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.

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SR.NO.	DISCRIPTION OF SAMPLE	TESTED FOR	RESULTS		Max./Min.Value permissable	% above or below	REMARK
	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 Average	314.87 292.22 299.01 302.03	Kg/Cm ² Kg/Cm ² Kg/Cm ² Kg/Cm ²	265.00 Kg/Cm ²	13.98	Represents Qty. 16.00 Cum.
	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 Average	319.40 301.28 323.93 314.87	Kg/Cm ² Kg/Cm ² Kg/Cm ²	265.00 Kg/Cm ²	18.82	Represents Qty. 16.00 Cum.
	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 Average	303.55 289.95 292.22 295.24	Kg/Cm ² Kg/Cm ² Kg/Cm ² Kg/Cm ²	265.00 Kg/Cm ²	11.41	Represents Qty. 20.00 Cum.
	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 Average	285.42 305.81 287.69 292.97	Kg/Cm ² Kg/Cm ² Kg/Cm ² Kg/Cm ²	265.00 Kg/Cm ²	10.56	Represents Qty. 20.00 Cum.
	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 Average	321.67 310.34 296.75 309.59	Kg/Cm ² Kg/Cm ² Kg/Cm ² Kg/Cm ²	265.00 Kg/Cm ²	16.82	Represents Qty. 20.00 Cum.
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 Average	292.22 299.01 285.42 292.22	Kg/Cm ² Kg/Cm ² Kg/Cm ² Kg/Cm ²	265.00 Kg/Cm ²	10.27	Represents Qty. 13.50 Cum.

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SR.NO.	DISCRIPTION OF SAMPLE	TESTED FOR	RES	SULTS	Max./Min.Value	% above or	REMARK
		28th day	280.89	Kg/Cm ²	permissable	below	
7	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 27/02/2020. RCC for Pier , P - 1 , first lift.	compressive	292.22	Kg/Cm ²	265.00 Kg/Cm ²	10.56	
		strength	305.81	Kg/Cm ²			Represents Qty. 13.50 Cum.
	Cast On 27/02/2020. Nee for rier , r = 1 , ill st lift.		292.97	Kg/Cm ²	1		
		Average 28th day	294.48	Kg/Cm ²			
	Reinforced Cement concrete cube of mix 1:1.5:3,	compressive	276.36	Kg/Cm ²	265.00 Kg/Cm ²		Represents Qty. 13.50 Cum.
8	cast on 27/02/2020. RCC for Pier , P - 2 , first lift.	strength	303.55	Kg/Cm ²		9.99	
		Average	291.46	Kg/Cm ²	1		
		28th day	278.63	Kg/Cm ²			
	Reinforced Cement concrete cube of mix 1:1.5:3,	compressive	299.01	Kg/Cm ²	265 00 1/ 10 2	0.20	Depresents Otyl 12 FO Com
9	cast on 27/02/2020. RCC for Pier , P - 2 , first lift.	strength	283.16	Kg/Cm ²	265.00 Kg/Cm ²	8.28	Represents Qty. 13.50 Cum.
		Average	286.93	Kg/Cm ²	1		
		28th day	294.48	Kg/Cm ²		9.42	Represents Qty. 13.50 Cum.
10	Reinforced Cement concrete cube of mix 1:1.5:3,	compressive	271.83	Kg/Cm ²	265.00 Kg/Cm ²		
10	cast on 27/02/2020. RCC for Pier , P - 3 , first lift.	strength	303.55	Kg/Cm ²	205.00 kg/Cili	9.42	Represents Qty. 13.30 cum.
		Average	289.95	Kg/Cm ²			
	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 27/02/2020. RCC for Pier , P - 3 , first lift.	28th day	280.89	Kg/Cm ²	265.00 Kg/Cm ²	8.85	Represents Qty. 13.50 Cum.
11		compressive	276.36	Kg/Cm ²			
1 11		strength	308.08	Kg/Cm ²			
		Average	288.44	Kg/Cm ²			
	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 28/02/2020. RCC for Pier , P - 4 , first lift.	28th day	278.63	Kg/Cm ²	265.00 Kg/Cm ²	6.85	Represents Qty. 13.50 Cum.
