Revision History

Date	Rev#	Comments
10/Aug/2013	1	Initial publication as a controlled procedure.
08/Nov/2013	2	Updated laboratory equipment information
11/Dec/2014	3	Annual review and update.
30/Dec/2015	4	Annual review and update.
15/Dec/2016	5	Annual review and update.
01/Dec/2017	6	Annual review and update.
21/Dec/2018	7	Annual review and update.
20/Dec/2019	8	Annual review and update.
01/Dec/2020	9	Annual review and update.
28/Dec/2021	10	Annual review and update.

Equipment Identifier	Classification	Make & Model
···	Flow Measuring I	
Flow Meter, Raw Water (CWTP)	Regulatory	Endress + Hauser Proline Promag 50 Electromagnetic Flowmeter
Flow Meter, Cochenour Distribution (CWTP)	Regulatory	Endress + Hauser Proline Promag 50 Electromagnetic Flowmeter
Flow Meter, Balmertown Transfer (CWTP)	Process	Endress + Hauser Proline Promag 50 Electromagnetic Flowmeter
Flow Meter, Incoming Transfer (BRPS)	Process	Endress + Hauser Proline Promag 50 Electromagnetic Flowmeter
Flow Meter, Balmertown Distribution (BRPS)	Regulatory	Endress + Hauser Proline Promag 50 Electromagnetic Flowmeter
	Water Quality An	alyzers
Turbidimeter, Filter 1 (CWTP)	Regulatory	Hach 1720D Low Range Turbidimeter
Turbidimeter, Filter 2 (CWTP)	Regulatory	Hach 1720D Low Range Turbidimeter
Turbidimeter, Filter 3 (CWTP)	Regulatory	Hach 1720D Low Range Turbidimeter
Turbidimeter, Treated Water (CWTP)	Process	Hach 1720D Low Range Turbidimeter
pH/Free Chlorine Residual Analyzer, Treated Water (CWTP)	Regulatory	Wallace & Tiernan Depolox 3 Plus Residual Analyzer
Free Chlorine Residual Analyzer, Distribution Water (BRPS)	Regulatory	Wallace & Tiernan Depolox 3 Plus Residual Analyzer
	Lab Instrument	ation
Hach 2100P Portable Turbidimeter (Cochenour WTP)	Regulatory*	Hach 2100P Portable Turbidimeter
Hach DR/2500 Laboratory Spectrophotometer (Cochenour WTP)	Regulatory*	Hach DR/2500 Laboratory Spectrophotometer
Real Tech UV254 Field Meter (Cochenour WTP)	Process	Real Tech UV254 Field Meter
Hach 2100P Portable Turbidimeter (Balmertown RPS)	Regulatory*	Hach 2100P Portable Turbidimeter
Hach DR300 Pocket Chlorine Colorimeter (Balmertown RPS)	Regulatory*	Hach DR300 Pocket Chlorine Colorimeter
Hach Pocket Colorimeter II - Chlorine (Field Unit)	Regulatory*	Hach Pocket Colorimeter II - Chlorine

Calibration & Maintenance Record: Turbidimeter, Filter 1 (Cochenour WTP)	Year: 2022
Manual: Hach 1720D Low Range Process Turbidimeter	
Comparative Checks	
Comparative Checks: Comparative checks involve comparing the reading of the analyzer to a grab sample result. Such comparisons shall be completed on a routine basis as a component of re	outine

Comparative Checks: Comparative checks involve comparing the reading of the analyzer to a grab sample result. Such comparisons shall be completed on a routine basis as a component of routine operational checks, and shall be recorded within the daily operational spreadsheets. A calibration is necessary if the check reveals a discrepancy of ± 0.10 NTU between measured and actual values. Such calibrations would generally involve the User-prepared Calibration Procedure (section 3.2.2 of the User Manual), and these calibrations would be considered non-routine/unscheduled. Unscheduled calibrations shall be recorded within the section "Other Calibration and Maintenance Activities", while routine/scheduled calibrations shall be recorded within the section "Inspection, Cleaning, and Calibration".

Inspection, Cleaning and Calibration

Inspection, Cleaning, and Calibration (routinely every quarter, or if there is a discrepancy of ± 0.10 NTU): The photocell window shall be inspected and the turbidimeter body and bubble trap shall be cleaned on a quarterly basis (section 5.1.3 of the Manual). Following inspection and cleaning, the unit shall be calibrated in accordance with the User-prepared Calibration Procedure (section 3.2.2 of the Manual). Other calibration methods described within the Manual are also acceptable. Calibration shall adhere to the Calibration guidelines (section 3.1.2) contained within the Manual. Following calibration, the flow rate through the turbidimeter should be verified to be between 250 – 750 mL/min. The same procedures apply if there is a discrepancy of ± 0.10 NTU, in which case a non-routine/unscheduled calibration may be required. Non-routine calibrations shall be recorded within the section "Other Calibration and Maintenance Activities".

Quarter	Quarter 1 (Jan-Feb-Mar)	Quarter 2 (Apr-May-Jun)	Quarter 3 (Jul-Aug-Sep)	Quarter 4 (Oct-Nov-Dec)
Date (dd/mm)				
Time				
Turbidimeter Body Inspected/Cleaned? (Y/N)				
Photocell Window Inspected? (Y/N)				
User-prepared Calibration Conducted? (Y/N)				
Calibration Accepted? (Y/N)				
Sample Flow Verification? (Y/N, mL/min)				
Operator Initials				
Operations Manager Initials				

Other Calibration and Maintenance Activities

Date (dd/mm)	Time	Initials	Activity

Calibration & Maintenance Record: Turbidimeter, Filter 2 (Cochenour WTP)	Year: 2022
Manual: Hach 1720D Low Range Process Turbidimeter	
Comparative Checks	
Comparative Checks: Comparative checks involve comparing the reading of the analyzer to a grab sample result. Such comparisons shall be completed on a routine basis as a component of ro operational checks, and shall be recorded within the daily operational spreadsheets. A calibration is necessary if the check reveals a discrepancy of ± 0.10 NTU between measured and actual vicalibrations would generally involve the User-prepared Calibration Procedure (section 3.2.2 of the User Manual), and these calibrations would be considered non-routine/unscheduled. Unscheduled calibrations shall be recorded within the section "Other Calibration and Maintenance Activities", while routine/scheduled calibrations shall be recorded within the section "Inspection, Cleaning, and the consideration of the procedure of the consideration of	ralues. Such uled

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Quarter	Quarter 1 (Jan-Feb-Mar)	Quarter 2 (Apr-May-Jun)	Quarter 3 (Jul-Aug-Sep)	Quarter 4 (Oct-Nov-Dec)
Date (dd/mm)				
Time				
Turbidimeter Body Inspected/Cleaned? (Y/N)				
Photocell Window Inspected? (Y/N)				
User-prepared Calibration Conducted? (Y/N)				
Calibration Accepted? (Y/N)				
Sample Flow Verification? (Y/N, mL/min)				
Operator Initials				
Operations Manager Initials				

Other Calibration and Maintenance Activities

Date (dd/mm)	Time	Initials	Activity

Calibration & Maintenance Record: Turbidimeter, Filter 3 (Cochenour WTP)	Year: 2022
Manual: Hach 1720D Low Range Process Turbidimeter	
Comparative Checks	
Comparative Checks: Comparative checks involve comparing the reading of the analyzer to a grab sample result. Such comparisons shall be completed on a routine basis as a component of rooperational checks, and shall be recorded within the daily operational spreadsheets. A calibration is necessary if the check reveals a discrepancy of ± 0.10 NTU between measured and actual valibrations would generally involve the User-prepared Calibration Procedure (section 3.2.2 of the User Manual), and these calibrations would be considered non-routine/unscheduled. Unsched calibrations shall be recorded within the section "Other Calibration and Maintenance Activities", while routine/scheduled calibrations shall be recorded within the section "Inspection, Cleaning, and the considered non-routine/scheduled calibrations shall be recorded within the section "Other Calibration and Maintenance Activities", while routine/scheduled calibrations shall be recorded within the section "Other Calibration and Maintenance Activities", while routine/scheduled calibrations shall be recorded within the section "Other Calibration and Maintenance Activities", while routine/scheduled calibrations shall be recorded within the section "Other Calibration and Maintenance Activities", while routine/scheduled calibrations shall be recorded within the section "Other Calibration and Maintenance Activities", while routine/scheduled calibrations shall be recorded within the section "Other Calibration and Maintenance Activities", while routine/scheduled calibrations shall be recorded within the section "Other Calibration and Maintenance Activities", while routine/scheduled calibrations shall be recorded within the section "Other Calibration and Maintenance Activities", while routine/scheduled calibrations shall be recorded within the section "Other Calibration and Maintenance Activities", while routine/scheduled calibrations shall be recorded within the section "Other Calibration and Maintenance Activities", while routine/scheduled calibrations shall be recor	values. Such luled

