

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

Test Report No.: WRD/QC/F.6-2/Cube -T -7981 To 7984,7986 To 7989,7993 To 7996,8007 To 8010,/Lab/ **338** / 2019 -20

Dated:- 16 / 12 / 2019

8022 To 8025,8034 To 8037,8055 To 8058,8065 To 8072,

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

Name of Work: - Improvement to the R.B.M.C. of T.I.P. by providing 100 mm thick RCC lining from Ch. 0.00 Kms To Ch, 6.020 Kms excluding Hassapur aqueduct and Kalna aqueduct between Ch.4.165 Kms To Ch. 4.227 Kms and Ch. 4.772 Kms To Ch. 5.117 Kms at Village Ankane, Hassapur and Hali in Pernem Taluka.

Ref. to Requisition No.: - SDI/WDVII/WRD /F.353/2019-20/ **215** Dated :- 19-11-2019

Qty. Recived. : 36 Sets of cube Date of Receipt: - 21/11/2019. Tested on: -08/12/2019 To 16/12/2019 as per due dates Ref to CPWD :2002, Vol. I

Sample: RCC 1 : 1.5 : 3 Mix O.S No. : 1201 To 1204/AF, 2803 To 2806/SS,1206 To 1209,1218 To 1221/AF, 2820 To 2823,2835 To 2838,2856 To 2859/SS,626 To 629/SP,1229 To 1232/AF, Lab. Sample No.: 6893 To 6928. Tested By: - Mr.Anil R. Fadte,J.E.,Mrs. S. B. Naik Shirodkar. J.E., & Mr. S.M.Patri.A.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 cubes of mix 1:1.5:3 cast on 10 / 11 / 2019. RCC for canal lining from Ch.110 m To Ch. 170 m.	28th day compressive strength	296.75	Kg/Cm ³	265.00 Kg/Cm ²	7.14	Quantity Represents 80.00 m3 for four sets of cubes caste on 10/11/2019
			267.30	Kg/Cm ³			
			287.69	Kg/Cm ²			
			Average	283.91			
2	Reinforced Cement concrete cubes of mix 1:1.5:3 cast on 10 / 11 / 2019. RCC for canal lining from Ch.110 m To Ch. 170 m.	28 th day compressive strength	271.83	Kg/Cm ²	265.00 Kg/Cm ²	6.00	... Do
			294.48	Kg/Cm ²			
			276.36	Kg/Cm ²			
			Average	280.89			
3	Reinforced Cement concrete cubes of mix 1:1.5:3 cast on 10 / 11 / 2019. RCC for canal lining from Ch.110 m To Ch. 170 m.	28th day compressive strength	269.57	Kg/Cm ³	265.00 Kg/Cm ²	7.42	... Do
			296.75	Kg/Cm ³			
			287.69	Kg/Cm ²			
			Average	284.67			
4	Reinforced Cement concrete cubes of mix 1:1.5:3 cast on 10 / 11 / 2019. RCC for canal lining from Ch.110 m To Ch. 170 m.	28 th day compressive strength	287.69	Kg/Cm ²	265.00 Kg/Cm ²	5.43	... Do
			278.63	Kg/Cm ²			
			271.83	Kg/Cm ²			
			Average	279.38			
5	Reinforced Cement concrete cubes of mix 1:1.5:3 cast on 11 / 11 / 2019. RCC for canal lining from Ch.170 m To Ch. 230 m.	28th day compressive strength	330.73	Kg/Cm ³	265.00 Kg/Cm ²	25.94	Quantity Represents 80.00 m3 for four sets of cubes caste on 11/11/2019
			355.65	Kg/Cm ³			
			314.87	Kg/Cm ²			
			Average	333.75			