12		compressive	269.57	Kg/Cm ²			
		strength	301.28	Kg/Cm ²			
		Average	283.16	Kg/Cm ²			
	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 28/02/2020. RCC for Pier , P - 4 , first lift.	28th day	285.42	Kg/Cm ²	265.00 Kg/Cm ²	11.98	Represents Qty. 13.50 Cum.
13		compressive	294.48	Kg/Cm ²			
		strength	310.34	Kg/Cm ²			
		Average 28th day	296.75	Kg/Cm ²			
	Reinforced Cement concrete cube of mix 1:1.5:3,	compressive	289.95 299.01	Kg/Cm ² Kg/Cm ²			
14	cast on 28/02/2020. RCC for Pier , P - 5 , first lift.	strength	280.89	Kg/Cm ²	265.00 Kg/Cm ²	9.42	Represents Qty. 13.50 Cum.
	Cast On 20/02/2020. Nee for Field, F = 3 , Ill st lift.		289.95	Kg/Cm ²	1		
15	Reinforced Cement concrete cube of mix 1:1.5:3 ,	Average 28th day	312.61	Kg/Cm²		9.42	
		compressive	280.89	Kg/Cm ²	265.00 Kg/Cm ²		Represents Qty. 13.50 Cum.
	cast on 28/02/2020. RCC for Pier , P - 5 , first lift.	strength	276.36	Kg/Cm ²	203.00 Ng/ CIII] 3.72	15.50 Cuiii.
		Average 28th day	289.95	Kg/Cm ²			
	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 28/02/2020. RCC for retaining wall on LHS.	•	296.75	Kg/Cm ²	265.00 Kg/Cm ²	6.28	Represents Qty. 13.00 Cum.
		compressive	278.63	Kg/Cm ²			
		strength	269.57	Kg/Cm ²			
		Average	281.65	Kg/Cm ²			

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SR.NO.	DISCRIPTION OF SAMPLE	TESTED FOR	RES	SULTS	Max./Min.Value	% above or	REMARK
J	DISCINITION OF SANTILE				permissable	below	
17	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 29/02/2020. RCC for Abutment on LHS.	28th day	319.40	Kg/Cm ²	265.00 Kg/Cm ²	21.67	
		compressive	332.99	Kg/Cm ²			Represents Qty. 15.00 Cum.
		strength	314.87	Kg/Cm ²			Represents Qty. 13.00 cum.
		Average	322.42	Kg/Cm ²			
	Reinforced Cement concrete cube of mix 1:1.5:3 ,	28th day	294.48	Kg/Cm ²			
18		compressive	314.87	Kg/Cm ²	265.00 Kg/Cm ²	15.69	Represents Qty. 15.00 Cum.
	cast on 29/02/2020. RCC for Abutment on LHS.	strength	310.34	Kg/Cm ²	203.00 Kg/ Cm		
		Average	306.57	Kg/Cm ²			
	Reinforced Cement concrete cube of mix 1:1.5:3,	28th day	314.87	Kg/Cm ²			
19	cast on 29/02/2020. RCC for Pier , P -1 , second	compressive	328.46	Kg/Cm ²	265.00 Kg/Cm ²	19.39	Represents Qty. 13.50 Cum.
	lift.	strength	305.81	Kg/Cm ²	203.00 kg/Cili	19.39	Represents Qty. 15.50 cum.
	III C.	Average	316.38	Kg/Cm ²			
	Reinforced Cement concrete cube of mix 1:1.5:3,	28th day	278.63	Kg/Cm ²			Represents Qty. 13.50 Cum.
20	cast on 29/02/2020. RCC for Pier , P -1 , second lift.	compressive	269.57	Kg/Cm ²	265.00 Kg/Cm ²	7.42	
20		strength	305.81	Kg/Cm ²	265.00 kg/Cm		
		Average	284.67	Kg/Cm ²			
	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 29/02/2020. RCC for Pier , P - 2 , second lift.	28th day	317.14	Kg/Cm ²		13.12	Represents Qty. 13.50 Cum.