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Quarter	Quarter 1 (Jan-Feb-Mar)	Quarter 2 (Apr-May-Jun)	Quarter 3 (Jul-Aug-Sep)	Quarter 4 (Oct-Nov-Dec)
Date (dd/mm)				
Time				
Turbidimeter Body Inspected/Cleaned? (Y/N)				
Photocell Window Inspected? (Y/N)				
User-prepared Calibration Conducted? (Y/N)				
Calibration Accepted? (Y/N)				
Sample Flow Verification? (Y/N, mL/min)				
Operator Initials				
Operations Manager Initials				

Other Calibration and Maintenance Activities

Date (dd/mm)	Time	Initials	Activity

Calibration & Maintenance Record: Turbidimeter, Treated Water (Cochenour WTP)	Year: 2022
Manual: Hach 1720D Low Range Process Turbidimeter	
Comparative Checks	
Comparative Checks: Comparative checks involve comparing the reading of the analyzer to a grab sample result. Such comparisons shall be completed on a routine basis as a component of roperational checks, and shall be recorded within the daily operational spreadsheets. A calibration is necessary if the check reveals a discrepancy of ± 0.10 NTU between measured and actual calibrations would generally involve the User-prepared Calibration Procedure (section 3.2.2 of the User Manual), and these calibrations would be considered non-routine/unscheduled. Unsched calibrations shall be recorded within the section "Other Calibration and Maintenance Activities", while routine/scheduled calibrations shall be recorded within the section "Inspection, Cleaning, and the section "Other Calibration and Maintenance Activities", while routine/scheduled calibrations shall be recorded within the section "Inspection, Cleaning, and the section "Other Calibration and Maintenance Activities", while routine/scheduled calibrations shall be recorded within the section "Other Calibration and Maintenance Activities", while routine/scheduled calibrations shall be recorded within the section "Other Calibration and Maintenance Activities", while routine/scheduled calibrations shall be recorded within the section "Other Calibration and Maintenance Activities", while routine/scheduled calibrations shall be recorded within the section "Other Calibration and Maintenance Activities", while routine/scheduled calibrations shall be recorded within the section "Other Calibration and Maintenance Activities", while routine/scheduled calibrations shall be recorded within the section "Other Calibration and Maintenance Activities", while routine/scheduled calibrations shall be recorded within the section "Other Calibration and Maintenance Activities", while routine/scheduled calibrations shall be recorded within the section "Other Calibration and Maintenance Activities", while routine/scheduled calibrations shall be recorded within the section "Other Calibra	values. Such duled

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Quarter	Quarter 1 (Jan-Feb-Mar)	Quarter 2 (Apr-May-Jun)	Quarter 3 (Jul-Aug-Sep)	Quarter 4 (Oct-Nov-Dec)
Date (dd/mm)				
Time				
Turbidimeter Body Inspected/Cleaned? (Y/N)				
Photocell Window Inspected? (Y/N)				
User-prepared Calibration Conducted? (Y/N)				
Calibration Accepted? (Y/N)				
Sample Flow Verification? (Y/N, mL/min)				
Operator Initials				
Operations Manager Initials				

Other Calibration and Maintenance Activities

Date (dd/mm)	Time	Initials	Activity

Manual: Depolox 3 Plus Residual Analyzer

Leak Detection, Grit Quantity and Comparative Checks

Leak Detection, Grit Quantity, and Comparative Checks (daily): Each day the unit shall be checked for leaks and a comparison between measured and displayed results shall be conducted. With the sample water turned on, the unit should be checked to ensure that there is sufficient grit in the measuring cell block to keep the electrode clean. These checks correspond with the daily and weekly checks contained within section 4.2.1 (Maintenance) of the User Manual.

Comparative checks involve comparing the reading of the analyzer to a grab sample result. Such comparisons shall be completed as a component of routine operational checks (as per the required frequency of water quality testing), and shall be recorded within the daily operational spreadsheets. The chlorine sensor shall be calibrated if there is a discrepancy of ± 0.05 mg/L between actual and measured values for residuals less than or equal to 1.00 mg/L, or ± 5% between the actual and measured values for residuals greater than 1.00 mg/L. Record all calibrations in the section "Chlorine Sensor Calibrations".

pH Probe Cleaning & Calibration

pH Probe Cleaning & Calibration (monthly): The pH probe shall be cleaned and calibrated according to section 4.3.2 (Maintaining pH Electrode) of the User Manual. Verify the accuracy of the displayed pH value and proceed to conduct the pH offset calibration as required. Conduct the zero and span calibrations only if there was a problem after conducting the offset. Perform pH electrode calibrations in accordance with section 3.2.3 (pH Calibration) of the User Manual. pH probe calibration should occur after any relevant checks, but prior to any calibration of the chlorine sensor. Unscheduled calibrations, such as those associated with the calibrations of the chlorine sensor, shall be recorded elsewhere (see "Chlorine Sensor Calibrations").

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Day												
Time												
pH Probe Cleaned? (Y/N)												
pH Buffer Solutions Satisfactory? (Y/N)												
pH Value Verified? (Y/N)												
pH Offset Calibration Conducted? (Y/N)												
pH Zero and Span Calibration Conducted? (Y/N)												
Operator Initials												
Operations Manager Initials												

Chlorine Analyzer Checks & Electrolyte Replacement

Zero Point Check, Electrolyte Level Check, Grit Replacement, Membrane Inspection, & Flow Block Cleaning (bimonthly): Every two months the zero point shall be checked to ensure no drift has occurred. The potassium chloride electrolyte level must also be checked and topped up if necessary. Grit replacement must be conducted every two months, in addition to performing an inspection of the two porous membranes. Altogether, these checks correspond with the bimonthly checks indicated in section 4.2.1 (Maintenance) of the User Manual. Additionally, the flow block assembly shall be cleaned. Record any subsequent calibrations within the section entitled "Chlorine Sensor Calibrations".

Electrolyte Replacement (semi-annually): Every 6 months the reference electrolyte shall be replaced in accordance with the procedure indicated for semi-annual checks within section 4.2.1 (Maintenance) of the User Manual.

IMPORTANT NOTE: Electrolyte replacement should be performed at the same time as a bimonthly check, such that electrolyte replacement would occur coincident with grit replacement and a check of the condition of the porous membranes.

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Day	24-FE	24-FEB-2022										
Time	13	:12										
Zero Point Value (i.e. – 0.01 mg/L)	0.	.00										
Electrolyte Level/Membranes Checked? (Y/N)		Υ										
Electrolyte Added? (Y/N)	N	IR										
Membranes Require Replacement? (Y/N)	N	IR										
Grit Replacement Conducted? (Y/N)		Υ										
Flow Block Assembly Cleaned? (Y/N)		Υ										
Electrolyte Replacement Conducted? (Y/N)		EVERY (MONTHS:					EVERY	6 MONTHS:			
Operator Initials	E	3B										
Operations Manager Initials												

Chlorine Sensor Calibrations

Chlorine Sensor Calibrations (as required): The chlorine sensor shall be calibrated if there is a discrepancy of ± 0.05 mg/L between actual and measured values for residuals less than or equal to 1.00 mg/L, or ± 5% between the actual and measured values for residuals greater than 1.00 mg/L. Calibration of the chlorine sensor is also required after performing certain maintenance activities, such as electrolyte, grit, and membrane replacements. Calibrating the chlorine sensor may require performing zero and/or span calibrations, in accordance with section 3.2.1 (Free Chlorine Bare Electrode Calibration) of the User Manual. Contact Compliance if additional space is required to record chlorine sensor calibrations.

Date (dd/mm)	03/01	05/01	08/01	05/02	05/02	06/02	17/02	24/02	24/02	10/03	
Time	10:38	11:03	10:14	17:28	17:36	15:17	12:22	13:13	13:39	12:23	
pH Value Verified/Calibrated? (Y/N)	Υ	Υ	Υ	Υ	Υ	Υ	Υ	Υ	Y	Υ	
pH Offset Value Before Calibration	N	N	N	N	0.10	N	N	N	N	-0.20	
pH Offset Value After Calibration (if Cal. Completed)	N	N	N	N	-0.20	N	N	N	N	0.05	
Zero Calibration Conducted? (Y/N)	N	N	N	N	N	N	N	Υ	N	N	
Confirm flow to analyzer is off if a zero calibration/check was conducted? (Y/N)	N	N	N	N	N	N	N	Υ	N	N	
Span Calibration Conducted? (Y/N)	Υ	Υ	Υ	Υ	Υ	Υ	Υ	N	Υ	Y	
Displayed Result before Calibration (mg/L)	1.91	1.96	1.89	1.64	0.98	1.44	1.86	1.88	1.90	2.12	
Displayed Result after Calibration (mg/L)	2.00	1.77	1.96	1.26	1.26	1.60	1.98	1.90	1.80	1.85	
Calibration maintenance related? (Y/N)	N	N	N	N	N	N	N	Υ	N	N	
Operator Initials	ВВ	BB									
Date (dd/mm)											
Time											
pH Value Verified/Calibrated? (Y/N)											
pH Offset Value Before Calibration											
pH Offset Value After Calibration (if Cal. Completed)							·				
Zero Calibration Conducted? (Y/N)											

