.5	28.0	27.5	27.5	N/S	28.0	28.0	28.0	27.5	27.5	27.5	28.0	27.5
pH	7.20	7.48	7.76	7.54	7.54	N/S	7.21	7.26	7.32	7.14	7.27	7.12	7.13	7.23
TURBIDITY (NTU)	0.06	0.10	0.10	0.09	0.06	N/S	0.08	0.18	0.16	0.08	0.07	0.08	0.07	0.09
CONDUCTIVITY (μmho)	429	808	400	541	558	N/S	529	513	561	652	508	577	565	577
CALCIUM HARDNESS (mg/L CaCO ₃)	164.0	196.0	184.0	192.0	212.0	N/S	200.0	192.0	196.0	200.0	196.0	220.0	220.0	192.0
TOTAL HARDNESS (mg/L CaCO ₃)	184.0	230.0	200.0	216.0	252.0	N/S	240.0	236.0	232.0	236.0	220.0	256.0	256.0	210.0
CHLORIDES (Mg/l Cl ⁻)	50.0	138.9	42.0	69.0	68.0	N/S	27.0	28.5	46.5	74.0	34.0	30.5	51.0	78.5
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	POS	NEG	NEG	N/S	POS	POS	NEG	NEG	NEG	NEG	POS	NEG
FECAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	NEG	N/S	NEG	POS	NEG	NEG	NEG	NEG	NEG	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	170	184	181	198	224	N/S	228	236	233	214	219	252	255	214

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
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QUARTERLY CHEMICAL DEEPWELL ANALYSIS

2ND QUARTER 2017

SAMPLE NO.	85	86	87	88	89	90	91	92	93	94	95	96	97	98
DATE	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17	05/11/17	05/11/17
LOCATION	Y-12	Y-14	Y-15	Y-16	Y-17	Y-18	Y-19	Y-20	Y-21	Y-22	Y-23	GH-501	F-1	F-2
TEMPERATURE (0C)	27.0	27.5	27.5	28.0	27.0	28.0	28.0	27.5	27.5	27.5	27.5	28.0	N/S	27.0
pH	7.21	7.25	7.39	7.39	7.20	7.35	7.22	7.35	7.29	7.34	7.14	7.28	N/S	7.05
TURBIDITY (NTU)	0.07	0.07	0.15	0.07	0.06	0.07	0.06	0.08	0.07	0.07	0.06	0.39	N/S	0.13
CONDUCTIVITY (μmho)	632	620	377	577	490	480	567	498	584	584	511	774	N/S	824
CALCIUM HARDNESS (mg/L CaCO ₃)	192.0	192.0	156.0	196.0	204.0	184.0	196.0	168.0	208.0	190.0	212.0	188.0	N/S	204.0
TOTAL HARDNESS (mg/L CaCO ₃)	228.0	216.0	164.0	230.0	220.0	204.0	230.0	196.0	236.0	208.0	232.0	228.0	N/S	236.0
CHLORIDES (Mg/l Cl ⁻)	61.5	65.5	30.0	48.5	28.5	59.5	77.0	40.0	47.0	50.5	34.5	96.5	N/S	118.5
TOTAL COLIFORM (cfu/100mL)	NEG	POS	NEG	POS	N/S	NEG								
FECAL COLIFORM (cfu/100mL)	NEG	N/S	NEG											
TOTAL ALKALINITY (mg/L CaCO ₃)	222	216	164	240	227	196	231	197	238	210	240	221	N/S	195

REMARKS:

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QUARTERLY CHEMICAL DEEPWELL ANALYSIS

2ND QUARTER 2017

SAMPLE NO.	99	100	101	102	103	104	105	106	107	108	109	110	111	112
DATE	05/11/17	05/11/17	05/11/17	05/11/17	05/11/17	05/11/17	05/11/17	05/11/17	05/11/17	05/11/17	05/11/17	05/11/17	05/11/17	05/11/17
LOCATION	F-3	F-4	F-5	F-6	F-7	F-8	F-9	F-10	F-11	F-12	F-13	F-15	F-16	F-17
TEMPERATURE (0C)	27.0	27.0	28.0	28.0	28.0	27.5	28.0	27.0	27.0	27.5	27.0	27.0	27.0	27.0
pH	7.33	7.26	7.26	7.38	7.41	7.12	7.47	7.30	7.58	7.07	7.31	7.31	7.28	7.27
TURBIDITY (NTU)	0.11	0.41	0.07	0.06	0.09	0.05	0.11	0.12	0.08	0.06	0.06	0.07	0.06	0.06
CONDUCTIVITY (μmho)	700	686	694	1033	674	489	589	1074	754	464	1171	532	465	434
CALCIUM HARDNESS (mg/L CaCO ₃)	210.0	196.0	164.0	188.0	176.0	196.0	192.0	196.0	196.0	196.0	208.0	190.0	204.0	196.0
TOTAL HARDNESS (mg/L CaCO ₃)	240.0	240.0	224.0	256.0	204.0	210.0	220.0	250.0	236.0	216.0	268.0	216.0	216.0	210.0
CHLORIDES (Mg/l Cl ⁻)	87.0	93.0	79.5	186.4	91.5	39.0	66.5	207.9	111.0	33.5	229.9	53.5	37.0	25.5
TOTAL COLIFORM (cfu/100mL)	NEG	POS	NEG	N/S	NEG	NEG	NEG	NEG	POS	NEG	NEG	NEG	POS	NEG
FECAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	N/S	NEG									
TOTAL ALKALINITY (mg/L CaCO ₃)	196	211	194	185	175	201	195	191	194	195	195	194	200	194

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER.

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P.O. BX. 3010 AGANA GU. 96910

QUARTERLY CHEMICAL DEEPWELL ANALYSIS

2ND QUARTER 2017

SAMPLE NO.	113	114	115	116	117	118	119	120	121	122	123	124	125	126
DATE	05/11/17	05/11/17	05/11/17	05/11/17	05/11/17	05/11/17	04/13/17	05/10/17	05/10/17	05/10/17	05/10/17	05/10/17	05/10/17	04/06/17
LOCATION	F-18	F-19	F-20	AG-1	AG-2A	HGC-2	H-1	MJ-1	MJ-5	ASAN	SRSP	FENA	UGUM	NAS-1
TEMPERATURE (0C)	27.5	27.5	27.5	27.5	28.0	28.0	28.0	N/S	N/S	N/S	28.0	29.0	28.5	N/S
pH	7.27	7.50	7.47	7.59	7.26	7.51	7.33	N/S	N/S	N/S	7.26	7.66	7.63	N/S
TURBIDITY (NTU)	0.06	0.12	0.08	0.66	0.10	0.09	0.10	N/S	N/S	N/S	0.07	0.07	0.10	N/S
CONDUCTIVITY (μmho)	438	1061	1117	492	445	442	903	N/S	N/S	N/S	401	299	143	N/S
CALCIUM HARDNESS (mg/L CaCO ₃)	192.0	208.0	212.0	204.0	188.0	192.0	228.0	N/S	N/S	N/S	172.0	98.0	20.0	N/S
TOTAL HARDNESS (mg/L CaCO ₃)	208.0	264.0	272.0	212.0	236.0	220.0	272.0	N/S	N/S	N/S	182.0	104.0	46.0	N/S
CHLORIDES (Mg/l Cl ⁻)	25.5	199.4	220.9	36.0	55.0	25.5	168.4	N/S	N/S	N/S	23.0	30.0	28.5	N/S
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	POS	NEG	NEG	N/S	N/S	N/S	POS	NEG	NEG	N/S
FECAL COLIFORM (cfu/100mL)	NEG	N/S	N/S	N/S	NEG	NEG	NEG	N/S						
TOTAL ALKALINITY (mg/L CaCO ₃)	191	191	197	205	191	192	242	N/S	N/S	N/S	193	124	51	N/S

REMARKS:

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WASTEWATER

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P.O. BX. 3010 AGANA GU. 96910

QUARTERLY CHEMICAL DEEPWELL ANALYSIS

2ND QUARTER 2017

SAMPLE NO.	127	128	129	130									
DATE	05/19/17	05/19/17	05/19/17	05/19/17									
LOCATION	GIAA-1	GIAA-2	GIAA-3	TUMON MAUI WELL									
TEMPERATURE (0C)	28.0	28.0	N/S	28.0									
pH	6.67	6.80	N/S	7.00									
TURBIDITY (NTU)	0.08	0.11	N/S	0.14									
CONDUCTIVITY (μmho)	618	523	N/S	769									
CALCIUM HARDNESS (mg/L CaCO ₃)	196.0	196.0	N/S	232.0									
TOTAL HARDNESS (mg/L CaCO ₃)	236.0	228.0	N/S	264.0									
CHLORIDES (Mg/l Cl ⁻)	65.5	63.0	N/S	94.5									
TOTAL COLIFORM (cfu/100mL)	POS	NEG	N/S	POS									
FECAL COLIFORM (cfu/100mL)	NEG	NEG	N/S	NEG									
TOTAL ALKALINITY (mg/L CaCO ₃)	194	195	N/S	200									

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER.

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P.O. BX. 3010 AGANA GU. 96910

QUARTERLY CHEMICAL DEEPWELL ANALYSIS

3RD QUARTER 2017

SAMPLE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
DATE	07/12/17	07/12/17	07/12/17	07/12/17	07/12/17	07/12/17	07/12/17	07/12/17	07/12/17	07/12/17	07/12/17	07/12/17	07/12/17	07/12/17
LOCATION	A-1	A-2	A-3	A-4	A-5	A-6	A-7	A-8	A-9	A-10	A-11	A-12	A-13	A-14
TEMPERATURE (OC)	N/S	N/S	27.5	27.0	28.0	28.0	N/S	28.0	28.0	28.0	N/S	N/S	27.5	28.0
pH	N/S	N/S	7.31	7.05	7.26	7.19	N/S	7.16	7.75	7.53	N/S	N/S	7.40	7.68
TURBIDITY (NTU)	N/S	N/S	0.07	0.06	0.06	0.06	N/S	0.26	0.09	0.07	N/S	N/S	0.21	0.08
CONDUCTIVITY (μmho)	N/S	N/S	575	905	643	643	N/S	601	1417	1975	N/S	N/S	2100	1475
CALCIUM HARDNESS (mg/L CaCO ₃)	N/S	N/S	288.0	340.0	264.0	284.0	N/S	280.0	364.0	370.0	N/S	N/S	400.0	350.0
TOTAL HARDNESS (mg/L CaCO ₃)	N/S	N/S	300.0	350.0	280.0	312.0	N/S	290.0	424.0	448.0	N/S	N/S	496.0	416.0
CHLORIDES (Mg/l Cl ₁)	N/S	N/S	22.0	88.5	47.5	70.5	N/S	35.0	209.4	397.3	N/S	N/S	426.3	264.9
TOTAL COLIFORM (cfu/100mL)	N/S	N/S	NEG	NEG	NEG	POS	N/S	NEG	NEG	NEG	N/S	N/S	POS	NEG
FECAL COLIFORM (cfu/100mL)	N/S	N/S	NEG	NEG	NEG	NEG	N/S	NEG	NEG	NEG	N/S	N/S	NEG	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	N/S	N/S	259	301	260	288	N/S	275	312	303	N/S	N/S	325	319

REMARKS:

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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
3RD QUARTER 2017**

SAMPLE NO.	15	16	17	18	19	20	21	22	23	24	25	26	27	28
DATE	07/12/17	07/12/17	07/12/17	07/12/17	07/12/17	07/12/17	07/12/17	07/12/17	07/12/17	07/12/17	07/12/17	07/12/17	07/12/17	07/19/17
LOCATION	A-15	A-17	A-18	A-19	A-21	A-23	A-25	A-26	A-28	A-29	A-30	A-31	A-32	M-1
TEMPERATURE (0C)	28.0	28.0	28.0	28.0	28.0	N/S	N/S	N/S	N/S	N/S	28.0	28.0	28.0	27.5
pH	7.48	7.67	7.23	7.16	7.38	N/S	N/S	N/S	N/S	N/S	7.43	7.37	7.39	7.14
TURBIDITY (NTU)	0.11	0.11	0.29	0.08	0.07	N/S	N/S	N/S	N/S	N/S	0.07	0.13	0.12	0.13
CONDUCTIVITY (μmho)	1050	1270	1777	2250	1703	N/S	N/S	N/S	N/S	N/S	846	616	553	957
CALCIUM HARDNESS (mg/L CaCO ₃)	276.0	232.0	384.0	356.0	296.0	N/S	N/S	N/S	N/S	N/S	288.0	252.0	248.0	168.0
TOTAL HARDNESS (mg/L CaCO ₃)	324.0	276.0	450.0	470.0	360.0	N/S	N/S	N/S	N/S	N/S	296.0	264.0	256.0	264.0
CHLORIDES (Mg/l Cl ₁)	161.4	228.9	338.9	476.8	321.9	N/S	N/S	N/S	N/S	N/S	107.5	58.0	34.0	170.4
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	NEG	N/S	N/S	N/S	N/S	N/S	NEG	POS	POS	POS
FECAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	NEG	N/S	N/S	N/S	N/S	N/S	NEG	POS	NEG	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	265	212	329	308	256	N/S	N/S	N/S	N/S	N/S	269	271	264	171

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
3RD QUARTER 2017**

SAMPLE NO.	29	30	31	32	33	34	35	36	37	38	39	40	41	42
DATE	07/19/17	07/19/17	07/19/17	07/19/17	07/19/17	07/19/17	07/19/17	07/19/17	07/19/17	07/19/17	07/19/17	07/19/17	07/19/17	07/19/17
LOCATION	M-2	M-3	M-4	M-5	M-6	M-7	M-8	M-9	M-12	M-14	M-15	M-16	M-17A	M-17B
TEMPERATURE (0C)	27.5	27.5	27.5	27.0	N/S	27.0	27.5	27.5	N/S	N/S	27.5	N/S	N/S	27.0
pH	7.19	7.26	7.22	7.27	N/S	7.16	7.70	7.51	N/S	N/S	7.10	N/S	N/S	7.07
TURBIDITY (NTU)	0.19	0.16	0.07	0.06	N/S	0.07	0.06	0.10	N/S	N/S	0.06	N/S	N/S	0.06
CONDUCTIVITY (μmho)	634	498	495	589	N/S	555	451	906	N/S	N/S	536	N/S	N/S	623
CALCIUM HARDNESS (mg/L CaCO ₃)	174.0	176.0	188.0	204.0	N/S	204.0	158.0	178.0	N/S	N/S	210.0	N/S	N/S	226.0
TOTAL HARDNESS (mg/L CaCO ₃)	230.0	220.0	222.0	218.0	N/S	210.0	206.0	256.0	N/S	N/S	220.0	N/S	N/S	244.0
CHLORIDES (Mg/l Cl ₁)	85.0	43.0	37.0	68.0	N/S	59.0	39.5	160.9	N/S	N/S	34.0	N/S	N/S	68.5
TOTAL COLIFORM (cfu/100mL)	POS	NEG	NEG	POS	N/S	POS	NEG	POS	N/S	N/S	NEG	N/S	N/S	POS
FECAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	N/S	NEG	NEG	NEG	N/S	N/S	NEG	N/S	N/S	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	190	193	198	212	N/S	208	176	187	N/S	N/S	201	N/S	N/S	227

REMARKS:

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QUARTERLY CHEMICAL DEEPWELL ANALYSIS

3RD QUARTER 2017

SAMPLE NO.	43	44	45	46	47	48	49	50	51	52	53	54	55	56
DATE	07/19/17	07/19/17	07/19/17	07/19/17	07/19/17	07/26/17	07/26/17	07/26/17	07/26/17	07/26/17	07/26/17	07/26/17	07/26/17	08/08/17
LOCATION	M-18	M-20 A	M-21	M-23	EX-11	D-1	D-2	D-3	D-4	D-5	D-6	D-7	D-8	D-9
TEMPERATURE (OC)	27.5	27.5	27.5	27.0	27.5	27.5	27.5	N/S	27.5	N/S	27.5	27.0	27.0	28.0
pH	7.13	7.14	7.13	7.54	7.47	7.71	7.61	N/S	7.67	N/S	7.55	7.11	7.45	7.21
TURBIDITY (NTU)	0.06	0.07	0.07	0.06	0.06	0.08	0.24	N/S	0.08	N/S	0.19	0.12	0.09	0.23
CONDUCTIVITY (μmho)	572	635	742	482	581	685	687	N/S	599	N/S	646	626	1193	1069
CALCIUM HARDNESS (mg/L CaCO ₃)	202.0	216.0	226.0	186.0	166.0	212.0	210.0	N/S	214.0	N/S	228.0	214.0	202.0	220.0
TOTAL HARDNESS (mg/L CaCO ₃)	218.0	248.0	262.0	208.0	238.0	254.0	254.0	N/S	256.0	N/S	258.0	244.0	266.0	296.0
CHLORIDES (Mg/l Cl ₁)	78.5	71.0	95.5	46.0	63.0	88.0	96.0	N/S	61.0	N/S	84.5	77.0	254.4	191.4
TOTAL COLIFORM (cfu/100mL)	NEG	N/S	NEG	N/S	NEG	NEG	NEG	POS						
FECAL COLIFORM (cfu/100mL)	NEG	N/S	NEG	N/S	NEG	NEG	NEG	NEG						
TOTAL ALKALINITY (mg/L CaCO ₃)	194	216	231	188	211	219	220	N/S	221	N/S	224	211	183	227

REMARKS:

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QUARTERLY CHEMICAL DEEPWELL ANALYSIS

3RD QUARTER 2017

SAMPLE NO.	57	58	59	60	61	62	63	64	65	66	67	68	69	70
DATE	07/28/16	07/28/16	07/28/16	07/28/16	07/28/16	07/28/16	07/28/16	07/28/16	07/28/16	07/28/16	07/28/16	07/28/16	07/28/16	07/28/16
LOCATION	D-10	D-11	D-12	D-13	D-14	D-15	D-16	D-17	D-18	D-19	D-20	D-21	D-22	D-24
TEMPERATURE (0C)	N/S	27.5	27.5	N/S	28.0	28.0	28.0	N/S	N/S	27.0	27.0	28.0	N/S	27.0
pH	N/S	7.53	7.63	N/S	7.51	7.47	7.44	N/S	N/S	7.52	7.36	7.36	N/S	7.81
TURBIDITY (NTU)	N/S	0.10	0.10	N/S	0.09	0.14	0.12	N/S	N/S	0.07	0.06	0.09	N/S	0.08
CONDUCTIVITY (μmho)	N/S	726	431	N/S	623	671	692	N/S	N/S	613	657	621	N/S	592
CALCIUM HARDNESS (mg/L CaCO ₃)	N/S	224.0	180.0	N/S	212.0	0.0	228.0	N/S	N/S	186.0	130.0	214.0	N/S	218.0
TOTAL HARDNESS (mg/L CaCO ₃)	N/S	256.0	190.0	N/S	230.0	212.0	242.0	N/S	N/S	242.0	164.0	234.0	N/S	234.0
CHLORIDES (Mg/l Cl ₁)	N/S	94.0	45.5	N/S	76.0	230.0	85.5	N/S	N/S	87.0	91.5	83.0	N/S	66.5
TOTAL COLIFORM (cfu/100mL)	N/S	NEG	NEG	N/S	NEG	POS	NEG	N/S	N/S	NEG	NEG	NEG	N/S	NEG
FECAL COLIFORM (cfu/100mL)	N/S	NEG	NEG	N/S	NEG	POS	NEG	N/S	N/S	NEG	NEG	NEG	N/S	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	N/S	220	173	N/S	200	217	211	N/S	N/S	182	198	198	N/S	201

REMARKS:

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QUARTERLY CHEMICAL DEEPWELL ANALYSIS

3RD QUARTER 2017

SAMPLE NO.	71	72	73	74	75	76	77	78	79	80	81	82	83	84
DATE	07/26/17	07/26/17	07/26/17	07/26/17	07/26/17	08/02/17	08/02/17	08/02/17	08/02/17	08/02/17	08/02/17	08/02/17	08/02/17	08/02/17
LOCATION	D-25	D-26	D-27	D-28	EX-5A	Y-1	Y-2	Y-3	Y-4A	Y-5	Y-6	Y-7	Y-9	Y-10
TEMPERATURE (0C)	27.0	27.0	28.0	27.0	27.5	N/S	27.5	28.0	28.0	27.5	27.5	28.5	28.0	28.0
pH	7.71	7.81	7.83	7.87	7.51	N/S	7.70	7.82	7.16	7.95	7.68	7.59	7.81	7.94
TURBIDITY (NTU)	0.07	0.09	0.06	0.07	0.08	N/S	0.09	0.15	0.16	0.10	0.07	0.10	0.08	0.07
CONDUCTIVITY (μmho)	511	953	450	582	604	N/S	540	528	559	661	515	583	575	583
CALCIUM HARDNESS (mg/L CaCO ₃)	180.0	202.0	196.0	196.0	216.0	N/S	200.0	218.0	210.0	214.0	206.0	238.0	236.0	206.0
TOTAL HARDNESS (mg/L CaCO ₃)	234.0	224.0	206.0	220.0	254.0	N/S	240.0	252.0	256.0	248.0	250.0	284.0	290.0	256.0
CHLORIDES (Mg/l Cl ₁)	63.0	183.9	37.5	65.5	59.0	N/S	47.5	44.5	68.5	91.0	37.5	44.5	43.0	66.0
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	POS	N/S	NEG							
FECAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	NEG	N/S	NEG							
TOTAL ALKALINITY (mg/L CaCO ₃)	165	185	182	193	226	N/S	231	240	232	213	220	255	254	216

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER.

