



2009 PRODUCT TEST SUMMARY

PRODUCT: MNDOT CA - 1, (1-1/2" x 3/4")

GRADATION

NUMBER OF TESTS PERFORMED: 5			DATE OF LAST TEST: 07/13/2009			
SIEVES (millimeters in parentheses)	MNDOT SPEC LIMITS	MNDOT SPEC MEDIAN	N.U.Q.Q. RUNNING AVERAGE	SAMPLE STANDARD DEVIATION ABOUT RUNNING AVERAGE	N.U.Q.Q. PRODUCTION WORKING RANGE	% OF FOUR CONSECUTIVE TESTS INSIDE OF WORKING RANGE
2.0" (50.8)	100%	100%	100.0%	0.0%	100%	100.0%
1.5" (37.5)	80% - 100%	90%	82.5%	5.5%	77% - 88%	60.0%
1.0" (25.0)			28.0%	12.4%	16% - 40%	
0.75" (19.0)	5% - 30%	17.5%	10.5%	5.7%	5% - 16%	60.0%
0.5" (12.5)						
0.375" (9.5)						
#4 (4.75)	0% - 5%	2.5%	1.0%	0.6%	0% - 2%	80.0%
NOTE: VALUES INDICATE THE PERCENT BY WEIGHT PASSING SQUARE OPENING SIEVES.						

GENERAL QUALITY

QUALITY PARAMETERS	N.U.Q.Q. RUNNING AVERAGE	MNDOT SPEC LIMITS	NOTE
NON CLASS 'A' MATERIAL BY WEIGHT:	0.0%	4.0% MAX.	SANDSTONE
L.A.R. ABRASION LOSS, (A.S.T.M. 535-01):	29.6%	40% MAX.	TOUGHNESS
MAGNESIUM SULFIDE LOSS, (A.S.T.M. C88-90 - 5 CYCLES):	4.8%	15% MAX.	SOUNDNESS
FLAT & ELONGATED PARTICLES, (A.S.T.M. D-4791):	3.2%	10.0% MAX.	RATIO: 3:1
SPECIFIC GRAVITY, (A.S.T.M. C127-88):	2.63 / 2.66 / 2.65	N/A	BULK / APPARENT / SSD
ABSORPTION IN BULK SAMPLE, (A.S.T.M. C126):	< 0.35%	N/A	POROSITY
UNIT WEIGHT, PCF, (A.S.T.M. C29):	92.8	N/A	LOOSE
VOIDS, %, (A.S.T.M. C29):	42.7%	N/A	LOOSE
FREEZE THAW DURABILITY, (A.S.T.M. 666 METH. A, 306 CYCLES):	88.5% / 0.006%	N/A	RDME / LENGTH CHANGE
A.S.R. EXPANSION, (A.S.T.M. C-1260 @ 14 DAYS):	0.220%		A.S.R. REACTIVITY
200 MESH, (75 MICRON), MATERIAL, (A.S.T.M. C117-90):	0.2%	0.8% MAX.	SURFACE DUST
QUARTZITE AGGREGATES CONTAIN NO SHALE, IRON OXIDE, SLATE, UNSOUND CHERT OR CLAY BALLS.			

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SAMPLES AVAILABLE UPON REQUEST