Confirm flow to analyzer is off if a zero calibration/check was conducted? (Y/N)									
Span Calibration Conducted? (Y/N										
Displayed Result before Calibration (mg/L										†
Displayed Result after Calibration (mg/L										
Calibration maintenance related? (Y/N)									
Operator Initials	6									
Date (dd/mm										
`	_									-
Time										
pH Value Verified/Calibrated? (Y/N	<u>)</u>									
pH Offset Value Before Calibration	4									
·										
pH Offset Value After Calibration (if Cal. Completed										
Zero Calibration Conducted? (Y/N)									
Confirm flow to analyzer is off if a zero calibration/check was conducted? (Y/N										
Span Calibration Conducted? (Y/N										
Displayed Result before Calibration (mg/L										
Displayed Result after Calibration (mg/L	<u>)</u>									
Calibration maintenance related? (Y/N										
Operator Initials					 				 	
Date (dd/mm										
Time										
pH Value Verified/Calibrated? (Y/N										
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pH Offset Value Before Calibration										
pH Offset Value After Calibration (if Cal. Completed	<u>)</u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>			<u></u>	<u>L_</u>
Zero Calibration Conducted? (Y/N										
Confirm flow to analyzer is off if a zero calibration/check was conducted? (Y/N										
			-		-				-	-
Span Calibration Conducted? (Y/N										<u> </u>
Displayed Result before Calibration (mg/L	<u>)</u>									
Displayed Result after Calibration (mg/L										
Calibration maintenance related? (Y/N										
Operator Initials	5									
Date (dd/mm										
Time										
pH Value Verified/Calibrated? (Y/N										
pH Offset Value Before Calibration	<u> 1</u>									
pH Offset Value After Calibration (if Cal. Completed										
Zero Calibration Conducted? (Y/N										
										-
Confirm flow to analyzer is off if a zero calibration/check was conducted? (Y/N										
Span Calibration Conducted? (Y/N)									
Displayed Result before Calibration (mg/L										
Displayed Result after Calibration (mg/L										
										-
Calibration maintenance related? (Y/N)									
Operator Initials	5									
Date (dd/mm										
·										+
Time									-	-
pH Value Verified/Calibrated? (Y/N										
pH Offset Value Before Calibration	1									
pH Offset Value After Calibration (if Cal. Completed										
			<u> </u>	<u> </u>	<u> </u>	l				
Zero Calibration Conducted? (Y/N									-	
Confirm flow to analyzer is off if a zero calibration/check was conducted? (Y/N	1									
Span Calibration Conducted? (Y/N	<u> </u>									
Displayed Result before Calibration (mg/L										
Displayed Result after Calibration (mg/L										
									-	-
Calibration maintenance related? (Y/N	/									
Operator Initials	•									
Date (dd/mm										
Time			 		 				 	+
										
pH Value Verified/Calibrated? (Y/N						 	 			<u></u>
pH Offset Value Before Calibration	1									
pH Offset Value After Calibration (if Cal. Completed			†							
										-
Zero Calibration Conducted? (Y/N										ļ
Confirm flow to analyzer is off if a zero calibration/check was conducted? (Y/N	<u> </u>			1	1					
Span Calibration Conducted? (Y/N										1
Displayed Result before Calibration (mg/L			—		 				 	+
			-		-				-	+
Displayed Result after Calibration (mg/L										
Calibration maintenance related? (Y/N	<u> </u>									
Operator Initials										
			†		—					
Date (dd/mm			-		-				-	-
Time						<u></u>		<u></u> _	<u></u>	

							1	
pH Value Verified/Calibrated? (Y/N)								
pH Offset Value Before Calibration								
pH Offset Value After Calibration (if Cal. Completed)								
Zero Calibration Conducted? (Y/N)								
Confirm flow to analyzer is off if a zero calibration/check was conducted? (Y/N)								
Span Calibration Conducted? (Y/N)								
Displayed Result before Calibration (mg/L)								
Displayed Result after Calibration (mg/L)								
Calibration maintenance related? (Y/N)								
Operator Initials								
Date (dd/mm)								
Time								
pH Value Verified/Calibrated? (Y/N)								
pH Offset Value Before Calibration								
pH Offset Value After Calibration (if Cal. Completed)								
Zero Calibration Conducted? (Y/N)								
Confirm flow to analyzer is off if a zero calibration/check was conducted? (Y/N)								
Span Calibration Conducted? (Y/N)								
Displayed Result before Calibration (mg/L)								
Displayed Result after Calibration (mg/L)								
Calibration maintenance related? (Y/N)								
Operator Initials								
Date (dd/mm)								
Time								
pH Value Verified/Calibrated? (Y/N)								
pH Offset Value Before Calibration								
pH Offset Value After Calibration (if Cal. Completed)								
Zero Calibration Conducted? (Y/N)								
Confirm flow to analyzer is off if a zero calibration/check was conducted? (Y/N)								
Span Calibration Conducted? (Y/N)								
Displayed Result before Calibration (mg/L)								
Displayed Result after Calibration (mg/L)								
Calibration maintenance related? (Y/N)								
Operator Initials								
	Other M	aintenance	Activities					

Other Maintenance Activities (as required): Additional activities shall be recorded below. Provide such details below so that they may be cross-referenced with logbook entries. Such activities may be associated with chlorine electrode replacement, replacement of the porous membranes, and troubleshooting. Refer to the User Manual for more information. Note: Membranes can have a life up to 3 years of continuous use, but should be replaced whenever they begin to discolour.

Date (dd/mm)	Time	Initials	Activity

Manual: Depolox 3 Plus Residual Analyzer

Leak Detection, Grit Quantity and Comparative Checks

Leak Detection, Grit Quantity, and Comparative Checks (daily): Each day the unit shall be checked for leaks and a comparison between measured and displayed results shall be conducted. With the sample water turned on, the unit should be checked to ensure that there is sufficient grit in the measuring cell block to keep the electrode clean. These checks correspond with the daily and weekly checks contained within section 4.2.1 (Maintenance) of the User Manual.

Comparative checks involve comparing the reading of the analyzer to a grab sample result. Such comparisons shall be completed as a component of routine operational checks (as per the required frequency of water quality testing), and shall be recorded within the daily operational spreadsheets. The chlorine sensor shall be calibrated if there is a discrepancy of ± 0.05 mg/L between actual and measured values for residuals less than or equal to 1.00 mg/L, or ± 5% between the actual and measured values for residuals greater than 1.00 mg/L. Record all calibrations in the section "Chlorine Sensor Calibrations".

Chlorine Analyzer Checks & Electrolyte Replacement

Zero Point Check, Electrolyte Level Check, Grit Replacement, Membrane Inspection, & Flow Block Cleaning (bimonthly): Every two months the zero point shall be checked to ensure no drift has occurred. The potassium chloride electrolyte level must also be checked and topped up if necessary. Grit replacement must be conducted every two months, in addition to performing an inspection of the two porous membranes. Altogether, these checks correspond with the bimonthly checks indicated in section 4.2.1 (Maintenance) of the User Manual. Additionally, the flow block assembly shall be cleaned. Record any subsequent calibrations within the section entitled "Chlorine Sensor Calibrations".

Electrolyte Replacement (semi-annually): Every 6 months the reference electrolyte shall be replaced in accordance with the procedure indicated for semi-annual checks within section 4.2.1 (Maintenance) of the User Manual.

IMPORTANT NOTE: Electrolyte replacement should be performed at the same time as a bimonthly check, such that electrolyte replacement would occur coincident with grit replacement and a check of the condition of the porous membranes.

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Day												
Time												
Zero Point Value (i.e. – 0.01 mg/L)												
Electrolyte Level/Membranes Checked? (Y/N)												
Electrolyte Added? (Y/N)												
Membranes Require Replacement? (Y/N)												
Grit Replacement Conducted? (Y/N)												
Flow Block Assembly Cleaned? (Y/N)												
Electrolyte Replacement Conducted? (Y/N)		EVERY	MONTHS:					EVERY (MONTHS			
Operator Initials												
Operations Manager Initials												

Chlorine Sensor Calibrations

Chlorine Sensor Calibrations (as required): The chlorine sensor shall be calibrated if there is a discrepancy of ± 0.05 mg/L between actual and measured values for residuals less than or equal to 1.00 mg/L, or ± 5% between the actual and measured values for residuals greater than 1.00 mg/L. Calibration of the chlorine sensor is also required after performing certain maintenance activities, such as electrolyte, grit, and membrane replacements. Calibrating the chlorine sensor may require performing zero and/or span calibrations, in accordance with section 3.2.1 (Free Chlorine Bare Electrode Calibration) of the User Manual. Contact Compliance if additional space is required to record chlorine sensor calibrations.

