

March 30, 2011

Subject: Laboratory Testing,
Delivered Recycled Concrete
Sample

Job No. 11-1029

Mr. Gary Hansen
Allied Recycled Aggregates
P.O. Box 566
Commerce City, Colorado 80037-0566

Dear Mr. Hansen,

As requested analytical testing was completed on a sample of class 6 recycled concrete delivered to our laboratory by your representative. The following testing was completed in general accordance with the respective standards; Sieve Analysis (ASTM C 136), Atterberg Limits (ASTM D 4318), Modified Proctor (ASTM D 1557), R-Value (ASTM D 2844) and Los Angeles Abrasion (ASTM C 131). The sample location was identified as 4082. This sample meets CDOT Class 6 Grading requirements. This sample also meets the City of Aurora Type 2 Base Grading requirements.

The results of the testing have been attached.

If you have any questions regarding this data, please do not hesitate to contact our office.

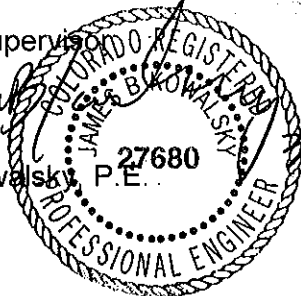
GROUND ENGINEERING CONSULTANTS, INC.

Sincerely,



Nick Andrade
Laboratory Supervisor

Reviewed by
James B. Kowalsky, P.E. 27680



GROUND

ENGINEERING CONSULTANTS, INC

41 Inverness Drive East, Englewood, CO 80112-5412 Phone (303) 289-1989 Fax (303) 289-1686 www.groundeng.com

Office Locations: Englewood • Commerce City • Loveland • Granby • Gypsum • Grand Junction • Casper

Ground Engineering's ID Number: 3456
 Sample location: 4082
 Date Sampled: 3/9/2011
 Sample Identification: Class 6 Recycled Concrete

Table I. Sieve Analysis Results, (ASTM C 136)

Sieve Size	% Passing	CDOT Class 6 Specs.	City of Aurora Type 2 Base Specs.
1"	100	100	100
3/4"	100	100	--
1/2"	86	--	--
3/8"	73	--	50-85
No.4	50	30-65	35-65
No. 8	38	25-55	--
No. 10	35	--	25-50
No. 16	28	--	--
No. 30	20	--	--
No. 40	17	--	15-30
No. 50	14	--	--
No. 100	9	--	--
No. 200	6.5	3-12	3-15

Table II. Additional Test Results: Atterberg Limits, (ASTM D 4318), Modified Proctor, (ASTM D 1557, Method C), Los Angeles Abrasion, (ASTM C 131, Grading B), R-Value (ASTM D 2844)

Test Method	Result	CDOT Class 6 Specs.	City of Aurora Type 2 Base Specs.
Atterberg Limits			
<i>Liquid Limit</i>	N/V	30 Maximum	25 Maximum
<i>Plasticity Index</i>	N/P	6 Maximum	15 Maximum
Modified Proctor			
<i>Maximum Dry Density (pcf)</i>	113.5	--	--
<i>Optimum Moisture Content (%)</i>	15.0	--	--
L. A. Abrasion (% loss) Grading B	37	50 Maximum	45 Maximum
R-Value	86	--	78 Minimum

Ground Engineering Consultants, Inc.

COMPACTION TEST REPORT

Curve No.: 3456

Project No.: 11-1029

Date: 3/18/11

Project: Allied Recycled Aggregates

Location: Allied Recycled Aggregates Plant 4082

Elev./Depth:

Sample No. 3456

Remarks:

MATERIAL DESCRIPTION

Description: Class 6 Recycled Concrete

Classifications -

USCS:

AASHTO:

