

Bernhardt Site 2

Write a description for your map.

Legend

- Feature 1
- Feature 2
- Feature 3



Google Earth

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PARTICLE SIZE DISTRIBUTION REPORT

Report Number: M2241161.0051
Service Date: 10/17/24
Report Date: 10/18/24
Task: Materials Testing



1502 Grumman Ln, Ste 4
Bismarck, ND 58504-6070
701-258-2833

Client

Burleigh County Highway Department
Attn: Accounts Payable
8100 43rd Ave NE
Bismarck, ND 58503-8078

Project

Gravel Crushing 2024
Project #1002 (24)
Burleigh County, ND

Project Number: M2241161

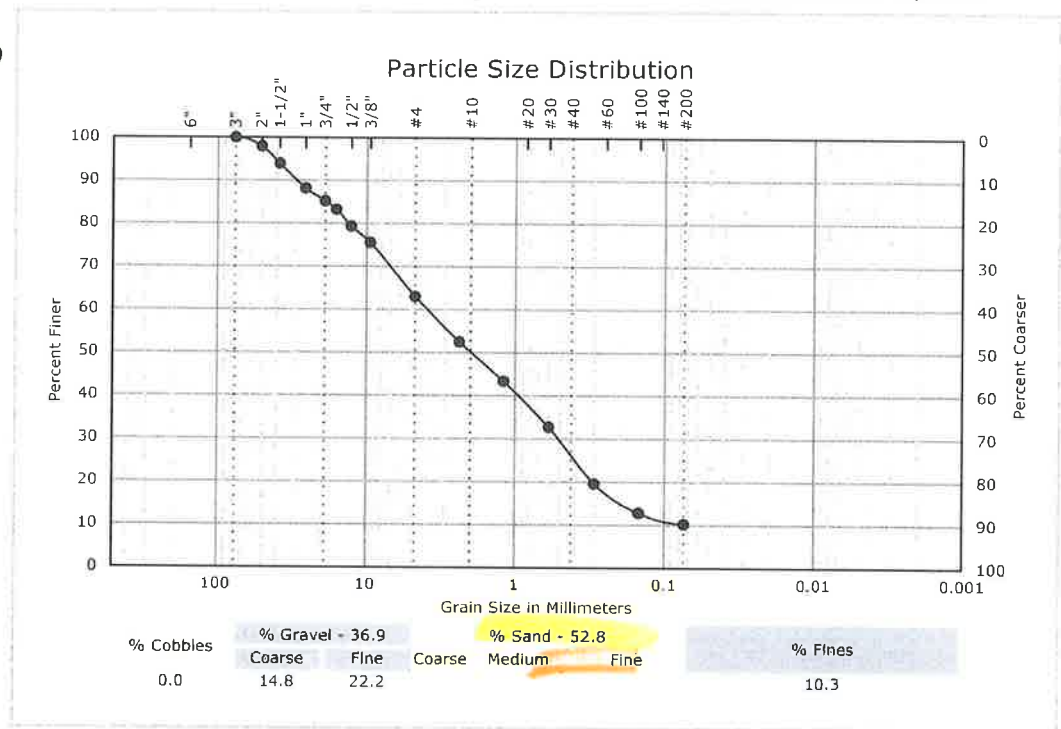
Sample Information

Sample Type: Bulk
Sample Location: Bernhardt Land, Holes 26 & 33
Sample Description: Pit run

Laboratory Test Data

Test Method: ASTM C136
Method: NA
Atterberg Limits:
Sample Preparation: Oven Dried
Sieving Method: Composite Sieving-Single Separation

Sieve Size	Percent Finer	Spec.*	Pass (X=Fail)
3"	100		
2"	98		
1-1/2"	94		
1"	88		
3/4"	85		
5/8"	83		
1/2"	79		
3/8"	76		
#4	63		
#8	53		
#16	43		
#30	33		
#50	20		
#100	13		
#200	10.3		



D₆₀ = 3.94

D₃₀ = 0.51

D₁₀ = 0.069 (Est.)