Date (dd/mm)						
Time						
Zero Calibration Conducted? (Y/N)						
Confirm flow to analyzer is off if a zero calibration/check was conducted? (Y/N)						
Span Calibration Conducted? (Y/N)						
Displayed Result before Calibration (mg/L)						
Displayed Result after Calibration (mg/L)						
Calibration maintenance related? (Y/N)						
Operator Initials						
Date (dd/mm)						
Time						
Zero Calibration Conducted? (Y/N)						
Confirm flow to analyzer is off if a zero calibration/check was conducted? (Y/N)						
Span Calibration Conducted? (Y/N)						
Displayed Result before Calibration (mg/L)						
Displayed Result after Calibration (mg/L)						
Calibration maintenance related? (Y/N)						
Operator Initials						
Date (dd/mm)						
Time						
Zero Calibration Conducted? (Y/N)						
Confirm flow to analyzer is off if a zero calibration/check was conducted? (Y/N)						
Span Calibration Conducted? (Y/N)						
Displayed Result before Calibration (mg/L)						
Displayed Result after Calibration (mg/L)						
Calibration maintenance related? (Y/N)						
Operator Initials						
Date (dd/mm)						
Time						
Zero Calibration Conducted? (Y/N)						
Confirm flow to analyzer is off if a zero calibration/check was conducted? (Y/N)						
Span Calibration Conducted? (Y/N)						
Displayed Result before Calibration (mg/L)						

Displayed Result after Calibration (mg/L)							
Calibration maintenance related? (Y/N)							\vdash
Operator Initials							\vdash
Date (dd/mm)							
Time							
Zero Calibration Conducted? (Y/N)							\vdash
Confirm flow to analyzer is off if a zero calibration/check was conducted? (Y/N)							
Span Calibration Conducted? (Y/N)							
Displayed Result before Calibration (mg/L)							
Displayed Result after Calibration (mg/L)							
Calibration maintenance related? (Y/N)							
Operator Initials							
Date (dd/mm)							
Time							
Zero Calibration Conducted? (Y/N)							
Confirm flow to analyzer is off if a zero calibration/check was conducted? (Y/N)							
Span Calibration Conducted? (Y/N)							
Displayed Result before Calibration (mg/L)							
Displayed Result after Calibration (mg/L)							
Calibration maintenance related? (Y/N)							
Operator Initials							
Date (dd/mm)							
Time							
Zero Calibration Conducted? (Y/N)							
Confirm flow to analyzer is off if a zero calibration/check was conducted? (Y/N)							
Span Calibration Conducted? (Y/N)							
Displayed Result before Calibration (mg/L)							
Displayed Result after Calibration (mg/L)							
Calibration maintenance related? (Y/N)							
Operator Initials							
	Ott	ner Maintenance	Activities				

Other Maintenance Activities (as required): Additional activities shall be recorded below. Provide such details below so that they may be cross-referenced with logbook entries. Such activities may be associated with chlorine electrode replacement, replacement of the porous membranes, and troubleshooting. Refer to the User Manual for more information. Note: Membranes can have a life up to 3 years of continuous use, but should be replaced whenever they begin to discolour.

Date (dd/mm)	Time	Initials	Activity

Initial Assigned Values (Celes): At the beginning of the year, rocard the values of the Gelex standards as determined after the most roccet calibration from the year before. If the Gelex standards are new, lettermine the values and record them beginning of the year, rocard the values of the Gelex standards and standards are new, lettermine the values and record them beginning of the year, rocard the values of the Gelex standards are new, lettermine the values and record them beginning of the Gelex Standards (Incomption). It was also as the control of the Celex Standards (Incomption). It was also as the control of the Celex Standards and Standards (Incomption). It is instrument that be altered to the Celex Standards and Incomption. It is recorded to the Celex Standards and Incomption. It is recorded to the Celex Standards (Incomption). It is recorded to the Celex Standards and the Incomption (Incomption). It is recorded to the Celex Standards and the Incomption (Incomption). It is recorded to the Celex Standards and the Incomption (Incomption). It is recorded to the Celex Standards and the Incomption (Incomption). It is recorded to the Celex Standards and the Incomption (Incomption). It is recorded to the Celex Standards and the Incomption (Incomption). It is recorded to the Celex Standards and the Incomption (Incomption). It is recorded to the Celex Standards and the Incomption (Incomption). It is recorded to the Celex Standards and the Incomption (Incomption). It is recorded to the Celex Standards and the Incomption (Incomption). It is recorded to the Celex Standards and the Incomption (Incomption). It		Hach Z TOUP PO	rtable Turbidime	ter		(===	henour W	117						Ţ	'ear: 2022
Standard Information: Value: Unit Inspection, Cleaning, and Calibration Checks with Gelex Secondary Standards (monthly); The instrument shall be inspected and cleaned monthly in accordance with section 4.1 (Cleaning) of the Manual, Genotic Standards shall be used for periodical calibration check in accordance with section 3.6.2 (Cleaning and Calibration Checks Unit Inspection, Cleaning, and Calibration Checks with Gelex Secondary Standards (monthly); The instrument shall be inspected and cleaned monthly in accordance with section 4.1 (Cleaning) of the Manual, Genotic Standards shall be used for periodical calibration checks in accordance with section 3.6.2 (Calibration). Which is a secondary standards with Gelex Standards with 6 formacin primary standards in accordance with section 3.6.2 (Calibration). Which is a first of the periodical special checks of the periodical special checks of the periodical special checks of Calibration checks, operations are therefore comparing readings to those values that were assigned to the Gelex standards after the most recent calibration. When conducting calibration checks, operations are therefore comparing readings to those values that were assigned to the Gelex standards after the most recent calibration. Which is a secondary standard of the periodical special checks of the periodical properties of the periodical						Initial Ass	igned Gelex	Values							
Values Unit inspection, Cleaning and Calibration Checks Unit inspection, Cleaning and Calibration Checks with Gelox Secondary Standards (monthly). The instrument shall be inspected and cleaned monthly, in accordance with section 4.4 (Cleaning) of the Manual Calibration Checks and the season of the control of the Calibration Checks and the season and the calibrated with a formazin primary standard in accordance with section 3.6 (Calibration). Marportant Note: Gelox cardards must be calibrated with a formazin primary standard in accordance with section 3.6 (Calibration). Marportant Note: Gelox cardards must be calibrated with a formazin primary standard in accordance with section 3.6 (Calibration). Marportant Note: Gelox cardards must be calibrated with a formazin primary standard in accordance with section 3.6 (A.1 (Assigning values to Gelox disndards). When conducting calibration checks, operators are therefore comparing readings to those values that were assigned to the Gelox standards after the most recent calibration. When conducting calibration checks, operators are therefore comparing readings to those values that were assigned to the Gelox standards after the most recent calibration. Month JAN FEB MAR APR MAY JUIN JUL AUG SEP OCT NOV Edic Control Control Calibration Checks and Calibration			of the year, reco	d the valu	es of the Ge	lex standard	s as determi	ned after the	e most recen	t calibration	from the yea	ar before. If t	he Gelex sta	andards are	new,
Unit inspection, Cleaning and Calibration Checks Unit inspection, Cleaning and Calibration Check with Calex Standards with a formatic primary standard in accordance with section 3.6.42 (Routine calibration due), when the cale is a coordance with section 3.6.42 (Routine Calibration Check with Calex Standards). If the reading is not within 5% of the previously establish attack. The cale is a coordance with section 3.6.42 (Routine Calibration Checks, per advised to the Cale Standards and Standards). If the reading is not within 5% of the previously establish attack. The cale is a coordance with section 3.6.41 (Assigning values to Gelex standards). When conducting calibration checks, per advise are betrefore comparing reading to those values that were assigned to the Gelex standards after the most recent calibration. When conducting calibration checks, per advise are betrefore comparing reading to those values that were assigned to the Gelex standards after the most recent calibration. Day		Standa	ard Information:												
repection. Cleaning, and Calibration Checks with Celex Secondary Standards (monthly): The instrument shall be inspected and cleaned monthly, in accordance with section 4.1 (Cleaning) of the Manual. Geocondary standards shall be used for periodic calibration check in accordance with section 3.6.4.2 (Routine calibration check with Gelex Standards). If the reading is not within 5% of the previously establishable, the the instrument rust be calibrated with a formusic naccordance with section 3.6.4.1 (Assigning values to Gelex standards). When conducting calibration checks, operators are therefore companing readings to those values that were assigned to the Gelex standards after the most crear calibration. When conducting calibration checks, operators are therefore companing readings to those values that were assigned to the Gelex standards after the most crear calibration. When conducting calibration checks preadors are therefore companing readings to those values that were assigned to the Gelex standards after the most crear calibration. When conducting calibration checks preadors are therefore companing readings to those values that were assigned to the Gelex standards after the most crear calibration. When conducting calibration checks are considered in the conducting calibration checks are considered in the conducting calibration check and the conducting calibration and the conducting calibration check and calibration. When conducting calibration checks are considered in the conducting calibration check and calibration check in the calibration check in the middle of north). Calibration with CalabCaC Standards (quarterly, or when there is a desegrating experience ge			Values:		(Value 7188)	gried dari. T			(Value 7188)	gried dan. 1,			(Value 7100)	gried dan. T	<i>)</i> .
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Unit Inspected and Exterior Cleaned? (YN) Gelex 10 – 100 NTU Result Gelex 10 – 100 NTU Final Gelex 10 – 100 Nture Fina			Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
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Date (dd/mm) Time Initials Activity	Date (dd/mm)	Time	Initials	Activ	ity										

Calibration & Maintenance Record: Real Tech UV254 Field Meter (Cochenour WTP)

Year: 2022

Manual: Real Tech UV254 Field Meter (refer to instructions printed on unit)

Calibration

Calibration (as required): The field meter shall be calibrated as required as per the instructions printed on the unit (and repeated below). For best results the unit should be recalibrated frequently. Printed on the unit are several important operational guidelines that should be followed during the calibration and operation of the unit.

