



CAGAYAN DE ORO CITY WATER DISTRICT

CAGAYAN DE ORO CITY

Production Department

Water Quality Assurance Section

Year

DAILY TEMPERATURE MONITORING

SCHNEE CHILLER

BINDER INCUBATOR

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
JAN																															
FEB																															
MAR																															
APR																															
MAY																															
JUN																															
JUL																															
AUG																															
SEP																															
OCT																															
NOV																															
DEC																															

Prepared by:

Laboratory Staff

Checked by:

Senior Quality/Assurance Control Inspector



CAGAYAN DE ORO CITY WATER DISTRICT

CAGAYAN DE ORO CITY

Production Department

Water Quality Assurance Section

BIOSAFETY CABINET MAINTENANCE MONITORING

Year 2021



ThermoScientific 1300A2 Biosafety Cabinet

MONTH	DATE	INFLOW	DOWNFLOW	UV BULB	REMARKS
JAN					
FEB					
MARCH					
APRIL					
MAY					
JUNE					
JULY					
AUGUST					
SEPT					
OCT					
NOV					
DEC					

* INFLOW should be within 100-110 LFPM, DOWNFLOW should be within 58-68 LFPM

Prepared by:

Checked by:

FM-PRD-03 Laboratory Staff

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Sr. Laboratory Technician -xxxx



CAGAYAN DE ORO CITY WATER DISTRICT

Production Department
Quality Control Assurance Section

Monitoring of Water Quality at Macasandig Booster Station

CY 2021

Month:

DATE	TIME	LOCATION	Cl ₂ FEEDING (PPD)	RESIDUAL CHLORINE (PPM) (0.3 - 1.5)	TURBIDITY (NTU) STD: 0 - 5	pH (6.5-8.5)	TEMP °C	TOTAL COLIFORM	EC	HPC (cfu/ml) < 500 cfu/ml
		Bunk 1								
		Bunk 2								
		MB1								
		MB2								
		Bunk 1								
		Bunk 2								
		MB1								
		MB2								
		Bunk 1								
		Bunk 2								
		MB1								
		MB2								
		Bunk 1								
		Bunk 2								
		MB1								
		MB2								
		Bunk 1								
		Bunk 2								
		MB1								
		MB2								
		Bunk 1								
		Bunk 2								
		MB1								
		MB2								
		Bunk 1								
		Bunk 2								
		MB1								
		MB2								
		Bunk 1								
		Bunk 2								
		MB1								
		MB2								
		Bunk 1								
		Bunk 2								
		MB1								
		MB2								
AVERAGE										

Prepared by:

Checked by:

Laboratory Staff

Senior Laboratory Staff



CAGAYAN DE ORO CITY WATER DISTRICT

Cagayan de Oro City

PRODUCTION DEPARTMENT

Quality Control Assurance Section

MICROBIOLOGICAL TEST RESULT

REQUESTING PARTY: _____
ADDRESS OF REQUESTING PARTY: _____
DATE & TIME OF COLLECTION: _____
DATE & TIME OF ANALYSIS: _____
DATE RELEASED OF RESULT: _____
SAMPLE SUBMITTED BY: _____
SOURCE OF SAMPLE: _____

SAMPLE CODE	METHOD USED	PARAMETER	PNSDW	RESULT

REMARKS:

Organism of the Coliform group which is an indicative of pollution is not present. Water is safe for drinking purposes. This result is based on sample submitted.

