

6980 Sierra Center Parkway, Suite 90
Reno, NV 89511

April 22, 2015
File: 1042

Mr. Rick Joy
JOY ENGINEERING
1584 Wolf Meadows Lane
Portola, CA 96122

RE: Sloat Pit – Type 2, Class B Aggregate Base

Dear Mr. Joy:

Per your request, we have performed testing on the Type 2, Class B aggregate base sample you delivered to our laboratory. Test results are provided on the attached page(s) in comparison with specifications outlined in the 2010 Caltrans Standard Specifications.

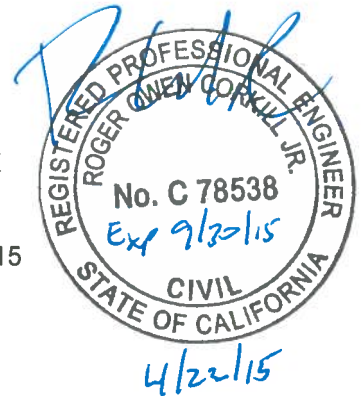
We appreciate this opportunity to provide our laboratory testing services. If you have any questions or require further information, please do not hesitate to contact us.

Sincerely,

CONSTRUCTION MATERIALS ENGINEERS, INC.

Steven L. Vineis
Laboratory Manager
svineis@cmenv.com
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Roger O. Corkill Jr., PE
Project Manager
CE Number C78538
Expiration Date 09-30-15
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SLV:ROC:jy
Attachments

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TYPE 2, CLASS B AGGREGATE BASE TEST RESULTS SUMMARY - SLOAT PIT

Sieve Analysis

U.S. Standard Sieve Size	Percent Passing by Weight		
	CT 202	Operating Range Specification ¹	Contract Compliance Specification ¹
1 Inch	100	100	100
3/4 Inch	96	90 - 100	87 - 100
1/2 Inch	74	-	-
3/8 Inch	63	-	-
No. 4	44	35 - 60	30 - 65
No. 8	38	-	-
No. 10	35	-	-
No. 16	29	-	-
No. 30	22	10 - 30	5 - 35
No. 40	20	-	-
No. 50	17	-	-
No. 100	14	-	-
No. 200	8.6	2 - 9	0 - 12

