

SYED JAWWAD

7386

GEOTECHNICAL
ENGINEERING

ASSIGNMENT + QUIZ

Q#1

GEOTECHNICAL REPORT ON TANDA DAM:-

INTRODUCTION:-

Tanda Dam or Tanda Lake is a Small Dam and also a lake view park located in Kohat District of Khyber Pakhtunkhwa the Province of the Pakistan. The Dam Supplies water for irrigation to Juma shahpur and Many villages by means of Canals from Tanda Lake.

It operational on 17 July 1967, though it was Inaugurated by President Ayub Khan in 1967.

Covering an area of 405 hectares, the initial Capacity of Tanda Dam was to store 65,000 acre feet of water and Provide a perennial supply of 260 cusecs of water for Irrigation.

TEST PERFORMED ON DAM SITE FOR SOIL INVESTIGATION:-

Test are as follows which helps in Preparing a Geotechnical Report.

1. SIEVE ANALYSIS OF SOIL:-
2. DETERMINATION OF MOISTURE CONTENT OF SOIL.
3. ANALYSIS SPECIFICATION OF SOIL
4. DETERMINATION OF FREE SWELL INDCT OF SOIL.
5. DETERMINATION OF LIQUID LIMIT OF SOIL.
6. DETERMINATION THE PLASTIC LIMIT OF SOIL
7. CALIFORNIA BEARING RATION TEST (CBR)
8. UN CONFINED COMPRESSION STRENGTH.

TEST RESULTS

Soil Type	Silt Clay
AASHTO Classification	A-7-5
% Passing Sieve No. 200	25.40
Liquid Limit (L.L) %	26.50
Plastic Limit (P.L) %	31.50
Plastic Index (P.I) %	31.50
Optimum Moisture Content	5.5
Maximum Dry Density (MDD) (kg/m ³)	10.7
California Bearing Ratio (CBR) (%)	1.94
Unconfined Compression Strength (kN/m ²)	10.42
Natural Moisture Content	209.18
Specific Gravity	13.4
	2.7

QUIZ

SOFTWARES USED IN GEOTECHNICAL ENGINEERING:-

A high variety of Geotechnical Software can be found in this category. It is usually designed to deal with geotechnical issues such as slope stability, seismic analysis foundations etc. Some of the famous softwares are as follows.

1. 3DEEP:-

This software is fully integrated with a design software package for automatic model generation. It's virtual reality software for excavations that are deep.

2. GEO5:-

It can be used in for Excavation Designs, Shallow foundations, deep foundation design, stability analysis, Settlement analysis and for various other field tests.

GEOSTUDIO:-

The Geostudio Suite includes eight products which can be used for analysing slope stability, ground water seepage, stress deformation and various other geotechnical problems.

3. PLAXIS:-

PLAXIS 2D, Plaxis 3D a finite element method for the two dimensional and 3 dimensional analysis of deformation and stability of soil structure as well as ground water and heat flow.

4. FLAC3D:-

It is used in advance geotech analysis of soil rock and structural support in 3 dimensions.

5. EDOUSHALE:-

It is normally used for Earthquake Analysis and Geotechnical Analysis.