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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: 8/28/2015  
Revised 9/8/15  
WORK ORDER NO: 5478  
SHEET: 1 of 6

ATTENTION: Mr. Dan Peressini

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

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### SAMPLE IDENTIFICATION

At your request, our personnel performed testing on samples of No. 4, No. 67, No. 7, and No. 89 concrete coarse aggregates and concrete fine aggregate samples that were delivered to our laboratory on August 11, 2015. In accordance with your request 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 were performed. These tests were performed in 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 Tables 1 through 10.



LABORATORY MANAGER: Jindia A. Rautter

REVIEWED BY: [Signature]

**TABLE NO. 1: SIEVE ANALYSIS, SPECIFIC GRAVITY AND ABSORPTION OF NO. 4  
(1 1/2" – 3/4") COARSE AGGREGATE (ASTM C136, C117 AND C127)**

Laboratory Number	26195	<b>ASTM C33 TABLE 3 No. 4</b>
Description	Apex Pit No. 4 Coarse Aggregate (1 1/2" – 3/4")	
Screen or Sieve Size	Percent Passing	
2"	100	<b>100</b>
1-1/2"	93	<b>90 - 100</b>
1"	32	<b>20 - 55</b>
3/4"	6	<b>0 - 15</b>
1/2"	1	-
3/8"	1	<b>0 - 5</b>
No. 4	0	-
No. 8	0	-
No. 200	0.2	<b>0 - 1</b>
Bulk Dry Specific Gravity	2.64	<b>N/A</b>
Bulk Specific Gravity, SSD	2.67	<b>N/A</b>
Apparent Specific Gravity	2.70	<b>N/A</b>
Absorption	0.8	<b>N/A</b>

**TABLE NO. 2: COARSE AGGREGATE PROPERTIES PERFORMED ON NO. 4  
(1 1/2" – 3/4")**

Laboratory Tests	Test Method	Test Results	ASTM C33 Specifications Table 4
Percentage of Wear (500 Rev.), %	ASTM C131	21	<b>50 max*</b>
Clay Lumps and Friable Particles, %	ASTM C142	0	<b>2 max*</b>
Sodium Sulfate Soundness, % Loss after 5 Cycles	ASTM C88	5.3	<b>12 max*</b>
Coal and Lignite-Lightweight Pieces	ASTM C123	0	<b>0.5 max*</b>
Cleanness Value	NDOT T228	94	<b>71 min</b>
Potentially Deleterious Expansion of Mortar Bars Due to ASR**	AASHTO T303	0.036	<b>0.10 max</b>
Dry Rodded Unit Weight, pcf	ASTM C29	94.7	<b>N/A</b>

\* ASTM C33, Table 4 for 5S class designation

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