

ANNEX V

WATER TEST RESULTS

BELIZE BREWING COMPANY LIMITED

Sample ID: San Pedro, South Beach

Sample received: July 04, 2008

Date Finished: July 15, 2008

PHYSICAL	UNIT	METHOD	RESULTS							
			1	BWS2	3	4	5	6	7	8
COLOUR, TRUE	units	Platinum - Cobalt Standard/ UV VIS Spectro								
COLOUR, APPARENT	units	Platinum - Cobalt Standard/ UV VIS Spectro								
CONDUCTIVITY	µs/cm	CONDUCTIVITY (probe)	25.7	35.8	41.2	45.5	50	49.8	50	50.20
LANG. INDEX	units	Calculated/ Titration								
OIL IN WATER	ppm									
pH	unit	pH/ISE meter (probe)	8.11	8.25	8.24	8.16	8.17	7.96	8.08	8.08
ORGANIC DRY SUBSTANCE	%									
DRY SUBSTANCE	g/l									
SILT DENSITY INDEX (SDI)	units	Filtration								
SUSPENDED SOLIDS (SS)	ppm	Colorimeter	0	1	0	0	0	0	0	0
TEMPERATURE (IN LAB)	°C	Probe/Termometer								
TOTAL DISSOLVED SOLIDS (TDS)	ppm	CONDUCTIVITY (probe)	17.94	17.88	20.6	22.7	25	24.9	25	25.10
TURBIDITY	ntu	Nephelometric - Tungsten	0.456	0.453	0.338	0.254	0.193	0.34	1.01	0.24
METALS		METHOD								
ALUMINUM (Al)	ppm	Aluminum/UV VIS Spectro								
BARIUM (Ba)	ppm	Turbidimetric/ UV VIS Spectro								
BROMINE (Br)	ppm	DPD/ UV VIS Spectro								
CALCIUM (Ca)	ppm	UV VIS Spectro/ Titration								
CHROMIUM (Cr) **	ppm	1,5-Diphenylcarbohydrazide/UV VIS Spectro								
COPPER (Cu)	ppm	Bicinchoninate/ UV VIS Spectro								
IRON, TOTAL (Fe)	ppm	UV VIS Spectro								
LEAD (Pb) **	ppm	Dithizone/ UV VIS Spectro								
MANGANESE (Mn)	ppm	Periodate Oxidation/UV VIS Spectro								
MAGNESIUM (Mg)	ppm	UV VIS Spectro / Titration								
MERCURY (Hg) **	ppm	Cold Vapor								
SELENIUM (Se) **	ppm	Diaminobenzidine/ UV VIS Spectro								
SILVER (Ag) **	ppm	Colorimetric/ UV VIS Spectro								
SODIUM (Na)	ppm	Probe								
ZINC (Zn)	ppm	Zincon/ UV VIS Spectro								
NON-METALS		METHOD								
CHLORINE, FREE (Cl)	ppm	UV VIS Spectro /DPD								
CHLORINE, TOTAL (Cl)	ppm	UV VIS Spectro/DPD								
FLUORIDE (F)	ppm	SPADNS/UV VIS Spectro								
NITROGEN, TOTAL (N)	ppm	Cadmium Reduction/ UV VIS Spectro								
DISSOLVED OXYGEN (DO)	ppm	PROBE								
PHOSPHORUS, TOTAL (P)	ppm	PhosVer / Orthophosphate/ UV VIS Spectro								
INORGANIC COMPOUNDS		METHOD								
ACIDITY (as CaCO)	ppm	Titration								
AMMONIA (NH3-N)	ppm	Salicylate / Probe								
BICARBONATE (HCO)	ppm	Titration								
CARBON DIOXIDE (CO2)	ppm	Titration								
CARBONATE (CO)	ppt	Titration								
CHLORIDE (Cl)	ppm	Mercuric Nitrate								
CHROMATE (CrO4)	ppm	Titration								
CYANIDE (CN)	ppm	Pyridine-Pyrazalone/ UV VIS Spectro								
TOTAL HARDNESS (as CaCO)	ppm	EDTA Titration/ UV VIS Spectro	4504	4560	5330	5960	6380	6480	6570	6530
HYDROGEN SULFIDE (H2S)	ppm	Titration / UV VIS Spectro								
HYPOCHLORITE (BLEACH)	ppm	Titration								
M ALKALINITY(TOTAL), (as CaCO)	ppm	Sulfuric acid titration								
NITRATE (NO)	ppm	Cadmium Reduction/ UV VIS Spectro	1.6	1.9	2.5	3.3	2.5	2.8	3.2	3.6
NITRATE NITROGEN (NO -N)	ppm	Cadmium Reduction/ UV VIS Spectro								
NITRITE (NO2)	ppm	Diazotization/ UV VIS Spectro								
HYDROXIDE ALKALINITY (OH)	ppm	Titration								
OZONE (O)	ppm	Indigo Trisulfonate/ UV VIS Spectro								
PHENOLPHTHALEIN ALKALINITY (as CaCO)	ppm	Sulfuric acid titration								
PHOSPHATE (PO4)	ppm	PhosVer / Orthophosphate/ UV VIS Spectro	0.7	0.9	0.8	0.6	0.3	0.2	0.5	0.3
SALINITY	ppt	Mercuric Nitrate titration	29	27.9	32.8	36.9	36.7	36.7	36.9	36.7
SILICA (SiO2)	ppm	Smcomolybdate/Colometric								
SODIUM CHLORIDE (NaCl)	ppm	UV VIS Spectro / Titration								
SULFIDE (S ⁻)	ppm	Methylene Blue Titration								
SULFITE (SO ⁻)	ppm	Titration								
SULPHATE (SO4)	ppm	Sulfa Ver 4/ UV VIS Spectro	2050	2100	2450	2800	3300	3400	3300	3250
ORGANIC CHEMISTRY										
OXYGEN DEMAND, BIOCHEMICAL (BOD5)	mg/l	BODTRAK / 5 days Digestion	12	12	14	11	8		9	
OXYGEN DEMAND, CHEMICAL (COD)	mg/l	Reactor Digestion								
ORGANIC	1/cm	Direct method/ UV VIS Spectro								
ORGANIC CARBON, TOTAL (TOC)	ppm	Direct method/UV VIS Spectro								
VOLITILE ACID PH-5.0	ml	Titration								
VOLITILE ACID PH-4.4	ml	Titration								
TRIHALOMETHANES (THMs)	ppb	Chloroform/UV VIS Spectro								
MICROBIOLOGICAL ANALYSIS										
	UNIT	METHOD								
TOTAL COLIFORM	count	m-ColiBlue (MF)								
ESCHERICHIA COLI (E.coli)	count	m-ColiBlue (MF)	1	0	5	6	0	0	0	3
FECAL COLIFORM	count	m-FC/ROSOLIC Broth (MF)	0	0	0	1	0	0	0	0
ENTEROCOCCI	count	m-EL Broth (MF)								
YEAST	count	R. B. Agar (MF)								
MOLD	count	R. B. Agar (MF)								

