

ANNEX IV
WATER RESULTS

BELIZE BREWING COMPANY LIMITED
WATER and WASTEWATER LABORATORY

Sample ID: Belcan, San Pedro

Sample received: August 25, 2008

September 23, 2008

INORGANIC CHEMISTRY

PHYSICAL	UNIT	METHOD	RESULTS								L1	L2	
			1A	1B	2A	2B	3A	3B	4A	4B			
COLOUR, TRUE	units	Platinum - Cobalt Standard/ UV VIS Spectro											
COLOUR, APPARENT	units	Platinum - Cobalt Standard/ UV VIS Spectro											
CONDUCTIVITY	µs/cm	CONDUCTIVITY (probe)											
LANG INDEX	units	Calculated/ Titration											
OIL IN WATER	ppm												
pH	unit	pH/ISE meter (probe)											
ORGANIC DRY SUBSTANCE	%												
DRY SUBSTANCE	g/l												
SILT DENSITY INDEX (SDI)	units	Filtration											
SUSPENDED SOLIDS (SS)	ppm	Colorimeter	N/D	N/D	N/D	N/D	N/D	N/D	N/D	2		7	
TEMPERATURE (IN LAB)	°C	Probe/Termometer											
TOTAL DISSOLVED SOLIDS (TDS)	ppm	CONDUCTIVITY (probe)	24800	25100	24700	24900	25000	25000	25000			26500	
TURBIDITY	ntu	Nephelometric -Tungsten	0.221	0.181	0.281	0.398	0.378	0.388	0.439			5.27	
METALS			UNIT			METHOD							
ALUMINIUM (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			UNIT			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			UNIT			METHOD							
ACIDITY (as CaCO ₃)	ppm	Titration											
AMMONIA (NH ₃ -N)	ppm	Salicylate / Probe											
BICARBONATE (HCO ₃)	ppm	Titration											
CARBON DIOXIDE (CO ₂)	ppm	Titration											
CARBONATE (CO ₃)	ppt	Titration											
CHLORIDE (Cl)	ppm	Mercuric Nitrate											
CHROMATE (CrO ₄)	ppm	Titration											
CYANIDE (CN)	ppm	Pyridine-Pyrazalone/ UV VIS Spectro											
TOTAL HARDNESS (as CaCO ₃)	ppm	EDTA Titration/ UV VIS Spectro	6500	6600	6440	6875	7155	6710	10200			7840	
HYDROGEN SULFIDE (H ₂ S)	ppm	Titration / UV VIS Spectro											
HYPOCHLORITE (BLEACH)	ppm	Titration											
M ALKALINITY(TOTAL), (as CaCO ₃)	ppm	Sulfuric acid titration											
NITRATE (NO ₃)	ppm	Cadmium Reduction/ UV VIS Spectro	20	5	5	5	5	5	5			5	
NITRATE NITROGEN (NO ₃ -N)	ppm	Cadmium Reduction/ UV VIS Spectro											
NITRITE (NO ₂)	ppm	Diazotization/ UV VIS Spectro											
HYDROXIDE ALKALINITY (OH)	ppm	Titration											
OZONE (O ₃)	ppm	Indigo Trisulfonate/ UV VIS Spectro											
PHENOLPHTHALEIN ALKALINITY (as CaCO ₃)	ppm	Sulfuric acid titration											
PHOSPHATE (PO ₄)	ppm	PhosVer / Orthophosphate/ UV VIS Spectro	0.186	0.103	0.132	0.028	0.047	0.046	0.132			0.094	
SALINITY	ppt	Mercuric Nitrate titration											
SILICA (SiO ₂)	ppm	Smcomolybdate/Colometric											
SODIUM CHLORIDE (NaCl)	ppm	UV VIS Spectro / Titration											
SULFIDE (S ²⁻)	ppm	Methylene Blue Titration											
SULFITE (SO ₃)	ppm	Titration											
SULPHATE (SO ₄)	ppm	Sulfa Ver 4/ UV VIS Spectro	7480	8400	7690	7410	5640	6130	6830			6440	
ORGANIC CHEMISTRY													
OXYGEN DEMAND, BIOCHEMICAL (BOD ₆)	mg/l	BODTRAK / 5 days Digestion		4.4	15.8	6	6.2	8.4	5.8	4.80		9.60	
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)				0/100ml		0/100ml		1/100ml		0/100ml	
FECAL COLIFORM	count	m-FC/ROSOLIC Broth (MF)				0/100ml		0/100ml		2/100ml		3/100ml	
ENTEROCOCCI	count	m-EL Broth (MF)											
YEAST	count	R. B. Agar (MF)											
MOLD	count	R. B. Agar (MF)											
Analyst:	Mr. Ary Sosa												
	Mr. Damian Espat												
	Signature:												



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ATTN: Mr. Alfonso Aviles

Date: 9th February, 2009

SAMPLE ID : Belican San Pedro

Sample Received: 13th January, 2009

INORGANIC CHEMISTRY

PHYSICAL	UNIT	METHOD	RESULTS						
			1	2	3	4	5	1B	5A
SUSPENDED SOLIDS (SS)	ppm	Colorimeter	10	8	8	20	8		
TOTAL DISSOLVED SOLIDS (TDS)	ppm	CONDUCTIVITY (probe)	24,800	24,800	24,800	24,400	19,320		
TURBIDITY	ntu	Nephelometric - Tungsten	0.258	0.542	0.828	0.507	0.346		
INORGANIC COMPOUNDS		UNIT	METHOD						
TOTAL HARDNESS (as CaCO ₃)	ppm	EDTA Titration/ UV VIS Spectro	6,620	6,240	7,960	8,240	7,700		
NITRATE (NO ₃)	ppm	Cadmium Reduction/ UV VIS Spectro	N/D	3.0	N/D	2	3		
PHOSPHATE (PO ₄)	ppm	PhosVer / Orthophosphate/ UV VIS Spectro	0.02	0.04	0.02	0.02	0.21		
SALINITY	ppt	Mercuric Nitrate titration	39.89	33.39	35.85	38.66	26.36		
SULPHATE (SO ₄)	ppm	Sulfa Ver 4/ UV VIS Spectro	7,690	3,640	3,560	3,000	2,740		

ORGANIC CHEMISTRY

OXYGEN DEMAND, BIOCHEMICAL (BOD5)	mg/l	BODTRAK / 5 days digestion						18.4	15.8

Analysts: Mr. Damian Espat

BELIZE BREWING CO. LTD.

SIGNATURE