* PNSDW - Philippine National Standards for Drinking Water

ANALYZED BY:

SUBMITTED BY:

Medical Technologist

Quality Control Officer

NOTED BY:

Manager, Production Department
AGM designate for Operations



CAGAYAN DE ORO CITY WATER DISTRICT
Corrales Avenue, Cagayan de Oro City

Production Department

WEEKLY JOINT METER READING MONITORING

BWSP TAKE-OFF POINT

Taguanao road, Upper Macasandig

Taguanao Junction road, Lumbia

Day	Date & Time	Flow (m3/h)	Meter Reading (cu.m)	Residual Chlorine	PSI	Remarks	Responsible Personnel	
Saturday							COWD Representative	COBI Representative
Sunday							COWD Representative	COBI Representative
Monday							COWD Representative	COBI Representative
Tuesday							COWD Representative	COBI Representative
Wednesday							COWD Representative	COBI Representative
Thursday							COWD Representative	COBI Representative
Friday							COWD Representative	COBI Representative

Checked by:

Noted by:

 Senior Water Utilities Mngt Officer A

 OIC Division Manager,
 Production Operation



REPUBLIC OF THE PHILIPPINES
CAGAYAN DE ORO CITY WATER DISTRICT

CAGAYAN DE ORO CITY
Production Department

NEW BOOSTER OPERATIONAL MONITORING

Date: _____

TIME	FLOW	TOTALIZER	PSI	SUMP LEVEL	CL2 RESIDUAL	REMARKS
10:00 pm						
11:00 pm						
12:00 am						
1:00 am						
2:00 am						
3:00 am						
4:00 am						
5:00 am						
6:00 am						
7:00 am						
8:00 am						
9:00 am						
10:00 am						
11:00 am						
12:00 pm						
1:00 pm						
2:00 pm						
3:00 pm						
4:00 pm						
5:00 pm						
6:00 pm						
7:00 pm						
8:00 pm						
9:00 pm						

Prepared by:

First Shift Operator

Second Shift Operator

Third Shift Operator

Checked by:

Supervisor



CAGAYAN DE ORO CITY WATER DISTRICT

Production Department

DAILY MONITORING OF RESIDUAL CHLORINE/PPD OF MACASANDIG BOOSTER STATION

For the Month of: _____

DATE	TIME	OLD BOOSTER STATION				NEW BOOSTER STATION		OPRTS' NAME	SHIFT	REMARKS
		BANK 1		BANK 2		BANK 1				
		PPD	RC	PPD	RC	PPD	RC			
	9:00 am								1st	
	1:00 pm									
	3:00 pm								2nd	
	9:00 pm									
	11:00 pm								3rd	
	5:00 am									
	9:00 am								1st	
	1:00 pm									
	3:00 pm								2nd	
	9:00 pm									
	11:00 pm								3rd	
	5:00 am									
	9:00 am								1st	
	1:00 pm									
	3:00 pm								2nd	
	9:00 pm									
	11:00 pm								3rd	
	5:00 am									
	9:00 am								1st	
	1:00 pm									
	3:00 pm								2nd	
	9:00 pm									
	11:00 pm								3rd	
	5:00 am									
	9:00 am								1st	
	1:00 pm									
	3:00 pm								2nd	
	9:00 pm									
	11:00 pm								3rd	
	5:00 am									
	9:00 am								1st	
	1:00 pm									
	3:00 pm								2nd	
	9:00 pm									
	11:00 pm								3rd	
	5:00 am									
	9:00 am								1st	
	1:00 pm									
	3:00 pm								2nd	
	9:00 pm									
	11:00 pm								3rd	
	5:00 am									



REPUBLIC OF THE PHILIPPINES
CAGAYAN DE ORO CITY WATER DISTRICT

CAGAYAN DE ORO CITY
 Production Department

HOURLY OPERATION RESULT

- BALULANG BOOSTER
 BUGO BOOSTER
 MACASANDIG BOOSTER
 OLD BOOSTER
 NEW BOOSTER

Date:

TIME	BANK #	LEVEL	PSI	FLOW	TOTALIZER	BPS RUNNING	PWS RUNNING	
10:00 pm	1							
	2							
11:00 pm	1							
	2							
12:00 am	1							
	2							
1:00 am	1							
	2							
2:00 am	1							
	2							
3:00 am	1							
	2							
4:00 am	1							
	2							
5:00 am	1							
	2							
6:00 am	1							
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7:00 am	1							
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8:00 am	1							
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9:00 am	1							
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10:00 am	1							
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11:00 am	1							
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12:00 pm	1							
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	2							
3:00 pm	1							
	2							
4:00 pm	1							
	2							
5:00 pm	1							
	2							
6:00 pm	1							
	2							
7:00 pm	1							
	2							
8:00 pm	1							
	2							
9:00 pm	1							
	2							
10:00 pm	1							
	2							