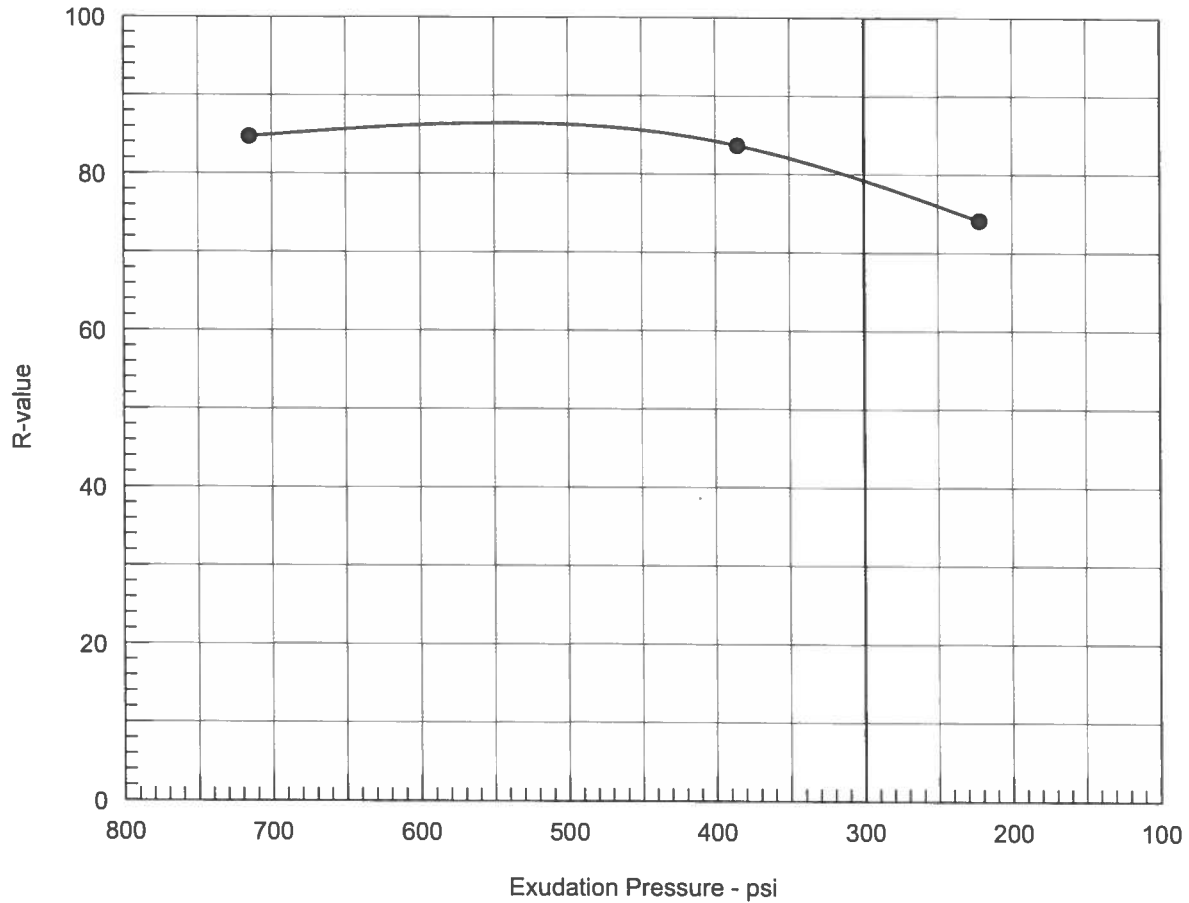
Test Type	Test Method	Sample Result	Caltrans Specification ¹
Resistance (R-Value)	CT 301	79	78 Minimum
Sand Equivalent (Operating Range)	CT 217	35	25 Minimum
Sand Equivalent (Contract Compliance)	CT 217	35	22 Minimum
Durability Index (Coarse Fraction, D _c)	CT 229	40	35 Minimum
Durability Index (Fine Fraction, D _f)	CT 229	37	35 Minimum

Moisture Density

Test Type	Test Method	Sample Result	Caltrans Specification ¹
Maximum Dry Density	ASTM D1557A	135.0 pcf	-
Optimum Moisture	ASTM D1557A	9.5%	-

¹ Specifications per Section 26-1.02B of the 2010 Caltrans Standard Specifications.

