

**GOVERNMENT OF GOA
QUALITY CONTROL LABORATORY
WATER RESOURCES DEPARTMENT**

Test Report No.: WRD/QC/F.6-2/Cube -T : 9302 To 9306, 9309 To 9314, 9324 To 9328,9340 To 9347,9361 To 9373,9378 To 9382 / Lab / **03** / 2020 - 21 Dated:- 13 / 04/ 2020

Laboratory : Bicholim -Goa / Sub Division V (QC)/WRD/ Bicholim -Goa.

Name of Work: - Construction of Barrage and up gradation of Raw water pumping station at Ganjem on Mhadei River for Augmentation of Raw water for Opa water works Reg. Construction of Barrage , providing and laying 1000 mm dia. D.I. pipe Rising main and Break Pressure Tank at Ganjem in Sattari Taluka.

Ref. to Requisition No.: WRD/WDVI/SD I /F.W.215/2019-20/ **784** Dated :- 21-03-2020

Qty. Recived. : 42 Sets of cube Date of Receipt: -21/03/2020. Tested on:- 25/03/2020 To 01/04/2020 as per due dates. Ref to CPWD :2009, Vol. I

Sample: RCC 1 : 1.5 : 3 Mix O.S No. : 674,677,686,697,709,710,714/SP. Lab. Sample No.: 8478 To 8519 Tested By: - Mr. S.M. Patri., A.E.

REPORT PAGE 01 OF 05

SR.NO.	DISCRIPTION OF SAMPLE	TESTED FOR	RESULTS		Max./Min.Value permissible	% above or below	REMARK
1	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 26/02/2020. RCC for foundation of retaining wall on LHS, D/s floor.	28th day compressive strength	314.87	Kg/Cm ²	265.00 Kg/Cm ²	13.98	Represents Qty. 16.00 Cum.
			292.22	Kg/Cm ²			
			299.01	Kg/Cm ²			
			Average	302.03			
2	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 26/02/2020. RCC for foundation of retaining wall on LHS, D/s floor.	28th day compressive strength	319.40	Kg/Cm ²	265.00 Kg/Cm ²	18.82	Represents Qty. 16.00 Cum.
			301.28	Kg/Cm ²			
			323.93	Kg/Cm ²			
			Average	314.87			
3	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 26/02/2020. RCC for foundation of retaining wall on LHS, D/s floor.	28th day compressive strength	303.55	Kg/Cm ²	265.00 Kg/Cm ²	11.41	Represents Qty. 20.00 Cum.
			289.95	Kg/Cm ²			
			292.22	Kg/Cm ²			
			Average	295.24			
4	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 26/02/2020. RCC for foundation of retaining wall on LHS, D/s floor.	28th day compressive strength	285.42	Kg/Cm ²	265.00 Kg/Cm ²	10.56	Represents Qty. 20.00 Cum.
			305.81	Kg/Cm ²			
			287.69	Kg/Cm ²			
			Average	292.97			
5	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 26/02/2020. RCC for foundation of retaining wall on LHS, D/s floor.	28th day compressive strength	321.67	Kg/Cm ²	265.00 Kg/Cm ²	16.82	Represents Qty. 20.00 Cum.
			310.34	Kg/Cm ²			
			296.75	Kg/Cm ²			
			Average	309.59			
6	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 27/02/2020. RCC for Pier , P - 1 , first lift.	28th day compressive strength	292.22	Kg/Cm ²	265.00 Kg/Cm ²	10.27	Represents Qty. 13.50 Cum.
			299.01	Kg/Cm ²			
			285.42	Kg/Cm ²			
			Average	292.22			