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P.O. BX. 3010 AGANA GU. 96910

**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
3RD QUARTER 2017**

SAMPLE NO.	85	86	87	88	89	90	91	92	93	94	95	96	97	98
DATE	08/02/17	08/02/17	08/02/17	08/17/17	08/02/17	08/02/17	08/02/17	08/02/17	08/02/17	08/02/17	08/02/17	08/02/17	08/09/17	08/09/17
LOCATION	Y-12	Y-14	Y-15	Y-16	Y-17	Y-18	Y-19	Y-20	Y-21	Y-22	Y-23	GH-501	F-1	F-2
TEMPERATURE (0C)	28.0	28.0	27.5	27.5	27.5	27.0	27.0	27.0	28.0	28.0	27.5	28.0	N/S	28.0
pH	7.81	7.78	7.79	7.20	7.63	7.75	7.56	7.70	7.65	7.64	7.46	7.70	N/S	7.03
TURBIDITY (NTU)	0.08	0.08	0.07	0.16	0.07	0.08	0.08	0.07	0.06	0.08	0.08	0.09	N/S	0.11
CONDUCTIVITY (μmho)	618	601	383	582	498	483	571	507	580	484	520	833	N/S	839
CALCIUM HARDNESS (mg/L CaCO ₃)	204.0	204.0	156.0	216.0	226.0	190.0	234.0	182.0	230.0	196.0	238.0	208.0	N/S	192.0
TOTAL HARDNESS (mg/L CaCO ₃)	258.0	246.0	180.0	260.0	250.0	224.0	260.0	224.0	260.0	232.0	252.0	270.0	N/S	244.0
CHLORIDES (Mg/l Cl ₁)	77.0	83.0	38.0	50.0	46.0	52.0	43.5	55.5	48.0	27.0	34.0	124.5	N/S	120.0
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	POS	NEG	POS	NEG	N/S	NEG						
FECAL COLIFORM (cfu/100mL)	NEG	N/S	NEG											
TOTAL ALKALINITY (mg/L CaCO ₃)	219	220	161	242	229	202	235	199	236	212	242	218	N/S	192

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER.

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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
3RD QUARTER 2017**

SAMPLE NO.	99	100	101	102	103	104	105	106	107	108	109	110	111	112
DATE	08/09/17	08/09/17	08/09/17	08/09/17	08/09/17	08/09/17	08/09/17	08/09/17	08/09/17	08/09/17	08/09/17	08/09/17	08/09/17	08/09/17
LOCATION	F-3	F-4	F-5	F-6	F-7	F-8	F-9	F-10	F-11	F-12	F-13	F-15	F-16	F-17
TEMPERATURE (0C)	N/S	27.0	27.0	N/S	27.5	27.5	27.5	28.0	28.0	28.0	27.0	27.0	27.0	27.0
pH	N/S	7.05	7.00	N/S	7.54	7.34	7.18	7.27	7.46	7.36	7.20	7.38	7.24	7.24
TURBIDITY (NTU)	N/S	0.18	0.07	N/S	0.33	0.07	0.05	0.06	0.07	0.07	0.58	0.07	0.06	0.08
CONDUCTIVITY (μmho)	N/S	759	706	N/S	684	498	605	1115	778	778	1136	530	471	440
CALCIUM HARDNESS (mg/L CaCO ₃)	N/S	216.0	206.0	N/S	190.0	212.0	206.0	210.0	206.0	210.0	214.0	202.0	204.0	198.0
TOTAL HARDNESS (mg/L CaCO ₃)	N/S	240.0	234.0	N/S	220.0	222.0	222.0	266.0	238.0	214.0	268.0	216.0	218.0	210.0
CHLORIDES (Mg/l Cl ₁)	N/S	95.5	86.5	N/S	88.5	29.5	67.0	202.4	116.5	29.5	210.9	50.5	18.0	25.5
TOTAL COLIFORM (cfu/100mL)	N/S	NEG	NEG	N/S	NEG	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	NEG
FECAL COLIFORM (cfu/100mL)	N/S	NEG	NEG	N/S	NEG									
TOTAL ALKALINITY (mg/L CaCO ₃)	N/S	213	193	N/S	176	198	195	190	193	195	191	195	199	192

REMARKS:

 ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER.

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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
3RD QUARTER 2017**

SAMPLE NO.	113	114	115	116	117	118	119	120	121	122	123	124	125	126
DATE	08/09/17	08/09/17	08/09/17	08/09/17	08/09/17	08/09/17	07/13/16	08/15/17	08/15/17	08/15/17	08/15/17	08/15/17	08/15/17	07/12/17
LOCATION	F-18	F-19	F-20	AG-1	AG-2A	HGC-2	H-1	MJ-1	MJ-5	ASAN	SRSP	FENA	UGUM	NAS-1
TEMPERATURE (0C)	27.5	28.0	27.0	27.0	27.0	27.0	27.0	N/S	N/S	N/S	27.5	31.0	30.0	N/S
pH	7.16	7.19	7.22	7.30	7.41	7.49	7.07	N/S	N/S	N/S	7.55	7.41	7.79	N/S
TURBIDITY (NTU)	0.07	0.08	0.08	0.09	0.17	0.07	0.07	N/S	N/S	N/S	0.38	0.26	0.09	N/S
CONDUCTIVITY (μmho)	444	1097	1175	535	453	441	1021	N/S	N/S	N/S	390	280	157	N/S
CALCIUM HARDNESS (mg/L CaCO ₃)	204.0	212.0	214.0	202.0	180.0	196.0	224.0	N/S	N/S	N/S	180.0	96.0	24.0	N/S
TOTAL HARDNESS (mg/L CaCO ₃)	212.0	266.0	278.0	220.0	206.0	204.0	264.0	N/S	N/S	N/S	194.0	106.0	52.0	N/S
CHLORIDES (Mg/l Cl ₁)	39.0	171.9	201.4	47.5	35.5	35.5	159.4	N/S	N/S	N/S	33.0	34.0	31.0	N/S
TOTAL COLIFORM (cfu/100mL)	NEG	N/S	N/S	N/S	POS	NEG	NEG	N/S						
FECAL COLIFORM (cfu/100mL)	NEG	N/S	N/S	N/S	NEG	NEG	NEG	N/S						
TOTAL ALKALINITY (mg/L CaCO ₃)	192	194	195	205	190	185	201	N/S	N/S	N/S	194	108	56	N/S

REMARKS:

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WASTEWATER.

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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
3RD QUARTER 2017**

SAMPLE NO.	127	128	129	130													
DATE	08/24/17	08/24/17	08/24/17	08/17/17													
LOCATION	GIAA-1	GIAA-2	GIAA-3	TUMON MAUI WELL													
TEMPERATURE (0C)	28.0	N/S	N/S	28.0													
pH	7.41	N/S	N/S	7.27													
TURBIDITY (NTU)	0.08	N/S	N/S	0.25													
CONDUCTIVITY (μmho)	616	N/S	N/S	760													
CALCIUM HARDNESS (mg/L CaCO ₃)	200.0	N/S	N/S	222.0													
TOTAL HARDNESS (mg/L CaCO ₃)	226.0	N/S	N/S	264.0													
CHLORIDES (Mg/l Cl ₁)	72.0	N/S	N/S	116.0													
TOTAL COLIFORM (cfu/100mL)	NEG	N/S	N/S	POS													
FECAL COLIFORM (cfu/100mL)	NEG	N/S	N/S	NEG													
TOTAL ALKALINITY (mg/L CaCO ₃)	197	N/S	N/S	211													

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER.

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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
4TH QUARTER 2017**

SAMPLE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
DATE	10/05/17	10/05/17	10/05/17	10/05/17	10/05/17	10/05/17	10/05/17	10/05/17	10/05/17	10/05/17	10/05/17	10/05/17	10/05/17	10/05/17
LOCATION	A-1	A-2	A-3	A-4	A-5	A-6	A-7	A-8	A-9	A-10	A-11	A-12	A-13	A-14
TEMPERATURE (°C)	N/S	N/S	28.0	28.0	28.0	28.0	N/S	28.0	28.0	28.0	N/S	28.0	27.5	28.5
pH	N/S	N/S	7.27	7.01	7.23	7.06	N/S	7.25	7.35	7.24	N/S	7.07	7.13	7.05
TURBIDITY (NTU)	N/S	N/S	0.08	0.06	0.06	0.12	N/S	0.16	0.07	0.06	N/S	0.06	0.08	0.09
CONDUCTIVITY (μmho)	N/S	N/S	567	891	559	619	N/S	583	1434	1869	N/S	614	2200	1424
CALCIUM HARDNESS (mg/L CaCO ₃)	N/S	N/S	272.0	330.0	226.0	230.0	N/S	286.0	388.0	364.0	N/S	306.0	430.0	344.0
TOTAL HARDNESS (mg/L CaCO ₃)	N/S	N/S	286.0	338.0	282.0	308.0	N/S	298.0	438.0	462.0	N/S	322.0	474.0	392.0
CHLORIDES (Mg/L Cl ⁻)	N/S	N/S	10.0	87.0	26.5	33.0	N/S	44.5	248.9	403.3	N/S	33.5	490.3	248.9
TOTAL COLIFORM (cfu/100mL)	N/S	N/S	NEG	NEG	NEG	POS	N/S	NEG	NEG	NEG	N/S	POS	NEG	NEG
FECAL COLIFORM (cfu/100mL)	N/S	N/S	NEG	NEG	NEG	POS	N/S	NEG	NEG	NEG	N/S	NEG	NEG	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	N/S	N/S	285	303	263	288	N/S	268	309	304	N/S	300	322	318

REMARKS:

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QUARTERLY CHEMICAL DEEPWELL ANALYSIS

4TH QUARTER 2017

SAMPLE NO.	15	16	17	18	19	20	21	22	23	24	25	26	27	28
DATE	10/05/17	10/05/17	10/05/17	10/05/17	10/05/17	10/05/17	10/05/17	10/05/17	10/05/17	10/05/17	10/05/17	10/05/17	10/05/17	10/12/17
LOCATION	A-15	A-17	A-18	A-19	A-21	A-23	A-25	A-26	A-28	A-29	A-30	A-31	A-32	M-1
TEMPERATURE (0C)	28.5	28.0	28.0	28.0	28.0	N/S	N/S	N/S	N/S	N/S	28.0	28.0	28.0	27.0
pH	7.17	7.43	7.20	7.11	7.20	N/S	N/S	N/S	N/S	N/S	7.47	7.30	7.47	7.84
TURBIDITY (NTU)	0.08	0.09	0.47	0.08	0.06	N/S	N/S	N/S	N/S	N/S	0.08	0.12	0.08	0.08
CONDUCTIVITY (μmho)	994	1134	1739	2240	1588	N/S	N/S	N/S	N/S	N/S	758	594	538	920
CALCIUM HARDNESS (mg/L CaCO ₃)	226.0	208.0	392.0	384.0	286.0	N/S	N/S	N/S	N/S	N/S	276.0	214.0	182.0	170.0
TOTAL HARDNESS (mg/L CaCO ₃)	326.0	276.0	472.0	500.0	374.0	N/S	N/S	N/S	N/S	N/S	310.0	272.0	260.0	264.0
CHLORIDES (Mg/l Cl ⁻)	160.4	208.9	350.4	482.3	324.4	N/S	N/S	N/S	N/S	N/S	79.5	36.0	26.5	211.4
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	POS	NEG	POS	N/S	N/S	N/S	N/S	N/S	POS	POS	POS	NEG
FECAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	NEG	N/S	N/S	N/S	N/S	N/S	NEG	POS	NEG	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	270	207	323	314	253	N/S	N/S	N/S	N/S	N/S	270	260	250	201

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER.

REMARKS:

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GUAM WATERWORKS AUTHORITY
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QUARTERLY CHEMICAL DEEPWELL ANALYSIS

4TH QUARTER 2017

SAMPLE NO.	29	30	31	32	33	34	35	36	37	38	39	40	41	42
DATE	10/12/17	10/12/17	10/12/17	10/12/17	10/12/17	10/12/17	10/12/17	10/12/17	10/12/17	10/12/17	10/12/17	10/12/17	10/12/17	10/12/17
LOCATION	M-2	M-3	M-4	M-5	M-6	M-7	M-8	M-9	M-12	M-14	M-15	M-16	M-17A	M-17B
TEMPERATURE (0C)	28.0	27.5	27.5	27.0	N/S	27.5	27.5	N/S	N/S	N/S	27.0	N/S	N/S	27.5
pH	7.63	7.51	7.51	7.06	N/S	7.01	7.54	N/S	N/S	N/S	7.00	N/S	N/S	6.97
TURBIDITY (NTU)	0.77	0.07	0.06	0.06	N/S	0.11	0.05	N/S	N/S	N/S	0.05	N/S	N/S	0.06
CONDUCTIVITY (μmho)	621	485	476	567	N/S	526	444	N/S	N/S	N/S	528	N/S	N/S	610
CALCIUM HARDNESS (mg/L CaCO ₃)	178.0	172.0	186.0	200.0	N/S	204.0	160.0	N/S	N/S	N/S	212.0	N/S	N/S	226.0
TOTAL HARDNESS (mg/L CaCO ₃)	240.0	218.0	234.0	242.0	N/S	236.0	208.0	N/S	N/S	N/S	236.0	N/S	N/S	256.0
CHLORIDES (Mg/l Cl ⁻)	82.5	46.0	36.5	52.5	N/S	39.5	53.0	N/S	N/S	N/S	68.5	N/S	N/S	49.5
TOTAL COLIFORM (cfu/100mL)	POS	NEG	NEG	NEG	N/S	NEG	NEG	N/S	N/S	N/S	NEG	N/S	N/S	NEG
FECAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	N/S	NEG	NEG	N/S	N/S	N/S	NEG	N/S	N/S	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	194	196	196	214	N/S	206	183	N/S	N/S	N/S	202	N/S	N/S	230

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
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QUARTERLY CHEMICAL DEEPWELL ANALYSIS

4TH QUARTER 2017

SAMPLE NO.	43	44	45	46	47	48	49	50	51	52	53	54	55	56
DATE	10/12/17	10/12/17	10/12/17	10/12/17	10/12/17	10/18/17	10/18/17	10/18/17	10/18/17	10/18/17	10/18/17	10/18/17	10/18/17	10/18/17
LOCATION	M-18	M-20 A	M-21	M-23	EX-11	D-1	D-2	D-3	D-4	D-5	D-6	D-7	D-8	D-9
TEMPERATURE (0C)	27.5	27.5	27.5	27.0	27.5	27.0	27.0	N/S	27.0	N/S	27.0	27.0	27.0	27.0
pH	7.02	7.08	7.55	7.50	7.44	7.23	7.14	N/S	7.13	N/S	7.07	7.39	7.25	7.72
TURBIDITY (NTU)	0.06	0.09	0.14	0.06	0.14	0.27	0.09	N/S	0.09	N/S	0.06	0.07	0.08	0.11
CONDUCTIVITY (μmho)	466	620	738	467	560	657	661	N/S	580	N/S	615	596	1181	1103
CALCIUM HARDNESS (mg/L CaCO ₃)	184.0	220.0	220.0	190.0	170.0	208.0	220.0	N/S	224.0	N/S	232.0	208.0	208.0	236.0
TOTAL HARDNESS (mg/L CaCO ₃)	206.0	256.0	270.0	206.0	240.0	272.0	260.0	N/S	264.0	N/S	264.0	260.0	276.0	300.0
CHLORIDES (Mg/l Cl ⁻)	49.5	73.5	94.0	48.5	63.5	91.5	83.0	N/S	73.5	N/S	75.0	74.5	224.9	166.9
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	NEG	POS	NEG	N/S	NEG	N/S	NEG	NEG	NEG	NEG
FECAL COLIFORM (cfu/100mL)	NEG	N/S	NEG	N/S	NEG	NEG	NEG	NEG						
TOTAL ALKALINITY (mg/L CaCO ₃)	178	220	232	189	201	216	215	N/S	221	N/S	220	210	182	229

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
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QUARTERLY CHEMICAL DEEPWELL ANALYSIS

4TH QUARTER 2017

SAMPLE NO.	57	58	59	60	61	62	63	64	65	66	67	68	69	70
DATE	10/18/17	10/20/16	10/20/16	10/20/16	10/20/16	10/20/16	10/20/16	10/20/16	10/20/16	10/20/16	10/20/16	10/20/16	10/20/16	10/20/16
LOCATION	D-10	D-11	D-12	D-13	D-14	D-15	D-16	D-17	D-18	D-19	D-20	D-21	D-22	D-24
TEMPERATURE (0C)	N/S	27.0	27.0	N/S	27.5	27.5	27.5	N/S	N/S	27.0	27.0	27.5	N/S	27.0
pH	N/S	7.90	7.38	N/S	7.88	7.73	7.51	N/S	N/S	7.25	7.23	7.25	N/S	7.81
TURBIDITY (NTU)	N/S	0.07	0.08	N/S	0.11	0.10	0.10	N/S	N/S	0.06	0.05	0.08	N/S	0.12
CONDUCTIVITY (μmho)	N/S	696	419	N/S	607	655	679	N/S	N/S	600	645	598	N/S	578
CALCIUM HARDNESS (mg/L CaCO ₃)	N/S	230.0	216.0	N/S	224.0	196.0	224.0	N/S	N/S	204.0	212.0	210.0	N/S	224.0
TOTAL HARDNESS (mg/L CaCO ₃)	N/S	260.0	232.0	N/S	256.0	256.0	254.0	N/S	N/S	230.0	250.0	232.0	N/S	236.0
CHLORIDES (Mg/l Cl ⁻)	N/S	85.5	44.5	N/S	71.5	64.0	95.5	N/S	N/S	68.0	85.0	70.0	N/S	67.5
TOTAL COLIFORM (cfu/100mL)	N/S	POS	NEG	N/S	NEG	NEG	NEG	N/S	N/S	NEG	NEG	NEG	N/S	NEG
FECAL COLIFORM (cfu/100mL)	N/S	NEG	NEG	N/S	NEG	NEG	NEG	N/S	N/S	NEG	NEG	NEG	N/S	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	N/S	221	175	N/S	215	206	207	N/S	N/S	185	200	198	N/S	200

REMARKS:

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QUARTERLY CHEMICAL DEEPWELL ANALYSIS

4TH QUARTER 2017

SAMPLE NO.	71	72	73	74	75	76	77	78	79	80	81	82	83	84
DATE	10/18/17	10/18/17	10/18/17	10/18/17	10/18/17	10/26/17	10/26/17	10/26/17	10/26/17	10/26/17	10/26/17	10/26/17	10/26/17	10/26/17
LOCATION	D-25	D-26	D-27	D-28	EX-5A	Y-1	Y-2	Y-3	Y-4A	Y-5	Y-6	Y-7	Y-9	Y-10
TEMPERATURE (0C)	27.0	27.5	27.5	27.0	27.5	N/S	28.0	29.0	27.5	27.0	27.5	28.5	28.0	27.5
pH	7.63	7.71	7.65	7.57	7.51	N/S	7.12	7.22	7.08	7.01	7.19	7.08	7.05	7.15
TURBIDITY (NTU)	0.13	0.11	0.22	0.10	0.07	N/S	0.26	0.21	0.28	0.14	0.09	0.08	0.09	0.07
CONDUCTIVITY (μmho)	462	928	423	567	587	N/S	514	473	540	649	492	560	543	541
CALCIUM HARDNESS (mg/L CaCO ₃)	188.0	204.0	208.0	208.0	210.0	N/S	216.0	204.0	216.0	216.0	216.0	240.0	244.0	216.0
TOTAL HARDNESS (mg/L CaCO ₃)	196.0	250.0	216.0	232.0	252.0	N/S	256.0	230.0	256.0	256.0	252.0	292.0	292.0	248.0
CHLORIDES (Mg/l Cl ⁻)	48.5	165.4	32.5	56.0	60.5	N/S	59.5	29.0	30.0	86.5	30.0	44.5	41.0	48.5
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	POS	NEG	POS	N/S	NEG	POS	POS	NEG	NEG	NEG	POS	POS
FECAL COLIFORM (cfu/100mL)	NEG	NEG	POS	NEG	NEG	N/S	NEG	POS	NEG	NEG	NEG	NEG	POS	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	170	192	186	196	223	N/S	232	231	236	215	221	252	242	214

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER.

