

GOVERNMENT OF GOA  
QUALITY CONTROL LABORATORY  
WATER RESOURCES DEPARTMENT

Test Report No.: WRD/QC/F.6-2/Cube -T : 6998 To 7007, 7017 To 7026 / Lab / **161** / 2019 - 20 Dated:- 06 / 06 / 2019

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/ **177** Dated :- 04-06-2019

Qty. Recived. : 20 Sets of cube Date of Receipt: - 04/06/2019. Tested on: - 04, 05/06/2019 Ref to CPWD :2002, Vol. I

Sample: RCC 1 : 1.5 : 3 Mix O.S No. : 2060/SS To 2069/ SS,2079/SS To 2088/ SS. Lab. Sample No.: 5040 To 5059. Tested By: - Mrs. S. B. Naik Shirodkar. J.E.

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SR.NO.	DISCRIPTION OF SAMPLE	TESTED FOR	RESULTS		Max./Min.Value permissable	% above or below	REMARK
1	Reinforced Cement concrete cube of mix 1 : 1.5 : 3, cast on 07 / 05 /2019, RCC for floor of barrage from Ch. 00 - 55 m.	28th day compressive strength	317.14	Kg/Cm <sup>2</sup>	265.00 Kg/Cm <sup>2</sup>	8.85	Represents Qty. 20.00 Cum.
			283.16	Kg/Cm <sup>2</sup>			
			265.04	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>288.44</b>	<b>Kg/Cm<sup>2</sup></b>			
2	Reinforced Cement concrete cube of mix 1 : 1.5 : 3, cast on 07 / 05 /2019, RCC for floor of barrage from Ch. 00 - 55 m.	28th day compressive strength	271.83	Kg/Cm <sup>2</sup>	265.00 Kg/Cm <sup>2</sup>	4.57	--- do---
			289.95	Kg/Cm <sup>2</sup>			
			269.57	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>277.12</b>	<b>Kg/Cm<sup>2</sup></b>			
3	Reinforced Cement concrete cube of mix 1 : 1.5 : 3, cast on 07 / 05 /2019, RCC for floor of barrage from Ch. 00 - 55 m.	28th day compressive strength	296.75	Kg/Cm <sup>2</sup>	265.00 Kg/Cm <sup>2</sup>	3.72	--- do---
			253.71	Kg/Cm <sup>2</sup>			
			274.10	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>274.85</b>	<b>Kg/Cm<sup>2</sup></b>			
4	Reinforced Cement concrete cube of mix 1 : 1.5 : 3, cast on 07 / 05 /2019, RCC for floor of barrage from Ch. 00 - 55 m.	28th day compressive strength	269.57	Kg/Cm <sup>2</sup>	265.00 Kg/Cm <sup>2</sup>	2.29	--- do---
			283.16	Kg/Cm <sup>2</sup>			
			260.51	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>271.08</b>	<b>Kg/Cm<sup>2</sup></b>			
5	Reinforced Cement concrete cube of mix 1 : 1.5 : 3, cast on 07 / 05 /2019, RCC for floor of barrage from Ch. 00 - 55 m.	28th day compressive strength	271.83	Kg/Cm <sup>2</sup>	265.00 Kg/Cm <sup>2</sup>	4.57	--- do---
			265.04	Kg/Cm <sup>2</sup>			
			294.48	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>277.12</b>	<b>Kg/Cm<sup>2</sup></b>			

Junior Engineer

Assistant Engineer

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SR.NO.	DISCRIPTION OF SAMPLE	TESTED FOR	RESULTS		Max./Min.Value permissable	% above or below	REMARK
6	Reinforced Cement concrete cube of mix 1 : 1.5 : 3, cast on 07 / 05 /2019, RCC for floor of barrage from Ch. 00 - 55 m.	28th day compressive strength	292.22	Kg/Cm <sup>2</sup>	265.00 Kg/Cm <sup>2</sup>	6.57	Represents Qty. 20.00 Cum.
			278.63	Kg/Cm <sup>2</sup>			
			276.36	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>282.40</b>	<b>Kg/Cm<sup>2</sup></b>			
7	Reinforced Cement concrete cube of mix 1 : 1.5 : 3, cast on 07 / 05 /2019, RCC for floor of barrage from Ch. 00 - 55 m.	28th day compressive strength	258.24	Kg/Cm <sup>2</sup>	265.00 Kg/Cm <sup>2</sup>	5.43	--- do---
			283.16	Kg/Cm <sup>2</sup>			
			296.75	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>279.38</b>	<b>Kg/Cm<sup>2</sup></b>			
8	Reinforced Cement concrete cube of mix 1 : 1.5 : 3, cast on 07 / 05 /2019, RCC for floor of barrage from Ch. 00 - 55 m.	28th day compressive strength	278.63	Kg/Cm <sup>2</sup>	265.00 Kg/Cm <sup>2</sup>	8.28	--- do---
			305.81	Kg/Cm <sup>2</sup>			
			276.36	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>286.93</b>	<b>Kg/Cm<sup>2</sup></b>			
9	Reinforced Cement concrete cube of mix 1 : 1.5 : 3, cast on 07 / 05 /2019, RCC for floor of barrage from Ch. 00 - 55 m.	28th day compressive strength	267.30	Kg/Cm <sup>2</sup>	265.00 Kg/Cm <sup>2</sup>	5.43	--- do---
			280.89	Kg/Cm <sup>2</sup>			
			289.95	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>279.38</b>	<b>Kg/Cm<sup>2</sup></b>			
10	Reinforced Cement concrete cube of mix 1 : 1.5 : 3, cast on 07 / 05 /2019, RCC for floor of barrage from Ch. 00 - 55 m.	28th day compressive strength	271.83	Kg/Cm <sup>2</sup>	265.00 Kg/Cm <sup>2</sup>	7.42	--- do---
			287.69	Kg/Cm <sup>2</sup>			
			294.48	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>284.67</b>	<b>Kg/Cm<sup>2</sup></b>			
11	Reinforced Cement concrete cube of mix 1 : 1.5 : 3, cast on 08 / 05 /2019, RCC for floor of barrage from Ch. 00 - 55 m.	28th day compressive strength	330.73	Kg/Cm <sup>2</sup>	265.00 Kg/Cm <sup>2</sup>	14.83	--- do---
			310.34	Kg/Cm <sup>2</sup>			
			271.83	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>304.30</b>	<b>Kg/Cm<sup>2</sup></b>			
12	Reinforced Cement concrete cube of mix 1 : 1.5 : 3, cast on 08 / 05 /2019, RCC for floor of barrage from Ch. 00 - 55 m.	28th day compressive strength	269.57	Kg/Cm <sup>2</sup>	265.00 Kg/Cm <sup>2</sup>	5.71	--- do---
			276.36	Kg/Cm <sup>2</sup>			
			294.48	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>280.14</b>	<b>Kg/Cm<sup>2</sup></b>			