Junior Engineer

Assistant Engineer

REPORT PAGE 02 OF 05

SR.NO.	DISCRIPTION OF SAMPLE	TESTED FOR	RESULTS		Max./Min.Value permissible	% above or below	REMARK
7	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 27/02/2020. RCC for Pier , P - 1 , first lift.	28th day compressive strength	280.89	Kg/Cm ²	265.00 Kg/Cm ²	10.56	Represents Qty. 13.50 Cum.
			292.22	Kg/Cm ²			
			305.81	Kg/Cm ²			
			Average	292.97			
8	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 27/02/2020. RCC for Pier , P - 2 , first lift.	28th day compressive strength	294.48	Kg/Cm ²	265.00 Kg/Cm ²	9.99	Represents Qty. 13.50 Cum.
			276.36	Kg/Cm ²			
			303.55	Kg/Cm ²			
			Average	291.46			
9	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 27/02/2020. RCC for Pier , P - 2 , first lift.	28th day compressive strength	278.63	Kg/Cm ²	265.00 Kg/Cm ²	8.28	Represents Qty. 13.50 Cum.
			299.01	Kg/Cm ²			
			283.16	Kg/Cm ²			
			Average	286.93			
10	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 27/02/2020. RCC for Pier , P - 3 , first lift.	28th day compressive strength	294.48	Kg/Cm ²	265.00 Kg/Cm ²	9.42	Represents Qty. 13.50 Cum.
			271.83	Kg/Cm ²			
			303.55	Kg/Cm ²			
			Average	289.95			
11	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 27/02/2020. RCC for Pier , P - 3 , first lift.	28th day compressive strength	280.89	Kg/Cm ²	265.00 Kg/Cm ²	8.85	Represents Qty. 13.50 Cum.
			276.36	Kg/Cm ²			
			308.08	Kg/Cm ²			
			Average	288.44			
12	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 28/02/2020. RCC for Pier , P - 4 , first lift.	28th day compressive strength	278.63	Kg/Cm ²	265.00 Kg/Cm ²	6.85	Represents Qty. 13.50 Cum.
			269.57	Kg/Cm ²			
			301.28	Kg/Cm ²			
			Average	283.16			
13	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 28/02/2020. RCC for Pier , P - 4 , first lift.	28th day compressive strength	285.42	Kg/Cm ²	265.00 Kg/Cm ²	11.98	Represents Qty. 13.50 Cum.
			294.48	Kg/Cm ²			
			310.34	Kg/Cm ²			
			Average	296.75			
14	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 28/02/2020. RCC for Pier , P - 5 , first lift.	28th day compressive strength	289.95	Kg/Cm ²	265.00 Kg/Cm ²	9.42	Represents Qty. 13.50 Cum.
			299.01	Kg/Cm ²			
			280.89	Kg/Cm ²			
			Average	289.95			
15	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 28/02/2020. RCC for Pier , P - 5 , first lift.	28th day compressive strength	312.61	Kg/Cm ²	265.00 Kg/Cm ²	9.42	Represents Qty. 13.50 Cum.
			280.89	Kg/Cm ²			
			276.36	Kg/Cm ²			
			Average	289.95			
16	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 28/02/2020. RCC for retaining wall on LHS.	28th day compressive strength	296.75	Kg/Cm ²	265.00 Kg/Cm ²	6.28	Represents Qty. 13.00 Cum.
			278.63	Kg/Cm ²			
			269.57	Kg/Cm ²			
			Average	281.65			