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QUARTERLY CHEMICAL DEEPWELL ANALYSIS

4TH QUARTER 2017

SAMPLE NO.	85	86	87	88	89	90	91	92	93	94	95	96	97	98
DATE	10/26/17	10/26/17	10/26/17	10/26/17	10/26/17	10/26/17	10/26/17	10/26/17	10/26/17	10/26/17	10/26/17	10/26/17	11/01/17	11/01/17
LOCATION	Y-12	Y-14	Y-15	Y-16	Y-17	Y-18	Y-19	Y-20	Y-21	Y-22	Y-23	GH-501	F-1	F-2
TEMPERATURE (0C)	N/S	27.5	27.5	27.5	27.5	27.5	28.0	27.5	27.5	27.5	27.5	27.5	27.5	27.5
pH	N/S	7.14	7.37	7.55	7.50	7.45	7.34	7.32	7.33	7.39	7.17	7.29	7.56	7.44
TURBIDITY (NTU)	N/S	0.07	0.06	0.06	0.07	0.06	0.11	0.08	0.07	0.07	0.07	0.11	0.08	0.20
CONDUCTIVITY (μmho)	N/S	605	361	559	483	473	547	491	571	466	506	771	689	824
CALCIUM HARDNESS (mg/L CaCO ₃)	N/S	212.0	160.0	230.0	230.0	196.0	236.0	192.0	216.0	212.0	236.0	224.0	190.0	200.0
TOTAL HARDNESS (mg/L CaCO ₃)	N/S	256.0	190.0	268.0	252.0	220.0	256.0	230.0	260.0	236.0	268.0	276.0	224.0	252.0
CHLORIDES (Mg/l Cl ⁻)	N/S	59.5	45.5	38.0	28.5	61.5	44.0	43.5	54.5	27.0	33.0	109.5	100.0	152.4
TOTAL COLIFORM (cfu/100mL)	N/S	POS	POS	NEG	POS	NEG	NEG	POS						
FECAL COLIFORM (cfu/100mL)	N/S	NEG												
TOTAL ALKALINITY (mg/L CaCO ₃)	N/S	216	160	242	231	205	237	200	240	211	244	218	182	194

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER.

CERTIFIED BY: _____



P.O. BX. 3010 AGANA GU. 96910

QUARTERLY CHEMICAL DEEPWELL ANALYSIS

4TH QUARTER 2017

SAMPLE NO.	99	100	101	102	103	104	105	106	107	108	109	110	111	112
DATE	11/01/17	11/01/17	11/01/17	11/01/17	11/01/17	11/01/17	11/01/17	11/01/17	11/01/17	11/01/17	11/01/17	11/01/17	11/01/17	12/14/17
LOCATION	F-3	F-4	F-5	F-6	F-7	F-8	F-9	F-10	F-11	F-12	F-13	F-15	F-16	F-17
TEMPERATURE (0C)	27.5	27.0	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.0	27.0	27.0	27.5
pH	7.35	7.23	7.27	7.31	7.70	7.13	7.95	7.92	7.89	7.94	7.20	7.76	7.75	7.6
TURBIDITY (NTU)	0.66	0.39	0.11	0.08	0.10	0.08	0.09	0.13	0.09	0.08	0.13	0.10	0.10	0.1
CONDUCTIVITY (μmho)	702	797	693	1187	666	494	605	1105	755	468	1192	539	466	437.0
CALCIUM HARDNESS (mg/L CaCO ₃)	196.0	216.0	208.0	212.0	196.0	208.0	204.0	204.0	212.0	212.0	220.0	208.0	208.0	200.0
TOTAL HARDNESS (mg/L CaCO ₃)	236.0	260.0	240.0	276.0	228.0	236.0	240.0	264.0	248.0	220.0	280.0	232.0	230.0	236.0
CHLORIDES (Mg/l Cl ⁻)	100.0	118.5	104.0	225.4	95.5	44.5	73.0	195.4	111.5	36.0	244.4	57.5	37.5	19.5
TOTAL COLIFORM (cfu/100mL)	NEG	POS	NEG	POS	NEG	NEG	NEG	NEG	POS	NEG	NEG	NEG	NEG	-
FECAL COLIFORM (cfu/100mL)	NEG	-												
TOTAL ALKALINITY (mg/L CaCO ₃)	194	212	192	191	179	201	194	190	192	196	192	196	201	190

REMARKS:

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P.O. BX. 3010 AGANA GU. 96910

QUARTERLY CHEMICAL DEEPWELL ANALYSIS

4TH QUARTER 2017

SAMPLE NO.	113	114	115	116	117	118	119	120	121	122	123	124	125	126
DATE	11/01/17	11/01/17	11/01/17	11/01/17	11/01/17	11/01/17	10/12/17	11/16/17	11/16/17	12/14/17	12/14/18	11/16/17	11/16/17	12/14/17
LOCATION	F-18	F-19	F-20	AG-1	AG-2A	HGC-2	H-1	MJ-1	MJ-5	ASAN	SRSP	FENA	UGUM	NAS-1
TEMPERATURE (0C)	27.0	27.5	27.5	27.0	27.0	27.0	27.0	N/S	N/S	N/S	22.0	29.5	31.0	27.0
pH	7.72	7.69	7.61	7.77	7.84	7.74	7.06	N/S	N/S	N/S	7.48	7.57	6.54	7.14
TURBIDITY (NTU)	0.08	1.10	0.13	0.09	0.07	0.10	0.06	N/S	N/S	N/S	0.13	0.10	0.17	0.08
CONDUCTIVITY (μmho)	438	1094	1190	547	447	436	911	N/S	N/S	N/S	405	298	191.4	696
CALCIUM HARDNESS (mg/L CaCO ₃)	208.0	208.0	216.0	204.0	192.0	190.0	224.0	N/S	N/S	N/S	196.0	112.0	20.0	234.0
TOTAL HARDNESS (mg/L CaCO ₃)	220.0	280.0	276.0	232.0	204.0	216.0	272.0	N/S	N/S	N/S	214.0	150.0	50.0	252.0
CHLORIDES (Mg/l Cl ⁻)	24.0	213.9	131.4	63.0	35.0	35.5	158.9	N/S	N/S	N/S	26.0	34.5	26.5	82.5
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	POS	NEG	NEG	NEG	N/S	N/S	N/S	POS	NEG	NEG	NEG
FECAL COLIFORM (cfu/100mL)	NEG	N/S	N/S	N/S	NEG	NEG	NEG	NEG						
TOTAL ALKALINITY (mg/L CaCO ₃)	192	196	196	204	192	195	212	N/S	N/S	N/S	193	117	46	230

REMARKS:

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P.O. BX. 3010 AGANA GU. 96910

**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
4TH QUARTER 2017**

SAMPLE NO.	127	128	129	130										
DATE	12/14/17	12/14/17	12/14/17	12/14/17										
LOCATION	GIAA-1	GIAA-2	GIAA-3	TUMON MAUI WELL										
TEMPERATURE (0C)	27.0	27.0	N/S	27.0										
pH	7.18	7.32	N/S	7.32										
TURBIDITY (NTU)	0.10	0.09	N/S	0.10										
CONDUCTIVITY (μmho)	583	515	N/S	755										
CALCIUM HARDNESS (mg/L CaCO ₃)	188.0	206.0	N/S	252.0										
TOTAL HARDNESS (mg/L CaCO ₃)	216.0	222.0	N/S	262.0										
CHLORIDES (Mg/l Cl ⁻)	75.0	60.0	N/S	110.0										
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	N/S	POS										
FECAL COLIFORM (cfu/100mL)	NEG	NEG	N/S	NEG										
TOTAL ALKALINITY (mg/L CaCO ₃)	197	199	N/S	208										

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER.

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GUAM WATERWORKS AUTHORITY

P.O. BX. 3010 AGANA GU. 96910

**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
1ST QUARTER 2018**

SAMPLE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
DATE	03/29/18	N/S	01/11/18	01/10/17	01/11/18	01/11/18	N/S	01/10/18	01/10/18	01/10/18	N/S	01/11/18	01/10/18	01/10/18
LOCATION	A-1	A-2	A-3	A-4	A-5	A-6	A-7	A-8	A-9	A-10	A-11	A-12	A-13	A-14
TEMPERATURE (°C)	28.0	N/S	27.5	27.5	28.0	27.5	N/S	27.5	27.50	27.5	N/S	27.5	28.0	27.5
pH	6.92	N/S	7.04	7.37	6.99	6.96	N/S	7.21	7.25	7.26	N/S	6.87	7.20	7.20
TURBIDITY (NTU)	0.33	N/S	0.07	0.07	0.06	0.07	N/S	0.28	0.07	0.07	N/S	0.06	0.09	0.07
CONDUCTIVITY (μmho)	582	N/S	582	907	569	624	N/S	593	1453	1843	N/S	633	2270	1429
CALCIUM HARDNESS (mg/L CaCO ₃)	278.0	N/S	270.0	326.0	258.0	284.0	N/S	284.0	374.0	362.0	N/S	304.0	412.0	356.0
TOTAL HARDNESS (mg/L CaCO ₃)	290.0	N/S	284.0	362.0	270.0	296.0	N/S	294.0	414.0	446.0	N/S	308.0	456.0	404.0
CHLORIDES (Mg/l Cl ⁻)	19.0	N/S	35.5	90.0	53.0	30.5	N/S	34.0	241.4	373.9	N/S	30.5	483.3	252.4
TOTAL COLIFORM (cfu/100mL)	NEG	N/S	NEG	NEG	NEG	NEG	N/S	NEG	NEG	POS	N/S	POS	NEG	NEG
FECAL COLIFORM (cfu/100mL)	NEG	N/S	NEG	NEG	NEG	NEG	N/S	NEG	NEG	NEG	N/S	POS	NEG	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	257	N/S	283	300	266	295	N/S	285	323	318	N/S	316	331	330

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
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P.O. BX. 3010 AGANA GU. 96910

**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
1ST QUARTER 2018**

SAMPLE NO.	15	16	17	18	19	20	21	22	23	24	25	26	27	28
DATE	01/10/18	01/10/18	01/10/18	01/10/18	01/10/18	N/S	N/S	N/S	N/S	N/S	01/11/18	01/11/18	01/11/18	01/18/18
LOCATION	A-15	A-17	A-18	A-19	A-21	A-23	A-25	A-26	A-28	A-29	A-30	A-31	A-32	M-1
TEMPERATURE (OC)	27.5	27.5	27.5	28.0	27.5	N/S	N/S	N/S	N/S	N/S	27.5	28.0	27.5	27.0
pH	7.28	7.80	7.18	7.16	7.30	N/S	N/S	N/S	N/S	N/S	6.96	7.06	7.05	7.89
TURBIDITY (NTU)	0.09	0.08	0.20	0.13	0.06	N/S	N/S	N/S	N/S	N/S	0.07	0.11	0.18	0.09
CONDUCTIVITY (μmho)	987	1268	1722	2290	1655	N/S	N/S	N/S	N/S	N/S	779	615	553	906
CALCIUM HARDNESS (mg/L CaCO ₃)	266.0	232.0	378.0	374.0	276.0	N/S	N/S	N/S	N/S	N/S	274.0	258.0	234.0	166.0
TOTAL HARDNESS (mg/L CaCO ₃)	314.0	286.0	434.0	480.0	368.0	N/S	N/S	N/S	N/S	N/S	294.0	266.0	296.0	258.0
CHLORIDES (Mg/l Cl ⁻)	131.4	233.4	316.4	507.3	332.9	N/S	N/S	N/S	N/S	N/S	77.5	40.0	32.5	143.9
TOTAL COLIFORM (cfu/100mL)	NEG	POS	NEG	POS	POS	N/S	N/S	N/S	N/S	N/S	NEG	POS	POS	NEG
FECAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	NEG	N/S	N/S	N/S	N/S	N/S	NEG	NEG	NEG	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	266	214	332	312	258	N/S	N/S	N/S	N/S	N/S	270	260	249	199

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
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P.O. BX. 3010 AGANA GU. 96910

**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
1ST QUARTER 2018**

SAMPLE NO.	29	30	31	32	33	34	35	36	37	38	39	40	41	42
DATE	01/18/18	01/18/18	01/18/18	01/18/18	3/29/18	01/18/18	01/18/18	01/18/18	N/S	N/S	01/18/18	N/S	N/S	01/18/18
LOCATION	M-2	M-3	M-4	M-5	M-6	M-7	M-8	M-9	M-12	M-14	M-15	M-16	M-17A	M-17B
TEMPERATURE (OC)	29.0	28.0	28.0	27.5	27.0	27.5	27.0	28.0	N/S	N/S	27.5	N/S	N/S	27.5
pH	7.48	7.50	7.45	7.18	7.06	7.18	7.73	7.61	N/S	N/S	7.32	N/S	N/S	7.21
TURBIDITY (NTU)	0.25	0.10	0.06	0.11	0.09	0.09	0.06	0.07	N/S	N/S	0.08	N/S	N/S	0.06
CONDUCTIVITY (μmho)	626	497	488	600	700	555	449	601	N/S	N/S	546	N/S	N/S	622
CALCIUM HARDNESS (mg/L CaCO ₃)	166.0	166.0	180.0	202.0	210.0	206.0	148.0	154.0	N/S	N/S	214.0	N/S	N/S	228.0
TOTAL HARDNESS (mg/L CaCO ₃)	236.0	224.0	222.0	242.0	244.0	232.0	190.0	226.0	N/S	N/S	228.0	N/S	N/S	258.0
CHLORIDES (Mg/l Cl ⁻)	65.0	46.5	47.5	65.0	88.0	61.0	43.0	77.0	N/S	N/S	73.0	N/S	N/S	70.0
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	POS	NEG	NEG	NEG	POS	N/S	N/S	NEG	N/S	N/S	NEG
FECAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	N/S	N/S	NEG	N/S	N/S	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	197	196	195	215	199	207	181	190	N/S	N/S	204	N/S	N/S	230

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P.O. BX. 3010 AGANA GU. 96910

**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
1ST QUARTER 2018**

SAMPLE NO.	43	44	45	46	47	48	49	50	51	52	53	54	55	56
DATE	01/18/18	01/18/18	01/18/18	01/18/18	01/18/18	01/24/18	01/24/18	N/S	01/24/18	N/S	01/24/18	01/24/18	01/24/18	01/24/18
LOCATION	M-18	M-20 A	M-21	M-23	EX-11	D-1	D-2	D-3	D-4	D-5	D-6	D-7	D-8	D-9
TEMPERATURE (°C)	27.5	27.5	27.0	27.0	28.0	27.0	27.0	N/S	27.0	N/S	28.0	27.0	27.0	27.0
pH	7.24	7.20	7.21	7.31	7.47	7.11	7.13	N/S	7.18	N/S	7.13	7.17	7.23	7.00
TURBIDITY (NTU)	0.08	0.10	0.09	0.06	0.09	0.09	0.08	N/S	0.08	N/S	0.13	0.11	0.10	0.12
CONDUCTIVITY (μmho)	559	632	749	486	581	670	674	N/S	595	N/S	638	614	1089	1088
CALCIUM HARDNESS (mg/L CaCO ₃)	208.0	218.0	222.0	188.0	164.0	200.0	204.0	N/S	206.0	N/S	226.0	218.0	204.0	208.0
TOTAL HARDNESS (mg/L CaCO ₃)	228.0	250.0	274.0	208.0	248.0	230.0	244.0	N/S	250.0	N/S	252.0	236.0	264.0	274.0
CHLORIDES (Mg/l Cl ⁻)	58.5	64.0	93.0	65.0	66.5	81.0	85.0	N/S	67.5	N/S	86.5	73.0	219.9	200.9
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	NEG	NEG	POS	N/S	NEG	N/S	POS	NEG	NEG	NEG
FECAL COLIFORM (cfu/100mL)	NEG	N/S	NEG	N/S	NEG	NEG	NEG	NEG						
TOTAL ALKALINITY (mg/L CaCO ₃)	203	220	234	189	204	222	225	N/S	222	N/S	230	215	185	232

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P.O. BX. 3010 AGANA GU. 96910

QUARTERLY CHEMICAL DEEPWELL ANALYSIS

1ST QUARTER 2018

SAMPLE NO.	57	58	59	60	61	62	63	64	65	66	67	68	69	70
DATE	N/S	01/24/18	01/24/18	N/S	01/24/18	01/24/18	01/24/18	N/S	N/S	01/24/18	03/29/18	01/24/18	N/S	01/24/18
LOCATION	D-10	D-11	D-12	D-13	D-14	D-15	D-16	D-17	D-18	D-19	D-20	D-21	D-22	D-24
TEMPERATURE (OC)	N/S	27.0	27.0	N/S	27.5	28.0	28.0	N/S	N/S	27.0	27.5	27.5	N/S	27.0
pH	N/S	7.36	7.56	N/S	7.27	7.19	7.22	N/S	N/S	7.41	7.04	7.43	N/S	7.59
TURBIDITY (NTU)	N/S	0.09	0.08	N/S	0.08	0.14	0.07	N/S	N/S	0.10	0.12	0.10	N/S	0.09
CONDUCTIVITY (μmho)	N/S	700	421	N/S	622	677	688	N/S	N/S	613	644.0	618	N/S	591
CALCIUM HARDNESS (mg/L CaCO ₃)	N/S	228.0	182.0	N/S	214.0	224.0	220.0	N/S	N/S	198.0	202.0	208.0	N/S	220.0
TOTAL HARDNESS (mg/L CaCO ₃)	N/S	256.0	192.0	N/S	226.0	238.0	244.0	N/S	N/S	212.0	232.0	230.0	N/S	246.0
CHLORIDES (Mg/l Cl ⁻)	N/S	81.0	64.5	N/S	83.0	90.0	215.4	N/S	N/S	94.0	73.5	86.5	N/S	66.0
TOTAL COLIFORM (cfu/100mL)	N/S	POS	NEG	N/S	NEG	NEG	NEG	N/S	N/S	NEG	NEG	NEG	N/S	NEG
FECAL COLIFORM (cfu/100mL)	N/S	NEG	NEG	N/S	NEG	NEG	NEG	N/S	N/S	NEG	NEG	NEG	N/S	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	N/S	222	176	N/S	203	219	213	N/S	N/S	186	183.0	201	N/S	202

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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
1ST QUARTER 2018**

SAMPLE NO.	71	72	73	74	75	76	77	78	79	80	81	82	83	84
DATE	01/24/18	01/24/18	01/24/18	01/24/18	01/24/18	N/S	01/29/18	01/29/18	01/29/18	01/29/18	01/26/18	01/26/18	01/26/18	01/26/18
LOCATION	D-25	D-26	D-27	D-28	EX-5A	Y-1	Y-2	Y-3	Y-4A	Y-5	Y-6	Y-7	Y-9	Y-10
TEMPERATURE (°C)	27.0	27.0	27.5	27.0	28.0	N/S	28.0	28.0	27.5	27.5	27.5	28.0	28.0	27.5
pH	7.37	7.24	7.34	7.55	7.51	N/S	7.32	7.18	7.40	8.04	7.59	7.50	7.43	7.36
TURBIDITY (NTU)	0.10	0.13	0.09	0.08	0.07	N/S	0.08	0.16	0.11	0.11	0.06	0.09	0.06	0.08
CONDUCTIVITY (μmho)	489	961	433	583	598	N/S	445	282	265	314	365	278	273	277
CALCIUM HARDNESS (mg/L CaCO ₃)	178.0	208.0	198.0	206.0	216.0	N/S	216.0	230.0	220.0	220.0	220.0	250.0	252.0	210.0
TOTAL HARDNESS (mg/L CaCO ₃)	196.0	270.0	218.0	232.0	262.0	N/S	252.0	262.0	260.0	260.0	240.0	280.0	276.0	242.0
CHLORIDES (Mg/l Cl ⁻)	68.0	174.9	53.5	78.0	60.0	N/S	40.0	34.5	47.5	65.0	33.0	59.0	46.0	74.0
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	POS	NEG	NEG	N/S	POS	NEG						
FECAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	NEG	N/S	NEG							
TOTAL ALKALINITY (mg/L CaCO ₃)	170	184	185	196	225	N/S	210	235	234	217	219	253	254	216

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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
1ST QUARTER 2018**

SAMPLE NO.	85	86	87	88	89	90	91	92	93	94	95	96	97	98
DATE	01/29/18	01/29/18	01/29/18	01/29/18	01/29/18	01/29/18	01/29/18	01/29/18	01/29/18	01/29/18	01/29/18	01/29/18	02/01/18	02/01/18
LOCATION	Y-12	Y-14	Y-15	Y-16	Y-17	Y-18	Y-19	Y-20	Y-21	Y-22	Y-23	GH-501	F-1	F-2
TEMPERATURE (°C)	27.5	27.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	27.5	27.5	28.0	27.0
pH	8.02	7.80	7.62	7.57	7.35	7.51	7.39	7.44	7.40	7.38	7.35	7.34	7.80	7.80
TURBIDITY (NTU)	0.06	0.08	0.08	0.06	0.06	0.08	0.06	0.07	0.10	0.08	0.06	0.07	0.19	0.39
CONDUCTIVITY (μmho)	294	294	1830	274	238	234	269	245	275	230	249	375	514	387
CALCIUM HARDNESS (mg/L CaCO ₃)	210.0	216.0	170.0	218.0	232.0	196.0	220.0	188.0	212.0	210.0	242.0	218.0	214.0	206.0
TOTAL HARDNESS (mg/L CaCO ₃)	250.0	244.0	180.0	264.0	250.0	224.0	262.0	228.0	262.0	228.0	252.0	276.0	284.0	256.0
CHLORIDES (Mg/l Cl ⁻)	79.0	55.5	33.0	67.5	53.0	48.5	43.0	42.5	49.0	30.0	30.0	113.5	204.9	150.9
TOTAL COLIFORM (cfu/100mL)	NEG													
FECAL COLIFORM (cfu/100mL)	NEG													
TOTAL ALKALINITY (mg/L CaCO ₃)	218	215	164	242	231	200	235	201	238	211	243	218	188	197

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER. 22ND ED.

