

**Report Number:** M2241161.0051

Service Date:

10/17/24

Burleigh County Highway Department

Report Date:

10/18/24

Task: Client Materials Testing

### **Project**

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

Project Number: M2241161

# **Sample Information**

Bismarck, ND 58503-8078

Attn: Accounts Payable

8100 43rd Ave NE

Sample Type:

Bulk

Sample Location:

Bernhardt Land, Holes 26 & 33

Sample Description:

Pit run

# **Laboratory Test Data**

Test Method:

ASTM C136

701-258-2833

Bismarck, ND 58504-6070

Method:

NA

1.0 C =

Atterberg Limits:

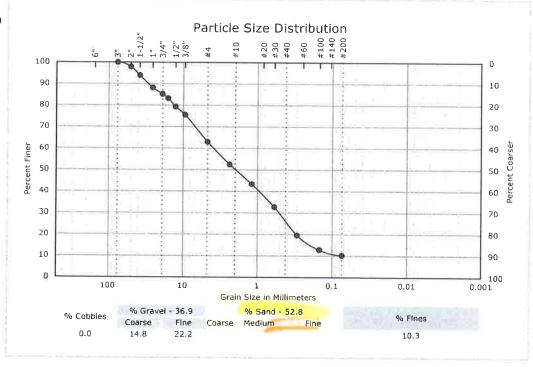
Sample Preparation:

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		



Comments:

Services:

#30

#50

#100

#200

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

33

20

13

10.3

Report Distribution: (1) Burleigh County Highway Department,

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

(1) Burleigh County Highway Department,

D = 0.51

D = 3.94

(1) Burleigh County Highway Department, Marcus Hall

Reviewed By:

D = 0.069 (Est.)

Ty E. Kelsch, CET Senior Project Manager

57.2

FM =

Test

ASTM C117, ASTM C136

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**Report Number:** M2241161.0052

Service Date:

10/17/24

Report Date:

10/18/24

Task: Client Materials Testing

Bulk

Pit run

Bernhardt Land, Holes 24 & 28

Burleigh County Highway Department Attn: Accounts Payable

8100 43rd Ave NE

Bismarck, ND 58503-8078

Sample Information

Sample Type:

5/8"

1/2"

3/8"

#4

#8

#16

#30

#50

#100

#200

Sample Location:

Sample Description:

Bismarck, ND 58504-6070

701-258-2833

**Project** 

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

Project Number: M2241161

**Laboratory Test Data** 

Test Method:

ASTM C136

Method:

NA

Atterberg Limits:

Sample Preparation:

Oven Dried

Sieving Method:

Composite Sieving-Single Separation

Sieve Size			Pass (X=Fail)
2"	100		
1-1/2"	96		
1"	91		
3/4"	84		

79

74

67

51

38

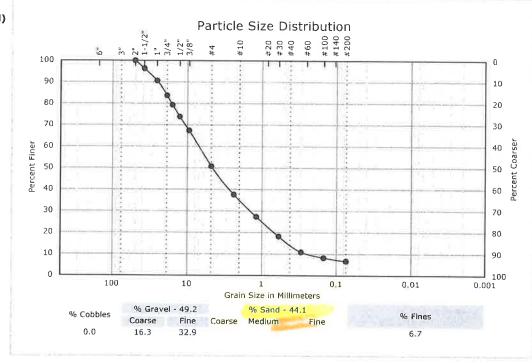
27

18

11

8

6.7



D = 6.99 60	D = 1.45	D = 0.251	C = 1.2 c	C = 27.9	FM =

#### Comments:

Services:

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

(1) Burleigh County Highway Department,

Report Distribution:

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

(1) Burleigh County Highway Department,

(1) Burleigh County Highway Department,

Marcus Hall

Reviewed By:

Senior Project Manager

Test ASTM C117, ASTM C136

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**Report Number:** M2241161.0053

Service Date:

10/17/24

Report Date:

10/18/24

Burleigh County Highway Department

Task: Client Materials Testing

**Project** 

Gravel Crushing 2024 Project #1002 (24)

Burleigh County, ND

Project Number: M2241161

Sample Information

Bismarck, ND 58503-8078

Attn: Accounts Payable

8100 43rd Ave NE

Sample Type:

Bulk

Sample Location:

Berhardt Land, Holes 35 & 38

Sample Description:

Pit run

**Laboratory Test Data** 

Test Method:

ASTM C136

1502 Grumman Ln, Ste 4

Bismarck, ND 58504-6070

701-258-2833

Method:

NA

Atterberg Limits:

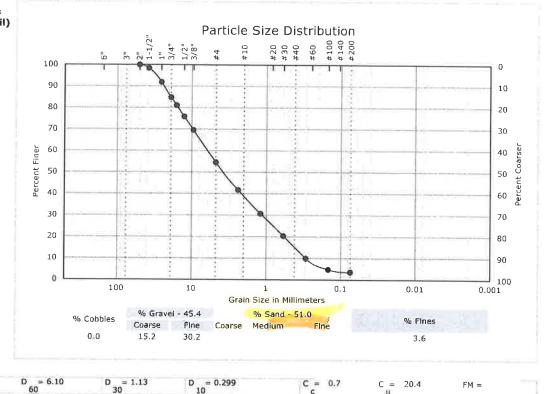
Sample Preparation:

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		



Comments:

Services:

Terracon Rep.: Kelly Melchior Reported To: Lonny Hertel

Contractor:

Lonny Hertel

**BCHD** 

Report Distribution:

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

(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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CR0027, 06-10-17, Rev.0

**Report Number:** M2241161.0054

**Service Date:** Report Date:

10/29/24 10/31/24

Burleigh County Highway Department

Task:

Materials Testing

Client

**Project** 

Gravel Crushing 2024 Project #1002 (24)

Burleigh County, ND

Project Number: M2241161

Sample Information

Bismarck, ND 58503-8078

Attn: Accounts Payable

8100 43rd Ave NE

Bulk

Sample Location: Bernhardt land

Sample Description:

Sample Type:

Pit run, Holes 59 & 62

**Laboratory Test Data** 

Test Method:

ASTM C136

701-258-2833

1502 Grumman Ln, Ste 4

Bismarck, ND 58504-6070

Method:

NΑ

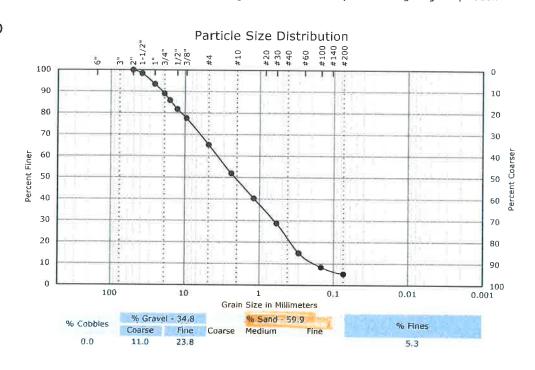
Atterberg Limits:

Oven Dried

Sample Preparation: Sieving Method:

Composite Sieving-Single Separation

Sieve Percent **Pass** Spec.\* Finer (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



 $D_{60} = 3.64$ 

 $D_{30} = 0.64$ 

 $D_{10} = 0.186$ 

C = 0.6

by h Khal

Comments:

#200

Services:

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

5.3

Report Distribution: (1) Burleigh County Highway Department,

(1) Burleigh County Highway Department, Lonny Hertel

(1) Burleigh County Highway Department,

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

Reviewed By:

Senior Project Manager

Test ASTM C117, ASTM C136

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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:

Atterberg Limits:

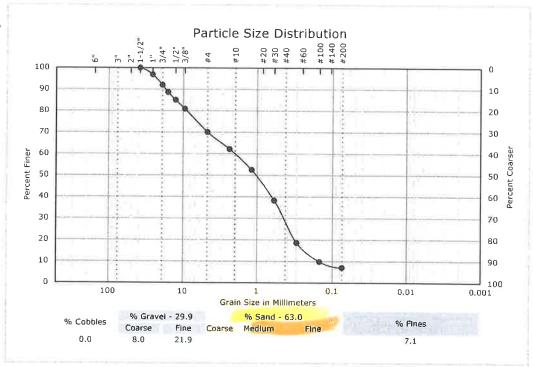
Sample Preparation:

Oven Dried

Sieving Method:

Composite Sieving-Single Separation

Sieve	Percent		Pass
Size	Finer	Spec.*	(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		



D = 2.01  $D_{30} = 0.44$ D = 0.151 13.3 FM =

## Comments:

#30

#50

#100

#200

38

19

10

7.1

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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CR0027, 06-10-17, Rev.0

Report Number: M2241161.0050

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 Pavable 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:

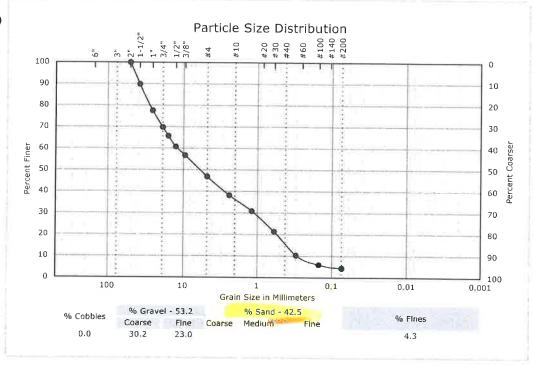
Sample Preparation:

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		



C = 0.4

Comments:

#50

#100

#200

Services:

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

10

6

4.3

Report Distribution: (1) Burleigh County Highway Department,

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

(1) Burleigh County Highway Department, Dan Schriock

D = 1.12

(1) Burleigh County Highway Department, Marcus Hall

 $D_{60} = 12.10$ 

Reviewed By:

D = 0.288

Ty E. Kelsch, CET Senior Project Manager

C = 42.1

FM =

Test

ASTM C117, ASTM C136

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