## GOVERNMENT OF GOA QUALITY CONTROL LABORATORY WATER RESOURCES DEPARTMENT

Test Report No.: WRD / QC / F.6-2 / Cube -T : 1059,1060,1094,1095,1110,1111,/ Lab / **293**/ 2020 - 21 Dated: 15 /03/ 2021. 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. Part I-Construction of Barrage providing and laying 1000mm dia D.Ipipe Rising main and Break Pressure Tank at Ganjem in Sattari Taluka.

Ref. to Requisition No.:WRD/ SDI/WDVI/F.W.215/2020-21/516 Dated :- 09/ 02 / 2021.

Qty. Recived. :18 Sets of cube Date of Receipt:- 09/ 02 / 2021. Tested on: -19,22,24,25,26,27/02/21 & 02,09/03/2021 as per due dates. Ref to CPWD :2009, Vol. I Sample: Cube Mix 1:1.5:3 & M 35 O.S No.5124,5125,5160,5161,5179,5180,5183 to 5186,5188 to 5191,5216,5217,5339,5340 /SS Lab. Sample No.: 397 to 414 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
		28 <sup>th</sup> day	271.83	Kg/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	10.27	Qty represents - 13.50 Cum.
	Cement concrete cube of mix 1:1.5: 3, cast on	compressive	308.08	Kg/Cm <sup>2</sup>			
'	22/01/2021. RCC For Pier P6-8.40m to 9.60m.	strength	296.75	Kg/Cm <sup>2</sup>			Gty represents - 13.30 cum.
		Average	292.22	Kg/Cm <sup>2</sup>			
		28 <sup>th</sup> day	289.95	Kg/Cm <sup>2</sup>		6.85	
2	Cement concrete cube of mix 1:1.5: 3, cast on	compressive	283.16	Kg/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>		Oty represents - 13.50 Cum.
-	22/01/2021. RCC For Pier P6-8.40m to 9.60m.	strength	276.36	Kg/Cm <sup>2</sup>			Gty represents - 13.30 cum.
		Average	283.16	Kg/Cm <sup>2</sup>			
		28 <sup>th</sup> day	294.48	Kg/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	8.56	Oty represents - 13.50 Cum.
3	Cement concrete cube of mix <b>1:1.5: 3</b> , cast on 25/01/2021. RCC For Pier P7-8.40m to 9.60m.	compressive	296.75	Kg/Cm <sup>2</sup>			
٦		strength	271.83	Kg/Cm <sup>2</sup>			Gty represents - 13.30 cum.
		Average	287.69	Kg/Cm <sup>2</sup>			
	Cement concrete cube of mix 1:1.5: 3, cast on	28 <sup>th</sup> day	308.08	Kg/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	7.99	
4		compressive	283.16	Kg/Cm <sup>2</sup>			Oty represents - 13.50 Cum.
4	25/01/2021. RCC For Pier P7-8.40m to 9.60m.	strength	267.30	Kg/Cm <sup>2</sup>			Gty represents - 13.30 cum.
		Average	286.18	Kg/Cm <sup>2</sup>			
		28 <sup>th</sup> day	303.55	Kg/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	13.69	Qty represents - 13.50 Cum.
5	Cement concrete cube of mix 1:1.5: 3, cast on	compressive	296.75	Kg/Cm <sup>2</sup>			
	27/01/2021. RCC For Pier P6-9.60m to 10.80m.	strength	303.55	Kg/Cm <sup>2</sup>			Gty represents - 13.30 dum.
		Average	301.28	Kg/Cm <sup>2</sup>			
		28 <sup>th</sup> day	283.16	Kg/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	7.14	
6	Cement concrete cube of mix 1:1.5: 3, cast on	compressive	265.04	Kg/Cm <sup>2</sup>			Oty represents - 13.50 Cum.
	27/01/2021. RCC For Pier P6-9.60m to 10.80m.	strength	303.55	Kg/Cm <sup>2</sup>			Zty represents - 13.30 cum.
		Average	283.91	Kg/Cm <sup>2</sup>			