REMARKS:

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CERTIFIED BY: _____



P.O. BX. 3010 AGANA GU. 96910

QUARTERLY CHEMICAL DEEPWELL ANALYSIS

1ST QUARTER 2018

SAMPLE NO.	99	100	101	102	103	104	105	106	107	108	109	110	111	112
DATE	02/01/18	02/01/18	02/01/18	02/01/18	02/01/18	02/01/18	02/01/18	02/01/18	02/01/18	02/01/18	02/01/18	02/01/18	02/01/18	02/01/18
LOCATION	F-3	F-4	F-5	F-6	F-7	F-8	F-9	F-10	F-11	F-12	F-13	F-15	F-16	F-17
TEMPERATURE (OC)	28.0	27.0	28.0	28.0	28.0	27.5	27.0	27.0	27.0	27.5	27.0	27.0	27.0	27.0
pH	7.86	7.56	7.65	7.58	7.86	7.61	7.58	7.59	7.57	7.72	7.53	7.54	7.50	7.47
TURBIDITY (NTU)	0.16	0.33	0.11	0.05	0.15	0.07	0.10	0.14	0.08	0.09	0.10	0.07	0.06	0.07
CONDUCTIVITY (μmho)	347	364	323	573.0	319	235	289	535	364	222	587	264	228.0	208
CALCIUM HARDNESS (mg/L CaCO ₃)	172.0	168.0	210.0	210.0	196.0	212.0	216.0	228.0	216.0	216.0	224.0	212.0	216.0	220.0
TOTAL HARDNESS (mg/L CaCO ₃)	252.0	284.0	244.0	288.0	248.0	248.0	248.0	284.0	250.0	236.0	296.0	256.0	228.0	236.0
CHLORIDES (Mg/l Cl ⁻)	110.0	112.0	98.0	239.9	96.5	34.0	85.0	207.4	117.5	43.5	246.4	65.5	41.0	19.5
TOTAL COLIFORM (cfu/100mL)	POS	POS	NEG	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	NEG	NEG	NEG
FECAL COLIFORM (cfu/100mL)	NEG													
TOTAL ALKALINITY (mg/L CaCO ₃)	198	213	193	190	177	201	196	189	191	193	196	197	197	194

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
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GUAM WATERWORKS AUTHORITY

P.O. BX. 3010 AGANA GU. 96910

QUARTERLY CHEMICAL DEEPWELL ANALYSIS

1ST QUARTER 2017

SAMPLE NO.	113	114	115	116	117	118	119	120	121	122	123	124	125	126
DATE	02/01/18	02/01/18	02/01/18	02/01/18	02/01/18	02/01/18	01/18/18	N/S	N/S	N/S	03/01/18	03/01/18	03/01/18	1/11/2018
LOCATION	F-18	F-19	F-20	AG-1	AG-2A	HGC-2	H-1	MJ-1	MJ-5	ASAN	SRSP	FENA	UGUM	NAS-1
TEMPERATURE (°C)	27.0	27.0	27.0	27.0	27.0	27.0	27.0	N/S	N/S	N/S	26.0	27.0	28.0	27.5
pH	7.50	7.50	7.52	7.48	7.47	7.50	7.28	N/S	N/S	N/S	7.35	7.71	7.90	7.00
TURBIDITY (NTU)	0.06	0.11	0.10	0.47	0.06	0.07	0.19	N/S	N/S	N/S	0.07	0.08	0.11	0.06
CONDUCTIVITY (μmho)	209	488	583	263	216	210	938	N/S	N/S	N/S	385	261	155	700.0
CALCIUM HARDNESS (mg/L CaCO ₃)	210.0	216.0	230.0	212.0	204.0	204.0	220.0	N/S	N/S	N/S	196.0	86.0	32.0	240.0
TOTAL HARDNESS (mg/L CaCO ₃)	236.0	280.0	292.0	250.0	240.0	220.0	268.0	N/S	N/S	N/S	204.0	104.0	50.0	278.0
CHLORIDES (Mg/l Cl ⁻)	20.5	183.9	235.9	51.5	40.5	61.0	154.9	N/S	N/S	N/S	13.5	29.5	27.5	81.0
TOTAL COLIFORM (cfu/100mL)	NEG	POS	NEG	NEG	NEG	NEG	NEG	N/S	N/S	N/S	POS	NEG	NEG	NEG
FECAL COLIFORM (cfu/100mL)	NEG	N/S	N/S	N/S	NEG	NEG	NEG	NEG						
TOTAL ALKALINITY (mg/L CaCO ₃)	193	193	195	204	193	196	216	N/S	N/S	N/S	187	96	51	229

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
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GUAM WATERWORKS AUTHORITY
P.O. BX. 3010 AGANA GU. 96910

**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
1ST QUARTER 2017**

SAMPLE NO.	127	128	129	130									
DATE	03/12/18	03/12/18	N/S	03/01/18									
LOCATION	GIAA-1	GIAA-2	GIAA-3	TUMON MAUI WELL									
TEMPERATURE (OC)	28.0	28.0	N/S	28.0									
pH	7.31	7.04	N/S	7.58									
TURBIDITY (NTU)	0.08	0.06	N/S	0.12									
CONDUCTIVITY (μmho)	601	545	N/S	716									
CALCIUM HARDNESS (mg/L CaCO ₃)	192.0	208.0	N/S	224.0									
TOTAL HARDNESS (mg/L CaCO ₃)	236.0	232.0	N/S	266.0									
CHLORIDES (Mg/l Cl ⁻)	57.0	52.5	N/S	95.0									
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	N/S	POS									
FECAL COLIFORM (cfu/100mL)	NEG	NEG	N/S	NEG									
TOTAL ALKALINITY (mg/L CaCO ₃)	189	188	N/S	203									

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
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GUAM WATERWORKS AUTHORITY
P.O. BX. 3010 AGANA GU. 96910

QUARTERLY CHEMICAL DEEPWELL ANALYSIS

2ND QUARTER 2018

SAMPLE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
DATE	04/05/18	04/05/18	04/05/18	04/05/18	04/05/18	05/24/18	04/05/18	04/05/18	04/05/18	04/05/18	04/05/18	04/05/18	04/05/18	04/05/18
LOCATION	A-1	A-2	A-3	A-4	A-5	A-6	A-7	A-8	A-9	A-10	A-11	A-12	A-13	A-14
TEMPERATURE (OC)	27.0	N/S	27.5	28.0	27.5	28.0	N/S	28.0	28.0	28.0	N/S	28.0	28.0	28.0
pH	7.17	N/S	7.17	7.06	7.16	7.12	N/S	7.09	7.39	7.12	N/S	7.32	7.14	7.51
TURBIDITY (NTU)	0.27	N/S	0.08	0.08	0.10	0.10	N/S	0.08	0.12	0.15	N/S	0.11	0.12	0.07
CONDUCTIVITY (μmho)	573	N/S	588	907	574	632	N/S	591	1404	1968	N/S	612	2240	1438
CALCIUM HARDNESS (mg/L CaCO ₃)	260.0	N/S	284.0	348.0	274.0	294.0	N/S	292.0	376.0	382.0	N/S	308.0	424.0	366.0
TOTAL HARDNESS (mg/L CaCO ₃)	286.0	N/S	330.0	360.0	300.0	302.0	N/S	300.0	412.0	468.0	N/S	320.0	528.0	380.0
CHLORIDES (Mg/l Cl ⁻)	33.0	N/S	21.0	108.5	34.0	30.0	N/S	72.5	237.9	415.8	N/S	15.0	492.8	261.4
TOTAL COLIFORM (cfu/100mL)	NEG	N/S	NEG	NEG	NEG	POS	N/S	NEG	NEG	NEG	N/S	NEG	NEG	NEG
FECAL COLIFORM (cfu/100mL)	NEG	N/S	NEG	NEG	NEG	POS	N/S	NEG	NEG	NEG	N/S	NEG	NEG	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	286	N/S	288	310	271	296	N/S	282	323	320	N/S	311	329	321

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER.

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P.O. BX. 3010 AGANA GU. 96910

QUARTERLY CHEMICAL DEEPWELL ANALYSIS

2ND QUARTER 2018

SAMPLE NO.	15	16	17	18	19	20	21	22	23	24	25	26	27	28
DATE	04/05/18	04/05/18	04/05/18	04/05/18	04/05/18	04/05/18	04/05/18	04/05/18	04/05/18	04/05/18	04/05/18	04/05/18	04/05/18	04/12/18
LOCATION	A-15	A-17	A-18	A-19	A-21	A-23	A-25	A-26	A-28	A-29	A-30	A-31	A-32	M-1
TEMPERATURE (°C)	28.0	28.0	27.5	28.0	27.5	N/S	N/S	N/S	N/S	27.5	28.0	28.0	27.5	
pH	7.49	7.51	7.22	7.85	7.42	N/S	N/S	N/S	N/S	7.26	7.23	7.24	7.76	
TURBIDITY (NTU)	0.16	0.07	0.06	0.06	0.07	N/S	N/S	N/S	N/S	0.08	0.17	0.20	0.11	
CONDUCTIVITY (μmho)	1008	1306	1709	2270	1660	N/S	N/S	N/S	N/S	868	609	547	882	
CALCIUM HARDNESS (mg/L CaCO ₃)	280.0	230.0	390.0	376.0	300.0	N/S	N/S	N/S	N/S	286.0	260.0	244.0	152.0	
TOTAL HARDNESS (mg/L CaCO ₃)	332.0	310.0	472.0	450.0	372.0	N/S	N/S	N/S	N/S	318.0	280.0	264.0	212.0	
CHLORIDES (Mg/l Cl ⁻)	149.4	254.4	338.4	498.3	339.4	N/S	N/S	N/S	N/S	98.5	27.5	27.0	136.4	
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	NEG	N/S	N/S	N/S	N/S	NEG	POS	POS	POS	
FECAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	NEG	N/S	N/S	N/S	N/S	NEG	POS	NEG	NEG	
TOTAL ALKALINITY (mg/L CaCO ₃)	266	219	331	263	281	N/S	N/S	N/S	N/S	263	256	239	200	

REMARKS: _____

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QUARTERLY CHEMICAL DEEPWELL ANALYSIS

2ND QUARTER 2018

SAMPLE NO.	29	30	31	32	33	34	35	36	37	38	39	40	41	42
DATE	04/12/18	04/12/18	04/12/18	04/12/18	04/12/18	04/12/18	04/12/18	04/12/18	04/12/18	04/12/18	04/12/18	04/12/18	04/12/18	04/12/18
LOCATION	M-2	M-3	M-4	M-5	M-6	M-7	M-8	M-9	M-12	M-14	M-15	M-16	M-17A	M-17B
TEMPERATURE (OC)	27.5	27.5	27.5	27.5	28.0	27.5	27.5	27.5	N/S	N/S	27.5	N/S	N/S	27.5
pH	7.58	7.59	7.58	7.45	7.36	7.29	7.66	7.69	N/S	N/S	7.93	N/S	N/S	7.81
TURBIDITY (NTU)	0.39	0.14	0.07	0.14	0.09	0.07	0.07	0.07	N/S	N/S	0.09	N/S	N/S	0.07
CONDUCTIVITY (μmho)	626	494	484	598	722	553	447	578	N/S	N/S	540	N/S	N/S	603
CALCIUM HARDNESS (mg/L CaCO ₃)	160.0	176.0	180.0	220.0	228.0	228.0	168.0	184.0	N/S	N/S	216.0	N/S	N/S	232.0
TOTAL HARDNESS (mg/L CaCO ₃)	236.0	250.0	244.0	252.0	256.0	256.0	208.0	224.0	N/S	N/S	264.0	N/S	N/S	272.0
CHLORIDES (Mg/l Cl ⁻)	38.5	43.5	32.5	57.5	94.0	56.0	26.0	57.5	N/S	N/S	59.0	N/S	N/S	58.5
TOTAL COLIFORM (cfu/100mL)	NEG	N/S	N/S	NEG	N/S	N/S	NEG							
FECAL COLIFORM (cfu/100mL)	NEG	N/S	N/S	NEG	N/S	N/S	NEG							
TOTAL ALKALINITY (mg/L CaCO ₃)	194	185	188	209	207	214	171	192	N/S	N/S	205	N/S	N/S	231

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER.

CERTIFIED BY: _____



QUARTERLY CHEMICAL DEEPWELL ANALYSIS

2ND QUARTER 2018

SAMPLE NO.	43	44	45	46	47	48	49	50	51	52	53	54	55	56
DATE	04/12/18	04/12/18	04/12/18	04/12/18	04/12/18	04/19/18	04/19/18	04/19/18	04/19/18	04/19/18	04/19/18	04/19/18	04/19/18	04/19/18
LOCATION	M-18	M-20 A	M-21	M-23	EX-11	D-1	D-2	D-3	D-4	D-5	D-6	D-7	D-8	D-9
TEMPERATURE (°C)	27.5	27.5	27.5	27.5	27.5	27.5	27.5	N/S	28.0	N/S	27.0	27.5	27.0	N/S
pH	7.79	7.71	7.74	7.89	7.80	6.98	6.93	N/S	6.97	N/S	6.89	6.92	6.99	N/S
TURBIDITY (NTU)	0.08	0.20	0.10	0.06	0.08	0.06	0.08	N/S	0.08	N/S	0.09	0.10	0.12	N/S
CONDUCTIVITY (μmho)	566	613	724	485	576	665	666	N/S	584	N/S	625	604	1052	N/S
CALCIUM HARDNESS (mg/L CaCO ₃)	230.0	240.0	252.0	210.0	190.0	196.0	198.0	N/S	204.0	N/S	234.0	212.0	206.0	N/S
TOTAL HARDNESS (mg/L CaCO ₃)	260.0	268.0	260.0	248.0	250.0	254.0	260.0	N/S	252.0	N/S	256.0	242.0	254.0	N/S
CHLORIDES (Mg/l Cl ⁻)	55.5	63.5	94.5	41.0	55.5	83.5	79.0	N/S	51.5	N/S	61.0	64.5	199.9	N/S
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	NEG	NEG	POS	N/S	POS	N/S	NEG	NEG	POS	N/S
FECAL COLIFORM (cfu/100mL)	NEG	N/S	NEG	N/S	NEG	NEG	NEG	N/S						
TOTAL ALKALINITY (mg/L CaCO ₃)	199	218	231	187	202	218	221	N/S	222	N/S	229	211	184	N/S

REMARKS:

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CERTIFIED BY: _____



QUARTERLY CHEMICAL DEEPWELL ANALYSIS

2ND QUARTER 2018

SAMPLE NO.	57	58	59	60	61	62	63	64	65	66	67	68	69	70
DATE	04/19/18	04/19/18	04/19/18	04/19/18	04/19/18	04/19/18	04/19/18	05/24/18	05/24/18	04/19/18	04/19/18	04/19/18	05/24/18	04/19/18
LOCATION	D-10	D-11	D-12	D-13	D-14	D-15	D-16	D-17	D-18	D-19	D-20	D-21	D-22	D-24
TEMPERATURE (OC)	N/S	28.0	27.0	N/S	27.5	27.0	N/S	28.0	28.0	28.0	28.0	28.0	28.0	27.0
pH	N/S	6.99	7.31	N/S	7.09	7.08	N/S	6.99	7.75	7.59	7.50	7.30	7.59	7.58
TURBIDITY (NTU)	N/S	0.08	0.07	N/S	0.07	0.10	N/S	0.09	0.08	0.08	0.08	0.08	0.09	0.07
CONDUCTIVITY (μmho)	N/S	713	422	N/S	613	659	N/S	470	680	597	650	624	444	581
CALCIUM HARDNESS (mg/L CaCO ₃)	N/S	230.0	184.0	N/S	214.0	222.0	N/S	226.0	220.0	198.0	202.0	208.0	210.0	220.0
TOTAL HARDNESS (mg/L CaCO ₃)	N/S	270.0	206.0	N/S	240.0	250.0	N/S	240.0	266.0	220.0	240.0	242.0	220.0	236.0
CHLORIDES (Mg/l Cl ⁻)	N/S	84.5	22.5	N/S	72.0	71.0	N/S	7.5	79.5	70.0	80.5	71.5	25.0	61.5
TOTAL COLIFORM (cfu/100mL)	N/S	POS	NEG	N/S	NEG	NEG	N/S	NEG						
FECAL COLIFORM (cfu/100mL)	N/S	NEG	NEG	N/S	NEG	NEG	N/S	NEG						
TOTAL ALKALINITY (mg/L CaCO ₃)	N/S	223	180	N/S	200	218	N/S	213	212	183	198	200	201	202

REMARKS:

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CERTIFIED BY: _____



P.O. BX. 3010 AGANA GU. 96910

QUARTERLY CHEMICAL DEEPWELL ANALYSIS

2ND QUARTER 2018

SAMPLE NO.	71	72	73	74	75	76	77	78	79	80	81	82	83	84
DATE	04/19/18	04/19/18	04/19/18	04/19/18	04/19/18	04/26/18	04/26/18	04/26/18	04/26/18	04/26/18	04/26/18	04/26/18	04/26/18	04/26/18
LOCATION	D-25	D-26	D-27	D-28	EX-5A	Y-1	Y-2	Y-3	Y-4A	Y-5	Y-6	Y-7	Y-9	Y-10
TEMPERATURE (OC)	28.0	28.0	27.0	N/S	27.0	N/S	28.0	28.0	N/S	27.5	28.0	28.0	28.0	27.5
pH	7.53	7.49	7.61	N/S	7.49	N/S	7.32	7.33	N/S	7.24	7.81	7.61	7.59	7.51
TURBIDITY (NTU)	0.12	0.12	0.07	N/S	0.06	N/S	0.22	0.14	N/S	0.07	0.05	0.16	0.06	0.09
CONDUCTIVITY (μmho)	500	1000	470	N/S	588	N/S	507	506	N/S	624	485	550	547	559
CALCIUM HARDNESS (mg/L CaCO ₃)	184.0	204.0	198.0	N/S	214.0	N/S	212.0	230.0	N/S	224.0	224.0	264.0	276.0	216.0
TOTAL HARDNESS (mg/L CaCO ₃)	198.0	242.0	208.0	N/S	256.0	N/S	272.0	264.0	N/S	260.0	252.0	296.0	288.0	256.0
CHLORIDES (Mg/l Cl ⁻)	53.0	193.9	32.5	N/S	49.0	N/S	28.5	29.0	N/S	64.5	40.0	22.5	27.0	63.5
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	N/S	POS	N/S	NEG	NEG	N/S	NEG	NEG	NEG	POS	NEG
FECAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	N/S	NEG	N/S	NEG	NEG	N/S	NEG	NEG	NEG	NEG	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	171	185	188	N/S	224	N/S	228	243	N/S	214	224	256	258	221

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER.