REPORT PAGE 03 OF 05

SR.NO.	DISCRIPTION OF SAMPLE	TESTED FOR	RESULTS		Max./Min.Value permissable	% above or below	REMARK
17	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 29/02/2020. RCC for Abutment on LHS.	28th day compressive strength	319.40	Kg/Cm ²	265.00 Kg/Cm ²	21.67	Represents Qty. 15.00 Cum.
			332.99	Kg/Cm ²			
			314.87	Kg/Cm ²			
		Average	322.42	Kg/Cm²			
18	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 29/02/2020. RCC for Abutment on LHS.	28th day compressive strength	294.48	Kg/Cm ²	265.00 Kg/Cm ²	15.69	Represents Qty. 15.00 Cum.
			314.87	Kg/Cm ²			
			310.34	Kg/Cm ²			
		Average	306.57	Kg/Cm²			
19	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 29/02/2020. RCC for Pier , P - 1 , second lift.	28th day compressive strength	314.87	Kg/Cm ²	265.00 Kg/Cm ²	19.39	Represents Qty. 13.50 Cum.
			328.46	Kg/Cm ²			
			305.81	Kg/Cm ²			
		Average	316.38	Kg/Cm²			
20	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 29/02/2020. RCC for Pier , P - 1 , second lift.	28th day compressive strength	278.63	Kg/Cm ²	265.00 Kg/Cm ²	7.42	Represents Qty. 13.50 Cum.
			269.57	Kg/Cm ²			
			305.81	Kg/Cm ²			
		Average	284.67	Kg/Cm²			
21	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 29/02/2020. RCC for Pier , P - 2 , second lift.	28th day compressive strength	317.14	Kg/Cm ²	265.00 Kg/Cm ²	13.12	Represents Qty. 13.50 Cum.
			294.48	Kg/Cm ²			
			287.69	Kg/Cm ²			
		Average	299.77	Kg/Cm²			
22	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 29/02/2020. RCC for Pier , P - 2 , second lift.	28th day compressive strength	314.87	Kg/Cm ²	265.00 Kg/Cm ²	10.56	Represents Qty. 13.50 Cum.
			289.95	Kg/Cm ²			
			274.10	Kg/Cm ²			
		Average	292.97	Kg/Cm²			
23	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 29/02/2020. RCC for Pier , P - 3 , second lift.	28th day compressive strength	276.36	Kg/Cm ²	265.00 Kg/Cm ²	10.56	Represents Qty. 13.50 Cum.
			305.81	Kg/Cm ²			
			296.75	Kg/Cm ²			
		Average	292.97	Kg/Cm²			
24	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 29/02/2020. RCC for Pier , P - 3 , second lift.	28th day compressive strength	317.14	Kg/Cm ²	265.00 Kg/Cm ²	20.24	Represents Qty. 13.50 Cum.
			321.67	Kg/Cm ²			
			317.14	Kg/Cm ²			
		Average	318.65	Kg/Cm²			
25	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 02/03/2020. RCC for retainin wall on LHS , D/S Floor first lift.	28th day compressive strength	278.63	Kg/Cm ²	265.00 Kg/Cm ²	6.57	Represents Qty. 20.00 Cum.
			269.57	Kg/Cm ²			
			299.01	Kg/Cm ²			
		Average	282.40	Kg/Cm²			

REPORT PAGE 04 OF 05

SR.NO.	DISCRIPTION OF SAMPLE	TESTED FOR	RESULTS		Max./Min.Value permissable	% above or below	REMARK
26	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 02/03/2020. RCC for retainin wall on LHS , D/S Floor first lift.	28th day compressive strength	283.16	Kg/Cm ²	265.00 Kg/Cm ²	12.27	Represents Qty. 20.00 Cum.
			299.01	Kg/Cm ²			
			310.34	Kg/Cm ²			
			297.50	Kg/Cm²			
27	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 02/03/2020. RCC for retainin wall on LHS , D/S Floor first lift.	28th day compressive strength	287.69	Kg/Cm ²	265.00 Kg/Cm ²	8.28	Represents Qty. 20.00 Cum.
			296.75	Kg/Cm ²			
			276.36	Kg/Cm ²			
			286.93	Kg/Cm²			
28	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 02/03/2020. RCC for Pier , P - 4 , second lift.	28th day compressive strength	305.81	Kg/Cm ²	265.00 Kg/Cm ²	8.28	Represents Qty. 13.50 Cum.
			276.36	Kg/Cm ²			
			278.63	Kg/Cm ²			
			286.93	Kg/Cm²			
29	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 02/03/2020. RCC for Pier , P - 4 , second lift.	28th day compressive strength	301.28	Kg/Cm ²	265.00 Kg/Cm ²	6.85	Represents Qty. 13.50 Cum.
			278.63	Kg/Cm ²			
			269.57	Kg/Cm ²			
			283.16	Kg/Cm²			
30	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 02/03/2020. RCC for Pier , P - 5 , second lift.	28th day compressive strength	274.10	Kg/Cm ²	265.00 Kg/Cm ²	6.28	Represents Qty. 13.50 Cum.
			292.22	Kg/Cm ²			
			278.63	Kg/Cm ²			
			281.65	Kg/Cm²			
31	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 02/03/2020. RCC for Pier , P - 5 , second lift.	28th day compressive strength	303.55	Kg/Cm ²	265.00 Kg/Cm ²	6.57	Represents Qty. 13.50 Cum.
			276.36	Kg/Cm ²			
			267.30	Kg/Cm ²			
			282.40	Kg/Cm²			
32	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 03/03/2020. RCC for Pier , P -1 , third lift.	28th day compressive strength	314.87	Kg/Cm ²	265.00 Kg/Cm ²	12.84	Represents Qty. 13.50 Cum.
			287.69	Kg/Cm ²			
			294.48	Kg/Cm ²			
			299.01	Kg/Cm²			
33	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 03/03/2020. RCC for Pier , P -1 , third lift.	28th day compressive strength	319.40	Kg/Cm ²	265.00 Kg/Cm ²	18.53	Represents Qty. 13.50 Cum.
			299.01	Kg/Cm ²			
			323.93	Kg/Cm ²			
			314.12	Kg/Cm²			
34	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 03/03/2020. RCC for Pier , P -2 , third lift.	28th day compressive strength	299.01	Kg/Cm ²	265.00 Kg/Cm ²	12.55	Represents Qty. 13.50 Cum.
			292.22	Kg/Cm ²			
			303.55	Kg/Cm ²			
			298.26	Kg/Cm²			