21		compressive	294.48	Kg/Cm ²	265.00 Kg/Cm ²		
		strength	287.69	Kg/Cm ²	203.00 kg/Cili		
		Average	299.77	Kg/Cm ²			
	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 29/02/2020. RCC for Pier , P - 2 , second lift.	28th day	314.87	Kg/Cm ²		10.56	Represents Qty. 13.50 Cum.
22		compressive	289.95	Kg/Cm ²	265.00 Kg/Cm ²		
22		strength	274.10	Kg/Cm ²			
		Average	292.97	Kg/Cm ²			
	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 29/02/2020. RCC for Pier , P - 3 , second lift.	28th day	276.36	Kg/Cm ²	265.00 Kg/Cm ²	10.56	Represents Qty. 13.50 Cum.
20		compressive	305.81	Kg/Cm ²			
23		strength	296.75	Kg/Cm ²			
		Average	292.97	Kg/Cm ²			
	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 29/02/2020. RCC for Pier , P - 3 , second lift.	28th day	317.14	Kg/Cm ²		20.24	Represents Qty. 13.50 Cum.
24		compressive	321.67	Kg/Cm ²	265.00 Kg/Cm ²		
		strength	317.14	Kg/Cm ²			
		Average	318.65	Kg/Cm ²			
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	278.63	Kg/Cm ²	265.00 Kg/Cm ²	6.57	Represents Qty. 20.00 Cum.
		compressive	269.57	Kg/Cm ²			
		strength	299.01	Kg/Cm ²			
		Average	282.40	Kg/Cm ²			

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SR.NO.	DISCRIPTION OF SAMPLE	TESTED FOR	RESULTS		Max./Min.Value	% above or	REMARK
					permissable	below	
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	283.16	Kg/Cm ²	265.00 Kg/Cm ²	12.27	
		compressive	299.01	Kg/Cm ²			Represents Qty. 20.00 Cum.
		strength	310.34	Kg/Cm ²			Represents Qty. 20:00 cum.
		Average	297.50	Kg/Cm ²			
	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 02/03/2020. RCC for retainin wall on LHS	28th day	287.69	Kg/Cm ²			Represents Qty. 20.00 Cum.
27		compressive	296.75	Kg/Cm ²	265.00 Kg/Cm ²	8.28	
	, D/S Floor first lift.	strength	276.36	Kg/Cm ²	203.00 Rg/CIII		
	, D/3 Floor first lift.	Average	286.93	Kg/Cm ²			
	Reinforced Cement concrete cube of mix 1:1.5:3,	28th day	305.81	Kg/Cm ²			
28	cast on 02/03/2020. RCC for Pier , P - 4 , second	compressive	276.36	Kg/Cm ²	265.00 Kg/Cm ²	8.28	Represents Qty. 13.50 Cum.
		strength	278.63	Kg/Cm ²	265.00 Kg/CIII	8.28	Represents Qty. 13.50 Cum.
	lift.	Average	286.93	Kg/Cm ²			
	Reinforced Cement concrete cube of mix 1:1.5:3,	28th day	301.28	Kg/Cm ²			Represents Qty. 13.50 Cum.
	cast on 02/03/2020. RCC for Pier , P - 4 , second lift.	compressive	278.63	Kg/Cm ²	265.00 Kg/Cm ²	6.85	
		strength	269.57	Kg/Cm ²	265.00 Kg/Cm		
		Average	283.16	Kg/Cm ²			
	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 02/03/2020. RCC for Pier , P - 5 , second lift.	28th day	274.10	Kg/Cm ²		6.28	Represents Qty. 13.50 Cum.
30		compressive	292.22	Kg/Cm ²	265.00 Kg/Cm ²		
		strength	278.63	Kg/Cm ²	205.00 kg/CIII		
		Average	281.65	Kg/Cm ²			
	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 02/03/2020. RCC for Pier , P - 5 , second lift.	28th day	303.55	Kg/Cm ²		6.57	Represents Qty. 13.50 Cum.
		compressive	276.36	Kg/Cm ²	265.00 Kg/Cm ²		
		strength	267.30	Kg/Cm ²			
		Average	282.40	Kg/Cm ²			
	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 03/03/2020. RCC for Pier , P -1 , third lift.	28th day	314.87	Kg/Cm ²	265.00 Kg/Cm ²	12.84	Represents Qty. 13.50 Cum.