Junior Engineer

Assistant Engineer

SR.NO.	DISCRIPTION OF SAMPLE	TESTED FOR	RESULTS		Max./Min.Value permissable	% above or below	REMARK
6	Reinforced Cement concrete cubes of mix 1:1.5:3 cast on 11 / 11 / 2019. RCC for canal lining from Ch.170 m To Ch. 230 m.	28th day compressive strength	301.28	Kg/Cm ³	265.00 Kg/Cm ²	10.56	Quantity Represents 80.00 m3 for four sets of cubes caste on 11/11/2019
			339.79	Kg/Cm ³			
			237.85	Kg/Cm ²			
		Average	292.97	Kg/Cm²			
7	Reinforced Cement concrete cubes of mix 1:1.5:3 cast on 11 / 11 / 2019. RCC for canal lining from Ch.170 m To Ch. 230 m.	28 th day compressive strength	246.91	Kg/Cm ²	265.00 Kg/Cm ²	13.12	... Do
			344.32	Kg/Cm ²			
			308.08	Kg/Cm ²			
		Average	299.77	Kg/Cm²			
8	Reinforced Cement concrete cubes of mix 1:1.5:3 cast on 11 / 11 / 2019. RCC for canal lining from Ch.170 m To Ch. 230 m.	28th day compressive strength	292.22	Kg/Cm ³	265.00 Kg/Cm ²	12.55	... Do
			328.46	Kg/Cm ³			
			274.10	Kg/Cm ²			
		Average	298.26	Kg/Cm²			
9	Reinforced Cement concrete cubes of mix 1:1.5:3 cast on 12 / 11 / 2019. RCC for canal lining from Ch.230 m To Ch. 290 m.	28 th day compressive strength	344.32	Kg/Cm ²	265.00 Kg/Cm ²	29.08	Quantity Represents 80.00 m3 for four sets of cubes caste on 12/11/2019
			342.05	Kg/Cm ²			
			339.79	Kg/Cm ²			
		Average	342.05	Kg/Cm²			
10	Reinforced Cement concrete cubes of mix 1:1.5:3 cast on 12 / 11 / 2019. RCC for canal lining from Ch.230 m To Ch. 290 m.	28th day compressive strength	344.32	Kg/Cm ³	265.00 Kg/Cm ²	26.23	... Do
			317.14	Kg/Cm ³			
			342.05	Kg/Cm ²			
		Average	334.50	Kg/Cm²			
11	Reinforced Cement concrete cubes of mix 1:1.5:3 cast on 12 / 11 / 2019. RCC for canal lining from Ch.230 m To Ch. 290 m.	28 th day compressive strength	294.48	Kg/Cm ²	265.00 Kg/Cm ²	8.56	... Do
			271.83	Kg/Cm ²			
			296.75	Kg/Cm ²			
		Average	287.69	Kg/Cm²			
12	Reinforced Cement concrete cubes of mix 1:1.5:3 cast on 12 / 11 / 2019. RCC for canal lining from Ch.230 m To Ch. 290 m.	28 th day compressive strength	330.73	Kg/Cm ²	265.00 Kg/Cm ²	27.65	... Do
			344.32	Kg/Cm ²			
			339.79	Kg/Cm ²			
		Average	338.28	Kg/Cm²			
13	Reinforced Cement concrete cubes of mix 1:1.5:3 cast on 13 / 11 / 2019. RCC for canal lining from Ch.290 m To Ch. 350 m.	28 th day compressive strength	276.36	Kg/Cm ²	265.00 Kg/Cm ²	8.56	Quantity Represents 80.00 m3 for four sets of cubes caste on 13/11/2019
			262.77	Kg/Cm ²			
			323.93	Kg/Cm ²			
		Average	287.69	Kg/Cm²			