R-VALUE TEST REPORT

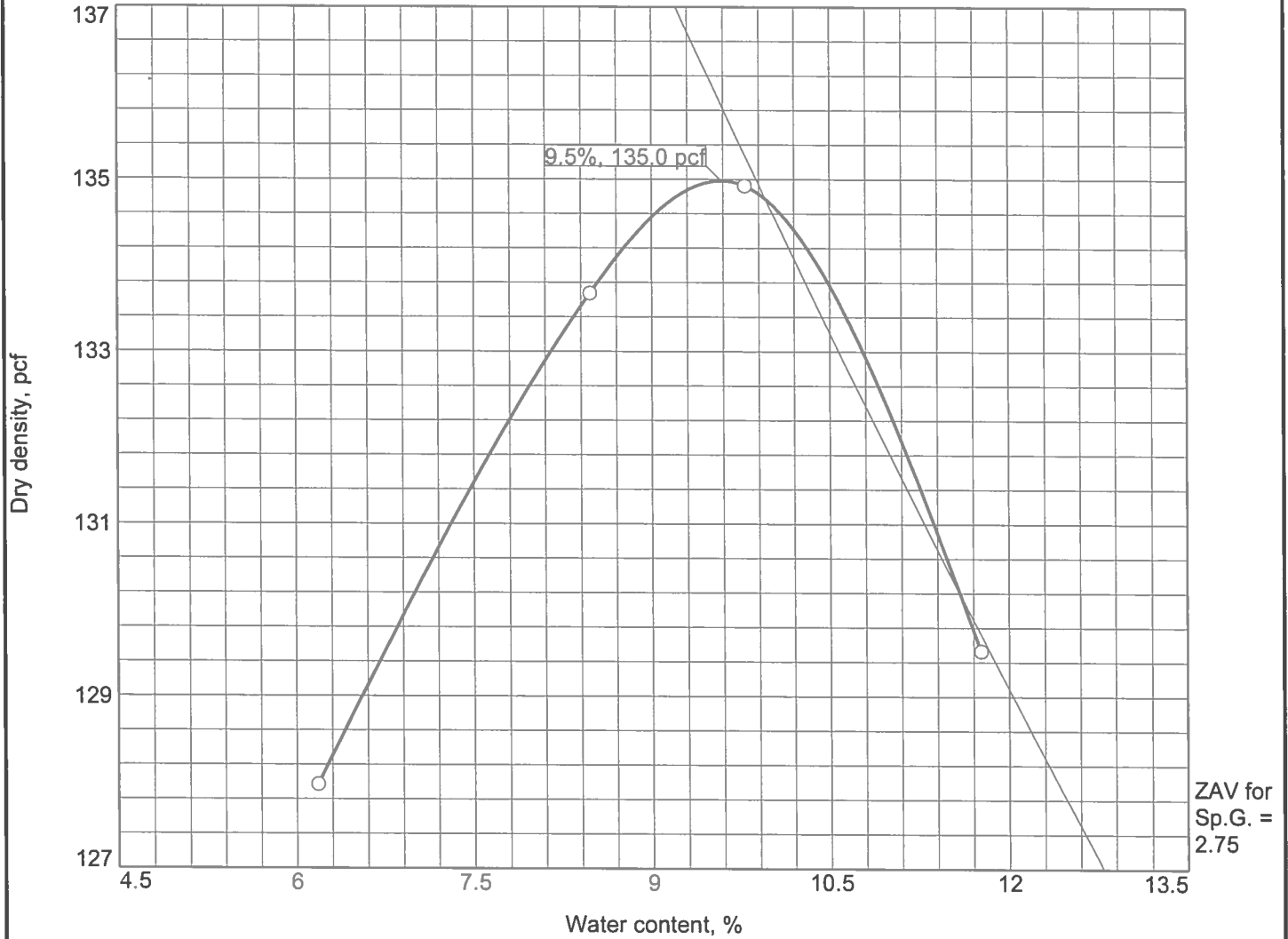


Resistance R-Value and Expansion Pressure - Cal Test 301

No.	Compact. Pressure psi	Density pcf	Moist. %	Expansion Pressure psi	Horizontal Press. psi @ 160 psi	Sample Height in.	Exud. Pressure psi	R Value	R Value Corr.
1	350	129.0	10.5	0.00	13	2.52	715	85	85
2	350	128.9	12.1	0.00	20	2.60	385	82	84
3	350	131.3	11.0	0.00	31	2.58	222	73	74

Test Results	Material Description
R-value at 300 psi exudation pressure = 79	AGGREGATE BASE SLOAT PIT JOY ENGINEERING
Project No.: 1042 Project: AGGREGATE QUALITY TESTING Location: PLANT STOCKPILE Sample Number: 29384 Date: 4/21/2015	Tested by: S. HEIN Checked by: S. VINEIS Remarks: RECEIVED 4/2/2015
R-VALUE TEST REPORT Construction Materials Engineers, Inc.	Figure 1A

MOISTURE DENSITY CURVE



Test specification: ASTM D 1557-07 Method C Modified

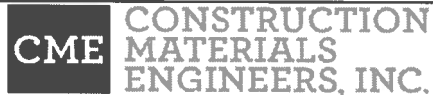
Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/4 in.	% < No.200
	USCS	AASHTO						
							3.7	10.6

TEST RESULTS	MATERIAL DESCRIPTION
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Maximum dry density = 135.0 pcf Optimum moisture = 9.5 %	AGGREGATE BASE TYPE 2 CLASS B AGGREGATE BASE
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Project No. 1042 Client: JOY ENGINEERING Project: AGGREGATE QUALITY TESTING	Remarks: RECEIVED 4/8/2015
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Location: PLANT STOCKPILE Sample Number: 29384	
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Figure

Tested By: D. NASH Checked By: S. VINEIS