

GOVERNMENT OF GOA  
QUALITY CONTROL LABORATORY  
WATER RESOURCES DEPARTMENT

Test Report No.: WRD / QC / F.6-2 / Cube -T :1180,1181,1218 to 1220,1228 to 1230/ Lab / 315/ 2020 - 21 Dated:- 26/ 03 / 2021. Laboratory : Bicholim - Goa  
,1277 to 1279, 1289 to 1291,1320 to 1324,1339 to 1341 Sub Division V (QC)/WRD/ Bicholim-

**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. Part I- Construction of Barrage providing and laying 1000mm dia D.Ipipe Rising main and Break Pressure Tank at Ganjem in Sattari**

Ref. to Requisition No.:WRD/ WDV/SDI/F.W.215/2020-21/566 Dated :- 03/ 03 / 2021.

Qty. Recived. :22 Sets of cube Date of Receipt:- 04/ 03 / 2021. Tested on: -04,06,08,11,12,16 & 17/03/21 as per due dates. Ref to CPWD :2009, Vol. I

Sample: Cube Mix 1:1.5:3 & M 35 O.S No.:5264,5265,5308 to 5310,5318 to 5320,5371 to 5373,5390,5391,5428 to 5432,5450 to 5452/SS Lab. Sample No.:702 to 723 Tested By: Mrs. S.B. Naik Shirodkar. J.E.

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SR. NO	DISCRIPTION OF SAMPLE	TESTED FOR	RESULTS		Max./Min.Valu e permissable	% above or below	REMARK
1	Cement concrete cube of mix <b>1 : 1.5: 3</b> , cast on 04/02/2021. RCC for Pier P5-11.85m to 13.05m	28 <sup>th</sup> day compressive strenath	292.22	Ka/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	5.43	Qty represents - 13.50 Cum for two sets of cubes.
			262.77	Ka/Cm <sup>2</sup>			
			283.16	Ka/Cm <sup>2</sup>			
			<b>Average</b>	<b>279.38</b>			
2	Cement concrete cube of mix <b>1 : 1.5: 3</b> , cast on 04/02/2021. RCC for Pier P5-11.85m to 13.05m	28 <sup>th</sup> day compressive strenath	283.16	Ka/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	10.56	----- do -----
			292.22	Ka/Cm <sup>2</sup>			
			303.55	Ka/Cm <sup>2</sup>			
			<b>Average</b>	<b>292.97</b>			
3	Cement concrete cube of mix <b>1 : 1.5: 3</b> , cast on 06/02/2021. RCC for Pier P6-11.85m to 13.05m	28 <sup>th</sup> day compressive strenath	294.48	Ka/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	6.57	Qty represents - 13.50 Cum for two sets of cubes.
			260.51	Ka/Cm <sup>2</sup>			
			292.22	Ka/Cm <sup>2</sup>			
			<b>Average</b>	<b>282.40</b>			
4	Cement concrete cube of mix <b>1 : 1.5: 3</b> , cast on 06/02/2021. RCC for Pier P6-11.85m to 13.05m	28 <sup>th</sup> day compressive strenath	303.55	Ka/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	13.12	----- do -----
			305.81	Ka/Cm <sup>2</sup>			
			289.95	Ka/Cm <sup>2</sup>			
			<b>Average</b>	<b>299.77</b>			
5	Cement concrete cube of mix <b>1 : 1.5: 3</b> , cast on 06/02/2021. RCC for secondary concrete at crest of first opening.	28 <sup>th</sup> day compressive strenath	294.48	Ka/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	6.57	Qty represents - 13.50 Cum for two sets of cubes.
			280.89	Ka/Cm <sup>2</sup>			
			271.83	Ka/Cm <sup>2</sup>			
			<b>Average</b>	<b>282.40</b>			
6	Cement concrete cube of mix <b>1 : 1.5: 3</b> , cast on 08/02/2021. RCC for Pier P7-10.80m to 11.85m	28 <sup>th</sup> day compressive strenath	289.95	Ka/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	4.00	Qty represents - 12.00 Cum for two sets of cubes.
			253.71	Ka/Cm <sup>2</sup>			
			283.16	Ka/Cm <sup>2</sup>			
			<b>Average</b>	<b>275.61</b>			

