

Appendix VIII

	Annual Status		
AUTHORIZATION NUMBER:			7008
AUTHORIZATION TYPE:			Effluent, Permit
LEGAL AUTHORIZATION HOLDER NAME:			Quinsam Coal Corporation
AUTHORIZED PERSON NAME:		Kathleen Russell	
AUTHORIZED PERSON SIGNATURE:		KR	
SIGNATURE DATE:		June 30, 2022	
<i>I understand that it is an offense to mislead a government official, and I declare that all of the information presented is accurate and true. I have been given the authority by the authorization holder to sign this form.</i>			
CONDITION NUMBER	CONDITION DESCRIPTION	COMPLIANT? (Yes/No/ND)	ACTION TAKEN
Section 1	AUTHORISED DISCHARGES		
Section 1.1	This subsection applies to the discharge of effluent from the NORTH COAL MINING OPERATION AND COAL PREPARATION PLANT. The site reference number for this discharge is E207409		
Section 1.1.1	The maximum and average authorized rates of discharge are 0.32 m³/s and 0.08 m³/s respectively. The authorized discharge period is 365 d/a.	No	The maximum flow rate observed was 0.233 m³/s. The average annual flow rate was 4.0 % above permitted rates (0.107 m³/s). Refer to the Annual Report, Section (6.1.1). Average calculated as an "annual average" over 365 d/a. Appendix I, Table 25.
Section 1.1.2	The characteristics of the discharge shall not exceed the specified permit limits (See 1.1.2 of PE7008).	Yes	All parameters were within the specified permit limits.
Section 1.1.5	The location of the facilities from which the discharge originates is Block 26, Block 120 and Block 148, Comox Land District.	Yes	N/A
Section 1.1.6	The location of the point of discharge is Block 120, Comox Land District.	Yes	N/A
Section 1.2	This subsection applies to the discharge of effluent from the SOUTH COAL MINING OPERATION. The site reference number for this discharge is E218582.		
Section 1.2.1	The maximum and average authorized rates of discharge are 0.46 m³/s and 0.10 m³/s, respectively. The authorized discharge period is 365 d/a.	Yes	Both annual maximum flow (0.197 m³/s) and annual average flow (0.021 m³/s) were well below the permitted rates. Refer to the Annual Report, Section (6.2).
Section 1.2.2	The characteristics of the discharge from the South Mining Operation shall not exceed the specified permit limits.	Yes	Dissolved iron was elevated above permit limits of 0.5 mg/L on January 4th, 2022, resulting in 1.19 mg/L. See appendix VII (DG# 214321).
Section 1.2.3	The authorized works are surface runoff collection and diversion ditches, flocculation facilities, settling pond, 3 pit sumps (1S, 2S and 3S Pits), an adit sump (4S Adit), pumping facilities, and related appurtenances approximately located.	No	Permit amendment needs to occur to remove 1S , 4S audit sump. The flocculation facilities include the treatment system cells Aeration lagoon and Settling pond.
Section 1.2.5	The location of the facilities from which the discharge originates is Block 98 and Block 149, Comox Land District.	Yes	N/A
Section 1.2.6	The location of the point of discharge is Block 149,Comox Land District.	Yes	N/A
Section 1.3-1.3.6	This subsection applies to the discharge of effluent from the BLOCK 242 COAL MINING OPERATION as shown on attached Site Plan C. The site reference number for this discharge is E225796.	Yes	No discharge occurred from this site during 2021-2022. Site is non-operational and reclaimed. November 1, 2019 permit amendment authorized removing monitoring from the permit.
Section 1.4	This subsection applies to the discharge of effluent from the 7 SOUTH MINING OPERATION. The site reference number for this discharge is E292069.	Yes	N/A
Section 1.4.1	The maximum authorized rate of discharge is 0.005 m³/s. The authorized discharge period is 365 d/a.	Yes	Discharge did not occur in 2021 /2022.
Section 1.4.2	The characteristics of the discharge from the 7 South Mining Operation shall not exceed the specified permit limits.	Yes	Discharge did not occur in 2021 /2022.