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QUARTERLY CHEMICAL DEEPWELL ANALYSIS

2ND QUARTER 2018

SAMPLE NO.	85	86	87	88	89	90	91	92	93	94	95	96	97	98
DATE	04/26/18	04/26/18	04/26/18	04/26/18	04/26/18	04/26/18	04/26/18	04/26/18	04/26/18	04/26/18	04/26/18	04/26/18	04/30/18	04/30/18
LOCATION	Y-12	Y-14	Y-15	Y-16	Y-17	Y-18	Y-19	Y-20	Y-21	Y-22	Y-23	GH-501	F-1	F-2
TEMPERATURE (°C)	27.5	28.0	27.5	27.5	27.5	27.0	27.5	27.0	27.5	27.5	27.5	27.0	27.0	27.5
pH	7.84	7.54	7.89	7.67	7.60	7.71	7.65	7.98	7.79	7.68	7.52	7.63	8.00	7.91
TURBIDITY (NTU)	0.08	0.08	0.07	0.07	0.07	0.10	0.09	0.07	0.13	0.06	0.07	0.26	0.11	0.63
CONDUCTIVITY (μmho)	583	558	365	534	474	466	537	487	548	453	495	755	661	758
CALCIUM HARDNESS (mg/L CaCO ₃)	210.0	206.0	212.0	176.0	216.0	232.0	208.0	192.0	224.0	216.0	250.0	230.0	188.0	196.0
TOTAL HARDNESS (mg/L CaCO ₃)	260.0	236.0	264.0	192.0	252.0	244.0	252.0	224.0	264.0	232.0	270.0	276.0	216.0	244.0
CHLORIDES (Mg/l Cl ⁻)	21.0	60.0	34.0	14.0	33.5	28.0	34.5	35.5	34.5	18.0	21.0	111.0	105.0	142.9
TOTAL COLIFORM (cfu/100mL)	NEG	POS	NEG											
FECAL COLIFORM (cfu/100mL)	NEG													
TOTAL ALKALINITY (mg/L CaCO ₃)	224	210	168	240	236	204	238	203	242	215	246	220	182	198

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
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QUARTERLY CHEMICAL DEEPWELL ANALYSIS

2ND QUARTER 2018

SAMPLE NO.	99	100	101	102	103	104	105	106	107	108	109	110	111	112
DATE	04/30/18	04/30/18	04/30/18	04/30/18	04/30/18	04/30/18	04/30/18	04/30/18	04/30/18	04/30/18	04/30/18	04/30/18	04/30/18	04/30/18
LOCATION	F-3	F-4	F-5	F-6	F-7	F-8	F-9	F-10	F-11	F-12	F-13	F-15	F-16	F-17
TEMPERATURE (°C)	27.5	27.5	27.0	27.5	27.5	27.5	28.0	N/S	27.5	27.5	27.0	27.5	27.5	27.5
pH	7.82	7.74	7.48	7.29	7.44	7.30	7.23	N/S	7.66	7.24	7.20	7.29	7.28	7.29
TURBIDITY (NTU)	0.21	0.23	0.16	0.07	0.10	0.06	0.06	N/S	0.15	0.07	0.08	0.09	0.08	0.08
CONDUCTIVITY (μmho)	671	740	641	1165	632	469	571	N/S	718	443	1213	525	446	415
CALCIUM HARDNESS (mg/L CaCO ₃)	204.0	220.0	212.0	208.0	196.0	216.0	216.0	N/S	212.0	216.0	220.0	210.0	208.0	204.0
TOTAL HARDNESS (mg/L CaCO ₃)	236.0	256.0	236.0	276.0	216.0	228.0	236.0	N/S	250.0	250.0	296.0	224.0	220.0	228.0
CHLORIDES (Mg/L Cl ⁻)	99.5	108.0	90.0	239.4	89.5	23.5	62.0	N/S	101.5	20.5	254.9	50.5	19.0	7.5
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	POS	NEG	NEG	N/S	POS	NEG	POS	NEG	NEG	NEG
FECAL COLIFORM (cfu/100mL)	NEG	N/S	NEG	NEG	NEG	NEG	NEG	NEG						
TOTAL ALKALINITY (mg/L CaCO ₃)	195	216	193	192	177	203	198	N/S	194	196	193	197	201	193

REMARKS:

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QUARTERLY CHEMICAL DEEPWELL ANALYSIS

2ND QUARTER 2018

SAMPLE NO.	113	114	115	116	117	118	119	120	121	122	123	124	125	126
DATE	04/30/18	05/11/17	05/11/17	05/11/17	05/11/17	05/11/17	04/12/18	05/02/18	05/02/18	05/02/18	05/02/18	05/02/18	05/02/18	04/05/18
LOCATION	F-18	F-19	F-20	AG-1	AG-2A	HGC-2	H-1	MJ-1	MJ-5	ASAN	SRSP	FENA	UGUM	NAS-1
TEMPERATURE (°C)	N/S	28.0	27.5	27.0	27.0	27.0	27.0	N/S	N/S	N/S	30.0	30.0	28.5	28.0
pH	N/S	7.32	7.32	7.30	7.38	7.40	7.73	N/S	N/S	N/S	7.34	7.76	7.63	7.52
TURBIDITY (NTU)	N/S	0.10	0.11	0.12	0.08	0.08	0.11	N/S	N/S	N/S	0.13	0.12	0.06	0.06
CONDUCTIVITY (μmho)	N/S	1062	1166	528	428	417	934	N/S	N/S	N/S	380	267	91	720
CALCIUM HARDNESS (mg/L CaCO ₃)	N/S	208.0	236.0	192.0	196.0	192.0	264.0	N/S	N/S	N/S	184.0	8.0	8.0	264.0
TOTAL HARDNESS (mg/L CaCO ₃)	N/S	272.0	292.0	216.0	208.0	212.0	280.0	N/S	N/S	N/S	200.0	108.0	26.0	286.0
CHLORIDES (Mg/l Cl ⁻)	N/S	208.4	238.4	51.5	23.0	20.5	141.4	N/S	N/S	N/S	10.5	24.5	25.0	78.0
TOTAL COLIFORM (cfu/100mL)	N/S	NEG	NEG	NEG	NEG	NEG	POS	N/S	N/S	N/S	POS	NEG	NEG	NEG
FECAL COLIFORM (cfu/100mL)	N/S	NEG	NEG	NEG	NEG	NEG	NEG	N/S	N/S	N/S	NEG	NEG	NEG	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	N/S	195	200	207	195	196	211	N/S	N/S	N/S	186	108	22	315

REMARKS:

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QUARTERLY CHEMICAL DEEPWELL ANALYSIS

2ND QUARTER 2018

SAMPLE NO.	127	128	129	130																
DATE	05/10/18	05/10/18	05/10/18	05/10/18																
LOCATION	GIAA-1	GIAA-2	GIAA-3	TUMON MAUI WELL																
TEMPERATURE (0C)	28.0	27.5	N/S	28.0																
pH	7.16	7.25	N/S	7.10																
TURBIDITY (NTU)	0.07	0.08	N/S	0.15																
CONDUCTIVITY (μmho)	600	538	N/S	718																
CALCIUM HARDNESS (mg/L CaCO ₃)	208.0	200.0	N/S	208.0																
TOTAL HARDNESS (mg/L CaCO ₃)	228.0	228.0	N/S	256.0																
CHLORIDES (Mg/l Cl ⁻)	64.5	45.5	N/S	98.0																
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	N/S	NEG																
FECAL COLIFORM (cfu/100mL)	NEG	NEG	N/S	NEG																
TOTAL ALKALINITY (mg/L CaCO ₃)	204	202	N/S	215																

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
3RD QUARTER 2018**

SAMPLE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
DATE	07/12/18	07/12/18	07/12/18	07/12/18	07/13/18	07/12/18	07/12/18	07/12/18	07/12/18	07/12/18	07/12/18	07/12/18	07/12/18	07/12/18
LOCATION	A-1	A-2	A-3	A-4	A-5	A-6	A-7	A-8	A-9	A-10	A-11	A-12	A-13	A-14
TEMPERATURE (0C)	N/S	N/S	28.0	28.0	28.0	27.5	N/S	28.0	28.0	28.0	N/S	27.0	28.0	27.5
pH	N/S	N/S	7.24	7.04	6.97	6.91	N/S	7.09	7.23	7.23	N/S	7.13	7.01	7.03
TURBIDITY (NTU)	N/S	N/S	0.09	0.11	0.11	0.16	N/S	0.28	0.14	0.10	N/S	0.10	0.14	0.08
CONDUCTIVITY (μmho)	N/S	N/S	498	832	562	640	N/S	517	1212	1758	N/S	541	1989	1276
CALCIUM HARDNESS (mg/L CaCO ₃)	N/S	N/S	254.0	340.0	258.0	294.0	N/S	290.0	394.0	380.0	N/S	312.0	432.0	362.0
TOTAL HARDNESS (mg/L CaCO ₃)	N/S	N/S	292.0	358.0	282.0	298.0	N/S	294.0	422.0	396.0	N/S	382.0	522.0	420.0
CHLORIDES (Mg/l Cl ⁻)	N/S	N/S	24.5	127.9	41.0	43.0	N/S	30.5	251.4	418.3	N/S	38.5	521.3	289.9
TOTAL COLIFORM (PRESENCE/ABSENCE)	N/S	N/S	NEG	NEG	NEG	POS	N/S	NEG	NEG	NEG	N/S	NEG	POS	POS
FECAL COLIFORM (PRESENCE/ABSENCE)	N/S	N/S	NEG	NEG	NEG	POS	N/S	NEG	NEG	NEG	N/S	NEG	NEG	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	N/S	N/S	290	317	267	299	N/S	290	326	317	N/S	311	330	327

REMARKS:

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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
3RD QUARTER 2018**

SAMPLE NO.	15	16	17	18	19	20	21	22	23	24	25	26	27	28
DATE	07/12/18	07/12/18	07/12/18	07/12/18	07/12/18	07/12/18	07/12/18	07/12/18	07/12/18	07/12/18	07/13/18	07/13/18	07/13/18	07/16/18
LOCATION	A-15	A-17	A-18	A-19	A-21	A-23	A-25	A-26	A-28	A-29	A-30	A-31	A-32	M-1
TEMPERATURE (0C)	28.0	28.0	27.5	28.0	28.0	N/S	N/S	N/S	N/S	N/S	28.0	28.0	27.5	27.0
pH	7.10	7.08	7.07	6.90	7.03	N/S	N/S	N/S	N/S	N/S	6.93	7.03	7.09	7.24
TURBIDITY (NTU)	0.08	0.15	0.09	0.11	0.07	N/S	N/S	N/S	N/S	N/S	0.11	0.22	0.17	0.22
CONDUCTIVITY (μmho)	928	1073	1570	2005	1480	N/S	N/S	N/S	N/S	N/S	765	592	548	844
CALCIUM HARDNESS (mg/L CaCO ₃)	276.0	230.0	402.0	380.0	296.0	N/S	N/S	N/S	N/S	N/S	282.0	250.0	238.0	170.0
TOTAL HARDNESS (mg/L CaCO ₃)	334.0	290.0	462.0	478.0	376.0	N/S	N/S	N/S	N/S	N/S	302.0	290.0	260.0	260.0
CHLORIDES (Mg/l Cl ⁻)	176.9	248.4	392.8	524.8	401.8	N/S	N/S	N/S	N/S	N/S	84.5	44.0	25.5	144.9
TOTAL COLIFORM (PRESENCE/ABSENCE)	NEG	POS	POS	POS	POS	N/S	N/S	N/S	N/S	N/S	POS	POS	POS	NEG
FECAL COLIFORM (PRESENCE/ABSENCE)	NEG	NEG	NEG	NEG	NEG	N/S	N/S	N/S	N/S	N/S	NEG	POS	NEG	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	266	217	328	308	254	N/S	N/S	N/S	N/S	N/S	275	257	251	203

REMARKS:

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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
3RD QUARTER 2018**

SAMPLE NO.	29	30	31	32	33	34	35	36	37	38	39	40	41	42
DATE	07/16/18	07/16/18	07/16/18	07/16/18	08/09/18	07/16/18	07/16/18	07/16/18	07/16/18	07/16/18	07/16/18	07/16/18	07/16/18	07/16/18
LOCATION	M-2	M-3	M-4	M-5	M-6	M-7	M-8	M-9	M-12	M-14	M-15	M-16	M-17A	M-17B
TEMPERATURE (0C)	27.5	27.0	27.5	27.0	28.0	27.0	27.0	27.0	N/S	N/S	27.0	N/S	N/S	27.0
pH	7.45	7.62	7.57	7.34	7.50	7.36	7.49	7.41	N/S	N/S	7.55	N/S	N/S	7.48
TURBIDITY (NTU)	0.32	0.21	0.09	0.26	0.08	0.18	0.09	0.12	N/S	N/S	0.10	N/S	N/S	0.12
CONDUCTIVITY (μmho)	636	485	480	602	705	549	450	706	N/S	N/S	558	N/S	N/S	605
CALCIUM HARDNESS (mg/L CaCO ₃)	186.0	172.0	192.0	202.0	208.0	208.0	160.0	172.0	N/S	N/S	208.0	N/S	N/S	224.0
TOTAL HARDNESS (mg/L CaCO ₃)	250.0	218.0	220.0	238.0	236.0	232.0	206.0	238.0	N/S	N/S	230.0	N/S	N/S	242.0
CHLORIDES (Mg/l Cl ⁻)	82.5	56.0	58.5	68.5	100.0	61.5	38.0	47.5	N/S	N/S	60.5	N/S	N/S	66.0
TOTAL COLIFORM (PRESENCE/ABSENCE)	POS	NEG	N/S	N/S	NEG	N/S	N/S	NEG						
FECAL COLIFORM (PRESENCE/ABSENCE)	NEG	N/S	N/S	NEG	N/S	N/S	NEG							
TOTAL ALKALINITY (mg/L CaCO ₃)	195	198	196	219	206	210	183	194	N/S	N/S	203	N/S	N/S	232

REMARKS:

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QUARTERLY CHEMICAL DEEPWELL ANALYSIS
3RD QUARTER 2018

SAMPLE NO.	43	44	45	46	47	48	49	50	51	52	53	54	55	56
DATE	07/16/18	07/16/18	07/16/18	07/16/18	07/16/18	07/25/18	07/25/18	07/25/18	07/25/18	07/25/18	07/25/18	07/25/18	07/25/18	07/25/18
LOCATION	M-18	M-20 A	M-21	M-23	EX-11	D-1	D-2	D-3	D-4	D-5	D-6	D-7	D-8	D-9
TEMPERATURE (0C)	27.0	27.0	27.0	27.0	27.5	27.0	27.0	N/S	27.0	N/S	27.0	27.0	27.0	27.0
pH	7.48	7.41	7.29	7.54	7.45	7.65	7.56	N/S	7.51	N/S	7.46	7.48	7.50	7.46
TURBIDITY (NTU)	0.13	0.11	0.08	0.10	0.12	0.08	0.07	N/S	0.07	N/S	0.07	0.18	0.16	0.15
CONDUCTIVITY (μmho)	535	618	750	487	572	657	655	N/S	585	N/S	625	611	1037	972
CALCIUM HARDNESS (mg/L CaCO ₃)	202.0	222.0	224.0	196.0	166.0	204.0	208.0	N/S	206.0	N/S	228.0	212.0	198.0	226.0
TOTAL HARDNESS (mg/L CaCO ₃)	230.0	262.0	276.0	208.0	238.0	252.0	254.0	N/S	246.0	N/S	258.0	244.0	264.0	282.0
CHLORIDES (Mg/l Cl ⁻)	45.5	70.0	97.0	48.0	62.0	78.5	75.5	N/S	56.5	N/S	76.5	64.0	193.4	152.9
TOTAL COLIFORM (PRESENCE/ABSENCE)	POS	NEG	NEG	NEG	NEG	NEG	POS	N/S	NEG	N/S	NEG	NEG	NEG	POS
FECAL COLIFORM (PRESENCE/ABSENCE)	NEG	N/S	NEG	N/S	NEG	NEG	NEG	NEG						
TOTAL ALKALINITY (mg/L CaCO ₃)	197	220	235	191	201	219	221	N/S	222	N/S	228	213	185	229

REMARKS:

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QUARTERLY CHEMICAL DEEPWELL ANALYSIS

3RD QUARTER 2018

SAMPLE NO.	57	58	59	60	61	62	63	64	65	66	67	68	69	70
DATE	07/25/18	07/25/18	07/25/18	07/25/18	07/25/18	07/25/18	07/25/18	07/25/18	07/25/18	07/25/18	07/25/18	07/25/18	07/25/18	07/25/18
LOCATION	D-10	D-11	D-12	D-13	D-14	D-15	D-16	D-17A	D-18B	D-19	D-20	D-21	D-22A	D-24
TEMPERATURE (0C)	N/S	27.0	27.0	N/S	27.0	27.5	27.5	27.5	N/S	27.5	27.5	27.5	27.5	27.5
pH	N/S	7.57	7.61	N/S	7.45	7.18	7.13	7.09	N/S	7.12	7.13	7.25	7.28	7.20
TURBIDITY (NTU)	N/S	0.10	0.09	N/S	0.13	0.09	0.07	0.05	N/S	0.06	0.08	0.10	0.10	0.07
CONDUCTIVITY (μmho)	N/S	686	431	N/S	622	654	668	485	N/S	600	641	630	443	580
CALCIUM HARDNESS (mg/L CaCO ₃)	N/S	222.0	182.0	N/S	220.0	0.0	216.0	218.0	N/S	192.0	200.0	214.0	206.0	218.0
TOTAL HARDNESS (mg/L CaCO ₃)	N/S	260.0	192.0	N/S	230.0	220.0	250.0	234.0	N/S	222.0	238.0	238.0	214.0	238.0
CHLORIDES (Mg/l Cl ⁻)	N/S	86.0	45.5	N/S	75.0	230.0	78.0	25.5	N/S	81.0	80.0	76.0	28.0	77.0
TOTAL COLIFORM (PRESENCE/ABSENCE)	N/S	POS	NEG	N/S	NEG	POS	POS	POS	N/S	NEG	NEG	POS	NEG	NEG
FECAL COLIFORM (PRESENCE/ABSENCE)	N/S	NEG	NEG	N/S	NEG	NEG	NEG	NEG	N/S	NEG	NEG	NEG	NEG	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	N/S	222	178	N/S	207	216	211	215	N/S	185	198	205	199	205

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
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QUARTERLY CHEMICAL DEEPWELL ANALYSIS

3RD QUARTER 2018

SAMPLE NO.	71	72	73	74	75	76	77	78	79	80	81	82	83	84
DATE	07/25/18	07/25/18	07/25/18	07/25/18	07/25/18	07/31/18	07/31/18	07/31/18	07/31/18	07/31/18	07/31/18	07/31/18	07/31/18	07/31/18
LOCATION	D-25	D-26	D-27	D-28	EX-5A	Y-1	Y-2	Y-3	Y-4A	Y-5	Y-6	Y-7	Y-9	Y-10
TEMPERATURE (OC)	27.0	27.5	27.5	N/S	27.0	N/S	N/S	27.5	27.0	N/S	27.5	27.5	28.0	27.5
pH	7.61	7.49	7.51	N/S	7.59	N/S	N/S	6.94	6.98	N/S	6.85	7.01	7.03	7.06
TURBIDITY (NTU)	0.08	0.12	0.07	N/S	0.15	N/S	N/S	0.34	0.10	N/S	0.08	0.09	0.11	0.10
CONDUCTIVITY (μmho)	476	1004	473	N/S	588	N/S	N/S	519	542	N/S	494	566	563	569
CALCIUM HARDNESS (mg/L CaCO ₃)	184.0	210.0	194.0	N/S	226.0	N/S	N/S	230.0	214.0	N/S	224.0	250.0	242.0	204.0
TOTAL HARDNESS (mg/L CaCO ₃)	192.0	260.0	208.0	N/S	260.0	N/S	N/S	252.0	260.0	N/S	248.0	278.0	280.0	244.0
CHLORIDES (Mg/l Cl ⁻)	59.5	192.9	49.5	N/S	52.5	N/S	N/S	33.5	64.5	N/S	32.5	26.5	48.0	52.0
TOTAL COLIFORM (PRESENCE/ABSENCE)	POS	NEG	POS	N/S	NEG	N/S	N/S	POS	NEG	N/S	NEG	NEG	POS	NEG
FECAL COLIFORM (PRESENCE/ABSENCE)	NEG	NEG	NEG	N/S	NEG	N/S	N/S	POS	NEG	N/S	NEG	NEG	POS	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	171	183	183	N/S	224	N/S	N/S	244	234	N/S	218	250	258	216

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER.

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P.O. BX. 3010 AGANA GU. 96910

**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
3RD QUARTER 2018**

SAMPLE NO.	85	86	87	88	89	90	91	92	93	94	95	96	97	98
DATE	07/31/18	07/31/18	07/31/18	07/31/18	07/31/18	07/31/18	08/09/18	07/31/18	07/31/18	07/31/18	07/31/18	07/31/18	08/02/18	08/02/18
LOCATION	Y-12	Y-14	Y-15	Y-16	Y-17	Y-18	Y-19	Y-20	Y-21	Y-22	Y-23	GH-501	F-1	F-2
TEMPERATURE (0C)	27.5	27.0	27.5	27.0	27.0	27.0	28.0	27.0	27.0	27.0	27.0	27.0	N/S	27.0
pH	7.52	7.56	7.81	7.60	7.53	7.75	7.48	7.73	7.65	7.64	7.60	7.55	N/S	7.84
TURBIDITY (NTU)	0.10	0.09	0.21	0.08	0.13	0.14	0.11	0.11	0.10	0.08	0.09	0.09	N/S	0.19
CONDUCTIVITY (μmho)	608	613	369	557	499	482	544	504	567	472	520	802	N/S	754
CALCIUM HARDNESS (mg/L CaCO ₃)	210.0	216.0	170.0	218.0	232.0	202.0	208.0	184.0	210.0	212.0	242.0	208.0	N/S	184.0
TOTAL HARDNESS (mg/L CaCO ₃)	248.0	218.0	264.0	250.0	224.0	240.0	248.0	212.0	264.0	226.0	264.0	272.0	N/S	250.0
CHLORIDES (Mg/l Cl ⁻)	59.5	63.5	21.5	65.5	51.0	46.0	56.0	42.5	38.0	50.0	38.0	116.0	N/S	114.5
TOTAL COLIFORM (PRESENCE/ABSENCE)	NEG	NEG	NEG	NEG	NEG	NEG	POS	NEG	NEG	NEG	POS	POS	N/S	NEG
FECAL COLIFORM (PRESENCE/ABSENCE)	NEG	N/S	NEG											
TOTAL ALKALINITY (mg/L CaCO ₃)	223	218	165	241	235	202	206	203	239	212	246	220	N/S	195

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER.