C_c = 1.0

C_u = 57.2

FM =

Comments:

Services:

Terracon Rep.: Kelly Melchior
Reported To: Lonny Hertel
Contractor: BCHD

Report Distribution:

(1) Burleigh County Highway Department,
Casey Einrem
(1) Burleigh County Highway Department,
Lonny Hertel

(1) Burleigh County Highway Department,
Dan Schriock
(1) Burleigh County Highway Department,
Marcus Hall

Reviewed By:

Ty E. Kelsch, CET
Senior Project Manager

Test ASTM C117, ASTM C136

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PARTICLE SIZE DISTRIBUTION REPORT

Report Number: M2241161.0052
Service Date: 10/17/24
Report Date: 10/18/24
Task: Materials Testing



1502 Grumman Ln, Ste 4
Bismarck, ND 58504-6070
701-258-2833

Client

Burleigh County Highway Department
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8100 43rd Ave NE
Bismarck, ND 58503-8078

Project

Gravel Crushing 2024
Project #1002 (24)
Burleigh County, ND

Project Number: M2241161

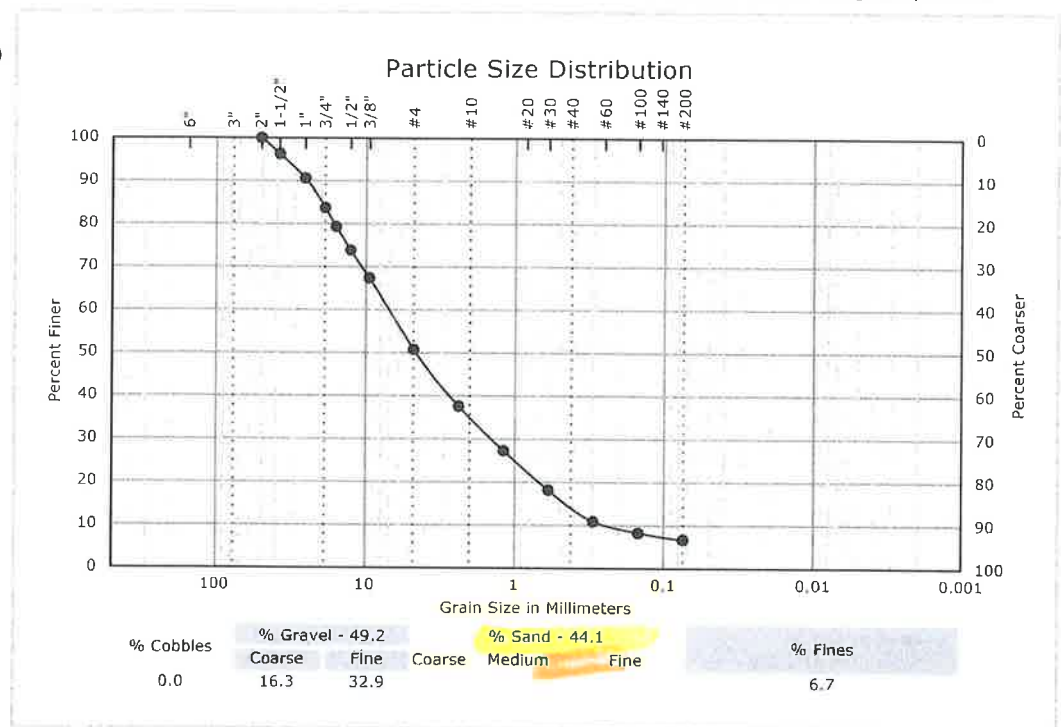
Sample Information

Sample Type: Bulk
Sample Location: Bernhardt Land, Holes 24 & 28
Sample Description: Pit run

Laboratory Test Data

Test Method: ASTM C136
Method: NA
Atterberg Limits:
Sample Preparation: Oven Dried
Sieving Method: Composite Sieving-Single Separation

Sieve Size	Percent Finer	Spec.*	Pass (X=Fail)
2"	100		
1-1/2"	96		
1"	91		
3/4"	84		
5/8"	79		
1/2"	74		
3/8"	67		
#4	51		
#8	38		
#16	27		
#30	18		
#50	11		
#100	8		
#200	6.7		



$D_{60} = 6.99$

$D_{30} = 1.45$

$D_{10} = 0.251$

$C_c = 1.2$

$C_u = 27.9$

FM =

Comments:

Services:

Terracon Rep.: Kelly Melchior

Reported To: Lonny Hertel

Contractor: BCHD

Report Distribution:

(1) Burleigh County Highway Department,
Casey Einrem
(1) Burleigh County Highway Department,
Lonny Hertel

(1) Burleigh County Highway Department,
Dan Schriock
(1) Burleigh County Highway Department,
Marcus Hall

Reviewed By:

Ty E. Kelsch, CET

Senior Project Manager

Test ASTM C117, ASTM C136

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PARTICLE SIZE DISTRIBUTION REPORT

Report Number: M2241161.0053
Service Date: 10/17/24
Report Date: 10/18/24
Task: Materials Testing



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Client

Burleigh County Highway Department
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Bismarck, ND 58503-8078

Project

Gravel Crushing 2024
Project #1002 (24)
Burleigh County, ND

Project Number: M2241161

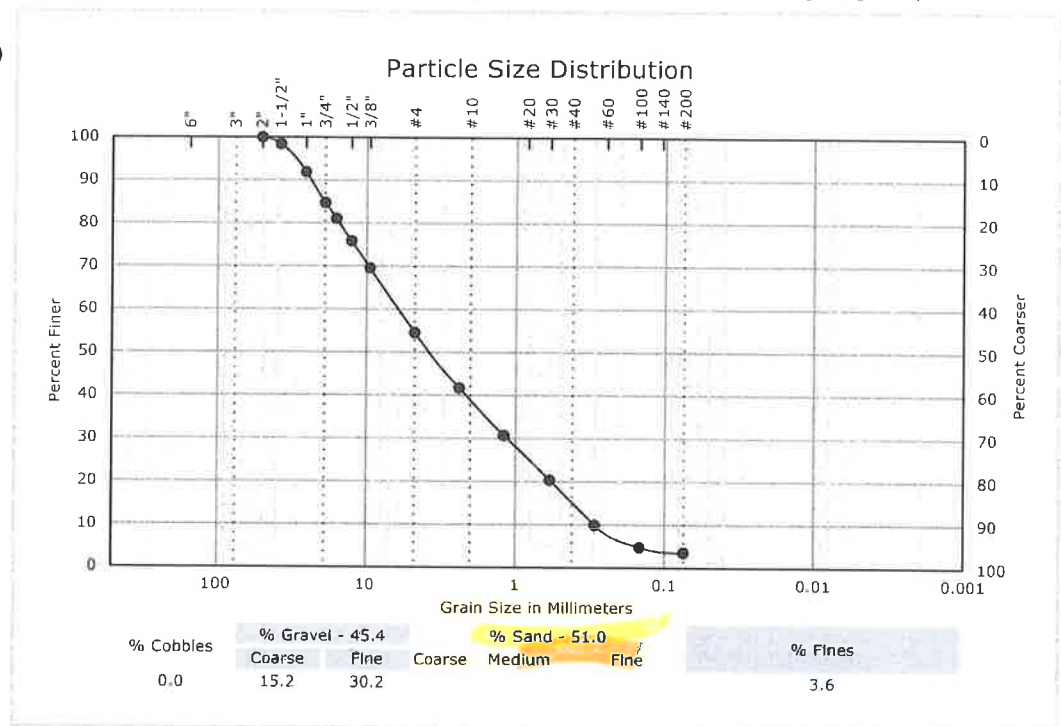
Sample Information

Sample Type: Bulk
Sample Location: Berhardt Land, Holes 35 & 38
Sample Description: Pit run

Laboratory Test Data

Test Method: ASTM C136
Method: NA
Atterberg Limits:
Sample Preparation: Oven Dried
Sieving Method: Composite Sieving-Single Separation

Sieve Size	Percent Finer	Spec.*	Pass (X=Fail)
2"	100		
1-1/2"	98		
1"	92		
3/4"	85		
5/8"	81		
1/2"	76		
3/8"	70		
#4	55		
#8	42		
#16	31		
#30	20		
#50	10		
#100	5		
#200	3.6		



$D_{60} = 6.10$

$D_{30} = 1.13$

$D_{10} = 0.299$

$C_u = 0.7$

$C_u = 20.4$

FM =

Comments:

Services:

Terracon Rep.: Kelly Melchior

Reported To: Lonny Hertel

Contractor: BCHD

Report Distribution:

(1) Burleigh County Highway Department,
Casey Einrem
(1) Burleigh County Highway Department,
Lonny Hertel

