

ANNEX V
WATER TEST RESULTS

ATTN: MR. Jose Garcia

BELIZE BREWING COMPANY LIMITED

WATER and WASTEWATER LABORATORY

Sample ID: False Caye

DATE: 9 February, 2007

INORGANIC CHEMISTRY

PHYSICAL	UNIT	METHOD	RESULTS						
			Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6	
COLOUR, TRUE	units	Platinum - Cobalt Standard/ UV VIS Spectro							
COLOUR, APPARENT	units	Platinum - Cobalt Standard/ UV VIS Spectro							
CONDUCTIVITY	µs/cm	CONDUCTIVITY (probe)	51,200	52,000	51,900	52,200	52,200	51,600	
LANG. INDEX	units	Calculated/ Titration							
OIL IN WATER	ppm								
pH***	unit	pH/ISE meter (probe)	7.84	8.07	8.05	7.95	8.13	8.12	
SALINITY	ppt	Mercuric Nitrate titration	34.2	35.1	34.8	34.9	34.3	34.8	
SILT DENSITY INDEX (SDI)	units	Filtration							
TOTAL SUSPENDED SOLIDS (TSS)***	ppm	Colorimeter	21	19	22	20	21	17	
TEMPERATURE (IN LAB)	°C	Probe/Termometer							
TOTAL DISSOLVED SOLIDS (TDS)***	ppm	CONDUCTIVITY (probe)	25,600	26,000	25,900	26,100	26,100	25,800	
TURBIDITY	ntu	Nephelometric - Tungsten							
METALS			RESULTS						
ALUMINUM (Al)	ppm	Aluminon/UV VIS Spectro							
BARIUM (Ba)	ppm	Turbidimetric/ 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			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							
PHOSPHATE, TOTAL (PO4)***	ppm	PhosVer / Orthophosphate/ UV VIS Spectro	0.02	N/D	0.04	0.05	0.09	0.04	
INORGANIC COMPOUNDS			RESULTS						
ACIDITY (as CaCO)									
CARBON DIOXIDE (CO2)	ppm	Titration							
CARBONATE (CO)									
CHROMATE (CrO4)	ppm	Titration							
CYANIDE (CN)	ppm	Pyridine-Pyrazalone/ UV VIS Spectro							
TOTAL HARDNESS (as CaCO) ***			5,810	6,120	6,200	6,100	5,890	6,010	
HYDROGEN SULFIDE (H2S)	ppm	Titration / UV VIS Spectro							
HYPOCHLORITE (BLEACH)	ppm	Titration							
M ALKALINITY(TOTAL), (as CaCO)			0.6	0.6	0.6	0.5	0.6	0.6	
NITRATE NITROGEN (NO -N)									
NITRITE (NO2)	ppm	Diazotization/ UV VIS Spectro							
HYDROXIDE ALKALINITY (OH)	ppm	Titration							
OZONE (O)									
PHENOLPHTHALEIN ALKALINITY (as CaC	ppm	Sulfuric acid titration							
PHOSPHATE (PO4)	ppm	PhosVer / Orthophosphate/ UV VIS Spectro							
SILICA (SiO2)	ppm	Smcomolybdate/Colometric							
SODIUM CHLORIDE (NaCl)	ppm	UV VIS Spectro / Titration							
SULFIDE (S ⁻)	ppm	Methylene Blue Titration							
SULFITE (SO)									
SULPHATE (SO4)	ppm	Sulfa Ver 4/ UV VIS Spectro	3,290	2,660	2,730	2,760	3,100	3,590	
ORGANIC CHEMISTRY									
OXYGEN DEMAND, BIOCHEMICAL (BOD5)	mg/l	BODTRAK / 5 days Digestion							
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							
TRIHALOMETHANES (THMs)	ppb	Chloroform/UV VIS Spectro							

MICROBIOLOGICAL ANALYSIS

SEE ATTACHED TEST RESULTS FOR DETAILS

	UNIT	METHOD	RESULTS					
HETEROTROPHIC BACTERIA	count	R2A Agar (MF)						
TOTAL COLIFORM**	count	m-ENDO Broth (MF)						
ESCHERICHIA COLI (E.coli)**	count	m-ENDO Broth (MF)						
FECAL COLIFORM	count	m-FC/ROSOLIC Broth (MF)	0/100ml	0/100ml	0/100ml	0/100ml	0/100ml	0/100ml
ENTEROCOCCI	count	m-EL Broth (MF)	0/100ml	0/100ml	0/100ml	0/100ml	0/100ml	0/100ml
YEAST	count	R. B. Agar (MF)						
MOLD	count	R. B. Agar (MF)						