First Shift Operator

Second Shift Operator

Third Shift Operator

Checked by:

Supervisor



REPUBLIC OF THE PHILIPPINES
CAGAYAN DE ORO CITY WATER DISTRICT
 CAGAYAN DE ORO CITY

OPERATIONAL MONITORING REPORT

BALULANG BOOSTER
 BUGO BOOSTER
 MACASANDIG BOOSTER
 OLD BOOSTER
 NEW BOOSTER

Date: _____

TIME	SUMP LEVEL	PSI 1	PS 2	BP#	BP#	BP#	BP#	BP#	BP#	CL2 FEEDING	REMARKS	Projected Production:
				START/STOP	START/STOP	START/STOP	START/STOP	START/STOP	START/STOP			Actual Production:
10:00 pm												
10:30 pm												
11:00 pm												
11:30 pm												Feeding Rate:
12:00 am												
12:30 am												
1:00 am												
1:30 am												
2:00 am												
2:30 am												
3:00 am												_____
3:30 am												First Shift Operator
4:00 am												
4:30 am												
5:00 am												
5:30 am												
6:00 am												_____
6:30 am												Second Shift Operator
7:00 am												
7:30 am												
8:00 am												
8:30 am												
9:00 am												
9:30 am												_____
10:00 am												Third Shift Operator
10:30 am												
11:00 am												
11:30 am												
12:00 pm												
12:30 pm												
1:00 pm												
1:30 pm												
2:00 pm												
2:30 pm												
3:00 pm												
3:30 pm												
4:00 pm												Checked By:
4:30 pm												
5:00 pm												
5:30 pm												Supervisor
6:00 pm												
6:30 pm												
7:00 pm												
7:30 pm												
8:00 pm												
8:30 pm												Noted By:
9:00 pm												
9:30 pm												
10:00 pm												Production Manager
TOTAL RUNNING HOURS												



CAGAYAN DE ORO CITY WATER DISTRICT
Production Department
PWS DAILY MONITORING OPERATION REPORT

Water Accessibility - Our Priority!

Location: _____

Date: _____

TIME	PW #		PW#		REMARKS																	
	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF		
10:00 pm																						
10:30 pm																						
11:00 pm																						
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9:00 pm																						
9:30 pm																						
TOTAL RUNNING HOURS																						

REPORTED BY: _____
 FIRST SHIFT OPERATOR

 2ND SHIFT OPERATOR

 3RD SHIFT OPERATOR

CHECKED BY: _____
 SR. WATER UTILITIES MNGT. OFFICER A

NOTED BY: _____
 DEPT. MANAGER /AGM- for OPERATIONS



REPUBLIC OF THE PHILIPPINES
CAGAYAN DE ORO CITY WATER DISTRICT
 CAGAYAN DE ORO CITY
 Production Department

DAILY OPERATIONAL CHECKLIST OF FACILITIES AND EQUIPMENT

YOUNGSVILLE
 CALAANAN
 BUGO BOOSTER
 BALULANG BOOSTER
 MACASANDIG BOOSTER
 AGUSAN-TABLON

Date:

	First Shift	Second Shift	Third Shift				Remarks
MAINTENANCE OF TURBINE PUMPS (VERTICAL SUBMERSIBLE)							
1. Accomplished pump station operation data log.	yes	no	yes	no	yes	no	
2. Pumpset packing (for vertical turbine).	normal	abnormal	normal	abnormal	normal	abnormal	
Little leakage of water must be allowed through for headshaft and packing gland lubrication							
3. Vibration	normal	abnormal	normal	abnormal	normal	abnormal	
4. Noise	normal	abnormal	normal	abnormal	normal	abnormal	
5. Check valve	normal	abnormal	normal	abnormal	normal	abnormal	
MAINTENANCE OF ELECTRIC MOTORS							
1. Temperature of motor housing	normal	abnormal	normal	abnormal	normal	abnormal	
2. Lubrication reservoir level.	normal	abnormal	normal	abnormal	normal	abnormal	
3. Air vents for frayed inoculation	normal	abnormal	normal	abnormal	normal	abnormal	
4. Bearing of temperature and level of oil reservoir	normal	abnormal	normal	abnormal	normal	abnormal	
5. Oil leakage	yes	no	yes	no	yes	no	
6. Current	normal	abnormal	normal	abnormal	normal	abnormal	
7. Voltage	normal	abnormal	normal	abnormal	normal	abnormal	
MAINTENANCE OF DIESEL ENGINE							
1. Coolant level	normal	abnormal	normal	abnormal	normal	abnormal	
2. Oil level	normal	abnormal	normal	abnormal	normal	abnormal	
3. Fuel level							
4. Battery	normal	abnormal	normal	abnormal	normal	abnormal	
5. Belt tension, wears and tears	normal	abnormal	normal	abnormal	normal	abnormal	
MAINTENANCE OF CHLORINATOR							
1. Feeding rate							
2. Pipe leakage	yes	no	yes	no	yes	no	
3. Air vent leakage	yes	no	yes	no	yes	no	
4. Exhaust fan	operational	abnormal	operational	abnormal	operational	abnormal	
MAINTENANCE OF FACILITIES							
1. Lighting	operational	defective	operational	defective	operational	defective	
2. Pressure gage	operational	defective	operational	defective	operational	defective	
3. Padlocks	well	defective	well	defective	well	defective	
4. Faucet	operational	defective	operational	defective	operational	defective	
5. Pump house cleanliness	clean	untidy	clean	untidy	clean	untidy	
6. Emergency light	operational	defective	operational	defective	operational	defective	
Name of Operator:							
Booster/Production Well							
Supervisors Remarks							
Supervisor							

Prepared by:

Checked by:

1st Shift Operator

2nd Shift Operator

3rd Shift Operator

Supervisor



**CAGAYAN DE ORO CITY WATER DISTRICT
REQUEST FOR OUTSIDE JOB**

ATTN: PURCHASING SECTION :

Outside Job No.: _____
Date Prepared : _____
Section : _____

Requesting for outside job of the following

JOB DESCRIPTION	QTY	UNIT	ESTIMATED COST
			-
			-
			-
			-
			-
			-
			-
TOTAL ESTIMATED OUTSIDE JOB ORDER			-

Purpose:

Charged to:

Prepared by: _____ Approved by: _____

Division Manager C

Department Manager

Approved as to budget:

Department Manager, Finance

FM-PRD-20

00

XX-XX-XXXX



**CAGAYAN DE ORO CITY WATER DISTRICT
REQUEST FOR OUTSIDE JOB**

ATTN: PURCHASING SECTION :

Outside Job No.: _____
Date Prepared : _____
Section : _____

Requesting for outside job of the following

JOB DESCRIPTION	QTY	UNIT	ESTIMATED COST
			-
			-
			-
			-
			-
			-
			-
TOTAL ESTIMATED OUTSIDE JOB ORDER			-

Charge Account to:

PURPOSE:

Prepared by: _____ Approved by: _____

Division Manager C

Department Manager

Approved as to budget:

Department Manager, Finance

FM-PRD-20

00

XX-XX-XXXX



**CAGAYAN DE ORO CITY WATER DISTRICT
PRODUCTION DEPARTMENT
PREVENTIVE MAINTENANCE**

PUMP PERFORMANCE TEST

Production Well No. _____
 Date and Time _____
 Initial Flowmeter Reading _____
 Final Flowmeter Reading _____

PUMP SETTING : _____
 ORIFICE : _____

TRIALS	1	2	3	4	5	6	7	8	9	10
HEADS										
PRESSURE										
WATER LEVEL										
CAPACITY										
Flowmeter										
Orifice (Inch)										
POWER										
I1										
I2										
I3										
V12										
V13										
V23										