Analyst: Mr. Damian Espat
Mr. Ary Sosa
Mr. Ary Sosa

Signature: _____

ATTN: Mr. Alfonso Avilez

**BELIZE BREWING COMPANY LIMITED
WATER and WASTEWATER LABORATORY**

Sample ID: San Pedro, South Beach
INORGANIC CHEMISTRY

Sample received: July 28, 2008

Date Finished: July 31, 2008

PHYSICAL	UNIT	METHOD	RESULTS							
			1	BWS2	3	4	5	6	7	8
COLOUR, TRUE	units	Platinum - Cobalt Standard/ UV VIS Spectro								
COLOUR, APPARENT	units	Platinum - Cobalt Standard/ UV VIS Spectro								
CONDUCTIVITY	µs/cm	CONDUCTIVITY (probe)	47,400	46,100	46,300	47,300	49,100	49,900	50,100	49,900
LANG. INDEX	units	Calculated/ Titration								
OIL IN WATER	ppm									
pH	unit	pH/ISE meter (probe)	7.46	7.9	7.94	7.89	7.82	7.79	7.7	7.84
ORGANIC DRY SUBSTANCE	%									
DRY SUBSTANCE	g/l									
SILT DENSITY INDEX (SDI)	units	Filtration								
SUSPENDED SOLIDS (SS)	ppm	Colorimeter	1	2	4	1	1	2	1	2
TEMPERATURE (IN LAB)	°C	Probe/Termometer								
TOTAL DISSOLVED SOLIDS (TDS)	ppm	CONDUCTIVITY (probe)	23,700	23,100	23,200	23,600	24,500	25,008	25,000	24,900
TURBIDITY	ntu	Nephelometric - Tungsten	1.65	4.35	2.83	0.905	2.15	0.643	0.924	0.74
METALS		METHOD	RESULTS							
ALUMINUM (Al)	ppm	Aluminon/UV VIS Spectro								
BARIUM (Ba)	ppm	Turbidimetric/ UV VIS Spectro								
BROMINE (Br)	ppm	DPD/ UV VIS Spectro								
CALCIUM (Ca)	ppm	UV VIS Spectro/ Titration								
CHROMIUM (Cr) **	ppm	1,5-Diphenylcarbohydrazide/UV VIS Spectro								
COPPER (Cu)	ppm	Bicinchoninate/ UV VIS Spectro								
IRON, TOTAL (Fe)	ppm	UV VIS Spectro								
LEAD (Pb) **	ppm	Dithizone/ UV VIS Spectro								
MANGANESE (Mn)	ppm	Periodate Oxidation/UV VIS Spectro								
MAGNESIUM (Mg)	ppm	UV VIS Spectro / Titration								
MERCURY (Hg) **	ppm	Cold Vapor								
SELENIUM (Se) **	ppm	Diaminobenzidine/ UV VIS Spectro								
SILVER (Ag) **	ppm	Colorimetric/ UV VIS Spectro								
SODIUM (Na)	ppm	Probe								
ZINC (Zn)	ppm	Zincon/ UV VIS Spectro								
NON-METALS		METHOD	RESULTS							
CHLORINE, FREE (Cl)	ppm	UV VIS Spectro /DPD								
CHLORINE, TOTAL (Cl)	ppm	UV VIS Spectro/DPD								
FLUORIDE (F)	ppm	SPADNS/UV VIS Spectro								
NITROGEN, TOTAL (N)	ppm	Cadmium Reduction/ UV VIS Spectro								
DISSOLVED OXYGEN (DO)	ppm	PROBE								
PHOSPHORUS, TOTAL (P)	ppm	PhosVer / Orthophosphate/ UV VIS Spectro								