(1) Burleigh County Highway Department,
Dan Schriock
(1) Burleigh County Highway Department,
Marcus Hall

Reviewed By:

Ty E. Kelsch, CET

Senior Project Manager

Test ASTM C117, ASTM C136

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PARTICLE SIZE DISTRIBUTION REPORT

Report Number: M2241161.0054
Service Date: 10/29/24
Report Date: 10/31/24
Task: Materials Testing



1502 Grumman Ln, Ste 4
Bismarck, ND 58504-6070
701-258-2833

Client

Burleigh County Highway Department
Attn: Accounts Payable
8100 43rd Ave NE
Bismarck, ND 58503-8078

Project

Gravel Crushing 2024
Project #1002 (24)
Burleigh County, ND

Project Number: M2241161

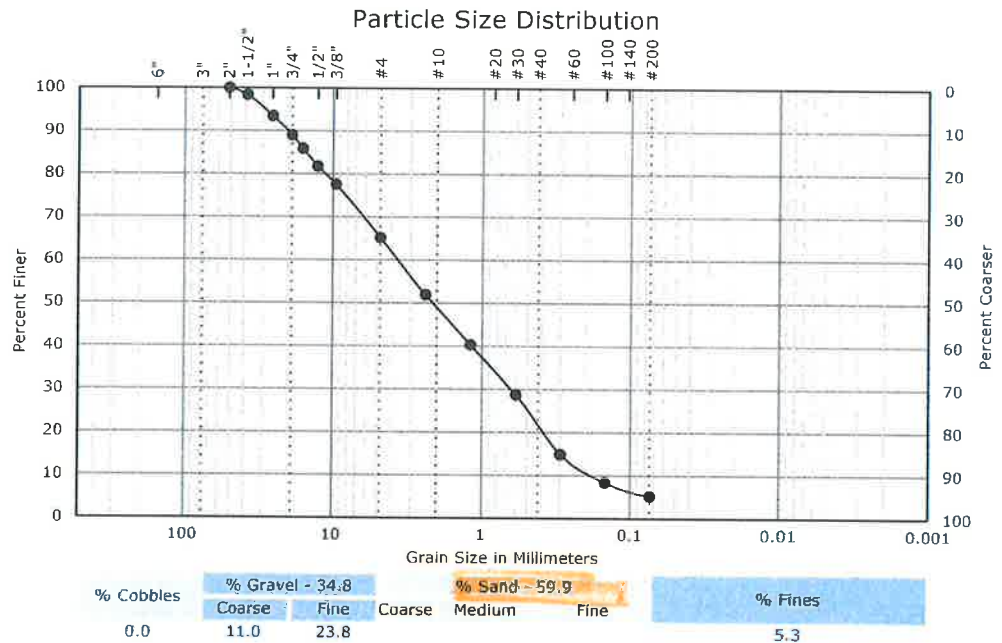
Sample Information

Sample Type: Bulk
Sample Location: Bernhardt land
Sample Description: Pit run, Holes 59 & 62

Laboratory Test Data

Test Method: ASTM C136
Method: NA
Atterberg Limits:
Sample Preparation: Oven Dried
Sieving Method: Composite Sieving-Single Separation

Sieve Size	Percent Finer	Spec.*	Pass (X=Fail)
2"	100		
1-1/2"	98		
1"	93		
3/4"	89		
5/8"	86		
1/2"	82		
3/8"	78		
#4	65		
#8	52		
#16	40		
#30	29		
#50	15		
#100	8		
#200	5.3		



* $D_{60} = 3.64$ $D_{30} = 0.64$ $D_{10} = 0.186$ $C_c = 0.6$ $C_u = 19.6$ $FM =$

Comments:

Services:

Terracon Rep.: Kelly Melchior

Reported To: Lonny Hertel

Contractor: BCHD

Report Distribution:

(1) Burleigh County Highway Department,
Casey Einrem
(1) Burleigh County Highway Department,
Lonny Hertel

(1) Burleigh County Highway Department,
Dan Schriock
(1) Burleigh County Highway Department,
Marcus Hall

Reviewed By:

Ty E. Kelsch, CET
Senior Project Manager

Test ASTM C117, ASTM C136

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PARTICLE SIZE DISTRIBUTION REPORT