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SR. NO.	DISCRIPTION OF SAMPLE	TESTED FOR	RESULTS		Max./Min.Value permissable	% above or below	REMARK
		28 <sup>th</sup> day compressive strength	289.95	Kg/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	9.70	
	Cement concrete cube of mix 1:1.5: 3, cast on		305.81	Kg/Cm <sup>2</sup>			Qty represents - 13.50 Cum.
	28/01/2021. RCC For Pier P5-10.80m to 11.85m.		276.36	Kg/Cm <sup>2</sup>			Cty represents - 13.50 cum.
		Average	290.71	Kg/Cm <sup>2</sup>			
8		28 <sup>th</sup> day compressive strength	262.77	Kg/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	4.86	
	Cement concrete cube of mix 1:1.5: 3, cast on		292.22	Kg/Cm <sup>2</sup>			Oty represents - 13.50 Cum.
0	28/01/2021. RCC For Pier P5-10.80m to 11.85m.		278.63	Kg/Cm <sup>2</sup>			City represents - 13.50 cum.
		Average	277.87	Kg/Cm <sup>2</sup>			
		28 <sup>th</sup> day	285.42	Kg/Cm <sup>2</sup>			
9	Cement concrete cube of mix <b>1:1.5: 3</b> , cast on 28/01/2021. RCC For Pier P9-4.80m to 6.00m.	compressive	278.63 Kg/Cm <sup>2</sup>	2/ F 00 //a/am <sup>2</sup>	6.57	Oty represents - 13.50 Cum.	
9		strength	283.16	Kg/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	0.57	City represents - 13.50 cum.
		Average	282.40	Kg/Cm <sup>2</sup>			
		28 <sup>th</sup> day compressive strength	287.69	Kg/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	9.42	
10	Cement concrete cube of mix <b>1:1.5: 3</b> , cast on 28/01/2021. RCC For Pier P9-4.80m to 6.00m.		299.01	Kg/Cm <sup>2</sup>			Oty represents - 13.50 Cum.
10			283.16	Kg/Cm <sup>2</sup>			aty represents 10.00 dam.
		Average	289.95	Kg/Cm <sup>2</sup>			
		28 <sup>th</sup> day	292.22	Kg/Cm <sup>2</sup>	- 265.00 Kg/cm <sup>2</sup>	10.84	
11	Cement concrete cube of mix 1:1.5: 3, cast on	compressive	308.08	Kg/Cm <sup>2</sup>			Oty represents - 13.50 Cum.
	29/01/2021. RCC For Pier P6-10.80m to 11.85m.	strength	280.89	Kg/Cm <sup>2</sup>			aty represente 10.00 cum.
		Average	293.73	Kg/Cm <sup>2</sup>			
		28 <sup>th</sup> day	283.16	Kg/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	9.13	
12	Cement concrete cube of mix 1:1.5: 3, cast on	compressive	292.22	Kg/Cm <sup>2</sup>			Qty represents - 13.50 Cum.
-	29/01/2021. RCC For Pier P6-10.80m to 11.85m.	strength		Kg/Cm <sup>2</sup>			aty represente relect cum.
		Average	289.20	Kg/Cm <sup>2</sup>			
		28 <sup>th</sup> day	271.83	Kg/Cm <sup>2</sup>		5.71	
13	Cement concrete cube of mix 1:1.5: 3, cast on	compressive	283.16	Kg/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>		Qty represents - 13.50 Cum.
	30/01/2021. RCC For Pier P7-9.60m to 10.80m.	strength	285.42	Kg/Cm <sup>2</sup>			aty roprosonts Total cann
		Average	280.14	Kg/Cm <sup>2</sup>			

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SR. NO.	DISCRIPTION OF SAMPLE	TESTED FOR	RESULTS		Max./Min.Value permissable	% above or below	REMARK	
		28 <sup>th</sup> day compressive	283.16	Kg/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	10.84		
14	Cement concrete cube of mix <b>1:1.5: 3</b> , cast on 30/01/2021. RCC For Pier P7-9.60m to 10.80m.		294.48	Kg/Cm <sup>2</sup>			Otra managements 12 FO Cours	
14		strength	303.55	Kg/Cm <sup>2</sup>			Qty represents - 13.50 Cum.	
		Average	293.73	Kg/Cm <sup>2</sup>				
		28 <sup>th</sup> day compressive strength	421.34	Kg/Cm <sup>2</sup>	400.00 Kg/cm <sup>2</sup>	2.69		
	Cement concrete cube of mix <b>M 35</b> , cast on 02/02/2021. RCC For 2 <sup>nd</sup> span of service bridge of barrage.		412.28	Kg/Cm <sup>2</sup>			Oturanrasanta 10.00 Cum	
			398.69	Kg/Cm <sup>2</sup>			Qty represents - 18.00 Cum.	
		Average	410.77	Kg/Cm <sup>2</sup>				
	Cement concrete cube of mix <b>M 35</b> , cast on 02/02/2021. RCC For 2 <sup>nd</sup> span of service bridge of barrage.	28 <sup>th</sup> day compressive strength	405.48	Kg/Cm <sup>2</sup>	400.00 Kg/cm <sup>2</sup>	3.45		
			407.75	Kg/Cm <sup>2</sup>			Otyroprosonts 10.00 Cum	
			428.13	Kg/Cm <sup>2</sup>			Qty represents - 18.00 Cum.	
		Average	413.79	Kg/Cm <sup>2</sup>				
		compressive 434.	410.01	Kg/Cm <sup>2</sup>	400.00 Kg/cm <sup>2</sup>	3.26		
17	Cement concrete cube of mix <b>M 35</b> , cast on 09/02/2021. RCC For 3 <sup>rd</sup> span of service bridge of barrage.		434.93	Kg/Cm <sup>2</sup>			Qty represents - 18.00 Cum.	
			394.16	Kg/Cm <sup>2</sup>			Cty represents - 16.00 cum.	
	Salvago.	Average	413.03	Kg/Cm <sup>2</sup>				
	0 1 5 1 10 5	28 <sup>th</sup> day compressive strength	403.22	Kg/Cm <sup>2</sup>	- 400.00 Kg/cm <sup>2</sup>	2.31		
	Cement concrete cube of mix <b>M 35</b> , cast on		398.69	Kg/Cm <sup>2</sup>			Otyroprosonts 19.00 Cum	
	09/02/2021. RCC For 3 <sup>rd</sup> span of service bridge of barrage.		425.87	Kg/Cm <sup>2</sup>			Qty represents - 18.00 Cum.	
	Surrayo.	Average	409.26	Kg/Cm <sup>2</sup>			 	

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

<sup>2.</sup> Copy submitted to The Superintending Engineer ,CPO,WRD, Sinchai Bhavan, Porvorim Goa for kind Information.

<sup>3.</sup> Copy submitted to The Executive Engineer , WD VI ,WRD, Bicholim-Goa.

<sup>4.</sup> QC Lab File. 5. Bill File.