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SR.NO.	DISCRIPTION OF SAMPLE	TESTED FOR	RESULTS		Max./Min.Value permissable	% above or below	REMARK
14	Reinforced Cement concrete cubes of mix 1:1.5:3 cast on 13 / 11 / 2019. RCC for canal lining from Ch.290 m To Ch. 350 m.	28th day compressive strength	339.79	Kg/Cm ³	265.00 Kg/Cm ²	27.65	Quantity Represents 80.00 m3 for four sets of cubes caste on 13/11/2019
			344.32	Kg/Cm ³			
			330.73	Kg/Cm ²			
		Average	338.28	Kg/Cm²			
15	Reinforced Cement concrete cubes of mix 1:1.5:3 cast on 13 / 11 / 2019. RCC for canal lining from Ch.290 m To Ch. 350 m.	28 th day compressive strength	344.32	Kg/Cm ²	265.00 Kg/Cm ²	24.23	... Do
			317.14	Kg/Cm ²			
			326.20	Kg/Cm ²			
		Average	329.22	Kg/Cm²			
16	Reinforced Cement concrete cubes of mix 1:1.5:3 cast on 13 / 11 / 2019. RCC for canal lining from Ch.290 m To Ch. 350 m.	28th day compressive strength	285.42	Kg/Cm ³	265.00 Kg/Cm ²	13.98	... Do
			321.67	Kg/Cm ³			
			299.01	Kg/Cm ²			
		Average	302.03	Kg/Cm²			
17	Reinforced Cement concrete cubes of mix 1:1.5:3 cast on 14 / 11 / 2019. RCC for canal lining from Ch.350 m To Ch. 410 m.	28 th day compressive strength	335.26	Kg/Cm ²	265.00 Kg/Cm ²	23.09	Quantity Represents 80.00 m3 for four sets of cubes caste on 14/11/2019
			326.20	Kg/Cm ²			
			317.14	Kg/Cm ²			
		Average	326.20	Kg/Cm²			
18	Reinforced Cement concrete cubes of mix 1:1.5:3 cast on 14 / 11 / 2019. RCC for canal lining from Ch.350 m To Ch. 410 m.	28 th day compressive strength	271.83	Kg/Cm ²	265.00 Kg/Cm ²	3.72	... Do
			283.16	Kg/Cm ²			
			269.57	Kg/Cm ²			
		Average	274.85	Kg/Cm²			
19	Reinforced Cement concrete cubes of mix 1:1.5:3 cast on 14 / 11 / 2019. RCC for canal lining from Ch.350 m To Ch. 410 m.	28th day compressive strength	323.93	Kg/Cm ³	265.00 Kg/Cm ²	16.82	... Do
			310.34	Kg/Cm ³			
			294.48	Kg/Cm ²			
		Average	309.59	Kg/Cm²			
20	Reinforced Cement concrete cubes of mix 1:1.5:3 cast on 14 / 11 / 2019. RCC for canal lining from Ch.350 m To Ch. 410 m.	28 th day compressive strength	328.46	Kg/Cm ²	265.00 Kg/Cm ²	20.53	... Do
			321.67	Kg/Cm ²			
			308.08	Kg/Cm ²			
		Average	319.40	Kg/Cm²			
21	Reinforced Cement concrete cubes of mix 1:1.5:3 cast on 15 / 11 / 2019. RCC for canal lining from Ch.410 m To Ch. 470 m.	28 th day compressive strength	305.81	Kg/Cm ²	265.00 Kg/Cm ²	6.85	Quantity Represents 80.00 m3 for four sets of cubes caste on 15/11/2019
			258.24	Kg/Cm ²			
			285.42	Kg/Cm ²			
		Average	283.16	Kg/Cm²			

Junior Engineer

Assistant Engineer

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SR.NO.	DISCRIPTION OF SAMPLE	TESTED FOR	RESULTS		Max./Min.Value permissable	% above or below	REMARK
22	Reinforced Cement concrete cubes of mix 1:1.5:3 cast on 15 / 11 / 2019. RCC for canal lining from Ch.410 m To Ch. 470 m.	28th day compressive strength	310.34	Kg/Cm ³	265.00 Kg/Cm ²	11.13	Quantity Represents 80.00 m3 for four sets of cubes caste on 15/11/2019
			294.48	Kg/Cm ³			
			278.63	Kg/Cm ²			
		Average	294.48	Kg/Cm²			
23	Reinforced Cement concrete cubes of mix 1:1.5:3 cast on 15 / 11 / 2019. RCC for canal lining from Ch.410 m To Ch. 470 m.	28 th day compressive strength	265.04	Kg/Cm ²	265.00 Kg/Cm ²	1.44	... Do
			269.57	Kg/Cm ²			
			271.83	Kg/Cm ²			
		Average	268.81	Kg/Cm²			
24	Reinforced Cement concrete cubes of mix 1:1.5:3 cast on 15 / 11 / 2019. RCC for canal lining from Ch.410 m To Ch. 470 m.	28th day compressive strength	271.83	Kg/Cm ³	265.00 Kg/Cm ²	2.29	... Do
			265.04	Kg/Cm ³			
			276.36	Kg/Cm ²			
		Average	271.08	Kg/Cm²			
25	Reinforced Cement concrete cubes of mix 1:1.5:3 cast on 16 / 11 / 2019. RCC for canal lining from Ch.470 m To Ch. 530 m.	28 th day compressive strength	339.79	Kg/Cm ²	265.00 Kg/Cm ²	25.94	Quantity Represents 80.00 m3 for four sets of cubes caste on 16/11/2019
			344.32	Kg/Cm ²			
			317.14	Kg/Cm ²			
		Average	333.75	Kg/Cm²			
26	Reinforced Cement concrete cubes of mix 1:1.5:3 cast on 16 / 11 / 2019. RCC for canal lining from Ch.470 m To Ch. 530 m.	28 th day compressive strength	249.18	Kg/Cm ²	265.00 Kg/Cm ²	7.14	... Do
			317.14	Kg/Cm ²			
			285.42	Kg/Cm ²			
		Average	283.91	Kg/Cm²			
27	Reinforced Cement concrete cubes of mix 1:1.5:3 cast on 16 / 11 / 2019. RCC for canal lining from Ch.470 m To Ch. 530 m.	28th day compressive strength	258.24	Kg/Cm ³	265.00 Kg/Cm ²	2.29	... Do
			283.16	Kg/Cm ³			
			271.83	Kg/Cm ²			
		Average	271.08	Kg/Cm²			
28	Reinforced Cement concrete cubes of mix 1:1.5:3 cast on 16 / 11 / 2019. RCC for canal lining from Ch.470 m To Ch. 530 m.	28 th day compressive strength	332.99	Kg/Cm ²	265.00 Kg/Cm ²	9.99	... Do
			283.16	Kg/Cm ²			
			258.24	Kg/Cm ²			
		Average	291.46	Kg/Cm²			
29	Reinforced Cement concrete cubes of mix 1:1.5:3 cast on 17 / 11 / 2019. RCC for canal lining from Ch.530 m To Ch. 590 m.	28 th day compressive strength	260.51	Kg/Cm ²	265.00 Kg/Cm ²	18.25	Quantity Represents 80.00 m3 for four sets of cubes caste on 17/11/2019
			339.79	Kg/Cm ²			
			339.79	Kg/Cm ²			
		Average	313.36	Kg/Cm²			