Nat. Moist. =

Sp.G. =

Liquid Limit = N/V

Plasticity Index = N/P

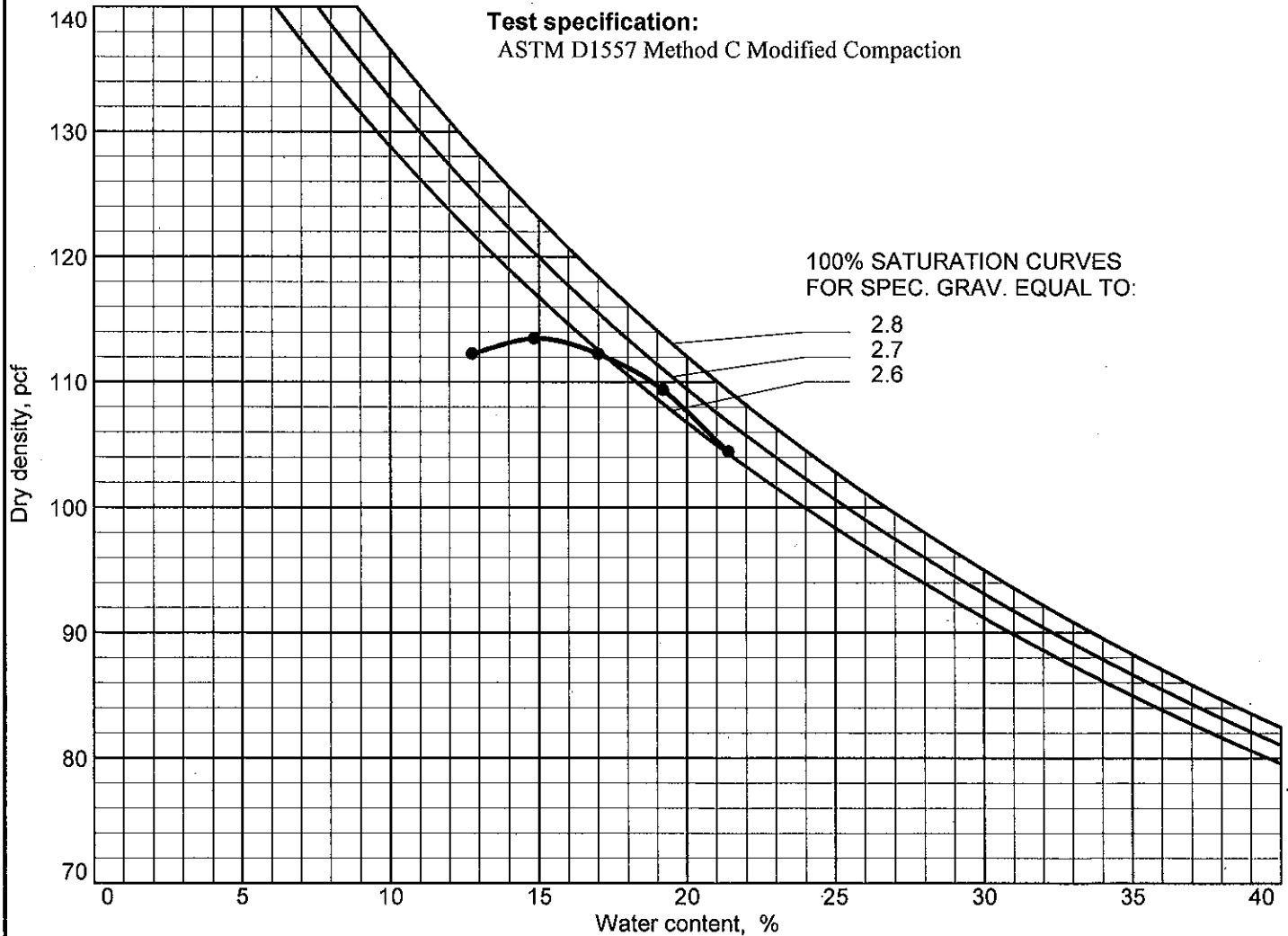
% > 3/4 in. = %

% < No.200 = 6.5 %

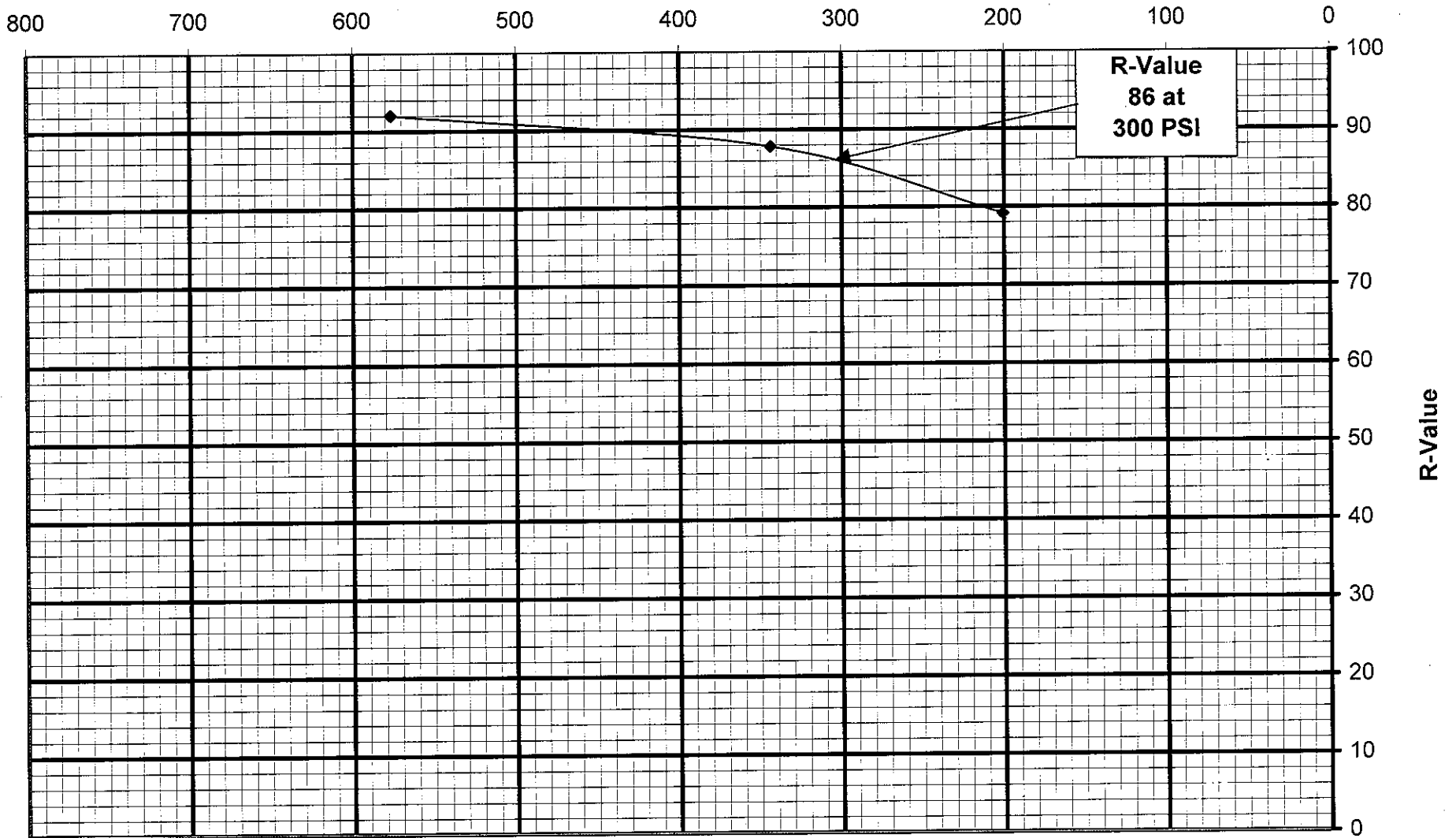
TEST RESULTS

Maximum dry density = 113.5 pcf

Optimum moisture = 15.0 %



Exudation Pressure (PSI)



Location: Allied Recycled Aggregates Plant 4082

Test Specimen	1	2	3
Moisture (%)	15.3	16.0	16.2
R-Value	92	88	79
Exudation Pressure	577	344	201

Sample ID No. 3456

Job No. 11-1029

Soil Type: Class 6 Recycled Concrete

**GROUND
ENGINEERING CONSULTANTS**
R-VALUE TEST RESULT
ASTM D 2844-07

***Material will be considered "unstable" if optimum moisture is greater than 300 psi exudation moisture and the decrease in R-value from 400 psi to 300 psi exudation pressure is 10 or greater



MATERIAL PRE-QUALIFICATION TYPE 2 BASE COURSE

(please **type** in all information)

"Quality Through Cooperation"

APPROVED

APR 19 2011

MATERIALS LAB

For use until June 1, 2012 Remarks for City Use

MATERIALS TESTING LABORATORY