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SR.NO.	DISCRIPTION OF SAMPLE	TESTED FOR	RESULTS		Max./Min.Value permissable	% above or below	REMARK
13	Reinforced Cement concrete cube of mix 1 : 1.5 : 3, cast on 08 / 05 /2019, RCC for floor of barrage from Ch. 00 - 55 m.	28th day compressive strength	280.89	Kg/Cm <sup>2</sup>	265.00 Kg/Cm <sup>2</sup>	4.57	Represents Qty. 20.00 Cum.
			292.22	Kg/Cm <sup>2</sup>			
			258.24	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>277.12</b>	<b>Kg/Cm<sup>2</sup></b>			
14	Reinforced Cement concrete cube of mix 1 : 1.5 : 3, cast on 08 / 05 /2019, RCC for floor of barrage from Ch. 00 - 55 m.	28th day compressive strength	271.83	Kg/Cm <sup>2</sup>	265.00 Kg/Cm <sup>2</sup>	3.43	--- do---
			287.69	Kg/Cm <sup>2</sup>			
			262.77	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>274.10</b>	<b>Kg/Cm<sup>2</sup></b>			
15	Reinforced Cement concrete cube of mix 1 : 1.5 : 3, cast on 08 / 05 /2019, RCC for floor of barrage from Ch. 00 - 55 m.	28th day compressive strength	274.10	Kg/Cm <sup>2</sup>	265.00 Kg/Cm <sup>2</sup>	6.57	--- do---
			305.81	Kg/Cm <sup>2</sup>			
			267.30	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>282.40</b>	<b>Kg/Cm<sup>2</sup></b>			
16	Reinforced Cement concrete cube of mix 1 : 1.5 : 3, cast on 08 / 05 /2019, RCC for floor of barrage from Ch. 00 - 55 m.	28th day compressive strength	287.69	Kg/Cm <sup>2</sup>	265.00 Kg/Cm <sup>2</sup>	5.14	--- do---
			269.57	Kg/Cm <sup>2</sup>			
			278.63	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>278.63</b>	<b>Kg/Cm<sup>2</sup></b>			
17	Reinforced Cement concrete cube of mix 1 : 1.5 : 3, cast on 08 / 05 /2019, RCC for floor of barrage from Ch. 00 - 55 m.	28th day compressive strength	269.57	Kg/Cm <sup>2</sup>	265.00 Kg/Cm <sup>2</sup>	4.00	--- do---
			285.42	Kg/Cm <sup>2</sup>			
			271.83	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>275.61</b>	<b>Kg/Cm<sup>2</sup></b>			
18	Reinforced Cement concrete cube of mix 1 : 1.5 : 3, cast on 08 / 05 /2019, RCC for floor of barrage from Ch. 00 - 55 m.	28th day compressive strength	292.22	Kg/Cm <sup>2</sup>	265.00 Kg/Cm <sup>2</sup>	5.14	--- do---
			262.77	Kg/Cm <sup>2</sup>			
			280.89	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>278.63</b>	<b>Kg/Cm<sup>2</sup></b>			
19	Reinforced Cement concrete cube of mix 1 : 1.5 : 3, cast on 08 / 05 /2019, RCC for floor of barrage from Ch. 00 - 55 m.	28th day compressive strength	303.55	Kg/Cm <sup>2</sup>	265.00 Kg/Cm <sup>2</sup>	9.70	--- do---
			271.83	Kg/Cm <sup>2</sup>			
			296.75	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>290.71</b>	<b>Kg/Cm<sup>2</sup></b>			
20	Reinforced Cement concrete cube of mix 1 : 1.5 : 3, cast on 08 / 05 /2019, RCC for floor of barrage from Ch. 00 - 55 m.	28th day compressive strength	289.95	Kg/Cm <sup>2</sup>	265.00 Kg/Cm <sup>2</sup>	15.40	--- do---
			310.34	Kg/Cm <sup>2</sup>			
			317.14	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>305.81</b>	<b>Kg/Cm<sup>2</sup></b>			

Copy to: 1. 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.

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