REPORT PAGE 05 OF 05

SR.NO.	DISCRIPTION OF SAMPLE	TESTED FOR	RESULTS		Max./Min.Value permissable	% above or below	REMARK
35	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 03/03/2020. RCC for Pier , P -2 , third lift.	28th day compressive strength	289.95	Kg/Cm ²	265.00 Kg/Cm ²	6.28	Represents Qty. 13.50 Cum.
			285.42	Kg/Cm ²			
			269.57	Kg/Cm ²			
			Average	281.65			
36	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 03/03/2020. RCC for Pier , P -3 , third lift.	28th day compressive strength	287.69	Kg/Cm ²	265.00 Kg/Cm ²	9.42	Represents Qty. 13.50 Cum.
			303.55	Kg/Cm ²			
			278.63	Kg/Cm ²			
			Average	289.95			
37	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 03/03/2020. RCC for Pier , P -3 , third lift.	28th day compressive strength	317.14	Kg/Cm ²	265.00 Kg/Cm ²	15.12	Represents Qty. 13.50 Cum.
			301.28	Kg/Cm ²			
			296.75	Kg/Cm ²			
			Average	305.06			
38	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 04/03/2020. RCC for Pier , P -4 , third lift.	28th day compressive strength	269.57	Kg/Cm ²	265.00 Kg/Cm ²	5.14	Represents Qty. 13.50 Cum.
			287.69	Kg/Cm ²			
			278.63	Kg/Cm ²			
			Average	278.63			
39	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 04/03/2020. RCC for Pier , P -4 , third lift.	28th day compressive strength	255.97	Kg/Cm ²	265.00 Kg/Cm ²	4.57	Represents Qty. 13.50 Cum.
			301.28	Kg/Cm ²			
			274.10	Kg/Cm ²			
			Average	277.12			
40	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 04/03/2020. RCC for retaining wall on LHS, D/s Floor second lift.	28th day compressive strength	294.48	Kg/Cm ²	265.00 Kg/Cm ²	6.00	Represents Qty. 20.00 Cum.
			260.51	Kg/Cm ²			
			287.69	Kg/Cm ²			
			Average	280.89			
41	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 04/03/2020. RCC for retaining wall on LHS, D/s Floor second lift.	28th day compressive strength	292.22	Kg/Cm ²	265.00 Kg/Cm ²	5.14	Represents Qty. 20.00 Cum.
			269.57	Kg/Cm ²			
			274.10	Kg/Cm ²			
			Average	278.63			
42	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 04/03/2020. RCC for retaining wall on LHS, D/s Floor second lift.	28th day compressive strength	269.57	Kg/Cm ²	265.00 Kg/Cm ²	6.28	Represents Qty. 20.00 Cum.
			296.75	Kg/Cm ²			
			278.63	Kg/Cm ²			
			Average	281.65			

1. Copy to: The Assistant Engineer SD I , WD VI , WRD , Bicholim Goa.

2. Copy submitted to: The Superintending Engineer ,CPO,WRD, Sinchai Bhavan, Porvorim Goa. For kind Information.

3. Copy submitted to: The Executive Engineer ,WDVI,WRD, Bicholim-Goa.

4. QC Lab File. 5. Bill File.

Junior Engineer

Assistant Engineer