Section 1.4.5	The location of the facilities and point of discharge is Block 120, Comox Land District, except part in plan 12164, 13574, 13641, VIP53617 and VIP64817.	Yes	N/A
Section 2	Specific Requirements		
Section 2.1	North Coal Mining and Coal Preparation Plant Operation (Settling Pond #4)		
Section 2.1.1	Rate of Discharge: The maximum flow of 0.32 m³/s is the peak routed outflow from the settling pond resulting from the following inputs: a) The assumed response of the gravity fed catchment area defined in Subsection 2.1.3 up to a 1 in 10 year return period rainfall of 24 hour duration; and b) The maximum combined pumping rate from the 2-North portal sump, 2-North underground workings, and the tailings facility, as specified in Subsection 2.1.2. The Director may from time to time redefine the maximum outflow based upon actual on-site measurements.	Yes	Combined pumping rates from all of 2-North mine are, including catchment of precipitation is measured continuously at Settling Pond #4 discharge. See Appendix I, Table 25.
Section 2.1.2	Pumping Rate: The combined rate at which effluent may be pumped from the 2-North portal sump, 2-North underground workings and the tailings facility to the settling pond shall not exceed 0.32 m³/s unless authorization has been obtained from the Director. Pumping rates shall be decreased as necessary to accommodate flows as defined in Subsection 2.1.1 (a).	Yes	Combined pumping rates from all of 2-North mine are, including catchment of precipitation is measured continuously at Settling Pond #4 discharge. See Appendix I, Table 25.
Section 2.1.3	Catchment Area: The gravity drained settling pond catchment area shall not exceed 4 hectares unless authorization has been obtained from the Director.	Yes	N/A
Section 2.1.4	Wash Plant Effluent: Wash plant effluent shall not be conveyed to the 2-North pit sump via the wash plant ditch. The Permittee shall keep records of the date, duration and estimated volume of any overflow from the wash plant effluent sump. Subject to review of this data, the Director may request changes to the works.	Yes	When operating all fine tailing are directed to the tailings impoundment or underground 2-North Mine. No mining has occurred.
Section 2.1.5	Settling Pond Solids and Storage Volume: Settled solids which have accumulated in the settling pond shall be removed as required to maintain a minimum water depth below the pond decant of 1.0 m and a minimum water storage volume of 2,300 m³. The removed solids shall be disposed of in a manner approved by the Director.	No	Settled solids in the settling pond have not accumulated to a point that requires them to be removed. Settled solids have accumulated to a point that requires them to be removed (1.0m) only around the decant riser. The pond has sufficient volume.
Section 2.1.6	Discharge Routing: The discharge from the settling pond shall be conveyed to Middle Quinsam Lake in a manner acceptable to the Director.	Yes	N/A
Section 2.1.7	Effluent Characteristics (for Total Suspended Solids): The characteristics of the effluent with respect to total suspended solids shall be equivalent to or less than the levels specified in Subsection 1.1.2 for discharge rates of up to 0.32 m³/s (or as may be redefined by the Director according to Subsection 2.1.1). Variances may be allowed by the Director for higher discharge rates. The Director may as well, in the future, establish a maximum level for total suspended solids during extreme storm events.	Yes	All TSS results were within permit limits. See Appendix 1, Table 5.
Section 2.2	South Coal Mining Operation (Settling Pond #1)		
Section 2.2.1	Rate of Discharge: The maximum flow of 0.46 m³/s is the peak routed outflow from the settling pond resulting from an assumed response of the maximum equivalent catchment area as defined in Subsection 2.2.2 to a design 1 in 10 year return period rainfall of 24 hour duration. The Director may from time to time redefine the maximum routed outflow based upon actual on-site measurements.	Yes	N/A
Section 2.2.2	Catchment Area: The maximum equivalent settling pond catchment area shall not exceed 68.4 hectares as defined in the South Pit Water Management. Settling Pond 1, Quinsam Coal Project. Ker, Priestman and Associates Limited, March 1990 unless authorization has been obtained from the Director.	Yes	N/A
Section 2.2.3	Settling Pond Solids and Storage Volume: Settled solids which have accumulated in the settling pond shall be removed as required to maintain a minimum water depth below the pond decant of 1.0 m and a minimum water storage volume of 1400 m³. The removed solids shall be disposed of in a manner approved by the Director.	Yes	Settled solids in the settling pond have not accumulated to a point that requires them to be removed. Only sediment buildup around the decant riser from beaver activity requires removal.

