

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

**Test Report No.:** WRD/Q.C./F.6-4/Aggr-T-9566, 9567 /Lab/ **463** /2019-20

**Dated:** 02/ 03//2020

**Laboratory:** Bicholim

**Sand –T: 4991**

**Sub Div: V (QC)/WRD/Bicholim Goa.**

**Sub:** Construction of Barrage and up gradation of Raw water Pumping station at Ganjem on Mhadei River for Augmentation of Raw for OPA water works.

**Part I: 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/SDI /WF-215/19-20/666 dt. 10 – 02 -2020

**Qty. Received:** 1 bags each **Date of Receipt:** 10/02/2020 **Tested on:** 13 & 14/02/2020 **Ref to Specification:** CPWD 2009, Vol. I& IS: 383-2016

**Sample:** 20mm, 12.50mm size aggrt, **O.S. No.** 1784 To 1786 /AF **Lab. Sample No.:** 7909 To 7911 **Tested by:** Mr. Anil R. Fadte, JE.

M. Sand.

**REPORT 01 OF 01**

Sr. No.	Description of sample	Tested for	Results	Max. /Min. value permissible	Remarks
1(a).	<b>20 mm Size Aggregate:</b>	Particle size distribution:	It is single sized aggregate of 20 mm nominal size.	(Qty. rep. --- m <sup>3</sup> )	
2 (a).	<b>12.5 mm Size Aggregate:</b>	Particle size distribution:	It is not single sized aggregate of 12.5 mm nominal size.	(Qty. rep. --- m <sup>3</sup> )	
<b>REMARK: After blending 20 mm aggregate with 12.5 mm aggregates at the ratio of 1:2 by weight; it is Satisfying the required criteria for graded aggregate of 20 mm nominal size.</b>					
1 (b).	<b>20 mm Size Aggregate:</b>	Combined flakiness & Elongation index:-	<b>13.90 %</b>	<b>Should be less than 40 %</b>	(Qty. rep -----m <sup>3</sup> )
2 (b).	<b>12.5 mm Size Aggregate:</b>	Combined flakiness & Elongation index:-	<b>17.56 %</b>	<b>Should be less than 40 %</b>	(Qty. rep ----- m <sup>3</sup> )
1 (c).	<b>20 mm Size Aggregate:</b>	Average Bulk Density :	<b>1.673 gm/cc.</b>		(Qty. rep. ---- m <sup>3</sup> )
2 (c).	<b>12.5 mm Size Aggregate:</b>	Average Bulk Density :	<b>1.635 gm/cc</b>		(Qty. rep. ---- m <sup>3</sup> )
3.	<b>M. Sand:</b>	i) Silt & Clay by S.A. method .....	: - 9.40%	<b>Limit of Deleterious Material is 15.00 % for crushed sand</b>	
		(Material finer than 75 Micron IS Siive)			
		ii) Silt by sedimentation .....	: - 11.76%		
		iii) Fineness Modulus .....	: - 3.13		
		iv) Grading Zone .....	: - I		

**REMARK:- The observed result are within the permission limits for crushed sand (Fine Aggregate ) vide Table 2 of IS 383 : 2016 (Clause 5.2.1)**

Copy to: 1. The Assistant Engineer, SDI, WDVI,WRD, Bicholim – Goa.

2. Copy Submitted to The Superintending Engineer, CPO, WRD, Porvorim – Goa for kind information.

3. Copy Submitted to The Executive Engineer, W.D.VI, WRD, Bicholim – Goa.

4. Q.C. Lab file

5. Bill File

**Junior Engineer**

**Assistant Engineer**