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<b>SR. NO</b>	<b>DISCRIPTION OF SAMPLE</b>	<b>TESTED FOR</b>	<b>RESULTS</b>		<b>Max./Min.Value permissible</b>	<b>% above or below</b>	<b>REMARK</b>
7	Cement concrete cube of mix <b>1 : 1.5: 3</b> , cast on 08/02/2021. RCC for Pier P7-10.80m to 11.85m	28 <sup>th</sup> day compressive strength	292.22	Kg/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	6.28	Qty represents - 12.00 Cum for two sets of cubes.
			271.83	Kg/Cm <sup>2</sup>			
			280.89	Kg/Cm <sup>2</sup>			
			<b>Average</b>	<b>281.65</b>			
8	Cement concrete cube of mix <b>1 : 1.5: 3</b> , cast on 08/02/2021. RCC for secondary concrete at crest of second opening.	28 <sup>th</sup> day compressive strength	285.42	Kg/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	5.43	Qty represents - 19.00 Cum .
			292.22	Kg/Cm <sup>2</sup>			
			260.51	Kg/Cm <sup>2</sup>			
			<b>Average</b>	<b>279.38</b>			
9	Cement concrete cube of mix <b>1 : 1.5: 3</b> , cast on 11/02/2021. RCC for Pier P8-6.00m to 7.20m	28 <sup>th</sup> day compressive strength	289.95	Kg/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	6.28	Qty represents - 13.50 Cum for two sets of cubes.
			271.83	Kg/Cm <sup>2</sup>			
			283.16	Kg/Cm <sup>2</sup>			
			<b>Average</b>	<b>281.65</b>			
10	Cement concrete cube of mix <b>1 : 1.5: 3</b> , cast on 11/02/2021. RCC for Pier P8-6.00m to 7.20m	28 <sup>th</sup> day compressive strength	274.10	Kg/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	8.28	----- do -----
			283.16	Kg/Cm <sup>2</sup>			
			303.55	Kg/Cm <sup>2</sup>			
			<b>Average</b>	<b>286.93</b>			
11	Cement concrete cube of mix <b>1 : 1.5: 3</b> , cast on 11/02/2021. RCC for secondary concrete at crest of third opening.	28 <sup>th</sup> day compressive strength	296.75	Kg/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	8.28	Qty represents - 19.00 Cum.
			271.83	Kg/Cm <sup>2</sup>			
			292.22	Kg/Cm <sup>2</sup>			
			<b>Average</b>	<b>286.93</b>			
12	Cement concrete cube of mix <b>1 : 1.5: 3</b> , cast on 12/02/2021. RCC for Pier P9-6.00m to 7.20m	28 <sup>th</sup> day compressive strength	274.10	Kg/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	4.00	Qty represents - 13.50 Cum for two sets of cubes.
			269.57	Kg/Cm <sup>2</sup>			
			283.16	Kg/Cm <sup>2</sup>			
			<b>Average</b>	<b>275.61</b>			
13	Cement concrete cube of mix <b>1 : 1.5: 3</b> , cast on 12/02/2021. RCC for Pier P9-6.00m to 7.20m	28 <sup>th</sup> day compressive strength	271.83	Kg/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	7.42	----- do -----
			305.81	Kg/Cm <sup>2</sup>			
			276.36	Kg/Cm <sup>2</sup>			
			<b>Average</b>	<b>284.67</b>			