Calibration instructions:

- 1. Press POWER to turn on. After a short warm-up time the display will read *Ready*.
- 2. Always rinse cuvettes at least twice before calibration.
- 3. Ensure cuvette is not in the test chamber, then press CALIBRATE. The display will read Insert Cuvette with DI Water.
- 4. Insert the cuvette containing DI water. Display will read 100.0 when in UVT mode or 0.000 when in UVA mode.
- 5. Remove the cuvette containing the DI water from the test chamber. The meter is now calibrated.

Date (dd/mm)			
Time			
DI UVT Reading before Calibration			
DI Calibration Conducted? (Y/N)			
DI UVT Reading after Calibration (must be between 99.5 - 100.5)			
Operator Initials			
Date (dd/mm)			
Time			
DI UVT Reading before Calibration			
DI Calibration Conducted? (Y/N)			
DI UVT Reading after Calibration (must be between 99.5 - 100.5)			
Operator Initials			
Date (dd/mm)			
Date (dd/mm) Time			
Time			
Time DI UVT Reading before Calibration			
Time DI UVT Reading before Calibration DI Calibration Conducted? (Y/N)			
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Time DI UVT Reading before Calibration DI Calibration Conducted? (Y/N) DI UVT Reading after Calibration (must be between 99.5 - 100.5) Operator Initials Date (dd/mm) Time DI UVT Reading before Calibration			

Other Maintenance Activities

Other Maintenance Activities (as required): Additional activities shall be recorded below. Such activities may be associated with troubleshooting or non-routine maintenance. Indicate the dates of any other maintenance activities below so that they may be cross-referenced with logbook entries.

Date (dd/mm)	Time	Initials	Activity

Calibration & Main	tenance Record: Hach DR /2	2500 Laboratory S	Spectrophoto	ometer (Co	ochenour WTP)			Year: 2022
N	Manual: Hach DR/2500 Laboratory	/ Spectrophotometer						
		c	ontrol Values a	nd Tolerance	Ranges			
	rance Ranges: Record standard val nough fields have been provided to							
			Se	et 1			Set 2	
St	andard Information	Standard 1 (Low)	Stand (Mid		Standard 3 (High)	Standard 1 (Low)	Standard 2 (Middle)	Standard 3 (High)
	Date ABS Standards Placed Into Ser							
	420 nm (ABS) V							
	520 nm (ABS) V							
	560 nm (ABS) V							
Date DPD Ch	610 nm (ABS) V Iorine-LR Standards Placed Into Ser							
Date DFD CII	DPD Chlorine							
	DI D'Onionina		anastian Class	ing and Ougl	ity Appurance			
		Onit in	spection, Clean	ing and Quai	ity Assurance			
to section 1.8 (Using DR the standards must be d	Absorbance & DPD-Chlorine LR Sec L/Check Absorbance Standards) of the etermined at different wavelengths,	ne User Manual for more whereby consistent instr	e information. Thi	s kit includes s	standards for low-, m	d-, and high range abso	rbance values from 0 t	o 2 ABS. The values of
be verified quarterly by t	using SpecCheck DPD-Chlorine LR	standards.	·		The values are wit	iii documented toleran	se ranges. Instrument p	berrormance snall also
be verified quarterly by the		standards. arter Quarter 1 (Ja	ın-Feb-Mar)		2 (Apr-May-Jun)	Quarter 3 (Jul-Au		ter 4 (Oct-Nov-Dec)
be verified quarterly by u		arter Quarter 1 (Ja	ın-Feb-Mar)					
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				Initial Ass	igned Gelex	Values							
	(Gelex): At the beginning record them below.	ng of the year, record th	e values of the G	elex standard	s as determi	ned after the	e most recen	it calibration	from the year	ar before. If	the Gelex st	tandards are	new,
	Stan	ndard Information:		– 10 NTU igned Jan. 1)	:			– 100 NTU gned Jan. 1):			0 – 1000 NT signed Jan.	
		values.	Unit Inc	pection, Clea	aning and C	alibration C	hocks			1			
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ondary standards she, then the instrume ortant Note: Gelex ducting calibration c	all be used for periodic ent must be calibrated w standards must be assi hecks, operators are th	with Gelex Secondary Si calibration checks in a with a formazin primary s signed values after a forn herefore comparing read those values that were	ccordance with se standard in accord mal calibration and ings to those value	dance with sed before use les that were	(Routine cal ction 3.6 (Ca as secondar assigned to	ibration checalibration). y standards, the Gelex st	ck with Gele in accordan andards afte	x Standards). If the read ion 3.6.4.1 (ing is not wi Assigning v	ithin 5% of the	ne previously	establish
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Un	it Inspected and Exterio									1			1
	<u></u>) – 10 NTU Result								1		1	1
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8 (Calibrating the tu dards. It is not necentials and a calibration is th). (using <0.1, 2	al Standards (quarterly, rbidimeter). StablCal stessary to conduct a rout conducted, attempt to some stablCal Calibration (20, 100 and 800 NTU processed of the conducted of the	or when there is a discretandards typically includitine quarterly calibration stagger the calibration at Quarter Date (dd/mm) Time Conducted? (Y/N) Initially standards) O Assigned Value O Assigned Value Operator Initials S Manager Initials as required): Additional so that they may be cross	e <0.1, 20, 100, a if a calibration h ind the monthly ca Quarter 1 (Jan-F Other activities shall be ss-referenced with	specting second specting second solution che seb-Mar) Calibration recorded bel	ndary stand primary stan en conducte ck (i.e. calible Quart	dards. The d within the rate the instr	Manual cont quarter. Ass ument on th ay-Jun)	tains informatign new value first of the Quar	tion about hes to the Grandth, and ter 3 (Jul-Au	ow to store, elex standar perform the	, handle, and ds following a calibration of Qua	d prepare the calibration. check in the rter 4 (Oct-N	ese For month: middle of t

	and Tolerance F ndards. Enough dards expires).												
Stan	dard Informatior	1		Set 1			S	et 2			Se	et 3	
Date Star	ndards Placed Ir	nto Service:											
	Values for S	Standard 1:											
	Values for S	Standard 2:											
	Values for S	Standard 3:											
			Unit	Inspection	ı, Cleaning	g and Qua	lity Assur	ance					
Inspection & Cl	eaning (monthly): The unit shall	be inspected a	and cleaned	l monthly.								
SpecCheck DP	nce with Low Ra D-Chlorine LR s ument performa	tandards. Stand	lards exist eac	h for a low,	middle, an	d high valu	ie. The va	lues of the	standards	s must be	determine	d, whereby	
		Month J	AN FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
		Day											
		Time											
Unit I	nspected & Clea	ned? (Y/N)											
	DPD-Chlorine L												
	DPD-Chlorine L												
	DPD-Chlorine L												
	idings Within Ra												1
1100		rator Initials											
	Operations Mana												
	operations man	ager iriidais											
			Ca	alibration a	nd Other M	Maintenan	ce Activit	ies					
Calibration (onli	y as required): C	Calibration is ind	icated if quality	/ assurance	reveals in	consistent	instrumen	t operatior	n. Refer to	the Instrur	ment Manu	al for more	3
	nce Activities (a . Such activities e information.												
Date (dd/mm)	Time	Initials	Activity										
			+										
	1												

Control Values and Tolerance Ranges

Year: 2022

Calibration & Maintenance Record: Hach DR300 Pocket Chlorine Colorimeter (Balmertown RPS)

