North Fork Active Treatment water pollution calculations 11-09-21

REPRESENTATIVE WATER QUALITY						
DISCHARGE	pH	Acidity (mg/L)	Fe (mg/L)	Al (mg/L)	Mn (mg/L)	SO_4^{-2} (mg/L)
M29	3.5	81	2.4	10.7	3.1	372
BURNS BLOWOUT	3.3	185	4.3	26.2	9.0	725
LONG RUN	2.9	144	9.7	9.8	0.3	150
COKETON (M29 + BURNS)	3.4	105	3.1	12.3	3.7	441
BLACKWATER (COKETON + LONG RUN)	3.3	113	4.4	12.4	3.0	317

Note: All metal concentrations are dissolved values. All acidity values are calculated from laboratory data. Long Run representative data is a composite sample of the major Long Run discharge sources collected by BioMost, Inc. (BMI) 4/7/2021. Blackwater representative data is a composite sample of Coketon + Long Run proportional mix collected by BMI 4/8/2021. See notes under Design Basis table.

DESIGN BASIS						
ESTIMATED COMBINED WATER CHARACTERISTICS						
		M29 *(1)*	BURNS BLOWOUT *(2)*	LONG RUN *(3)*	TOTAL	PER UNIT
PARAMETER		*FOB(CONCURRENT)*	*FOB(CONCURRENT)*	*(2021)*		
FLOW (GPM)	MAX	3,529	1,220	3,009	7,758	3,879
FLOW (GPM)	AVG	1,263	299	2,060	3,622	1,811
ACID LOAD (LB/DAY)	MAX	4,288	2,923	3,847	11,058	5,529
ACID LOAD (LB/DAY)	AVG	1,240	730	3,135	5,105	2,553

(1) Treatment design - FOB data concurrent with Burns Blowout
(2) Treatment design - FOB data concurrent with M29
(3) Treatment design - Based on 3 samples in 2021 by WV DEP & BMI [(2/25/21 - HIGHEST RECORDED FLOWS), 3/22/21, 4/6/21]

Notes:

Data presented on this sheet for the sizing and design of the Blackwater Active Treatment System can be found in the 2017 Coketon Report completed by BioMost, Inc. for FOB. Additional data was collected in 2021 by WV DEP and BioMost, Inc. for the Long Run monitoring.

Acronyms:
FOB: Friends of Blackwater