Analyst : Damian Espot

Signature: _____

ATTN: MR. Jose Garcia

BELIZE BREWING COMPANY LIMITED

WATER and WASTEWATER LABORATORY

Sample ID: False Caye

DATE: 21 April, 2007

INORGANIC CHEMISTRY

PHYSICAL	UNIT	METHOD	RESULTS								
			Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6	Sample 7		
COLOUR, TRUE	units	Platinum - Cobalt Standard/ UV VIS Spectro									
COLOUR, APPARENT	units	Platinum - Cobalt Standard/ UV VIS Spectro									
CONDUCTIVITY	µs/cm	CONDUCTIVITY (probe)	54,200	54,300	54,100	53,900	54,000	53,600	55,200		
LANG. INDEX	units	Calculated/ Titration									
OIL IN WATER	ppm										
pH***	unit	pH/ISE meter (probe)	8.47	7.96	8.31	8.41	8.15	8.4	7.36		
SALINITY	ppt	Mercuric Nitrate titration	36.1	36	36	36	36.1	36	37.1		
SILT DENSITY INDEX (SDI)	units	Filtration									
TOTAL SUSPENDED SOLIDS (TSS)***	ppm	Colorimeter	39,360	41,800	39,620	39,720	39,900	40,140	40,920		
TEMPERATURE (IN LAB)	°C	Probe/Termometer									
TOTAL DISSOLVED SOLIDS (TDS)***	ppm	CONDUCTIVITY (probe)	27,100	27,200	27,000	27,000	27,000	26,800	27,600		
TURBIDITY	ntu	Nephelometric - Tungsten									
METALS			RESULTS								
ALUMINUM (Al)	ppm	Aluminon/UV VIS Spectro									
BARIUM (Ba)	ppm	Turbidimetric/ 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			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									
PHOSPHATE, TOTAL (PO4)***	ppm	PhosVer / Orthophosphate/ UV VIS Spectro	0.02	0.08	0.05	0.01	0.08	0.11	0.06		
INORGANIC COMPOUNDS			RESULTS								
ACIDITY (as CaCO)											
CARBON DIOXIDE (CO2)	ppm	Titration									
CARBONATE (CO)											
CHROMATE (CrO4)	ppm	Titration									
CYANIDE (CN)	ppm	Pyridine-Pyrazalone/ UV VIS Spectro									
TOTAL HARDNESS (as CaCO) ***			6,345	6,415	6,380	6,230	6,280	6,370	6,750		
HYDROGEN SULFIDE (H2S)	ppm	Titration / UV VIS Spectro									
HYPOCHLORITE (BLEACH)	ppm	Titration									
M ALKALINITY(TOTAL), (as CaCO)			3	3	2	3	3	3	4		
NITRATE NITROGEN (NO -N)											
NITRITE (NO2)	ppm	Diazotization/ UV VIS Spectro									
HYDROXIDE ALKALINITY (OH)	ppm	Titration									
OZONE (O)											
PHENOLPHTHALEIN ALKALINITY (as CaC	ppm	Sulfuric acid titration									
PHOSPHATE (PO4)	ppm	PhosVer / Orthophosphate/ UV VIS Spectro									
SILICA (SiO2)	ppm	Sm comolybdate/Colometric									
SODIUM CHLORIDE (NaCl)	ppm	UV VIS Spectro / Titration									
SULFIDE (S ⁻)	ppm	Methylene Blue Titration									
SULFITE (SO)	ppm	Sulfa Ver 4/ UV VIS Spectro	2,910	3,050	3,215	3,000	2,995	3,055	3,005		
ORGANIC CHEMISTRY			RESULTS								
OXYGEN DEMAND, BIOCHEMICAL (BODs)	mg/l	BODTRAK / 5 days Digestion	4.6	8.2	10.2	14.4	16.8	15.2	21.8		
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									
TRIHALOMETHANES (THMs)	ppb	Chloroform/UV VIS Spectro									

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FECAL COLIFORM	count	m-FC/ROSOLIC Broth (MF)	0/100ml	0/100ml	0/100ml	0/100ml	0/100ml	0/100ml	0/100ml	
ENTEROCOCCI	count	m-EL Broth (MF)								
YEAST	count	R. B. Agar (MF)								
MOLD	count	R. B. Agar (MF)								

Analyst : Odair Quetzal

Signature: _____