Manual: Hach DR300 Pocket Colorimeter, Chlorine

Ma	nual: <u>Hach Poc</u>	ket Colorimete	r II - Cl	<u>lorine</u>										
					Contro	ol Values ar	nd Tolerand	e Ranges						
	and Tolerance R ave been provide													Standards.
Stan	dard Information			Se	et 1			Se	et 2			Sc	et 3	
Date Star	dards Placed Int	to Service:												
	Values for S	tandard 1:												
	Values for S	tandard 2:												
	Values for S	tandard 3:												
				ι	Jnit Inspect	tion, Cleani	ng and Qu	ality Assur	ance					
Quality Assuran	ce with Low Rar ndards. Standard values are within	ige DPD-Chlorir ds exist each foi	ne Spec r a low,	cCheck Se middle, ar	condary Sta	andards (mo	es of the sta	ndards mus	st be determ	ined, where				
		Month J	AN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
		Day												
		Time												
Unit Ir	nspected & Clear	ned? (Y/N)												
	DPD-Chlorine LI	` '												
	DPD-Chlorine LI													
	DPD-Chlorine LI	J												
	dings Within Rar													
rtoa		ator Initials												
	Operations Mana													
	perations Mana	ger irillais			Calibratia	n and Othe	r Maintana	noo Antiviti						
					Calibratio	ii anu Otile	wamena	nce Activiti	100					
Other Maintena	/ as required): Conce Activities (as nay include repla	required): Add	itional a	activities m	ust be recor	rded below.	Provide su	ch details be	elow so that	they may b	e cross-refe	erenced wit	h logbook ei	
Date (dd/mm)	Time	Initials	Activi	ty										

Year: 2022

Calibration & Maintenance Record: Hach Pocket Colorimeter II - Chlorine (Field Unit)

Revision History

Date	Rev#	Comments
20/Jan/2015	1	Initial publication as a controlled procedure.
10/Dec/2015	2	Annual review and update.
17/Dec/2016	3	Annual review and update.
01/Dec/2017	4	Annual review and update.
21/Dec/2018	5	Annual review and update.
20/Dec/2019	6	Annual review and update.
01/Dec/2020	7	Annual review and update.
28/Dec/2021	8	Annual review and update.

enance Record: Maintenanc		

Year: 2022

Instructions: Use this record to track the progress completed toward maintenance assignments. The Operations Manager or Senior Operator may assign tasks associated with infrastructure maintenance, rehabilitation or renewal; tasks may be associated with various capital and noncapital projects.

Task:	Date Assigned:	Date Due:	Assigned To:	Status:

Instructions: As per section 3.8 (Using the Comments Record) of the procedure: In addition to being used to provide explanations about incomplete maintenance activities as per section 3.5 and to record deficiencies as per section 3.7, the Comments record shall be used to record 1) observations about a specific piece of equipment or maintenance task, 2) suggested or implemented modifications to an existing planned maintenance activity, and 3) suggested new planned maintenance activities. All information recorded in the Comments record will be considered during the annual program review described in section 3.11.

Date		Comment	ORO/Operations Manager/Senior Operator Initials
27-01-2022	BB	For the month of January Flushing and chemical pump maintance not completed (Also not required) as it's a two person job and operator on COVID-19 proticall.	
	ļ		

Maintenance Record: Administrative Tasks & Major Maintenance													Year: 2022
MAINTENANCE ACTIVITY	FREQUENCY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC
		ADM	INISTRATIV	E TASKS									
Verify that there are no alarm transmission delays on the regulatory alarms pertaining to filtrate turbidity and the treated water free chlorine residual - includes Cochenour WTP and Balmertown RPS Regulatory alarms must be transmitted immediately with no delay (10 second delay not		27/BB	28/BB										
acceptable)													
Complete and submit previous month's S1/S2 form for Cochenour Lagoon		NK?	NK?	NK?	<u> </u>								
Verify collection of decant TSS sample (Cochenour WTP)	MONTHLY	18/CL	15/BB	16/BB									
Verify collection of monthly wastewater sample (Cochenour Lagoon)		12/BB	09/BB	09/BB									
Verify completion of calibration and maintenance records (Cochenour WTP)		27/BB	24/BB										
Verify completion of calibration and maintenance records (Balmertown RPS)		27/BB	28/BB										
Prepare and submit previous month's operations report		04/BB	NK?	NK?									
Mix new pH buffer solutions		04/BB	28/BB	22/BB									
Ensure availability of PPE, cleaning supplies, reagents, etc., and order as required		04/BB	09/BB	04/BB									
Check expiry dates and integrity of all primary/secondary standards and reagents used for calibration and quality assurance - replace as required Note: Implement methods to ensure that standards are disposed of on the exact day they expire	QUARTERLY	23	3-02-2022-B	W									
Verify collection of quarterly (nitrate/nitrite/THM/HAA) samples		F4	eb-16-2022-l	RR									
Submit water taking data for previous year to WTRS	ANNUAL												
Cushin trada anang ada ta protisas you to 11110		D-PARTY &	MAJOR M	AINTENANC	F TASKS								
To ensure the facility can produce water under a sustained high-flow emergency situation, temporarily operate the facility at a production rate that approaches the rated capacity (i.e. produce water at a rate of 65 - 70 L/s for 2 - 3 hours). Record the results of the test in the logbook and correct any deficiencies identified during the test. Note: Be careful not to exceed the L/min limit provided within the Permit to Take Water.	ANNUAL *REQUIRED*												
Distribution system flushing and hydrant inspection and maintenance (indicate start and end dates)													
Third-party flow meter calibration verification													
Inspect and clean process wastewater tanks (indicate tank and dates)													
Indicate any and all dates associated with additional planned and unplanned system maintenance tasks, including fire extinguisher servicing, hoist inspections, generator inspection and servicing, thermal imaging inspections, backflow prevention device testing, etc. <u>Add more rows as required</u> .	AS REQUIRED	ACTI ACTI ACTI	VITY: VITY:							DATE: DATE: DATE: DATE:			
ORO/Operations Manager/Senio	r Operator Initials												

Maintenance Record: Overall Facility Mainten	ance, Cochenour Sewage	Lagoon & Lift St	ation											Year: 2022
MAINTENANCE ACTIVITY		FREQUENCY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC
		OVERA	L FACILIT	Y MAINTEN	ANCE (COC	HENOUR W	TP)							
Flush/inspect all emergency eyewash/shower	1st Half of Month	TWICE-												
stations	2nd Half of Month	MONTHLY												
Inspect all fire extinguishers (check in accordance with														
Inspect SCBA equipment, check air tanks and confirm SCBA tank	n availability of full spare													
Check/clean/replace overhead/outdoor lights		MONTHLY												
Test all emergency lights														
Check operation of building exhaust fans														
Check operation of electric heaters (seasonal)														
Inspect first aid kits and restock as required (to be completed by certified first aid personnel)		QUARTERLY												
Conduct air swap in SCBA tanks														
Check building floor drains and remove/clean obstruction	ctions	ANNUAL						,				-		
		coc	HENOUR S	EWAGE LA	GOON & LII	T STATION								
Perform lagoon inspection during monthly sample colaccess, vegetation, rodents, foliage and lagoon disch														
Check/clean/replace all indoor/outdoor lights														
Inspect fire extinguisher (check in accordance with pr	inted instructions)	MONTHLY												
Perform facility alarm test														
Check operation of electric heaters (seasonal)														
Check valve chamber and dewater as required														
Inspect first aid kits and restock as required (to be completed by certified first aid personnel)		QUARTERLY					-				-			
Indicate date(s) of inspection and cleaning		AS REQUIRED												
Indicate date(s) of pump servicing		AS REQUIRED												
OR	O/Operations Manager/Senio	r Operator Initials												

Mainten	ance Record: Low Lift Pump House													Year: 2022
MAINTE	NANCE ACTIVITY	FREQUENCY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
				LOW LIF	T PUMPS									
	Check vibration, noise, heat of motor													
LLP-1	Check/adjust dripping at packing gland	MONTHLY												
3	Grease pump packing (1 location, follow tag)													
	Grease motor (2 locations, follow tag)	SEMI-ANNUAL												
	Check vibration, noise, heat of motor													
LLP-2	Check/adjust dripping at packing gland	MONTHLY												
∃	Grease pump packing (1 location, follow tag)													
	Grease motor (2 locations, follow tag)	SEMI-ANNUAL												-
	Check vibration, noise, heat of motor													
LLP-3	Check/adjust dripping at packing gland	MONTHLY												
3	Grease pump packing (1 location, follow tag)													
	Grease motor (2 locations, follow tag)	SEMI-ANNUAL			-		-							
			C	VERALL FA	CILITY (LL	PH)								
Inspect f	ire extinguishers (check in accordance with printed instructions)													
Verify op	eration of H/O/A switches	MONTHLY												
Check/re	place indoor/outdoor lights	MONTHLY												
Perform	facility alarm test													
Inspect for the co	irst aid kits and restock as required ompleted by certified first aid personnel)	QUARTERLY												
Turn off/	on heat trace (off in May; on in October) (2 controllers)	SEMI-ANNUAL												
Inspect a	and clean intake screens	ANNUAL		·	·	·	·	·	·	·				
	ORO/Operations Manager/Senic	r Operator Initials												