Conducted by: _____
 Pumping water level _____
 Pressure monitoring _____
 Capacity monitoring _____
 Power Monitoring _____

Check By: _____
 LEADMAN



**CAGAYAN DE ORO CITY WATER DISTRICT
PRODUCTION DEPARTMENT
PREVENTIVE MAINTENANCE**

LIGHTING FIXTURES MAINTENANCE CHECK LIST

LOCATION :	DATE:	
Check of work completed, explain any " NO " answers under "Remarks"		
WORK ITEM	Check One	REMARKS
	YES NO	
Weekly Routine Maintenance: <ul style="list-style-type: none"> ● Check Circuit Breaker ● Check Lighting Switches ● Check Bulb and Fluorescent ● Check Electrical Wirings ● Check terminal connections ● Check Fluorescent Housing Assembly ● Check convenience outlet condition ● Check Fuse and Safety switch condition 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	

CONDUCTED BY:

Checked by:

TECHNICIAN

LEADMAN



**CAGAYAN DE ORO CITY WATER DISTRICT
PRODUCTION DEPARTMENT
PREVENTIVE MAINTENANCE**

MOTOR CONTROL AND ASSESSORIES CHECK LIST

LOCATION:	DATE:		
Check of work completed, explain any " NO " answers under "Remarks"			
WORK ITEM	Check One		REMARKS
	YES	NO	
SHUT DOWN PUMP SET			
● Check Double Throw terminals and bolts	<input type="checkbox"/>	<input type="checkbox"/>	
● Clean Double throw	<input type="checkbox"/>	<input type="checkbox"/>	
● Check Control wirings	<input type="checkbox"/>	<input type="checkbox"/>	
● Check /Tighten Control terminals and bolts	<input type="checkbox"/>	<input type="checkbox"/>	
● Check Power lines Connection	<input type="checkbox"/>	<input type="checkbox"/>	
● Check/Tighten Power lines terminals/ bolts	<input type="checkbox"/>	<input type="checkbox"/>	
● Check Full Load Current settings	<input type="checkbox"/>	<input type="checkbox"/>	
● Check Over and Under voltage settings	<input type="checkbox"/>	<input type="checkbox"/>	
● Check under current settings	<input type="checkbox"/>	<input type="checkbox"/>	
FOR SOFT STARTER			
● Check Start mode (adaptive control)	<input type="checkbox"/>	<input type="checkbox"/>	
● Check Start Profile (early acceleration)	<input type="checkbox"/>	<input type="checkbox"/>	
● Check Ramp time (5 sec)	<input type="checkbox"/>	<input type="checkbox"/>	
● Check Stop mode (Adaptive mode)	<input type="checkbox"/>	<input type="checkbox"/>	
● Check Adaptive stop profile(late deceleration)	<input type="checkbox"/>	<input type="checkbox"/>	
● Check Stop Time (5 sec)	<input type="checkbox"/>	<input type="checkbox"/>	
Clean Motor Control			

Conducted By: _____
TECHNICIAN

Check By: _____
LEADMAN



**CAGAYAN DE ORO CITY WATER DISTRICT
PRODUCTION DEPARTMENT
PREVENTIVE MAINTENANCE**

CHLORINATING EQUIPMENT MAINTENANCE CHECKLIST

LOCATION :	DATE:		
Check of work completed, explain any " NO " answers under "Remarks"			
WORK ITEM	Check One		REMARKS
	YES	NO	
<ul style="list-style-type: none"> ● Check Chlorine Booster pump operation condition ● Check Gas Chlorination and Mounting Assembly ● Check Ejector Nozzle Vacuum condition ● Check Hose and Piping Condition ● Check Chlorine Feed Rate ● Check Pressure Gauge operability ● Check Booster Pump mounting support ● Check Booster Pump Impeller ● Check Chlorine Tank Expiration / Quality 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	

Conducted by:

Checked by:

TECHNICIAN

LEADMAN

