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## TECHNICAL REPORT

REPORT TO: Las Vegas Paving Corporation  
3401 North 5<sup>th</sup>. Street  
North Las Vegas, NV 89032

DATE: 12/29/2011  
WORK ORDER NO: 5478  
SHEET: 1 of 7

ATTENTION: Mr. Dan Peressini

REPORT OF: Concrete Aggregate Tests for Materials Sampled at the Apex Pit for use in  
Portland Cement Concrete Mixes for Concrete Production

### SAMPLE IDENTIFICATION

At your request, the following tests were performed on samples of No. 4-Coarse, No.4-Fine, No. 67, No. 7, No. 89, and No. 8 concrete coarse aggregates and concrete fine aggregate samples that were delivered to our laboratory on November 21 and 28, 2011: sieve analysis, organic impurities, dry rodded unit weight, sodium sulfate soundness, LA abrasion, clay lumps and friable particles, specific gravity, lightweight pieces in aggregate, and potential reactivity. These tests were sampled and performed in general accordance with ASTM C29, C40, C88, C117, C123, C127, C128, C535, C136, C142, C229, D75, NDOT T227, T228, and AASHTO T303. Results of these tests are summarized on the attached sheets.



LABORATORY MANAGER: Linda L. Coulter

REVIEWED BY: W. Taylor

**TABLE NO. 3: SIEVE ANALYSIS, SPECIFIC GRAVITY AND ABSORPTION OF NO. 4 (1 ½" – ¾") COARSE AGGREGATE (ASTM C136, C117 AND C127)**

Laboratory Number	12586	ASTM C33 TABLE 2 No. 4
Description	Apex Pit No. 4 Coarse Aggregate (1 ½" – ¾")-Fine	
Date Sampled 5/12/11		
Screen or Sieve Size	Percent Passing	
2"	100	100
1-1/2"	100	90 - 100
1"	42	20 - 55
3/4"	4	0 - 15
1/2"	1	-
3/8"	0	0 - 5
No. 4	0	-
No. 8	0	-
No. 200	0.1	0 - 1
Bulk Dry Specific Gravity	2.64	N/A
Bulk Specific Gravity, SSD	2.66	N/A
Apparent Specific Gravity	2.70	N/A
Absorption	0.9	N/A

**TABLE NO. 4: COARSE AGGREGATE PROPERTIES PERFORMED ON NO. 4 (1 ½" – ¾") COARSE AGGREGATE**

Laboratory Tests	Test Method	Test Results	ASTM C33 Table 3
Percentage of Wear (500 Rev.), %	ASTM C131	22	50 max*
Clay Lumps and Friable Particles, %	ASTM C142	0	2 max*
Sodium Sulfate Soundness, % Loss after 5 Cycles	ASTM C88	6.8	12 max*
Lightweight Pieces	ASTM C123	0	0.5 max*
Cleanliness Value	NDOT T228	97	71 min
Potentially Deleterious Expansion of Mortar Bars Due to ASR**	AASHTO T303	0.055	0.10 max
Dry Rodded Unit Weight, pcf	ASTM C29	94.4	N/A

\* ASTM C33, Table 3 for 5S class designation

\*\* Tests performed by Concrete Materials Consultants, LLC on crusher fines quarried from same parent rock.