Mainten	ance Record: Transfer & Backwash Pumps (CWTP)													Year: 2022
MAINTE	NANCE ACTIVITY	FREQUENCY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC
				TRANSF	R PUMPS									
	nsfer PRV operation julates pressure; will be audible when pumps are offline)													
	Check vibration, noise, heat of motor	MONTHLY												
5	Check/adjust dripping at packing gland													
TRP-501	Grease pump packing (1 location, follow tag)													
=	Grease motor (2 locations, grease according to tag when pump is running)	SEMI-ANNUAL												
	Check vibration, noise, heat of motor													
05	Check/adjust dripping at packing gland	MONTHLY												
TRP-502	Grease pump packing (1 location, follow tag)													
#	Grease motor (2 locations, grease according to tag when pump is running)	SEMI-ANNUAL										-		
				BACKWA	SH PUMPS									
	Check vibration, noise, heat of motor													
ی ا	Check/adjust dripping at packing gland	MONTHLY												
40	Grease pump packing (1 location, follow tag)	MONTHE												
BWP-406	Check motor oil level (top bearing)													
"	Grease motor (lower bearing, according to tag)	SEMI-ANNUAL												
	Indicate motor oil change date(s) and update tag	AS REQUIRED												
	Check vibration, noise, heat of motor													
	Check/adjust dripping at packing gland	MONTHLY												
BWP-407	Grease pump packing (1 location, follow tag)	IIION IIIE												
M W	Check motor oil level (top bearing)													
"	Grease motor (lower bearing, according to tag)	SEMI-ANNUAL												
	Indicate motor oil change date(s) and update tag	AS REQUIRED												
	ORO/Operations Manager/Senio	r Operator Initials												

Mainter	nance R	Record: Chemical Syste	ms (CWTP)													Year: 2022
MAINTE	NANCE	ACTIVITY		FREQUENCY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ост	NOV	DEC
					GAS	S CHLORINA	ATION									
Check r	otametei	r, lines, fittings, regulator a	nd injector for gas leaks using fresh ammonia													
Check r	egulator	vent for leaks (outside)														
Check c	leanline	ess of rotameter and operat	ion of rotameter ball (i.e. bouncing, stuck,													
steady,																
Verify a	ccuracy	of actuator with respect to	filter flow (calibrate actuator as required)													
Check c	ondition	of all cylinders and ensure	they are properly tagged/secured	MONTHLY												
Check a	nd opera	rate ventilation equipment														
		an chlorine room														
Test chl audible		as alarm, ensure phone call	-out, and verify operation of alarm light and													
		n of room heaters (seasona	1)										-			
		a and replace if required (in	<u>′</u>	QUARTERLY												
		epair kit A availability and		QUARTERET												
		e booster pump (2) for 5 mi		ANNUAL												
		ay be operated at the same														
					CHEMIC	AL ROOM (L	JPSTAIRS)									
Check a	lum bulk	k tank levels (minimum tanl	k level is 1/3 of 1 tank) and inspect tank													
conditio				MONTHLY												
Check c	hemical	l lines and fittings for leaks														
			d, typically on a quarterly basis)	QUARTERLY												
			ired, typically on a quarterly basis)	Q0/11(12)(2)												
Clean s	oda ash	hopper air filter		ANNUAL												
Clean s	oda ash	(pre) mixing tank (as requi	red, typically on an annual basis)													
					CHEMICAL	ROOM (DC	WNSTAIRS)								
		eck all pumps, lines & fitting	gs for leaks and encrustations (detailed													
inspecti										<u> </u>			<u> </u>			
		neck pump operation throug le (mismatches indicate a n	phout the month and ensure drawdowns match eed for calibration)													
		mical pump flow monitors a	· · · · · · · · · · · · · · · · · · ·													
			monitors and plant shutdown													
-	, (p. 0)	I I	Initial/Date:							-			-			
ES	Σ	Change chemical	Drawdown Value before Duty Switch:							-			-			_
15	ALUM	Change chemical metering pump duties	Indicate New Duty Pump:			 	 		1	 		—	 		<u> </u>	\vdash
 	│		Drawdown Value after Duty Switch:	MONTHLY												
🗧	_		Initial/Date:													†
9	8	Change chemical	Drawdown Value before Duty Switch:													
E E	Ϋ́	metering pump duties	Indicate New Duty Pump:													
#	Change chemical Drawdown Value before Duty Sw Indicate New Duty Pu Drawdown Value after Duty Sw															
ΙĀ	Brawadwii value alei Baty ew									i			i			
CHEMICAL METERING PUMP DUTIES	POST-SODA	Change chemical	Drawdown Value before Duty Switch:							i			i			
異	S _T	metering pump duties	Indicate New Duty Pump:							i			i			
"	Ö		Drawdown Value after Duty Switch:													
	Polyme	er day – flush system as red	quired (typically quarterly)			-	-		•	-		-	-		-	
S S	Polyme	er sludge – flush system as	require (typically quarterly)													
FLUSHING	Alum –	flush system as required (typically quarterly)													
2	Soda a	sh (pre) – flush system as	required (typically quarterly)	AS REQUIRED												

	Soda ash (post) – flush system as required (typically quarterly)							
S _N	Polymer day - clean day tank as required (typically quarterly)							
I₹	Polymer sludge - clean day tank as required (typically quarterly)							
"	Alum - clean day tank	QUARTERLY						
Ιž	Soda ash (pre) - clean day tank as required (typically annually)	AS REQUIRED						
₹	Soda ash (post) - clean day tank as required (typically annually)	AS REQUIRED						
	ORO/Operations Manager/Senio	r Operator Initials						

Maintena	nce Record: MCC Room & High Lift Pumps (CWTP)													Year: 2022
MAINTEN	ANCE ACTIVITY	FREQUENCY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC
				MCC ROO	М									
Check ope	eration of climate control unit													
	peration of H/O/A lights throughout the month (do not manually change MCC Room	MONTHLY												
Confirm op settings) –	peration of H/O/A lights throughout the month (do not manually change Filter PLC	MONTHLY												
Check pha	se indicator module on surge protector (check for three green lights)													
			H	IIGH LIFT P	UMPS									
Check ope	eration of HLP air relief valves (accomplished during HLP duty change)	MONTHLY												
Test dry co	ontact backup pressure system	QUARTERLY												
	Check vibration, noise, heat of motor													
-	Check/adjust dripping at packing gland	MONTHLY												
HLP-1	Grease pump packing (1 location, follow tag)													
	Grease motor (2 locations, grease according to tag when pump is running)	SEMI-ANNUAL		-	-	-	-				-	-		
	Indicate if checks were not completed because the pump is assigned as the dedicated backup													
	Check vibration, noise, heat of motor	MONTHLY												
HLP-2	Check/adjust dripping at packing gland													
=	Grease pump packing (1 location, follow tag)													
	Grease motor (2 locations, grease according to tag when pump is running)	SEMI-ANNUAL												
	Check vibration, noise, heat of motor													
₆	Check/adjust dripping at packing gland	MONTHLY												
HLP-3	Grease pump packing (1 location, follow tag)													
	Grease motor (2 locations, grease according to tag when pump is running)	SEMI-ANNUAL												
	Indicate if checks were not completed because the pump is assigned as the dedicated backup													
4	Check vibration, noise, heat of motor	MONTHLY												
HLP-4	Check/adjust dripping at packing gland													
=	Grease pump packing (1 location, follow tag)													
	Grease motor (2 locations, grease according to tag when pump is running)	SEMI-ANNUAL												
	ORO/Operations Manager/Senio	r Operator Initials												

Maintena	ance Record: Treatment Units, Air Scour and Mechanical Room (CWTP)												Year: 2022
MAINTEN	IANCE ACTIVITY	FREQUENCY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC
			T	REATMENT	UNITS									
Inspect sp	olitter box and check for cracks, leaks, etc.													
Check for	proper valve operation (do not manually over-torque electric valves)	MONTHLY												
Check oil	level and condition in all floc drives (involves shutting down floc drives)	WONTHET												
Check flo	c drive lovejoy connectors for proper adjustment and alignment													
	an and inspect all flocculation tanks and clarifiers the treatment unit and completion date as required)	AS REQUIRED												
			Al	R SCOUR S	YSTEM									
	Offline - check oil level													
l _	Offline - check belt conditions and tensions													
B-201	Check for oil/air leaks	MONTHLY												
ASB	Check vibration, noise, heat of blower motor													
`	Grease blower (2 locations)													
	Indicate oil change date(s) and update tag	AS REQUIRED												
	Offline - check oil level													
~	Offline - check belt conditions and tensions													
-202	Check for oil/air leaks	MONTHLY												
ASB-	Check vibration, noise, heat of blower motor													
`	Grease blower (2 locations)													
	Indicate oil change date(s) and update tag	AS REQUIRED												
			BUILDI	NG MECHA	NICAL ROO	И								
Check ho	t water tank and boiler for leaks, corrosion	MONTHLY												
Check du	ty recirculation pump for vibration, noise, heat (motor), leaks	MONTHE												
Change re	ecirculation pump duties	QUARTERLY												
Grease re	ecirculation pump 1 motor (1 location)	SEMI-ANNUAL		·							·			
	ecirculation pump 2 motor (1 location)	OLINI-ANTOAL		·							·			
Indicate b	oiler system service date(s)	AS REQUIRED												
	ORO/Operations Manager/Sen	ior Operator Initials												