32		compressive	287.69	Kg/Cm ²			
		strength	294.48	Kg/Cm ²			
		Average	299.01	Kg/Cm ²			
	Reinforced Cement concrete cube of mix 1:1.5:3,	28th day	319.40	Kg/Cm ²	265.00 Kg/Cm ²	18.53	Represents Qty. 13.50 Cum.
22	cast on 03/03/2020. RCC for Pier , P -1 , third lift.	compressive	299.01	Kg/Cm ²			
		strength	323.93	Kg/Cm ²			
		Average	314.12	Kg/Cm ²			
	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 03/03/2020. RCC for Pier , P -2 , third lift.	28th day	299.01	Kg/Cm ²	265.00 Kg/Cm ²	12.55	Represents Qty. 13.50 Cum.
		compressive	292.22	Kg/Cm ²			
		strength	303.55	Kg/Cm ²			
		Average	298.26	Kg/Cm ²			
		Average	250.20	Ng/CIII			

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SR.NO.	DISCRIPTION OF SAMPLE	TESTED FOR	RESULTS		1	% above or	REMARK
	DISCINI TIGIT OF SANTI EE				permissable	below	NEIVI IIII
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	289.95	Kg/Cm ²	265.00 Kg/Cm ²	6.28	Represents Qty. 13.50 Cum.
		compressive	285.42	Kg/Cm ²			
		strength	269.57	Kg/Cm ²			
		Average	281.65	Kg/Cm ²			
	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 03/03/2020. RCC for Pier , P -3 , third	28th day	287.69	Kg/Cm ²	265.00 Kg/Cm ²		Represents Qty. 13.50 Cum.
36		compressive	303.55	Kg/Cm ²		9.42	
	lift.	strength	278.63	Kg/Cm ²	200100 118, 0111		Α,
		Average	289.95	Kg/Cm ²			
	Reinforced Cement concrete cube of mix 1:1.5:3,	28th day	317.14	Kg/Cm ²			
37	cast on 03/03/2020. RCC for Pier , P -3 , third lift.	compressive	301.28	Kg/Cm ²	265.00 Kg/Cm ²	15.12	Represents Qty. 13.50 Cum.
		strength	296.75	Kg/Cm ²	203.00 Kg/ CIII		
		Average	305.06	Kg/Cm ²			
	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 04/03/2020. RCC for Pier , P -4 , third lift.	28th day	269.57	Kg/Cm ²	265.00 Kg/Cm ²	5.14	Represents Qty. 13.50 Cum.
38		compressive	287.69	Kg/Cm ²			
		strength	278.63	Kg/Cm ²			
		Average	278.63	Kg/Cm ²			
	Reinforced Cement concrete cube of mix 1:1.5:3 , cast on 04/03/2020. RCC for Pier , P -4 , third lift.	28th day	255.97	Kg/Cm ²	265.00 Kg/Cm ²	4.57	Represents Qty. 13.50 Cum.
39		compressive	301.28	Kg/Cm ²			
		strength	274.10	Kg/Cm ²			
		Average	277.12	Kg/Cm ²			
	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	294.48	Kg/Cm ²	265.00 Kg/Cm ²	6.00	Represents Qty. 20.00 Cum.
40		compressive	260.51	Kg/Cm ²			
		strength	287.69	Kg/Cm ²			
		Average	280.89	Kg/Cm ²			
	Reinforced Cement concrete cube of mix 1:1.5:3,	28th day	292.22	Kg/Cm ²	265.00 Kg/Cm ²	5.14	Represents Qty. 20.00 Cum.
41	cast on 04/03/2020. RCC for retaining wall on LHS, D/s Floor second lift.	compressive	269.57	Kg/Cm ²			
		strength	274.10	Kg/Cm ²			
		Average	278.63	Kg/Cm ²			
	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	269.57	Kg/Cm ²	265.00 Kg/Cm ²	6.28	Represents Qty. 20.00 Cum.
42		compressive	296.75	Kg/Cm ²			
		strength	278.63	Kg/Cm ²			
		Average	281.65	Kg/Cm ²			

^{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.