Report Number: M2241161.0049
Service Date: 10/17/24
Report Date: 10/18/24
Task: Materials Testing



1502 Grumman Ln, Ste 4
Bismarck, ND 58504-6070
701-258-2833

Client

Burleigh County Highway Department
Attn: Accounts Payable
8100 43rd Ave NE
Bismarck, ND 58503-8078

Project

Gravel Crushing 2024
Project #1002 (24)
Burleigh County, ND

Project Number: M2241161

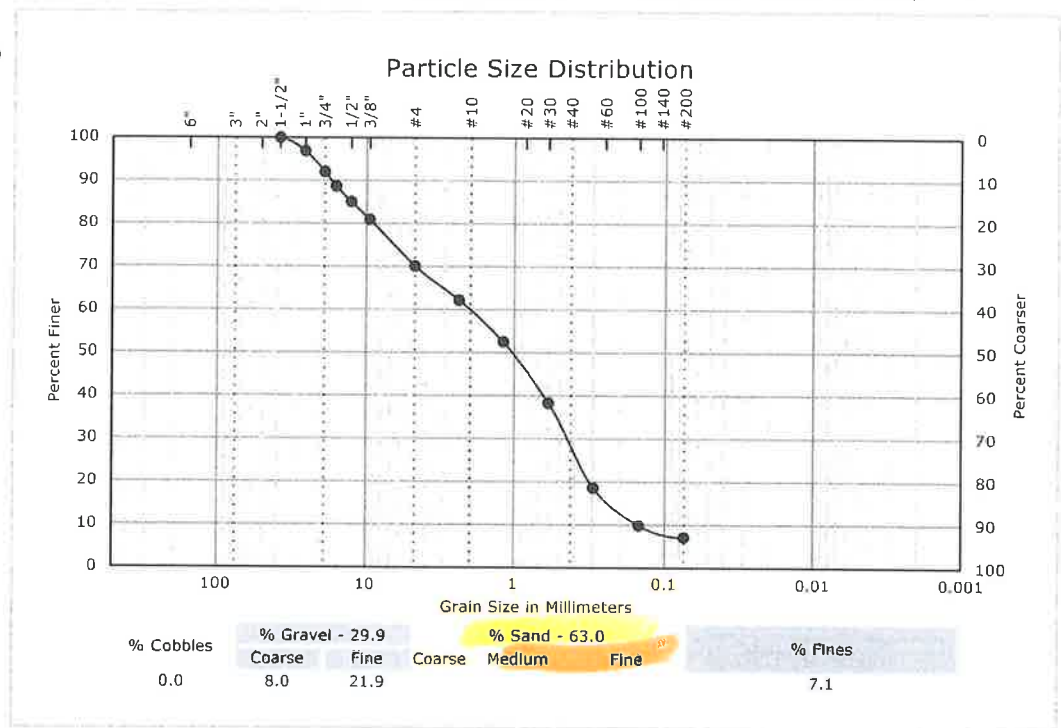
Sample Information

Sample Type: Bulk
Sample Location: Bernhardt Land, Holes 13 & 16
Sample Description: Pit run

Laboratory Test Data

Test Method: ASTM C136
Method: NA
Atterberg Limits:
Sample Preparation: Oven Dried
Sieving Method: Composite Sieving-Single Separation

Sieve Size	Percent Finer	Spec.*	Pass (X=Fail)
1-1/2"	100		
1"	97		
3/4"	92		
5/8"	89		
1/2"	85		
3/8"	81		
#4	70		
#8	62		
#16	52		
#30	38		
#50	19		
#100	10		
#200	7.1		



$D_{60} = 2.01$ $D_{30} = 0.44$ $D_{10} = 0.151$ $C_u = 0.6$ $C_u = 13.3$ $FM =$

Comments:

Services:

Terracon Rep.: Kelly Melchior
Reported To: Lonny Hertel
Contractor: BCHD

Report Distribution:

(1) Burleigh County Highway Department,
Casey Einrem
(1) Burleigh County Highway Department,
Lonny Hertel

(1) Burleigh County Highway Department,
Dan Schriock
(1) Burleigh County Highway Department,
Marcus Hall

Reviewed By:

Ty E. Kelsch, CET
Senior Project Manager

Test ASTM C117, ASTM C136

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PARTICLE SIZE DISTRIBUTION REPORT