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Section 2.2.4	Discharge Routing: The discharge from the settling pond shall be conveyed to Long Lake through the adjacent wetlands as specified in Figure 1, South Pit Water Management. Settling Pond 1, Quinsam Coal Project, Ker, Priestman and Associates Limited, March 1990.	Yes	N/A
Section 2.2.5	Effluent Characteristics (for Total Suspended Solids): The characteristics of the effluent with respect to total suspended solids shall be equivalent to or less than the levels specified in Subsection 1.2.2 for discharge rates up to 0.46 m³/s (or as may be redefined by the Director according to Section 2.2.1). Variances may be allowed by the Director for higher discharge rates. The Director may as well, in the future, establish a maximum level for total suspended solids during extreme storm events.	Yes	N/A
Section 2.3 - 2.3.4	Block 242 Coal Mining Operation		This site is non-operational and reclamation efforts are establishing.
Section 2.4	7-South Mining Operation Settling Pond		
Section 2.4.1	Rate of Discharge : The maximum flow of 0.005 m³/s is the peak routed outflow from the settling pond resulting from an assumed response of the maximum equivalent catchment area as defined in subsection 2.4.3 to a design I in 10 year return period of 24 hour duration. Additional flow from the 7S adit sump pump must not cause the settling pond to overflow or exceed the maximum flow. The Director may from time to time redefine the maximum routed outflow based upon actual on-site measurements.	Yes	No discharge occurred in 2021-2022
Section 2.4.2	Pumping Rate: The Permittee shall keep records of the date, duration and estimated volume when water from the 7 South Adit Sump (7S Portal Sump) is pumped to the settling pond and submit the records to the Regional Waste Manager upon request.	Yes	To date, no water has ever been routed from 7-South (Adit) Portal Sump to 7SSD. Therefore no records exist. All water from 7-South (Adit) Portal Sump (7SPS) is pumped underground to 5S mine pool.
Section 2.4.3	Catchment Area: The maximum settling pond catchment area shall not exceed 3.14 hectares as defined in the Surface Water Management Plan -7 South Development Quinsam Mine, Golder Associates, April 12, 2012 (Appendix B) unless authorization has been obtained from the Director.	Yes	N/A
Section 2.4.4	Settling Pond Solids and Storage Volume: Settled solids which have accumulated in the settling pond shall be removed as required to maintain a minimum water depth below the pond decant of 1.0 m and a minimum water storage volume of 340 m³. The removed solids shall be disposed of in a manner approved by the Director.	Yes	Settled solids have not accumulated to a point that requires them to be removed at this time. A minimum water cover of 1.0m is not sustained at all times as water management practices have changed to have minimal water discharged from the pond. Based on experience, it is difficult to maintain a 1.0m cover and discharge at appropriate levels. There has been far less TSS exceedances with the new practice.
Section 2.4.5	Discharge Routing: The discharge from the settling pond shall be conveyed to the Quinsam River via an ephemeral stream (Stream I) and a wetland (Lower Wetland) adjacent the Quinsam River in a manner acceptable to the Director.	Yes	Refer to the Annual Report, Appendix I, Table 27 (No discharge occurred).
Section 2.4.6	Settling Pond Discharge Dilution Ratio: The 7-South settling pond must not discharge unless a minimum flow is measured in Stream 1 (7S monitoring site). The minimum Stream 1 to discharge ratio shall be documented to the satisfaction of the Director in the Environmental Procedures Manual required in Section 3.2.	Yes	Refer to the Annual Report, Section 6.3 and Appendix I, Table 30 (No discharge occurred). Previous Annual reports (where discharge occurred) validated the model.
Section 2.4.7	Settling Pond Discharge Effluent Quality Model Validation: The Permittee shall report on the settling pond performance in the annual report. The purpose of the report is to validate the effluent water quality prediction model using actual flow and water quality data. The Director may amend the permit, if required, or request an amendment of the permit for environmental protection based on the report findings.	Yes	Refer to the Annual Report, Section 6.3 and Appendix I, Table 30 (No discharge occurred). Previous Annual reports (where discharge occurred) validated the model.
Section 2.4.8	Contingency Measures: In the event of a 7-South settling pond discharge permit limit exceedance, the settling pond discharge valve must be closed immediately and the effluent must temporarily be diverted to the 5S mine or 7S mine underground workings, or to another area acceptable to the Director. Details of the contingency measures shall be documented in the Environmental Procedures Manual required under Section 3.2. Additionally, the Permittee shall follow Section 3.9 requirements.	Yes	The 7-South settling pond water is directed to 7-S Sump via pumping. Refer to the Annual Report Section 2.1.3 and Figure 4. Details of the contingency measures are documented in the Environmental Procedures Manual (EPM).