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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
3RD QUARTER 2018**

SAMPLE NO.	99	100	101	102	103	104	105	106	107	108	109	110	111	112
DATE	08/02/18	08/02/18	08/09/18	08/01/18	08/01/18	08/01/18	08/01/18	08/01/18	08/02/18	08/01/18	08/01/18	08/01/18	08/01/18	08/01/18
LOCATION	F-3	F-4	F-5	F-6	F-7	F-8	F-9	F-10	F-11	F-12	F-13	F-15	F-16	F-17
TEMPERATURE (°C)	27.0	27.0	28.0	27.5	27.5	27.5	27.0	N/S	27.0	27.5	27.0	27.0	27.0	27.0
pH	7.90	7.81	7.36	7.32	7.38	7.31	7.01	N/S	7.66	7.10	7.50	7.48	7.43	7.43
TURBIDITY (NTU)	0.10	0.11	0.19	0.06	0.08	0.06	0.05	N/S	0.10	0.06	0.07	0.07	0.06	0.06
CONDUCTIVITY (μmho)	700	797	661	1245	653	485	590	N/S	745	464	1251	537	463	428
CALCIUM HARDNESS (mg/L CaCO ₃)	192.0	216.0	204.0	220.0	212.0	216.0	216.0	N/S	216.0	212.0	224.0	212.0	212.0	204.0
TOTAL HARDNESS (mg/L CaCO ₃)	244.0	270.0	232.0	276.0	232.0	230.0	230.0	N/S	240.0	228.0	290.0	230.0	244.0	216.0
CHLORIDES (Mg/l Cl ⁻)	103.0	118.0	101.0	272.9	100.0	59.5	75.5	N/S	119.5	57.0	262.4	79.0	46.0	37.5
TOTAL COLIFORM (PRESENCE/ABSENCE)	NEG	NEG	POS	NEG	POS	NEG	NEG	N/S	POS	POS	NEG	NEG	NEG	NEG
FECAL COLIFORM (PRESENCE/ABSENCE)	NEG	N/S	NEG	NEG	NEG	NEG	NEG	NEG						
TOTAL ALKALINITY (mg/L CaCO ₃)	196	214	189	194	180	204	198	N/S	192	194	193	202	206	196

REMARKS: _____

 ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
3RD QUARTER 2018**

SAMPLE NO.	113	114	115	116	117	118	119	120	121	122	123	124	125	126
DATE	08/01/18	08/02/18	08/02/18	08/02/18	08/02/18	08/02/18	07/16/18	08/02/18	08/02/18	08/02/18	08/02/18	08/02/18	08/02/18	07/12/18
LOCATION	F-18	F-19	F-20	AG-1	AG-2A	HGC-2	H-1	MJ-1	MJ-5	ASAN	SRSP	FENA	UGUM	NAS-1
TEMPERATURE (0C)	27.0	27.0	27.0	27.0	27.0	27.0	27.0	N/S	N/S	N/S	27.5	29.5	27.0	27.5
pH	7.42	7.53	7.46	7.48	7.58	7.59	7.23	N/S	N/S	N/S	7.36	7.72	7.79	7.17
TURBIDITY (NTU)	0.06	0.10	0.09	0.16	0.07	0.07	0.08	N/S	N/S	N/S	0.12	0.07	0.09	0.07
CONDUCTIVITY (μmho)	431	1137	1258	553	438	428	939	N/S	N/S	N/S	392	260		683
CALCIUM HARDNESS (mg/L CaCO ₃)	208.0	216.0	224.0	204.0	196.0	196.0	222.0	N/S	N/S	N/S	196.0	90.0	16.0	240.0
TOTAL HARDNESS (mg/L CaCO ₃)	216.0	272.0	288.0	230.0	210.0	210.0	272.0	N/S	N/S	N/S	208.0	100.0	44.0	298.0
CHLORIDES (Mg/l Cl ⁻)	20.0	232.4	273.4	56.5	105.0	35.0	157.9	N/S	N/S	N/S	26.5	29.0	38.0	99.5
TOTAL COLIFORM (PRESENCE/ABSENCE)	NEG	N/S	N/S	N/S	POS	NEG	NEG	NEG						
FECAL COLIFORM (PRESENCE/ABSENCE)	NEG	N/S	N/S	N/S	POS	NEG	NEG	NEG						
TOTAL ALKALINITY (mg/L CaCO ₃)	200	195	197	203	192	195	213	N/S	N/S	N/S	194	105	40	239

REMARKS:

 ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
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QUARTERLY CHEMICAL DEEPWELL ANALYSIS
3RD QUARTER 2018

SAMPLE NO.	127	128	129	130																
DATE	07/30/18	07/30/18	07/30/18	07/30/18																
LOCATION	GIAA-1	GIAA-2	GIAA-3	TUMON MAUI WELL																
TEMPERATURE (0C)	28.5	27.5	N/S	28.0																
pH	7.48	7.34	N/S	7.23																
TURBIDITY (NTU)	0.06	0.07	N/S	0.06																
CONDUCTIVITY (μmho)	585	523	N/S	730																
CALCIUM HARDNESS (mg/L CaCO ₃)	208.0	198.0	N/S	218.0																
TOTAL HARDNESS (mg/L CaCO ₃)	230.0	222.0	N/S	254.0																
CHLORIDES (Mg/l Cl ⁻)	73.0	57.5	N/S	122.0																
TOTAL COLIFORM (PRESENCE/ABSENCE)	NEG	NEG	N/S	NEG																
FECAL COLIFORM (PRESENCE/ABSENCE)	NEG	NEG	N/S	NEG																
TOTAL ALKALINITY (mg/L CaCO ₃)	207	205	N/S	211																

REMARKS:

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
 4th QUARTER 2018**

SAMPLE NO.															
DATE	N/S	N/S	10/03/18	10/03/18	10/03/18	10/03/18	N/S	10/03/18	10/03/18	10/03/18	10/03/18	10/03/18	10/03/18	10/03/18	10/03/18
LOCATION	A-1	A-2	A-3	A-4	A-5	A-6	A-7	A-8	A-9	A-10	A-12	A-13	A-14	A-15	
TEMPERATURE (°C)	N/S	N/S	27.5	28.0	28.0	28.0	N/S	28.0	30.0	28.0	28.0	27.0	28.0	28.0	28.0
pH	N/S	N/S	7.01	6.69	6.89	7.50	N/S	7.58	7.55	7.44	7.57	7.33	7.29	7.62	
TURBIDITY (NTU)	N/S	N/S	0.15	0.18	0.08	0.24	N/S	0.15	0.33	0.14	0.27	0.09	0.07	0.21	
CONDUCTIVITY (μmho)	N/S	N/S	586.0	880.0	565.0	596.0	N/S	546.0	1392.0	1542.0	623.0	1132.0	684.0	482.0	
CALCIUM HARDNESS (mg/L CaCO ₃)	N/S	N/S	280	300	270	280	N/S	256	380	352	300	416	372	284	
TOTAL HARDNESS (mg/L CaCO ₃)	N/S	N/S	292	330	276	296	N/S	392	392	380	316	524	416	330	
CHLORIDES (Mg/l Cl ⁻)	N/S	N/S	26.5	91.5	42.5	32.5	N/S	32.5	233.9	291.9	28.5	437.8	238.4	137.9	
TOTAL COLIFORM (cfu/100mL)	N/S	N/S	NEG	NEG	NEG	POS	N/S	POS	POS	POS	POS	NEG	NEG	NEG	
FECAL COLIFORM (cfu/100mL)	N/S	N/S	NEG	NEG	NEG	NEG	N/S	NEG							
TOTAL ALKALINITY (mg/L CaCO ₃)	N/S	N/S	287	313	278	287	N/S	268	327	318	315	331	337	271	

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
 WASTEWATER. 22ND ED.

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QUARTERLY CHEMICAL DEEPWELL ANALYSIS
4th QUARTER 2018

SAMPLE NO.														
DATE	10/03/18	10/03/18	10/03/18	10/03/18	N/S	N/S	N/S	N/S	N/S	10/03/18	10/03/18	10/03/18	10/03/18	
LOCATION	A-17	A-18	A-19	A-21	A-23	A-25	A-26	A-28	A-29	A-30	A-31	A-32	NAS-1	
TEMPERATURE (0C)	28.0	28.0	27.5	28.0	N/S	N/S	N/S	N/S	N/S	28.0	27.5	27.5	27.5	
pH	7.54	7.38	7.34	7.47	N/S	N/S	N/S	N/S	N/S	7.62	7.52	7.47	7.84	
TURBIDITY (NTU)	0.79	0.11	0.08	0.35	N/S	N/S	N/S	N/S	N/S	0.07	0.19	0.11	0.13	
CONDUCTIVITY (μmho)	477.0	827.0	1060.0	757.0	N/S	N/S	N/S	N/S	N/S	291.0	288.0	269.0	364.0	
CALCIUM HARDNESS (mg/L CaCO ₃)	232.0	408.0	364.0	296.0	N/S	N/S	N/S	N/S	N/S	260.0	256.0	272.0	224.0	
TOTAL HARDNESS (mg/L CaCO ₃)	264.0	440.0	456.0	356.0	N/S	N/S	N/S	N/S	N/S	276.0	276.0	292.0	284.0	
CHLORIDES (Mg/l Cl ⁻)	151.9	316.4	441.3	318.9	N/S	N/S	N/S	N/S	N/S	78.5	47.0	42.5	99.5	
TOTAL COLIFORM (cfu/100mL)	NEG	POS	NEG	POS	N/S	N/S	N/S	N/S	N/S	POS	POS	NEG	NEG	
FECAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	N/S	N/S	N/S	N/S	N/S	NEG	POS	NEG	NEG	
TOTAL ALKALINITY (mg/L CaCO ₃)	218.0	332.0	313.0	260.0	N/S	N/S	N/S	N/S	N/S	285.0	262.0	258.0	232.0	

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER 22ND ED.

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P.O. BX. 3010 AGANA GU. 96910

**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
4TH QUARTER 2018**

SAMPLE NO.															
DATE	11/08/18	10/17/18	N/S	10/17/18	N/S	10/17/18	10/17/18	10/17/18	10/17/18	11/08/18	10/17/18	N/S	N/S	10/17/18	
LOCATION	D-1	D-2	D-3	D-4	D-5	D-6	D-7	D-8	D-9	D-10	D-11	D-12	D-13	D-14	
TEMPERATURE (°C)	27.0	27.5	N/S	27.5	N/S	27.0	27.0	27.0	27.5	27.0	27.5	N/S	N/S	27.5	
pH	7.21	7.14	N/S	7.16	N/S	7.03	7.09	7.10	7.14	7.28	7.34	N/S	N/S	7.36	
TURBIDITY (NTU)	0.07	0.16	N/S	0.07	N/S	0.06	0.07	0.07	0.11	0.10	0.07	N/S	N/S	0.08	
CONDUCTIVITY (μmho)	653	654.0	N/S	583.0	N/S	617.0	614.0	1024.0	1162.0	559.0	688.0	N/S	N/S	604.0	
CALCIUM HARDNESS (mg/L CaCO ₃)	198	214	N/S	212	N/S	224	212	202	234	202	220	N/S	N/S	206	
TOTAL HARDNESS (mg/L CaCO ₃)	254	246	N/S	246	N/S	252	244	306	306	242	256	N/S	N/S	228	
CHLORIDES (Mg/l Cl ⁻)	80.0	81.0	N/S	66.0	N/S	60.0	196.9	207.9	91.0	57.5	69.5	N/S	N/S	85.5	
TOTAL COLIFORM (cfu/100mL)	NEG	POS	N/S	NEG	N/S	POS	NEG	NEG	NEG	POS	POS	N/S	N/S	NEG	
FECAL COLIFORM (cfu/100mL)	NEG	NEG	N/S	NEG	N/S	NEG	NEG	NEG	NEG	NEG	NEG	N/S	N/S	NEG	
TOTAL ALKALINITY (mg/L CaCO ₃)	220	211	N/S	219	N/S	229	215	185	228	221	224	N/S	N/S	205	

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER. 22ND ED.

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GUAM WATERWORKS AUTHORITY

P.O. BX. 3010 AGANA GU. 96910

**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
4TH QUARTER 2018**

SAMPLE NO.															
DATE	10/17/18	N/S	11/08/18	11/08/18	10/17/18	10/17/18	N/S	N/S	10/17/18	10/17/18	10/17/18	10/17/18	10/17/18	10/17/18	
LOCATION	D-15	D-16	D-17	D-18	D-19	D-20	D-21	D-22	D-24	D-25	D-26	D-27	D-28	EX-5	
TEMPERATURE (0C)	27.5	N/S	27.0	27.0	27.5	27.5	N/S	N/S	27.0	27.0	27.0	27.0	27.0	27.0	
pH	7.26	N/S	7.26	7.23	7.31	7.18	N/S	N/S	7.61	7.70	7.76	7.56	7.45	7.40	
TURBIDITY (NTU)	0.09	N/S	0.08	0.07	0.07	0.53	N/S	N/S	0.08	0.11	0.08	0.07	0.07	0.05	
CONDUCTIVITY (μmho)	672.0	N/S	480.0	703.0	593.0	602.0	N/S	N/S	585.0	456.0	902.0	426.0	565.0	581.0	
CALCIUM HARDNESS (mg/L CaCO ₃)	220.0	N/S	220.0	218.0	196.0	196.0	N/S	N/S	196.0	176.0	206.0	196.0	198.0	218.0	
TOTAL HARDNESS (mg/L CaCO ₃)	252.0	N/S	236.0	248.0	218.0	228.0	N/S	N/S	236.0	192.0	248.0	204.0	224.0	246.0	
CHLORIDES (Mg/l Cl ⁻)	79.0	N/S	29.0	97.5	83.0	64.5	N/S	N/S	57.5	59.5	156.9	40.0	64.0	54.0	
TOTAL COLIFORM (cfu/100mL)	POS	N/S	NEG	NEG	NEG	NEG	N/S	N/S	POS	NEG	NEG	POS	NEG	NEG	
FECAL COLIFORM (cfu/100mL)	NEG	N/S	NEG	NEG	NEG	NEG	N/S	N/S	NEG	NEG	NEG	NEG	NEG	NEG	
TOTAL ALKALINITY (mg/L CaCO ₃)	219.0	N/S	215.0	215.0	186.0	196.0	N/S	N/S	205.0	171.0	181.0	188.0	197.0	224.0	

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER 22ND ED.

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GUAM WATERWORKS AUTHORITY

P.O. BX. 3010 AGANA GU. 96910

**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
4TH QUARTER 2018**

SAMPLE NO.															
DATE	10/30/18	10/30/18	N/S	10/30/18	10/30/18	10/30/18	10/30/18	10/30/18	12/05/18	10/30/18	10/30/18	10/30/18	10/30/18	10/30/18	12/05/18
LOCATION	F-1	F-2	F-3	F-4	F-5	F-6	F-7	F-8	F-9	F-10	F-11	F-12	F-13	F-15	
TEMPERATURE (°C)	27.5	27.0	N/S	27.0	27.0	27.5	27.5	27.5	27.5	27.0	27.0	27.5	27.0	27.0	27.5
pH	7.41	7.39	N/S	7.33	7.36	7.31	7.50	7.41	7.15	7.71	7.76	7.80	7.67	7.13	
TURBIDITY (NTU)	0.17	0.14	N/S	0.08	0.13	0.10	0.15	0.09	0.06	0.15	0.28	0.11	0.11	0.08	
CONDUCTIVITY (μmho)	682	759.0	N/S	799.0	666.0	1080.0	626.0	476.0	562.0	1080.0	739.0	450.0	1201.0	579.0	
CALCIUM HARDNESS (mg/L CaCO ₃)	192	210	N/S	224	208	216	204	220	224	228	216	220	220	216	
TOTAL HARDNESS (mg/L CaCO ₃)	220	260	N/S	270	250	276	228	244	244	270	250	232	290	240	
CHLORIDES (Mg/l Cl ⁻)	123.0	125.4	N/S	137.9	91.5	231.9	97.0	28.0	65.0	219.9	116.5	31.5	259.4	72.0	
TOTAL COLIFORM (cfu/100mL)	POS	NEG	N/S	POS	NEG	NEG	NEG	POS	NEG						
FECAL COLIFORM (cfu/100mL)	NEG	NEG	N/S	NEG											
TOTAL ALKALINITY (mg/L CaCO ₃)	182	198	N/S	215	196	189	175	203	197	193	195	196	194	200	

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
WASTEWATER. 22ND ED.

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P.O. BX. 3010 AGANA GU. 96910

**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
4TH QUARTER 2018**

SAMPLE NO.																
DATE	N/S	10/30/18	10/30/18	10/30/18	10/30/18	10/30/18	10/30/18	10/30/18	10/30/18							
LOCATION	F-16	F-17	F-18	F-19	F-20	HGC-2	AG-1	AG-2								
TEMPERATURE (0C)	N/S	27.0	27.0	27.5	28.0	27.0	27.0	27.0								
pH	N/S	7.73	7.71	7.63	7.62	7.94	7.94	7.81								
TURBIDITY (NTU)	N/S	0.18	0.13	0.23	0.12	0.11	0.16	0.10								
CONDUCTIVITY (μmho)	N/S	421.0	425.0	1160.0	1304.0	418.0	532.0	429.0								
CALCIUM HARDNESS (mg/L CaCO ₃)	N/S	208.0	208.0	244.0	236.0	204.0	212.0	27.0								
TOTAL HARDNESS (mg/L CaCO ₃)	N/S	220.0	232.0	292.0	304.0	232.0	236.0	224.0								
CHLORIDES (Mg/l Cl ⁻)	N/S	27.5	23.5	252.9	290.9	23.0	53.0	19.0								
TOTAL COLIFORM (cfu/100mL)	N/S	NEG	NEG	NEG	POS	NEG	NEG	NEG								
FECAL COLIFORM (cfu/100mL)	N/S	NEG														
TOTAL ALKALINITY (mg/L CaCO ₃)	N/S	194.0	193.0	192.0	199.0	197.0	204.0	193.0								

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P.O. BX. 3010 AGANA GU. 96910

**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
4th QUARTER 2018**

SAMPLE NO.															
DATE	10/10/18	10/10/18	10/10/18	10/10/18	10/10/18	10/10/18	10/10/18	10/10/18	10/10/18	N/S	N/S	10/10/18	N/S	10/10/18	
LOCATION	M-1	M-2	M-3	M-4	M-5	M-6	M-7	M-8	M-9	M-12	M-14	M-15	M-17A	M-17B	
TEMPERATURE (°C)	27.5	27.5	28.0	28.0	27.0	28.0	27.0	28.0	28.0	N/S	N/S	27.0	N/S	27.0	
pH	7.44	7.37	7.35	7.32	7.74	7.95	7.69	7.79	7.68	N/S	N/S	7.61	N/S	7.51	
TURBIDITY (NTU)	0.18	0.14	0.09	0.07	0.06	0.08	0.10	0.11	0.12	N/S	N/S	0.09	N/S	0.09	
CONDUCTIVITY (μmho)	854	615.0	480.0	471.0	587.0	641.0	538.0	441.0	762.0	N/S	N/S	548.0	N/S	618.0	
CALCIUM HARDNESS (mg/L CaCO ₃)	166	160	170	178	200	206	200	158	168	N/S	N/S	204	N/S	230	
TOTAL HARDNESS (mg/L CaCO ₃)	254	230	222	208	238	230	236	244	244	N/S	N/S	242	N/S	256	
CHLORIDES (Mg/l Cl ⁻)	141.9	69.5	37.5	32.5	59.0	86.0	45.5	28.5	121.5	N/S	N/S	46.5	N/S	60.0	
TOTAL COLIFORM (cfu/100mL)	NEG	POS	NEG	N/S	N/S	NEG	N/S	NEG							
FECAL COLIFORM (cfu/100mL)	NEG	N/S	N/S	NEG	N/S	NEG									
TOTAL ALKALINITY (mg/L CaCO ₃)	205	198	194	194	216	203	207	178	189	N/S	N/S	205	N/S	230	

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
4th QUARTER 2018**

SAMPLE NO.																	
DATE	10/10/18	10/10/18	10/10/18	10/10/18	10/10/18	10/10/18											
LOCATION	M-18	M-20A	M-21	M-23	EX-11	H-1											
TEMPERATURE (0C)	27.0	27.0	27.0	26.0	27.5	27.0											
pH	7.59	7.49	7.45	7.57	7.46	7.55											
TURBIDITY (NTU)	0.10	0.09	0.08	0.07	0.07	0.07											
CONDUCTIVITY (μmho)	516.0	636.0	768.0	420.0	573.0	947.0											
CALCIUM HARDNESS (mg/L CaCO ₃)	196.0	218.0	226.0	192.0	174.0	218.0											
TOTAL HARDNESS (mg/L CaCO ₃)	210.0	254.0	272.0	210.0	236.0	272.0											
CHLORIDES (Mg/l Cl ⁻)	52.0	70.0	101.5	42.0	62.0	164.9											
TOTAL COLIFORM (cfu/100mL)	POS	NEG	NEG	NEG	NEG	NEG											
FECAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	NEG	NEG											
TOTAL ALKALINITY (mg/L CaCO ₃)	192.0	220.0	232.0	190.0	201.0	213.0											

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P.O. BX. 3010 AGANA GU. 96910

**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
4th QUARTER 2018**

SAMPLE NO.																
DATE	10/29/18	10/29/18	10/29/18	10/29/18	10/29/18	10/29/18	10/29/18	10/29/18	10/29/18	10/29/18	10/29/18	10/29/18	10/29/18	10/29/18	10/29/18	
LOCATION	Y-1	Y-2	Y-3	Y-4	Y-5	Y-6	Y-7	Y-9	Y-10	Y-12	Y-14	Y-15	Y-16	Y-17		
TEMPERATURE (°C)	27.5	28.0	28.0	28.0	27.5	27.5	28.0	28.0	28.0	28.0	27.5	27.5	28.0	27.0		
pH	6.90	7.13	7.21	7.37	7.16	7.20	7.13	7.22	7.41	7.76	7.58	7.61	7.55	7.36		
TURBIDITY (NTU)	0.11	0.07	0.26	0.08	0.10	0.09	0.09	0.12	0.11	0.42	0.08	0.11	0.09	0.12		
CONDUCTIVITY (µmho)	504	512.0	473.0	534.0	633.0	490.0	581.0	535.0	544.0	598.0	633.0	359.0	544.0	496.0		
CALCIUM HARDNESS (mg/L CaCO ₃)	192	216	224	230	232	228	270	252	212	212	228	170	220	244		
TOTAL HARDNESS (mg/L CaCO ₃)	256	232	240	268	264	252	310	252	252	268	270	190	264	276		
CHLORIDES (Mg/l Cl ⁻)	12.0	28.5	23.0	26.0	76.5	23.0	23.5	18.5	44.0	55.5	78.0	14.0	31.0	20.0		
TOTAL COLIFORM (cfu/100mL)	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	NEG		
FECAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	NEG	NEG	POS	NEG								
TOTAL ALKALINITY (mg/L CaCO ₃)	227	227	227	234	214	218	255	247	212	220	216	167	239	239		