INORGANIC COMPOUNDS		METHOD	RESULTS							
ACIDITY (as CaCO)	ppm	Titration								
AMMONIA (NH3-N)	ppm	Salicylate / Probe								
BICARBONATE (HCO)	ppm	Titration								
CARBON DIOXIDE (CO2)	ppm	Titration								
CARBONATE (CO)	ppt	Titration								
CHLORIDE (Cl)	ppm	Mercuric Nitrate								
CHROMATE (CrO4)	ppm	Titration								
CYANIDE (CN)	ppm	Pyridine-Pyrazalone/ UV VIS Spectro								
TOTAL HARDNESS (as CaCO)	ppm	EDTA Titration/ UV VIS Spectro	6,170	5,955	6,275	6,200	6,480	6,640	6,570	6,660
HYDROGEN SULFIDE (H2S)	ppm	Titration / UV VIS Spectro								
HYPOCHLORITE (BLEACH)	ppm	Titration								
M ALKALINITY(TOTAL), (as CaCO)	ppm	Sulfuric acid titration								
NITRATE (NO)	ppm	Cadmium Reduction/ UV VIS Spectro	2.1	2.4	2.6	3.2	2.3	2.2	2.8	2.9
NITRATE NITROGEN (NO -N)	ppm	Cadmium Reduction/ UV VIS Spectro								
NITRITE (NO2)	ppm	Diazotization/ UV VIS Spectro								
HYDROXIDE ALKALINITY (OH)	ppm	Titration								
OZONE (O)	ppm	Indigo Trisulfonate/ UV VIS Spectro								
PHENOLPHTHALEIN ALKALINITY (as CaCO)	ppm	Sulfuric acid titration								
PHOSPHATE (PO4)	ppm	PhosVer / Orthophosphate/ UV VIS Spectro	0.3	0.6	0.5	0.5	0.2	0.4	0.6	0.5
SALINITY	ppt	Mercuric Nitrate titration	35	34.3	36.1	35.3	36.7	37.1	37.2	37.2
SILICA (SiO2)	ppm	Smcomolybdate/Colometric								
SODIUM CHLORIDE (NaCl)	ppm	UV VIS Spectro / Titration								
SULFIDE (S ⁻)	ppm	Methylene Blue Titration								
SULFITE (SO)	ppm	Titration								
SULPHATE (SO4)	ppm	Sulfa Ver 4/ UV VIS Spectro	3000	2850	3150	3000	3200	3250	3250	3250

ORGANIC CHEMISTRY

OXYGEN DEMAND, BIOCHEMICAL (BOD5)	mg/l	BODTRAK / 5 days Digestion								
OXYGEN DEMAND, CHEMICAL (COD)	mg/l	Reactor Digestion								
ORGANIC	l/cm	Direct method/ UV VIS Spectro								
ORGANIC CARBON, TOTAL (TOC)	ppm	Direct method/UV VIS Spectro								
VOLITILE ACID PH-5.0	ml	Titration								
VOLITILE ACID PH-4.4	ml	Titration								
TRICHALOMETHANES (THMs)	ppb	Chloroform/UV VIS Spectro								

MICROBIOLOGICAL ANALYSIS

	UNIT	METHOD	RESULTS							
TOTAL COLIFORM	count	m-ColiBlue (MF)								
ESCHERICHIA COLI (E.coli)	count	m-ColiBlue (MF)	0	7	0	1	0	0	0	0
FECAL COLIFORM	count	m-FC/ROSOLIC Broth (MF)	0	0	0	0	0	0	0	0
ENTEROCOCCI	count	m-EL Broth (MF)								
YEAST	count	R. B. Agar (MF)								
MOLD	count	R. B. Agar (MF)								

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