Junior Engineer

Assistant Engineer

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SR.NO.	DISCRIPTION OF SAMPLE	TESTED FOR	RESULTS		Max./Min.Value permissible	% above or below	REMARK
30	Reinforced Cement concrete cubes of mix 1:1.5:3 cast on 17 / 11 / 2019. RCC for canal lining from Ch.530 m To Ch. 590 m.	28th day compressive strength	317.14	Kg/Cm ³	265.00 Kg/Cm ²	13.41	Quantity Represents 80.00 m3 for four sets of cubes caste on 17/11/2019
			278.63	Kg/Cm ³			
			305.81	Kg/Cm ²			
		Average	300.52	Kg/Cm²			
31	Reinforced Cement concrete cubes of mix 1:1.5:3 cast on 17 / 11 / 2019. RCC for canal lining from Ch.530 m To Ch. 590 m.	28 th day compressive strength	323.93	Kg/Cm ²	265.00 Kg/Cm ²	17.39	... Do
			326.20	Kg/Cm ²			
			283.16	Kg/Cm ²			
		Average	311.10	Kg/Cm²			
32	Reinforced Cement concrete cubes of mix 1:1.5:3 cast on 17 / 11 / 2019. RCC for canal lining from Ch.530 m To Ch. 590 m.	28th day compressive strength	344.32	Kg/Cm ³	265.00 Kg/Cm ²	27.65	... Do
			342.05	Kg/Cm ³			
			328.46	Kg/Cm ²			
		Average	338.28	Kg/Cm²			
33	Reinforced Cement concrete cubes of mix 1:1.5:3 cast on 18 / 11 / 2019. RCC for canal lining from Ch.590 m To Ch. 650 m.	28 th day compressive strength	299.01	Kg/Cm ²	265.00 Kg/Cm ²	17.68	Quantity Represents 80.00 m3 for four sets of cubes caste on 18/11/2019
			305.81	Kg/Cm ²			
			330.73	Kg/Cm ²			
		Average	311.85	Kg/Cm²			
34	Reinforced Cement concrete cubes of mix 1:1.5:3 cast on 18 / 11 / 2019. RCC for canal lining from Ch.590 m To Ch. 650 m.	28 th day compressive strength	303.55	Kg/Cm ²	265.00 Kg/Cm ²	20.81	... Do
			330.73	Kg/Cm ²			
			326.20	Kg/Cm ²			
		Average	320.16	Kg/Cm²			
35	Reinforced Cement concrete cubes of mix 1:1.5:3 cast on 18 / 11 / 2019. RCC for canal lining from Ch.590 m To Ch. 650 m.	28th day compressive strength	274.10	Kg/Cm ³	265.00 Kg/Cm ²	5.14	... Do
			296.75	Kg/Cm ³			
			265.04	Kg/Cm ²			
		Average	278.63	Kg/Cm²			
36	Reinforced Cement concrete cubes of mix 1:1.5:3 cast on 18 / 11 / 2019. RCC for canal lining from Ch.590 m To Ch. 650 m.	28th day compressive strength	287.69	Kg/Cm ³	265.00 Kg/Cm ²	15.69	... Do
			289.95	Kg/Cm ³			
			342.05	Kg/Cm ²			
		Average	306.57	Kg/Cm²			

Copy to: 1. The Assistant Engineer Sub Division - I , W.D. -VII , WRD , Dhargal -Pernem- Goa.

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

3. Copy submitted to the Executive Engineer ,Works Division - VII,WRD , Dhargal - Pernem- Goa.

4. QC Lab File. 5. Bill File.

Junior Engineer

Assistant Engineer