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
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P.O. BX. 3010 AGANA GU. 96910

**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
4th QUARTER 2018**

SAMPLE NO.															
DATE	10/29/18	10/29/18	10/29/18	10/29/18	10/29/18	10/29/18	10/29/18			10/31/18	10/31/18	10/31/18			
LOCATION	Y-18	Y-19	Y-20	Y-21	Y-22	Y-23	GH-501			FENA	SRSP	UGUM			
TEMPERATURE (°C)	27.0	28.0	27.0	28.0	28.0	27.0	27.0			28.0	27.0	28.0			
pH	7.5	7.3	7.5	7.4	7.5	7.3	7.4			7.5	7.3	7.4			
TURBIDITY (NTU)	0.1	0.1	0.1	0.1	0.1	0.1	0.1			0.1	0.2	0.1			
CONDUCTIVITY (μmho)	475.0	540.0	499.0	563.0	463.0	512.0	768.0			256.0	389.0	1095.0			
CALCIUM HARDNESS (mg/L CaCO ₃)	204.0	248.0	210.0	236.0	220.0	256.0	216.0			96.0	192.0	28.0			
TOTAL HARDNESS (mg/L CaCO ₃)	228.0	276.0	244.0	280.0	252.0	270.0	276.0			116.0	204.0	40.0			
CHLORIDES (Mg/l Cl ⁻)	53.0	30.0	34.0	39.0	23.5	20.5	107.5			40.0	20.0	29.0			
TOTAL COLIFORM (cfu/100mL)	NEG	POS	NEG	NEG	NEG	POS	POS			NEG	POS	NEG			
FECAL COLIFORM (cfu/100mL)	NEG			NEG	NEG	NEG									
TOTAL ALKALINITY (mg/L CaCO ₃)	202.0	237.0	205.0	239.0	215.0	246.0	220.0			94.0	190.0	36.0			

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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
1st Quarter 2019**

SAMPLE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
DATE	01/10/19	N/S	01/10/19	01/10/19	01/10/19	01/10/19	N/S	01/10/19	01/10/19	01/10/19	01/10/19	01/10/19	01/10/19	01/10/19
LOCATION	A-1	A-2	A-3	A-4	A-5	A-6	A-7	A-8	A-9	A-10	A-12	A-13	A-14	A-15
TEMPERATURE (°C)	27.0	N/S	27.5	27.5	28.0	28.0	N/S	28.0	27.5	27.5	27.5	27.5	28.0	28.0
pH	7.48	N/S	7.58	7.38	7.42	7.36	N/S	7.69	7.54	7.41	7.32	7.46	7.30	7.33
TURBIDITY (NTU)	0.63	N/S	0.09	0.09	0.10	0.08	N/S	0.18	0.24	0.37	0.11	0.15	0.16	0.31
CONDUCTIVITY (μmho)	607	N/S	559	870	550	587	N/S	573	1310	1613	614	2160	1223	935
CALCIUM HARDNESS (mg/L CaCO ₃)	296	N/S	274	338	268	296	N/S	294	386	356	310	420	372	272
TOTAL HARDNESS (mg/L CaCO ₃)	306	N/S	294	362	286	308	N/S	298	418	430	436	498	434	314
CHLORIDES (Mg/l Cl ⁻)	27.5	N/S	17.0	97.0	20.5	23.5	N/S	21.0	224.4	356.9	31.5	492.3	201.4	132.9
TOTAL COLIFORM (cfu/100mL)	NEG	N/S	NEG	POS	NEG	NEG	N/S	NEG	NEG	POS	NEG	NEG	POS	NEG
FECAL COLIFORM (cfu/100mL)	NEG	N/S	NEG	NEG	NEG	NEG	N/S	NEG						
TOTAL ALKALINITY (mg/L CaCO ₃)	290	N/S	290	315	274	295	N/S	292	328	318	320	335	337	270

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GUAM WATERWORKS AUTHORITY

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QUARTERLY CHEMICAL DEEPWELL ANALYSIS

1st Quarter 2019

SAMPLE NO.	15	16	17	18	19	20	21	22	23	24	25	26	27	
DATE	01/10/19	01/10/19	01/10/19	01/10/19	N/S	N/S	N/S	N/S	N/S	01/10/19	01/10/19	01/10/19	01/10/19	
LOCATION	A-17	A-18	A-19	A-21	A-23	A-25	A-26	A-28	A-29	A-30	A-31	A-32	NAS-1	
TEMPERATURE (0C)	27.5	27.5	28.0	28.0	N/S	N/S	N/S	N/S	N/S	28.0	27.0	27.0	28.0	
pH	7.49	7.26	7.28	7.70	N/S	N/S	N/S	N/S	N/S	7.36	7.34	7.39	7.60	
TURBIDITY (NTU)	0.15	0.08	0.14	0.18	N/S	N/S	N/S	N/S	N/S	0.13	0.14	0.17	0.11	
CONDUCTIVITY (μmho)	978	1473	2050	1541	N/S	N/S	N/S	N/S	N/S	591	572	532	756	
CALCIUM HARDNESS (mg/L CaCO ₃)	230	370	390	292	N/S	N/S	N/S	N/S	N/S	278	256	254	242	
TOTAL HARDNESS (mg/L CaCO ₃)	264	438	476	326	N/S	N/S	N/S	N/S	N/S	286	266	264	264	
CHLORIDES (Mg/L Cl ⁻)	198.9	286.9	480.8	333.4	N/S	N/S	N/S	N/S	N/S	33.5	26.5	25.0	111.0	
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	N/S	N/S	N/S	N/S	N/S	POS	POS	NEG	NEG	
FECAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	N/S	N/S	N/S	N/S	N/S	NEG	NEG	NEG	NEG	
TOTAL ALKALINITY (mg/L CaCO ₃)	218	332	316	258	N/S	N/S	N/S	N/S	N/S	266	260	254	232	

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QUARTERLY CHEMICAL DEEPWELL ANALYSIS

1st Quarter 2019

SAMPLE NO.	28	29	30	31	32	33	34	35	36	37	38	39	40	41
DATE	01/17/19	03/13/19	01/17/19	01/17/19	01/17/19	01/17/19	01/17/19	01/17/19	01/17/19	03/13/19	N/S	01/17/19	01/17/19	01/17/19
LOCATION	M-1	M-2	M-3	M-4	M-5	M-6	M-7	M-8	M-9	M-12	M-14	M-15	M-17A	M-17B
TEMPERATURE (°C)	27.0	28.0	27.0	27.0	27.5	27.5	27.5	28.0	27.0	27.5	N/S	27.5	27.5	27.5
pH	6.97	7.55	7.03	7.06	7.05	7.07	7.11	7.26	7.30	7.88	N/S	7.26	7.23	7.24
TURBIDITY (NTU)	0.14	0.09	0.09	0.09	0.12	0.14	0.09	0.14	0.10	0.13	N/S	0.14	0.21	0.61
CONDUCTIVITY (μmho)	742	556	470	465	569	634	535	420	759	563	N/S	516	647	602
CALCIUM HARDNESS (mg/L CaCO ₃)	166	176	162	172	200	202	202	140	154	236	N/S	204	214	220
TOTAL HARDNESS (mg/L CaCO ₃)	252	224	218	214	234	232	232	198	236	252	N/S	232	258	252
CHLORIDES (Mg/L Cl ⁻)	121.0	58.5	37.0	31.5	50.5	85.5	47.0	25.5	122.5	72.5	N/S	48.0	75.0	73.0
TOTAL COLIFORM (cfu/100mL)	NEG	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	NEG	N/S	POS	NEG	NEG
FECAL COLIFORM (cfu/100mL)	NEG	N/S	NEG	NEG	NEG									
TOTAL ALKALINITY (mg/L CaCO ₃)	202	200	196	196	216	206	208	178	189	212	N/S	208	230	234

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QUARTERLY CHEMICAL DEEPWELL ANALYSIS

1st Quarter 2019

SAMPLE NO.	42	43	44	45	46	47								
DATE	01/17/19	01/17/19	01/17/19	01/17/19	01/17/19	01/17/19								
LOCATION	M-18	M-20A	M-21	M-23	EX-11	H-1								
TEMPERATURE (0C)	27.5	27.5	27.5	26.5	27.0	27.0								
pH	7.28	7.26	7.31	7.37	7.46	7.47								
TURBIDITY (NTU)	0.13	0.11	0.44	0.12	0.17	0.28								
CONDUCTIVITY (μmho)	533	618	730	479	567	899								
CALCIUM HARDNESS (mg/L CaCO ₃)	192	216	224	184	162	214								
TOTAL HARDNESS (mg/L CaCO ₃)	214	246	268	210	226	266								
CHLORIDES (Mg/l Cl ⁻)	55.5	68.5	113.5	48.0	68.5	154.9								
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	POS	NEG	NEG								
FECAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	NEG	NEG								
TOTAL ALKALINITY (mg/L CaCO ₃)	198	222	235	194	204	214								

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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
1st Quarter 2019**

SAMPLE NO.	48	49	50	51	52	53	54	55	56	57	58	59	60	61
DATE	03/14/19	01/24/19	N/S	01/24/19	N/S	01/24/19	01/24/19	01/24/19	03/14/19	01/24/19	01/24/19	01/24/19	N/S	01/24/19
LOCATION	D-1	D-2	D-3	D-4	D-5	D-6	D-7	D-8	D-9	D-10	D-11	D-12	D-13	D-14
TEMPERATURE (°C)	27.0	27.0	N/S	27.0	N/S	27.0	27.0	27.0	27.5	27.5	27.0	27.0	N/S	27.5
pH	7.28	7.30	N/S	7.26	N/S	7.19	7.22	7.19	7.22	7.19	7.31	7.43	N/S	7.29
TURBIDITY (NTU)	0.26	0.25	N/S	0.18	N/S	0.15	0.08	0.07	0.11	0.14	0.08	0.07	N/S	0.32
CONDUCTIVITY (μmho)	637	636	N/S	568	N/S	598	593	957	987	568	683	394	N/S	569
CALCIUM HARDNESS (mg/L CaCO ₃)	190	188	N/S	172	N/S	252	250	220	216	230	248	190	N/S	220
TOTAL HARDNESS (mg/L CaCO ₃)	248	264	N/S	260	N/S	272	264	260	276	268	268	200	N/S	250
CHLORIDES (mg/l Cl ⁻)	67.0	70.5	N/S	51.5	N/S	67.0	67.5	197.9	165.4	59.5	81.0	27.0	N/S	67.5
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	N/S	NEG	N/S	POS	NEG	NEG	NEG	NEG	POS	NEG	N/S	NEG
FECAL COLIFORM (cfu/100mL)	NEG	NEG	N/S	NEG	N/S	NEG	NEG	NEG	NEG	NEG	NEG	N/S	N/S	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	223	221	N/S	223	N/S	229	213	183	226	218	224	172	N/S	201

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QUARTERLY CHEMICAL DEEPWELL ANALYSIS

1st Quarter 2019

SAMPLE NO.	62	63	64	65	66	67	68	69	70	71	72	73	74	75
DATE	01/24/19	01/24/19	01/24/19	01/24/19	01/24/19	01/24/19	01/24/19	01/24/19	03/13/19	01/24/19	N/S	01/24/19	01/24/19	01/24/19
LOCATION	D-15	D-16	D-17	D-18	D-19	D-20	D-21	D-22	D-24	D-25	D-26	D-27	D-28	EX-5
TEMPERATURE (0C)	27.0	27.0	27.0	27.5	27.5	27.5	27.5	27.5	27.5	27.5	N/S	27.5	27.5	27.0
pH	7.28	7.42	7.37	7.29	7.34	7.34	7.36	7.40	7.94	7.45	N/S	7.41	7.36	7.49
TURBIDITY (NTU)	0.09	0.08	0.06	0.07	0.06	0.10	0.16	0.07	0.18	0.06	N/S	0.09	0.10	0.07
CONDUCTIVITY (μmho)	659	656	479	640	580	616	581	422	628	504	N/S	412	551	567
CALCIUM HARDNESS (mg/L CaCO ₃)	230	236	230	228	204	212	208	208	208	196	N/S	200	216	248
TOTAL HARDNESS (mg/L CaCO ₃)	260	264	250	264	230	244	240	228	232	208	N/S	220	232	270
CHLORIDES (Mg/l Cl ⁻)	79.0	86.5	28.0	73.0	92.0	71.0	75.0	21.5	52.5	59.5	N/S	20.0	60.5	58.0
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	NEG	NEG	POS	NEG	NEG	NEG	N/S	POS	NEG	NEG
FECAL COLIFORM (cfu/100mL)	NEG	N/S	POS	NEG	NEG									
TOTAL ALKALINITY (mg/L CaCO ₃)	219	210	218	213	186	200	201	199	205	172	N/S	188	198	222

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
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P.O. BX. 3010 AGANA GU. 96910

**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
1st Quarter 2019**

SAMPLE NO.	76	77	78	79	80	81	82	83	84	85	86	87	88	89
DATE	01/31/19	01/31/19	01/31/19	01/31/19	01/31/19	01/31/19	01/31/19	01/31/19	01/31/19	01/31/19	01/31/19	01/31/19	01/31/19	01/31/19
LOCATION	Y-1	Y-2	Y-3	Y-4A	Y-5	Y-6	Y-7	Y-9	Y-10	Y-12	Y-14	Y-15	Y-16	Y-17
TEMPERATURE (°C)	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.5	27.5	27.5	27.5	27.0	27.5	27.0
pH	7.11	7.10	7.12	7.06	7.09	7.10	7.07	7.14	7.10	7.26	7.21	7.34	7.25	7.22
TURBIDITY (NTU)	0.07	0.09	0.43	0.07	0.07	0.14	0.08	0.11	0.15	0.08	0.07	0.16	0.15	0.09
CONDUCTIVITY (μmho)	497	516	492	536	644	492	572	554	567	590	631	365	555	502
CALCIUM HARDNESS (mg/L CaCO ₃)	252	232	244	232	236	244	270	270	220	228	236	172	236	248
TOTAL HARDNESS (mg/L CaCO ₃)	264	256	268	268	260	256	290	290	248	250	252	184	268	270
CHLORIDES (Mg/l Cl ⁻)	24.0	22.0	25.0	31.5	77.5	28.0	25.0	24.5	47.5	62.5	69.0	12.5	36.5	21.0
TOTAL COLIFORM (cfu/100mL)	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	NEG	NEG	POS	POS	NEG
FECAL COLIFORM (cfu/100mL)	NEG	NEG	POS	NEG										
TOTAL ALKALINITY (mg/L CaCO ₃)	226	234	235	238	219	220	257	254	218	220	219	163	244	248

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER. 22ND ED.

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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
1st Quarter 2019**

SAMPLE NO.	90	91	92	93	94	95	96		97	98	99			
DATE	01/31/19	N/S	01/31/19	01/31/19	01/31/19	01/31/19	01/31/19		02/20/19	02/20/19	02/20/19			
LOCATION	Y-18	Y-19	Y-20	Y-21A	Y-22	Y-23	GH-501		FENA	SRSP	UGUM			
TEMPERATURE (0C)	27.0	N/S	27.0	27.5	27.5	27.0	27.5		27.5	26.5	27.0			
pH	7.22	N/S	7.26	7.16	7.25	7.26	7.17		7.76	7.38	7.75			
TURBIDITY (NTU)	0.07	N/S	0.07	0.09	0.10	0.08	0.08		0.08	0.10	0.12			
CONDUCTIVITY (μmho)	478	N/S	501	566	465	510	747		268	390	149			
CALCIUM HARDNESS (mg/L CaCO ₃)	212	N/S	230	232	224	248	240		90	192	26			
TOTAL HARDNESS (mg/L CaCO ₃)	230	N/S	236	272	236	272	268		106	202	52			
CHLORIDES (Mg/l Cl ⁻)	34.5	N/S	33.0	42.0	22.0	24.5	108.5		45.0	26.0	18.5			
TOTAL COLIFORM (cfu/100mL)	NEG	N/S	NEG	NEG	NEG	NEG	POS		NEG	POS	NEG			
FECAL COLIFORM (cfu/100mL)	NEG	N/S	NEG	NEG	NEG	NEG	NEG		NEG	NEG	NEG			
TOTAL ALKALINITY (mg/L CaCO ₃)	203	N/S	200	244	215	246	210		106	191	56			

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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
1st Quarter 2019**

SAMPLE NO.	100	101	102	103	104	105	106	107	108	109	110	111	112	113
DATE	02/21/19	02/21/19	02/21/19	02/21/19	02/21/19	02/21/19	02/21/19	02/21/19	02/21/19	02/21/19	02/21/19	02/21/19	02/21/19	02/21/19
LOCATION	F-1	F-2	F-3	F-4	F-5	F-6	F-7	F-8	F-9	F-10	F-11	F-12	F-13	F-15
TEMPERATURE (°C)	27.0	27.0	27.0	26.5	27.5	27.5	27.5	27.5	27.5	27.0	27.0	27.5	27.5	27.5
pH	6.99	7.13	7.14	7.09	7.09	6.92	7.17	7.20	7.06	6.93	6.97	7.27	7.05	7.30
TURBIDITY (NTU)	0.08	0.51	0.06	0.06	0.14	0.09	0.18	0.08	0.07	0.08	0.10	0.12	0.30	0.25
CONDUCTIVITY (μmho)	701	770	764	819	645	1200	628	476	584	1114	747	451	1184	587
CALCIUM HARDNESS (mg/L CaCO ₃)	200	210	212	234	208	212	190	210	210	208	208	202	218	204
TOTAL HARDNESS (mg/L CaCO ₃)	224	248	244	260	228	278	216	226	226	272	238	214	286	228
CHLORIDES (Mg/l Cl ⁻)	114.5	121.5	117.5	138.9	86.0	258.4	79.5	45.5	69.0	243.9	106.5	38.5	241.4	74.0
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	POS	NEG	NEG
FECAL COLIFORM (cfu/100mL)	NEG													
TOTAL ALKALINITY (mg/L CaCO ₃)	184	197	197	212	192	188	176	200	196	192	195	195	195	199

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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
1st Quarter 2019**

SAMPLE NO.	114	115	116	117	118	119	120	121						
DATE	02/21/19	02/21/19	02/21/19	02/21/19	02/21/19	02/21/19	02/21/19	02/21/19						
LOCATION	F-16	F-17	F-18	F-19	F-20	HGC-2	AG-1	AG-2						
TEMPERATURE (0C)	27.5	27.5	27.5	27.0	27.0	27.0	27.0	27.0						
pH	7.30	7.34	7.28	7.01	7.06	7.34	7.24	7.33						
TURBIDITY (NTU)	0.07	0.11	0.07	0.12	0.08	0.07	0.12	0.10						
CONDUCTIVITY (μmho)	455	421	427	1172	1247	421	518	433						
CALCIUM HARDNESS (mg/L CaCO ₃)	210	198	200	218	226	192	206	194						
TOTAL HARDNESS (mg/L CaCO ₃)	216	208	210	290	288	202	224	210						
CHLORIDES (Mg/l Cl ⁻)	40.0	38.5	35.0	234.9	262.9	29.5	47.5	32.0						
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	POS	POS	NEG	NEG						
FECAL COLIFORM (cfu/100mL)	NEG													
TOTAL ALKALINITY (mg/L CaCO ₃)	201	193	194	191	194	194	202	194						

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QUARTERLY CHEMICAL DEEPWELL ANALYSIS

1st Quarter 2019

SAMPLE NO.	122	123	124	125																
DATE	02/20/19	02/20/19	N/S	02/20/19																
LOCATION	GIAA-1	GIAA-2	GIAA-3	TUMON MAUI																
TEMPERATURE (°C)	28.0	28.0	N/S	28.0																
pH	7.23	7.22	N/S	7.18																
TURBIDITY (NTU)	0.06	0.05	N/S	0.08																
CONDUCTIVITY (μmho)	538	474	N/S	700																
CALCIUM HARDNESS (mg/L CaCO ₃)	192	190	N/S	218																
TOTAL HARDNESS (mg/L CaCO ₃)	230	212	N/S	254																
CHLORIDES (Mg/l Cl ⁻)	59.5	47.5	N/S	90.0																
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	N/S	POS																
FECAL COLIFORM (cfu/100mL)	NEG	NEG	N/S	NEG																
TOTAL ALKALINITY (mg/L CaCO ₃)	206	194	N/S	208																

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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
2nd Quarter 2019**