Section 2.4.9	Toxicity Failure Monitoring and Reporting Procedures	Yes	There have been no toxicity failures in the past. Toxicity samples were not collected due to zero discharge.
Section 3.2	Environmental Procedures Manual (EPM)	Yes	The EPM was submitted on March 31, 2022 to the ENV compliance review website.
Section 3.3	Acid Generation Control	Yes	N/A
Section 3.4	Water Quality Objectives	Yes	N/A
Section 3.5	Nutrient Control	Yes	N/A
Section 3.6	Chemical Storage Containment Works	Yes	N/A
Section 3.7	Spill Reporting	Yes	See Annual Report (Appendix VII).
Section 3.8	Additional Works	Yes	Passive Treatment System cells BCR-EFF, SPC-EFF, AL-EFF, SP-EFF, 7-South Containment Pond (7SCP) and 2-North PAG CCR Pond (WP) are additional works that can be used as facilities for the removal of nutrients and metals from the effluent or the provision of additional settling pond capacity as well as flocculation facilities, if required.
Section 3.9 (3.9.1-3.9.2)	Maintenance of Works, Non-Compliances and Emergency Procedures	No	Refer to Appendix I (Table 2) and Appendix VII.
Section 3.10	Bypasses	No	Long Lake Seep and groundwater from QU1109. All mine impacted discharge must pass through authorized works. Appendix VII.
Section 3.11	Environmental Review Procedure - An Environmental Technical Review Committee of six members has been formed. This Committee is composed of technical representatives from the Department of Fisheries and Oceans; Environment Canada; the Ministry of Environment; the Ministry of Energy, Mines and Natural Gas; the City of Campbell River; and the Permittee for the purpose of coordinating and reviewing the construction and operational monitoring results. Based on the recommendations of the Committee, the Director may revise the monitoring requirements in Section 4.	Yes	Agency meeting was held on January 13, 2022.
Section 3.12	Future Monitoring Based on the results of the Effluent and In Mine Releases monitoring program specified in Subsection 4.1 and /or data obtained from the Receiving Environment monitoring program specified in Subsection 4.2, the Director may revise the monitoring requirements in Section 4.	Yes	Agency meeting was held on January 13, 2022.
Section 4.0	MONITORING AND REPORTING REQUIREMENTS	Yes	
Section 4.1.1	Effluent and In-Mine Release	Yes	
Section 4.1.1	North Coal Mining and Coal Preparation Plant Operation	Yes	
Section 4.1.1 i)	Decant WD (EMS # E207409).	No	Annual average discharge quantity was above permit limits and missing flow data for 5 days. Refer to Annual report, Appendix 1, Table 2 for permit non-compliance results.

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Section 4.1.1 ii)	Culvert, at Middle Quinsam Lake Road - WC (EMS # E207411)	Yes	
Section 4.1.1 iii)	2-North Portal Sump Effluent - 2N-P-Sump (EMS # E283433).	Yes	
Section 4.1.1 iv)	Additional Sites Monitoring Schedule : 2-North Pit Sump CCR Cover (WP) EMS # E207412	Yes	
Section 4.1.2	South Coal Mining Operation		
Section 4.1.2 (i)	Decant - SPD (EMS # E218582)	No	Refer to Annual Report, Appendix 1, Table 2 and Appendix VII.
Section 4.1.2 (ii)	Culvert, Downstream End of Access Road - SPC (EMS # E217014)	Yes	
Section 4.1.2 (iii)	South Pit Main Sump Water- 3S (EMS # E217015) Missing weekly pH/Conductivity.	Yes	
Section 4.1.2 (iv)	Additional Monitoring Sites Schedule: 2-South Pit In Pit Water Cover (2S) EMS # E292127	Yes	
Section 4.3	Block 242 Coal Mining Operation	Yes	NA - Area is non-operational and reclaimed.
Section 4.1.4	7 South Mining Operation		
Section 4.1.4 (i)	Decant - 7SSD (EMS # E292069)	Yes	
Section 4.1.4 (ii)	7-South Adit Sump EMS # E292110	Yes	NA - This pond is never pumped to 7S Settling Pond.