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<b>SR. NO</b>	<b>DISCRIPTION OF SAMPLE</b>	<b>TESTED FOR</b>	<b>RESULTS</b>		<b>Max./Min. Value permissible</b>	<b>% above or below</b>	<b>REMARK</b>
14	Cement concrete cube of mix <b>1 : 1.5: 3</b> , cast on 12/02/2021. RCC for secondary concrete at crest of fourth opening.	28 <sup>th</sup> day compressive strength	271.83	Kg/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	8.85	Qty represents - 19.00 Cum.
			305.81	Kg/Cm <sup>2</sup>			
			287.69	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>288.44</b>	<b>Kg/Cm<sup>2</sup></b>			
15	Cement concrete cube of mix <b>M 35</b> , cast on 16/02/2021. RCC for 4 <sup>th</sup> span of service bridge of barrage.	28 <sup>th</sup> day compressive strength	280.89	Kg/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	5.71	Qty represents - 9.00 Cum for five sets of cubes.
			269.57	Kg/Cm <sup>2</sup>			
			289.95	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>280.14</b>	<b>Kg/Cm<sup>2</sup></b>			
16	Cement concrete cube of mix <b>M 35</b> , cast on 16/02/2021. RCC for 4 <sup>th</sup> span of service bridge of barrage.	28 <sup>th</sup> day compressive strength	287.69	Kg/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	9.70	----- do -----
			280.89	Kg/Cm <sup>2</sup>			
			303.55	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>290.71</b>	<b>Kg/Cm<sup>2</sup></b>			
17	Cement concrete cube of mix <b>M 35</b> , cast on 16/02/2021. RCC for 4 <sup>th</sup> span of service bridge of barrage.	28 <sup>th</sup> day compressive strength	283.16	Kg/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	11.13	----- do -----
			294.48	Kg/Cm <sup>2</sup>			
			305.81	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>294.48</b>	<b>Kg/Cm<sup>2</sup></b>			
18	Cement concrete cube of mix <b>M 35</b> , cast on 16/02/2021. RCC for 4 <sup>th</sup> span of service bridge of barrage.	28 <sup>th</sup> day compressive strength	276.36	Kg/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	4.86	----- do -----
			271.83	Kg/Cm <sup>2</sup>			
			285.42	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>277.87</b>	<b>Kg/Cm<sup>2</sup></b>			
19	Cement concrete cube of mix <b>1: 1.5:3</b> , cast on 16/02/2021. RCC for secondary concrete at crest of fifth opening.	28 <sup>th</sup> day compressive strength	308.08	Kg/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	10.27	Qty represents - 19.00 Cum.
			276.36	Kg/Cm <sup>2</sup>			
			292.22	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>292.22</b>	<b>Kg/Cm<sup>2</sup></b>			
20	Cement concrete cube of mix <b>1 : 1.5: 3</b> , cast on 17/02/2021. RCC for Pier P7-11.85m to 13.05m	28 <sup>th</sup> day compressive strength	289.95	Kg/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	9.70	Qty represents - 13.50 Cum for two sets of cubes.
			310.34	Kg/Cm <sup>2</sup>			
			271.83	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>290.71</b>	<b>Kg/Cm<sup>2</sup></b>			

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21	Cement concrete cube of mix <b>1 : 1.5: 3</b> , cast on 17/02/2021. RCC for Pier P7-11.85m to 13.05m	28 <sup>th</sup> day compressive strength	292.22	Kg/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	6.00	Qty represents - 13.50 Cum for two sets of cubes.
			271.83	Kg/Cm <sup>2</sup>			
			278.63	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>280.89</b>	<b>Kg/Cm<sup>2</sup></b>			
22	Cement concrete cube of mix <b>1 : 1.5: 3</b> , cast on 12/02/2021. RCC for secondary concrete at crest of sixth opening.	28 <sup>th</sup> day compressive strength	294.48	Kg/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	4.57	Qty represents - 19.00 Cum.
			258.24	Kg/Cm <sup>2</sup>			
			278.63	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>277.12</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 , WD VI ,WRD, Bicholim- Goa.

4. QC Lab File.      5. Bill File.

Junior Engineer

Assistant Engineer