SAMPLE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
DATE	04/04/19	N/S	04/04/19	04/03/19	04/04/19	04/04/19	N/S	04/03/19	04/03/19	04/03/19	04/03/19	04/03/19	04/03/19	04/03/19
LOCATION	A-1	A-2	A-3	A-4	A-5	A-6	A-7	A-8	A-9	A-10	A-12	A-13	A-14	A-15
TEMPERATURE (°C)	28.0	N/S	28.0	27.5	28.0	28.0	N/S	27.5	27.5	27.5	28.0	28.0	27.5	27.5
pH	7.12	N/S	7.13	7.02	7.13	7.08	N/S	7.01	7.41	7.34	7.12	7.12	7.01	7.89
TURBIDITY (NTU)	0.14	N/S	0.08	0.08	0.07	0.07	N/S	0.16	0.19	0.11	0.07	0.09	0.25	0.19
CONDUCTIVITY (μmho)	568	N/S	559	875	547	603	N/S	578	1352	1821	605	2130	1176	967
CALCIUM HARDNESS (mg/L CaCO ₃)	266	N/S	266	324	252	286	N/S	276	352	384	336	274	334	252
TOTAL HARDNESS (mg/L CaCO ₃)	286	N/S	268	346	254	314	N/S	292	412	502	448	306	372	312
CHLORIDES (Mg/l Cl ⁻)	33.0	N/S	28.5	103.0	36.0	29.5	N/S	26.0	248.4	404.8	20.0	490.3	187.9	158.9
TOTAL COLIFORM (cfu/100mL)	POS	N/S	NEG	NEG	NEG	POS	N/S	NEG	NEG	NEG	POS	NEG	NEG	NEG
FECAL COLIFORM (cfu/100mL)	NEG	N/S	NEG	NEG	NEG	NEG	N/S	NEG						
TOTAL ALKALINITY (mg/L CaCO ₃)	288	N/S	291	313	268	292	N/S	287	330	318	315	328	330	265

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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
2nd Quarter 2019**

SAMPLE NO.	15	16	17	18	19	20	21	22	23	24	25	26	27	
DATE	04/03/19	06/27/19	04/03/19	04/03/19	N/S	N/S	N/S	N/S	N/S	04/04/19	04/04/19	04/04/19	04/03/19	
LOCATION	A-17	A-18	A-19	A-21	A-23	A-25	A-26	A-28	A-29	A-30	A-31	A-32	NAS-1	
TEMPERATURE (0C)	28.0	27.0	28.0	28.0	N/S	N/S	N/S	N/S	N/S	28.0	28.0	28.0	27.5	
pH	7.36	7.14	7.21	7.26	N/S	N/S	N/S	N/S	N/S	7.03	7.08	7.08	7.39	
TURBIDITY (NTU)	0.07	0.10	0.18	0.17	N/S	N/S	N/S	N/S	N/S	0.06	0.10	0.14	0.07	
CONDUCTIVITY (μmho)	1049	586	1902	1615	N/S	N/S	N/S	N/S	N/S	749	585	536	739	
CALCIUM HARDNESS (mg/L CaCO ₃)	208	296	320	280	N/S	N/S	N/S	N/S	N/S	260	244	236	232	
TOTAL HARDNESS (mg/L CaCO ₃)	272	310	434	348	N/S	N/S	N/S	N/S	N/S	288	272	254	264	
CHLORIDES (Mg/l Cl ⁻)	207.9	22.5	434.8	354.4	N/S	N/S	N/S	N/S	N/S	86.5	37.5	38.0	105.0	
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	POS	N/S	N/S	N/S	N/S	N/S	NEG	POS	POS	POS	
FECAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	N/S	N/S	N/S	N/S	N/S	NEG	NEG	NEG	NEG	
TOTAL ALKALINITY (mg/L CaCO ₃)	225	313	316	275	N/S	N/S	N/S	N/S	N/S	275	261	253	236	

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QUARTERLY CHEMICAL DEEPWELL ANALYSIS

2nd Quarter 2019

SAMPLE NO.	28	29	30	31	32	33	34	35	36	37	38	39	40	41
DATE	04/11/19	04/11/19	04/11/19	04/11/19	04/11/19	04/11/19	04/11/19	04/11/19	04/11/19	N/S	04/11/19	04/11/19	04/11/19	04/11/19
LOCATION	M-1	M-2	M-3	M-4	M-5	M-6	M-7	M-8	M-9	M-12	M-14	M-15	M-17A	M-17B
TEMPERATURE (°C)	28.0	27.5	27.5	27.5	28.0	27.0	27.0	27.5	28.0	28.0	N/S	28.0	27.0	27.0
pH	7.28	7.30	7.23	7.19	7.15	6.99	7.03	7.21	7.22	7.11	N/S	7.19	7.12	7.05
TURBIDITY (NTU)	0.26	0.33	0.16	0.09	0.12	0.07	0.07	0.14	0.11	0.11	N/S	0.16	0.08	0.07
CONDUCTIVITY (μmho)	619	576	469	466	549	665	537	424	851	670	N/S	505	644	598
CALCIUM HARDNESS (mg/L CaCO ₃)	174	170	172	186	210	212	212	152	156	220	N/S	216	222	230
TOTAL HARDNESS (mg/L CaCO ₃)	236	228	226	220	244	236	232	202	254	244	N/S	236	252	254
CHLORIDES (Mg/l Cl ⁻)	81.5	68.0	33.5	42.5	51.5	98.0	51.5	29.0	159.9	95.0	N/S	37.5	79.0	58.0
TOTAL COLIFORM (cfu/100mL)	POS	POS	NEG	POS	NEG	NEG	NEG	NEG	NEG	N/S	POS	NEG	NEG	NEG
FECAL COLIFORM (cfu/100mL)	NEG	N/S	NEG	NEG	NEG	NEG								
TOTAL ALKALINITY (mg/L CaCO ₃)	198	197	197	196	219	208	212	181	185	212	N/S	204	230	232

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QUARTERLY CHEMICAL DEEPWELL ANALYSIS

2nd Quarter 2019

SAMPLE NO.	42	43	44	45	46	47									
DATE	04/11/19	04/11/19	04/11/19	04/11/19	04/11/19	04/11/19									
LOCATION	M-18	M-20A	M-21	M-23	EX-11	H-1									
TEMPERATURE (0C)	28.0	27.0	27.0	27.5	27.5	27.0									
pH	7.09	7.07	7.09	7.18	7.23	7.04									
TURBIDITY (NTU)	0.09	0.12	0.10	0.07	0.09	0.11									
CONDUCTIVITY (μmho)	565	622	730	476	568	883									
CALCIUM HARDNESS (mg/L CaCO ₃)	210	216	222	194	170	220									
TOTAL HARDNESS (mg/L CaCO ₃)	232	248	270	212	244	268									
CHLORIDES (Mg/l Cl ⁻)	64.0	77.5	90.0	45.5	60.5	153.4									
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	NEG	NEG									
FECAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	NEG	NEG	NEG									
TOTAL ALKALINITY (mg/L CaCO ₃)	206	225	234	193	203	216									

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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
2nd Quarter 2019**

SAMPLE NO.	48	49	50	51	52	53	54	55	56	57	58	59	60	61
DATE	04/18/19	04/18/19	N/S	04/18/19	N/S	04/18/19	04/18/19	04/18/19	04/18/19	04/18/19	04/18/19	04/18/19	N/S	04/18/19
LOCATION	D-1	D-2	D-3	D-4	D-5	D-6	D-7	D-8	D-9	D-10	D-11	D-12	D-13	D-14
TEMPERATURE (°C)	27.5	27.0	N/S	27.5	N/S	27.0	27.0	27.0	27.5	27.0	27.5	27.0	N/S	27.5
pH	7.20	7.23	N/S	7.28	N/S	7.22	6.97	6.99	7.39	7.38	7.24	7.61	N/S	6.65
TURBIDITY (NTU)	0.08	0.11	N/S	0.10	N/S	0.08	0.07	0.16	0.24	0.12	0.10	0.20	N/S	0.46
CONDUCTIVITY (μmho)	632	634	N/S	578	N/S	604	600	952	1073	580	687	395	N/S	577
CALCIUM HARDNESS (mg/L CaCO ₃)	202	208	N/S	206	N/S	226	216	200	224	212	220	174	N/S	210
TOTAL HARDNESS (mg/L CaCO ₃)	256	248	N/S	250	N/S	252	242	254	296	246	256	188	N/S	236
CHLORIDES (Mg/l Cl ⁻)	75.0	76.0	N/S	54.5	N/S	67.0	73.5	204.4	203.4	59.5	88.0	29.0	N/S	68.0
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	N/S	NEG	N/S	POS	NEG	NEG	POS	NEG	POS	NEG	N/S	NEG
FECAL COLIFORM (cfu/100mL)	NEG	NEG	N/S	NEG	N/S	POS	NEG	NEG	NEG	NEG	NEG	N/S	N/S	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	221	224	N/S	226	N/S	230	215	181	227	219	225	174	N/S	206

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER. 22ND ED.

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QUARTERLY CHEMICAL DEEPWELL ANALYSIS

2nd Quarter 2019

SAMPLE NO.	62	63	64	65	66	67	68	69	70	71	72	73	74	75
DATE	04/18/19	04/18/19	04/18/19	04/18/19	04/18/19	04/18/19	04/18/19	04/18/19	04/18/19	04/18/19	04/18/19	04/18/19	04/18/19	04/18/19
LOCATION	D-15	D-16	D-17	D-18	D-19	D-20	D-21	D-22	D-24	D-25	D-26	D-27	D-28	EX-5
TEMPERATURE (0C)	27.5	27.5	27.5	27.5	28.0	28.0	28.0	28.0	27.5	27.5	27.5	27.5	28.0	27.0
pH	6.63	7.41	7.53	7.27	7.23	7.17	7.31	7.38	7.27	7.32	7.19	7.46	7.21	7.37
TURBIDITY (NTU)	0.11	0.10	0.08	0.07	0.12	0.10	0.11	0.07	0.66	0.10	0.09	0.08	0.06	0.08
CONDUCTIVITY (μmho)	661	647	486	646	588	605	583	426	565	459	896	410	558	570
CALCIUM HARDNESS (mg/L CaCO ₃)	200	218	220	226	192	202	204	206	222	178	200	190	192	212
TOTAL HARDNESS (mg/L CaCO ₃)	252	250	230	250	210	232	224	214	240	188	250	214	216	248
CHLORIDES (Mg/l Cl ⁻)	82.0	88.0	31.5	81.5	82.0	76.0	70.5	19.0	57.0	45.5	166.4	28.5	62.0	52.5
TOTAL COLIFORM (cfu/100mL)	POS	NEG	NEG	NEG	POS	NEG	NEG	NEG	NEG	NEG	POS	NEG	NEG	NEG
FECAL COLIFORM (cfu/100mL)	NEG													
TOTAL ALKALINITY (mg/L CaCO ₃)	215	210	217	211	182	196	201	197	203	169	182	183	198	224

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
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P.O. BX. 3010 AGANA GU. 96910

**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
2nd Quarter 2019**

SAMPLE NO.	76	77	78	79	80	81	82	83	84	85	86	87	88	89
DATE	04/25/19	04/25/19	04/25/19	04/25/19	04/25/19	04/25/19	04/25/19	N/S	04/25/19	04/25/19	04/25/19	04/25/19	04/25/19	04/25/19
LOCATION	Y-1	Y-2	Y-3	Y-4A	Y-5	Y-6	Y-7	Y-9	Y-10	Y-12	Y-14	Y-15	Y-16	Y-17
TEMPERATURE (°C)	28.0	27.0	28.0	27.0	27.5	27.5	28.0	N/S	27.0	27.0	27.0	27.5	27.0	27.5
pH	7.19	7.23	7.33	7.68	7.32	7.25	7.20	N/S	7.26	7.29	7.57	7.63	7.42	7.26
TURBIDITY (NTU)	0.07	0.11	0.10	0.30	0.17	0.06	0.06	N/S	0.09	0.08	0.10	0.08	0.16	0.07
CONDUCTIVITY (μmho)	498	513	494	613	642	488	560	N/S	572	595	598	367	547	495
CALCIUM HARDNESS (mg/L CaCO ₃)	222	222	234	220	222	216	260	N/S	210	206	220	166	212	238
TOTAL HARDNESS (mg/L CaCO ₃)	228	228	250	248	242	240	290	N/S	238	248	246	180	260	256
CHLORIDES (Mg/l Cl ⁻)	29.5	28.0	27.5	68.5	79.5	30.5	36.5	N/S	59.5	67.0	69.5	23.5	47.0	24.0
TOTAL COLIFORM (cfu/100mL)	POS	POS	NEG	NEG	POS	NEG	NEG	N/S	NEG	POS	NEG	POS	NEG	NEG
FECAL COLIFORM (cfu/100mL)	NEG	POS	NEG	NEG	NEG	NEG	NEG	N/S	NEG	NEG	NEG	NEG	NEG	NEG
TOTAL ALKALINITY (mg/L CaCO ₃)	267	271	284	259	257	258	302	N/S	254	258	255	192	283	282

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QUARTERLY CHEMICAL DEEPWELL ANALYSIS
2nd Quarter 2019

SAMPLE NO.	90	91	92	93	94	95	96							
DATE	04/25/19	N/S	04/25/19	04/25/19	04/25/19	04/25/19	04/25/19							
LOCATION	Y-18	Y-19	Y-20	Y-21A	Y-22	Y-23	GH-501							
TEMPERATURE (0C)	27.0	N/S	27.0	27.0	27.0	27.5	28.0							
pH	7.43	N/S	7.40	7.38	7.28	7.24	7.31							
TURBIDITY (NTU)	0.08	N/S	0.07	0.07	0.08	0.16	0.15							
CONDUCTIVITY (μmho)	475	N/S	500	557	461	514	737							
CALCIUM HARDNESS (mg/L CaCO ₃)	196	N/S	186	212	210	250	212							
TOTAL HARDNESS (mg/L CaCO ₃)	222	N/S	222	266	224	276	254							
CHLORIDES (Mg/l Cl ⁻)	38.5	N/S	46.0	64.5	22.0	23.0	113.5							
TOTAL COLIFORM (cfu/100mL)	NEG	N/S	NEG	NEG	NEG	NEG	POS							
FECAL COLIFORM (cfu/100mL)	NEG	N/S	NEG	NEG	NEG	NEG	NEG							
TOTAL ALKALINITY (mg/L CaCO ₃)	236	N/S	241	283	250	291	258							

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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
2nd Quarter 2019**

SAMPLE NO.	97	98	99	100	101	102	103	104	105	106	107	108	109	110
DATE	06/27/19	04/29/19	04/29/19	04/29/19	04/29/19	04/29/19	04/29/19	04/29/19	04/29/19	04/29/19	04/29/19	04/29/19	04/29/19	04/29/19
LOCATION	F-1	F-2	F-3	F-4	F-5	F-6	F-7	F-8	F-9	F-10	F-11	F-12	F-13	F-15
TEMPERATURE (°C)	27.5	27.5	27.5	27.0	27.5	27.5	27.0	27.5	27.0	27.5	27.5	27.5	27.5	27.5
pH	7.24	7.60	7.49	7.41	7.44	7.28	7.80	7.32	7.48	7.97	7.60	7.35	7.65	7.53
TURBIDITY (NTU)	0.10	0.07	0.10	0.08	0.10	0.08	0.08	0.07	0.20	0.09	0.11	0.07	0.08	0.14
CONDUCTIVITY (μmho)	687	775	744	823	632	1160	616	477	527	1110	736	445	1148	562
CALCIUM HARDNESS (mg/L CaCO ₃)	200	196	196	236	228	224	200	210	208	228	224	210	240	208
TOTAL HARDNESS (mg/L CaCO ₃)	232	264	250	270	248	290	228	228	232	272	264	224	288	236
CHLORIDES (Mg/l Cl ⁻)	114.5	127.9	126.9	143.4	93.0	258.9	93.5	42.0	54.5	229.9	116.0	28.0	220.4	64.5
TOTAL COLIFORM (cfu/100mL)	NEG	POS	POS	POS	NEG	NEG	NEG	POS	POS	NEG	NEG	POS	NEG	NEG
FECAL COLIFORM (cfu/100mL)	NEG													
TOTAL ALKALINITY (mg/L CaCO ₃)	199	236	235	252	231	229	210	243	236	227	232	234	233	235

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QUARTERLY CHEMICAL DEEPWELL ANALYSIS

2nd Quarter 2019

SAMPLE NO.	111	112	113	114	115	116	117	118						
DATE	04/29/19	04/29/19	04/29/19	N/S	04/29/19	04/29/19	04/29/19	04/29/19						
LOCATION	F-16	F-17	F-18	F-19	F-20	HGC-2	AG-1	AG-2						
TEMPERATURE (0C)	27.5	27.5	27.5	N/S	27.0	27.0	27.5	27.5						
pH	7.46	7.45	7.43	N/S	7.44	7.85	7.53	7.50						
TURBIDITY (NTU)	0.09	0.09	0.08	N/S	0.10	0.07	0.22	0.06						
CONDUCTIVITY (μmho)	450	421	428	N/S	1191	413	527	429						
CALCIUM HARDNESS (mg/L CaCO ₃)	210	208	204	N/S	236	188	216	204						
TOTAL HARDNESS (mg/L CaCO ₃)	230	220	228	N/S	290	220	224	224						
CHLORIDES (Mg/l Cl ⁻)	32.0	22.5	34.5	N/S	261.4	24.5	64.5	34.5						
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	N/S	NEG	NEG	POS	NEG						
FECAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	N/S	NEG	NEG	NEG	NEG						
TOTAL ALKALINITY (mg/L CaCO ₃)	240	233	230	N/S	234	231	244	231						

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QUARTERLY CHEMICAL DEEPWELL ANALYSIS

2nd Quarter 2019

SAMPLE NO.	119	120	121	122																
DATE	04/30/19	04/30/19	01/27/00	04/30/19																
LOCATION	GIAA-1	GIAA-2	GIAA-3	TUMON MAUI																
TEMPERATURE (°C)	27.0	27.0	N/S	27.0																
pH	7.68	7.42	N/S	7.39																
TURBIDITY (NTU)	0.07	0.09	N/S	0.21																
CONDUCTIVITY (μmho)	498	532	N/S	694																
CALCIUM HARDNESS (mg/L CaCO ₃)	208	216	N/S	224																
TOTAL HARDNESS (mg/L CaCO ₃)	236	230	N/S	268																
CHLORIDES (Mg/l Cl ⁻)	54.5	70.0	N/S	105.0																
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	N/S	POS																
FECAL COLIFORM (cfu/100mL)	NEG	NEG	N/S	NEG																
TOTAL ALKALINITY (mg/L CaCO ₃)	251	243	N/S	251																

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
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QUARTERLY CHEMICAL DEEPWELL ANALYSIS

2nd Quarter 2019

SAMPLE NO.																				
DATE	N/S	N/S	N/S	N/S	N/S	N/S														
LOCATION																				
TEMPERATURE (0C)	N/S	N/S	N/S	N/S	N/S	N/S														
pH	N/S	N/S	N/S	N/S	N/S	N/S														
TURBIDITY (NTU)	N/S	N/S	N/S	N/S	N/S	N/S														
CONDUCTIVITY (μmho)	N/S	N/S	N/S	N/S	N/S	N/S														
CALCIUM HARDNESS (mg/L CaCO ₃)	N/S	N/S	N/S	N/S	N/S	N/S														
TOTAL HARDNESS (mg/L CaCO ₃)	N/S	N/S	N/S	N/S	N/S	N/S														
CHLORIDES (Mg/l Cl ⁻)	N/S	N/S	N/S	N/S	N/S	N/S														
TOTAL COLIFORM (cfu/100mL)	N/S	N/S	N/S	N/S	N/S	N/S														
FECAL COLIFORM (cfu/100mL)	N/S	N/S	N/S	N/S	N/S	N/S														
TOTAL ALKALINITY (mg/L CaCO ₃)	N/S	N/S	N/S	N/S	N/S	N/S														

ANALYZED IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND
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QUARTERLY CHEMICAL DEEPWELL ANALYSIS
2nd Quarter 2019

SAMPLE NO.	123	124	125	126									
DATE	05/01/19	05/01/19	05/01/19	N/S									
LOCATION	UGUM	FENA	SANTA RITA SPRING	ASAN									
TEMPERATURE (°C)	30.0	28.0	27.0	N/S									
pH	7.86	7.91	7.45	N/S									
TURBIDITY (NTU)	0.19	0.15	0.10	N/S									
CONDUCTIVITY (μmho)	151	267	381	N/S									
CALCIUM HARDNESS (mg/L CaCO ₃)	30	90	190	N/S									
TOTAL HARDNESS (mg/L CaCO ₃)	60	120	216	N/S									
CHLORIDES (Mg/L Cl ⁻)	14.5	37.5	29.5	N/S									
TOTAL COLIFORM (cfu/100mL)	NEG	NEG	POS	N/S									
FECAL COLIFORM (cfu/100mL)	NEG	NEG	NEG	N/S									
TOTAL ALKALINITY (mg/L CaCO ₃)	70	126	230	N/S									

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**QUARTERLY CHEMICAL DEEPWELL ANALYSIS
2nd Quarter 2019**

SAMPLE NO.														
DATE	N/S													
LOCATION														
TEMPERATURE (0C)	N/S													
pH	N/S													
TURBIDITY (NTU)	N/S													
CONDUCTIVITY (μmho)	N/S													
CALCIUM HARDNESS (mg/L CaCO ₃)	N/S													
TOTAL HARDNESS (mg/L CaCO ₃)	N/S													
CHLORIDES (Mg/l Cl ⁻)	N/S													
TOTAL COLIFORM (cfu/100mL)	N/S													
FECAL COLIFORM (cfu/100mL)	N/S													
TOTAL ALKALINITY (mg/L CaCO ₃)	N/S													

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