Section 4.2	Receiving Environment Monitoring Sites and Monitoring Requirements		
Section 4.2.1 (i)	Initial Dilution Zone Monitoring Sites - Long Lake Entrance- LLE (EMS # E292130)	Yes	
Section 4.2.1 (ii)	Road Crossing bridge on Stream 1 above the Lower Wetland -7S (EMS # E292109).	No	Refer to the Annual Report, Appendix I, Table 2. Missing 1/ 12 monthly samples due to snow.
Section 4.2.2	Seep Monitoring Sites		N/A
Section 4.2.2 (i)	Long Lake Seep- LLS / LLSM (EMS # E292131)	Yes	Unauthorized discharge.
Section 4.2.3	Receiving Water (Stream and Lakes) Monitoring Sites. As per Table 4.2.3 North Mining Operation: Quinsam River at Argonaut Road (WA) (EMS # 0126402), Outflow from Middle Quinsam Lake (WB) (EMS # 0900504), South Mining Operation: Long Lake Outlet (LLO) (EMS # E219412), No Name Lake Outlet (NNO)(EMS # E217017). (EMS # E217017) 7-South Mining Operation (Areas 1 to 4): Quinsam River downstream of 7 South Mining Operation (7SQR) (EMS # E292113), 7-South Area 5 Mining Operation: Iron River upstream of 7SA5 (IR6) (EMS # E297231), Iron River downstream of 7SA5 and 242 inputs (IR8) (EMS # E297232), Quinsam River downstream of confluence with Iron River (IRQR) (EMS # E299256).	No	No monitoring occurred at Block 242 Mining Operation: Iron River upstream of 242 influence (EMS #E225798) Iron River downstream of 242 influence (EMS # E225808). These sites are captured at IR6 and IR8.
Section 4.2.4	Sediment and Benthic Monitoring Sites	NA	N/A
Section 4.2.4 (i)	7-South Area 5 sediment proposal	Yes	Proposed the sediment and benthic site in 2020. performed sampling in 2020. See Appendix X for report.
Section 4.2.5	Stream Monitoring Requirements		
Section 4.2.5 (i)	General Requirements Applicable to All Sites Defined Under Section 4.2.3 (E292112)- Lower Wetland Outlet (LWO).	Yes	N/A
Section 4.2.6	Lake Monitoring Requirements		
Section 4.2.6 (i)	General Requirements Applicable to All Sites Defined Under Section 4.2.3.	Yes	All samples were obtained in accordance with the permit. Permit amendment November 1st, 2019.
Section 4.2.7	Sediment Benthic Monitoring Requirements	No	Partial program was performed on the Quinsam River as a result of the mine in care and maintenance.
Section 4.2.7 (i)	General Requirements Applicable to All Sites Defined Under Section 4.2.4	N/A	N/A
Section 4.3	Additional Monitoring Requirements		
Section 4.3.1	Composite sampling	N/A	N/A
Section 4.3.2	Continuous Flow Recording	No	WD missing 5 days of continuous flow.
Section 4.3.3	Iron River Flow Monitoring	No	Annual Report, Appendix I, Table 2. Missing fall continuous flow (5 weeks) due to flow monitoring equipment being washed away or removed by wildlife.
Section 4.3.4	pH and Conductivity Monitoring	Yes	
Section 4.3.5	Monitoring of Seeps	Yes	Annual Report Appendix I, Tables 9, 21 and 23 and 32
Section 4.3.6	Groundwater Observation Wells	Yes	Groundwater results and discussion is integrated into the Annual Report, Refer to Appendix I, Tables 4, 31 to 39 and Appendix VI.
Section 4.3.7	Monitoring of Drainage Ditches and Water Channels	Yes	Operations are checked daily by either the environmental technician or shift bosses.
Section 4.3.8	Precipitation Monitoring	Yes	Annual Report, Appendix I, Table 30.
Section 4.3.9	Block 242 Monitoring	N/A	Not operational, area has been reclaimed
Section 4.4	Monitoring Procedures	Yes	N/A
Section 4.4.1	Sampling and Analytical Procedures	Yes	N/A
Section 4.5	Reporting	Yes	N/A
Section 4.5.1	7 South Area 5 Reporting	Yes	No mining has occurred since 2019.

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