Report Number: M2241161.0050
Service Date: 10/17/24
Report Date: 10/18/24
Task: Materials Testing



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Bismarck, ND 58504-6070
701-258-2833

Client

Burleigh County Highway Department
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8100 43rd Ave NE
Bismarck, ND 58503-8078

Project

Gravel Crushing 2024
Project #1002 (24)
Burleigh County, ND

Project Number: M2241161

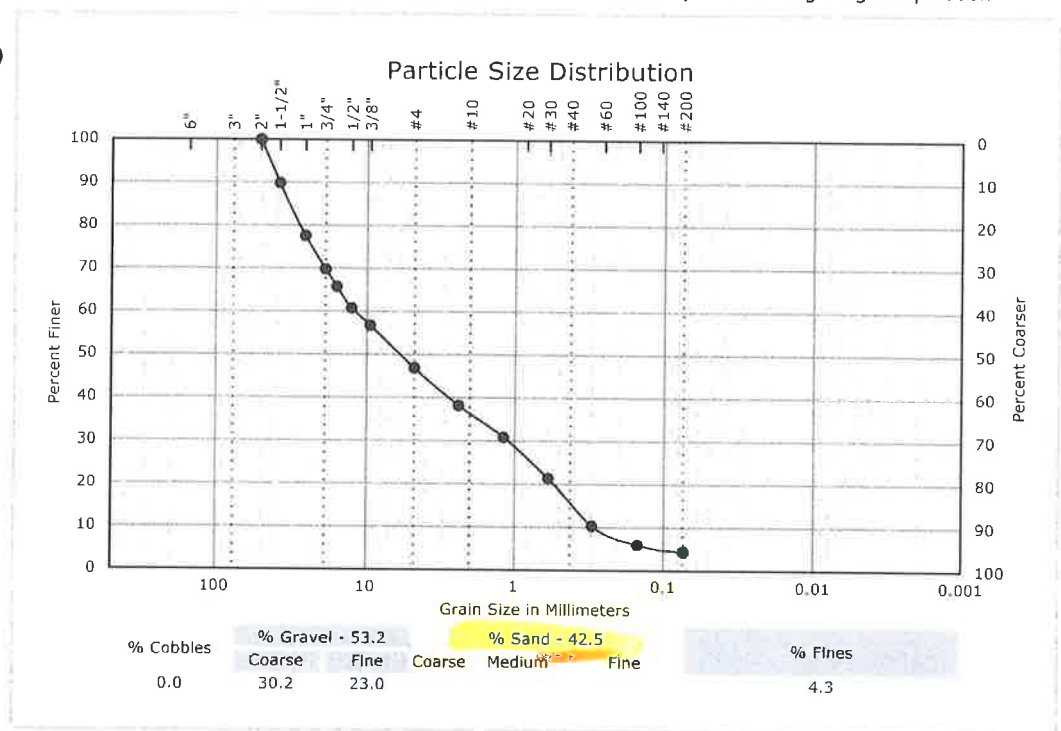
Sample Information

Sample Type: Bulk
Sample Location: Bernhardt Land, Pile G, Hole 22
Sample Description: Pit run

Laboratory Test Data

Test Method: ASTM C136
Method: NA
Atterberg Limits:
Sample Preparation: Oven Dried
Sieving Method: Composite Sieving-Single Separation

Sieve Size	Percent Finer	Spec.*	Pass (X=Fail)
2"	100		
1-1/2"	90		
1"	78		
3/4"	70		
5/8"	66		
1/2"	61		
3/8"	57		
#4	47		
#8	38		
#16	31		
#30	21		
#50	10		
#100	6		
#200	4.3		



$D_{60} = 12.10$

$D_{30} = 1.12$

$D_{10} = 0.288$

$C_c = 0.4$

$C_u = 42.1$

FM =

Comments:

Services:

Terracon Rep.: Kelly Melchior

Reported To: Lonny Hertel

Contractor: BCHD

Report Distribution:

(1) Burleigh County Highway Department,
Casey Einrem
(1) Burleigh County Highway Department,
Lonny Hertel

(1) Burleigh County Highway Department,
Dan Schriock
(1) Burleigh County Highway Department,
Marcus Hall

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Test ASTM C117, ASTM C136

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