



INDIVIDUAL ASSIGNMENT #3

GRAD/SCI221 ENVIRONMENTAL SCIENCE

Saturday-Sunday

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CASE STUDY 1: An existing manufacturing facility is located near the Pasig River in Makati City. The facility is major supplier of electronic components in the country since 1995. As part of its environmental compliance, the Pollution Control Officer submits monthly report of the wastewater analysis to the Department of Environment and Natural Resources (DENR) Central Office. The sample was taken at the outlet of the existing wastewater treatment plant (WWTP) and the results of the water analysis are as follows:

pH = 7.5	Cyanide = 0.15 mg/L	Lead = 0.50 mg/l	COD = 100 mg/L	BOD = 80 mg/L
Total Coliform = 10,000 MPN/100ml	Oil/Grease = 10 mg/L	Total Dissolved Solids = 2,000 mg/L		

The treated water from the WWTP is directly discharged to Pasig River as classified as CLASS “C” inland receiving water. **QUESTION: Determine if the manufacturing facility is compliant DENR Administrative Order (DAO) 2016-08. Show your assessment.**

CASE STUDY 2: The Municipality of Odiongan approved a financial assistance to Rombon State University in managing Bongoy River as one of the sources for drinking water. Unfortunately, no previous water quality assessment conducted in the past. To determine the current condition of Bongoy River and the type of treatment to be used, a water sample was analysed in the laboratory and the results are as follows:

pH = 6.9	Dissolved Oxygen = 25 mg/L	BOD = 3 mg/L	Total Suspended Solids = 30 mg/L
Surfactants = nil	Oil/Grease = nil	Total Coliform = 1,000 MPN/100 mL	Lead = 0.01 mg/L

QUESTION: What water classification did Bongoy River fall? Can it be used for drinking water or other purposes? Refer to DOH Administrative Order 2007-012.

CASE STUDY 3: The mayor proposes to improve its present solid waste collection and disposal system for its constituents. The proposed system identified the purchase of a new truck to meet the current demand of the municipality. The truck can collect all the garbage from the 5 barangays during the 5-day work week (Monday to Friday), what is the capacity of the truck sufficient enough to collect the garbage? The municipality with 5 barangays have population enumerated below. Assume that the truck is able to compact the refuse to 300 kg/cubic meter.

Barangay Name	Population (resident)	Total Volume (kg) per day
Brgy Roxas	550	700
Brgy Lobredo	400	500
Brgy Duterte	600	450
Brgy Aquino	450	500
Brgy Marcos	350	550