Inspect surge p Check/clean/rej Test all emerge Check operation Perform facility Check operation Check heater, li chamber (as re Inspect first aid	extinguishers (check in accordance with printed instructions) protector (green or red) place overhead/outdoor lights ency lights on of building exhaust fans	FREQUENCY OVERALL MONTHLY	JAN	FEB MAINTENAN	MAR ICE (BALME	APR ERTOWN RE	MAY PS)	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC
Inspect surge p Check/clean/rej Test all emerge Check operation Perform facility Check operation Check heater, li chamber (as re Inspect first aid	protector (green or red) place overhead/outdoor lights ency lights on of building exhaust fans alarm test on of electric heaters (seasonal) lights, float, and sump pump operation within the incoming valve		FACILITY	MAINTENAN	ICE (BALME	RTOWN R	PS)							
Inspect surge p Check/clean/rej Test all emerge Check operation Perform facility Check operation Check heater, li chamber (as re Inspect first aid	protector (green or red) place overhead/outdoor lights ency lights on of building exhaust fans alarm test on of electric heaters (seasonal) lights, float, and sump pump operation within the incoming valve	MONTHLY												
Check/clean/rej Test all emerge Check operation Perform facility Check operation Check heater, li chamber (as re Inspect first aid	place overhead/outdoor lights ency lights on of building exhaust fans alarm test on of electric heaters (seasonal) lights, float, and sump pump operation within the incoming valve	MONTHLY												
Test all emerge Check operation Perform facility Check operation Check heater, li chamber (as re Inspect first aid	ency lights on of building exhaust fans alarm test on of electric heaters (seasonal) lights, float, and sump pump operation within the incoming valve	MONTHLY					l							
Check operation Perform facility Check operation Check heater, li chamber (as re Inspect first aid	on of building exhaust fans alarm test on of electric heaters (seasonal) lights, float, and sump pump operation within the incoming valve	MONTHLY												
Perform facility Check operation Check heater, li chamber (as re Inspect first aid	alarm test on of electric heaters (seasonal) lights, float, and sump pump operation within the incoming valve													
Check operation Check heater, li chamber (as re Inspect first aid	on of electric heaters (seasonal) lights, float, and sump pump operation within the incoming valve													
Check heater, li chamber (as re Inspect first aid	lights, float, and sump pump operation within the incoming valve													
chamber (as re Inspect first aid														
		AS REQUIRED												
	kit and restock as required ned by first aid certified personnel)	QUARTERLY												
				FURNACE R	ROOM									
Check furnace	filters and replace as required													
Inspect supply t	fan belt for wear and alignment													
Inspect circulati	ion fan belt for wear and alignment and grease pillow blocks	MONTHLY												
	ditioner unit outside and clean screen	MONTHE												
	May to October)													+
	ter heater for leaks and corrosion	AS DESUMBED												
indicate boiler s	system service date(s)	AS REQUIRED		UOLL LIET D	LIMBO									
Ob a als more man	4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 -	MONTHLY		IIGH LIFT P	UMPS									
	ressure gauge and compare to digital distribution pressure reading	MONTHLY												Ь——
	ct backup pressure system	QUARTERLY					1						·	
_														
	ck/adjust dripping at packing gland ase pump packing (1 location, follow tag)	MONTHLY		-	-									+
1 d 💳				-	-									\vdash
	ck motor oil level (top bearing)	SEMI-ANNUAL												-
_	ase motor (lower bearing, according to tag)													
	cate motor oil change date(s) and update tag	AS REQUIRED		Ι	Ι		ı	1	1		ı	I	Ī	_
	cate if checks were not completed because the pump is assigned as the icated backup													
Che	ck vibration, noise, heat of motor	MONTH V												
Che	ck/adjust dripping at packing gland	MONTHLY												
Chec	ase pump packing (1 location, follow tag)													
Che	ck motor oil level (top bearing)													
Grea	ase motor (lower bearing, according to tag)	SEMI-ANNUAL												
Indic	cate motor oil change date(s) and update tag	AS REQUIRED												
Che	ck vibration, noise, heat of motor													
Che	ck/adjust dripping at packing gland	MONTHLY												
₹ Grea	ase pump packing (1 location, follow tag)	WONTHLI												
Grea Chea	ck motor oil level (top bearing)													
Grea	ase motor (lower bearing, according to tag)	SEMI-ANNUAL												
Indic	cate motor oil change date(s) and update tag	AS REQUIRED												
	cate if checks were not completed because the pump is assigned as the icated backup													
Che	ck vibration, noise, heat of motor	MONTHLY												\vdash

1 4	Check/adjust dripping at packing gland	MONIBLI						
≟	Grease pump packing (1 location, follow tag)							
-	Check motor oil level (top bearing)							
	Grease motor (lower bearing, according to tag)	SEMI-ANNUAL						
	Indicate motor oil change date(s) and update tag	AS REQUIRED						
	ORO/Operations Manager/Senio	r Operator Initials						

Instructions: Complete the following record during monthly generator operation. Note that not all parameters may apply to a given generator; indicate these non-applicable parameters with a dash or with "n/a". Prior to generator operation (1) check coolant level, (2) check oil level and condition, (3) check for fuel and oil leaks, (4) check battery condition and battery charger, (5) check any block heaters, (6) check condition of belts, (7) check fuel level, (8) check for faulty fuel lines and connections, (9) check air filters, etc. Generator operation is not required if the generator has already operated during a power outage within the calendar month. In such cases, some or all operational data may not be recorded.

Month	Day	Operator Initials	Generator ran during power outage (Y/N)?	Start-Up Checks Complete (Y/N)?	Meter Reading Start	Meter Reading Stop	Oil Press.	Oil Temp.	Water Temp.	(L	ck All Vo 12/L23/L N/L2N/L (Y/N)	.31/ .3N)	eck All Ai L1/L2/L3 (Y/N)		Freq.	Engine RPM	Batt. Reading	Exhaust Temp.	Load Test Emergency Generator Battery (Quarterly)	Fuel Tank Level	ORO/Operations Manager/Senior Operator Initials
JAN						·												·		_	
FEB						·															
MAR																					
APR																					
MAY																					
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GENERATOR MAINTENANCE

Date	Operator Initials	Details
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Instructions: Complete the following record during monthly generator operation. Note that not all parameters may apply to a given generator; indicate these non-applicable parameters with a dash or with "n/a". Prior to generator operation (1) check coolant level, (2) check oil level and condition, (3) check for fuel and oil leaks, (4) check battery condition and battery charger, (5) check any block heaters, (6) check condition of belts, (7) check fuel level, (8) check for faulty fuel lines and connections, (9) check air filters, etc. Generator operation is not required if the generator has already operated during a power outage within the calendar month. In such cases, some or all operational data may not be recorded.

Month	Day	Operator Initials	Generator ran during power outage (Y/N)?	Start-Up Checks Complete (Y/N)?	Meter Reading Start	Meter Reading Stop	Oil Press.	Oil Temp.	Water Temp.	(L	k All Vo 12/L23/L N/L2N/L (Y/N)	.31/		eck All A L1/L2/L3 (Y/N)		Freq.	Engine RPM	Batt. Reading	Load Test Emergency Generator Battery (Quarterly)	Fuel Tank Level	ORO/Operations Manager/Senior Operator Initials
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GENERATOR MAINTENANCE

Date	Operator Initials	Details
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Month	Day	Operator Initials	Generator ran during power outage (Y/N)?	Start-Up Checks Complete (Y/N)?	Meter Reading Start	Meter Reading Stop	Oil Press.	Water Temp.	Check All Voltages (L12/L23/L31/ L1N/L2N/L3N) (Y/N)		Check All Amps (L1/L2/L3) (Y/N)		Freq.	Batt. Reading	Exhaust Temp.	Load Test Emergency Generator Battery (Quarterly)	Fuel Tank Level	ORO/Operations Manager/Senior Operator Initials	
JAN																			
FEB																			
MAR																			
APR																			
MAY																			
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Month	Day	Operator Initials	Generator ran during power outage (Y/N)?	Start-Up Checks Complete (Y/N)?	Meter Reading Start	Meter Reading Stop	Oil Press.	Oil Temp.	Water Temp.	(L	ck All Vo 12/L23/L N/L2N/L (Y/N)	.31/	Che (ck All A L1/L2/L3 (Y/N)	mps 3)	Freq.	Engine RPM	Batt. Reading	Load Test Emergency Generator Battery (Quarterly)	Fuel Tank Level	ORO/Operations Manager/Senior Operator Initials
JAN																					
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Date	Operator Initials	Details