15700 East 32nd Avenue
Aurora, CO 80011
(303) 326-8270/FAX (303) 326-8271

Company Name:	Allied Recycled Aggregates		
Contact Person:	Russel Hawkins		
Mailing Address:	PO Box 566		
City, State, Zip:	Commerce City, CO 80037		
Telephone No.:	303-289-3366	Cell:	303-809-1770 Fax No.: 303-289-3543
Email Address:	russ.hawkins@alliedrecycle.com		
Plant or Pit Name:	Pit 1		
Plant or Pit Location:	7901 Hwy 85 Commerce City, CO 80022		
Product Identification Code: <i>(As Found on Delivery Ticket)</i>	4		

ANALYSIS SUMMARY

SIEVE	% PASSING	SPECIFICATION
1"	100	100
3/8"	73	50 – 85
No. 4	50	35 - 65
No. 10	35	25 - 50
No. 40	17	15 - 30
No. 200 (Washed ASTM C 117)	6.5	3 - 15
Liquid Limit	N/V	25 Maximum
Plasticity Index	N/P	15 Maximum
Maximum Dry Density (ASTM D 1557)	113.5 pcf	
Optimum Moisture Content	15.0 %	
L. A. Abrasion	37 %	45% Maximum
Hveem "R" Value	86 %	78% Minimum

Note: The fraction passing the No. 200 sieve shall not be greater than 2/3 of the fraction passing the No. 40 sieve.