



North Dakota Department of Transportation

Grant Levi, P.E.
Director

Jack Dalrymple
Governor

November 6, 2015

ADDENDUM 3 – JOB 31

TO: All prospective bidders on project SOIB-5-0200(024)075, Job No. 31 scheduled for the November 13, 2015 bid opening.

The following plan and request for proposal revisions shall be made:

Plan Revisions:

Add sheets 180-5 through 180-12 with the enclosed sheets.

Sheets 180-5 through 180-12:

Pit plats and test data have been added.

Request for Proposal Revision:

Add the attached MATERIALS PIT LIST.

This addendum is to be incorporated into the bidder's proposal for this project.

For CAL J. GENDREAU – CONSTRUCTION SERVICES ENGINEER

80:dch

Enclosure

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

MATERIALS PIT LIST

GENERAL NOTES

NOTES: All pit data for the **November 13, 2015** bid opening has been carefully prepared, and is believed to be correct insofar as reliable preliminary pit information can reasonably be obtained. The contractors are advised to check all pit information before bidding.

It is recommended all bidders discuss pertinent pit data with the Materials and Research Engineer prior to the bid opening. Information such as field notes, field loggings, and comments may not be included in the materials pit list or boring logs. This additional information if present would be in the respective pit file at the Materials and Research Division.

Field logging by prospecting crews may list silt, clay, or silty clay. Our test hole plat will show silt-clay for those listings because the Department does not test to determine what percent is clay and what percent is silt.

Each pit shall be operated to prevent waste and to make the best use of the deposit and to produce a uniform gradation for the item of work under construction. Usually, the material will be removed to the full width and depth of the deposit. The purpose is to exhaust the portion of the pit being worked so the stripping or topsoil can be pushed into this exhausted area and smoothed, thereby eliminating the necessity of covering unused material in the pit unless the owner agrees otherwise.

In the use of pits, the contractor is required to comply with all federal, state, and local laws and regulations.

In the use of department-owned or optioned pits, the contractor shall fulfill all obligations imposed on the Department under the Department's options or agreements.

L.A. Abrasion Loss 17.1% Combined Sample Sec 31-152-103

16.3% Combined Sample Sec 6-151-103

Wt. per c.f. loose	100.9	96.0	103.3	98.1	100.2	110.2	116.9	116.6	115.3	117.1	114.2	lbs
Wt. per c.f. rodded	113.1	107.6	116.7	111.4	112.6	121.6	121.2	122.4	122.1	123.9	121.5	lbs
P.I. (-40 Sieve)	NP											

*Plus No.4 fraction - percent by weight of total sample

**Minus No. 4 fraction - Plus No. 30 fraction - percent by percent by weight of total sample

***In total sample

<u>Size</u>	<u>Aggregate Type</u>	<u>Sieves</u>	<u>Water Absorption</u>	<u>Water Absorption</u>
-5/8" +No. 4	natural rock	+No. 4	1.0%	1.1%
Minus No. 4	natural fines		2.6%	2.2%

NOTE: Material was selected at random throughout deposit and crushed with a crusher at Central Lab. The water absorption data is to be used for information purposes. Water absorption numbers may vary throughout the pit. The contractor shall be responsible for verifying the actual absorption prior to using the material in the project.

The west 230 feet of the Section 31 optioned pit area is reserved for the owner. Contact the landowner for details.

Telephone, power, and irrigation utility lines exist near this pit and must be located and avoided.

This source was also shown for projects SOIB-SOIA 7-023(039)016 and SOIB-SOIA-7-023(038)900 and they have priority of use of the material. Previously awarded projects will have priority in use of material and contractors must contact companies that are awarded these projects for information on availability.

NDDOT Material Source Certificate of Approval is attached at the end of this job pit list.

Interested bidders are advised to investigate all the details concerning these deposits to their own satisfaction before considering them for bidding purposes.

Aggregate SE1/4 10-24-59 Montana 316,000 ton

State optioned until December 31, 2019 for
 202.5¢ per cu.yd. or 135.0¢ per ton.
 Prewitt Land & Livestock (Rod Prewitt), 924 12th Street
 SW, Sidney, MT 59270
 Home Phone: (406) 480-2777

<u>% Pass</u>	A	B	C	D	E	F
1"	91	90	89	89	93	94
3/4"	82	81	83	83	83	89
5/8"	76	77	77	77	78	84
1/2"	67	70	69	69	71	77
No. 4	43	50	45	45	50	58
No. 8	37	44	40	40	43	54
No. 10	36	43	39	39	42	53
No. 16	34	41	37	37	40	51
No. 30	32	38	35	35	37	46
No. 40	31	35	34	34	34	39
No. 50	25	28	30	30	26	28
No. 100	8	9	13	13	7	8
No. 200	3.6	3.4	5.6	5.6	3.4	3.1
+No. 4*	0.0	0.1	0.1	0.1	0.0	0.1
-No. 4**	0.0	0.0	0.0	0.0	0.0	0.0
Total***	0.0	0.1	0.0	0.0	0.0	0.1
Wt/cf ls	115.2	111.3	116.3	116.3	114.5	111.1
Wt/cf rd	123.4	118.6	126.7	126.7	121.7	119.4
P.I.(-40)	NP	NP	NP	NP	NP	NP

L.A. Abrasion 16.3% Combined Sample

*Plus No. 4 fraction - percent by weight of total sample

**Minus No. 4 fraction - Plus No. 30 fraction - percent by percent by weight of total sample

***In total sample

<u>Size</u>	<u>Aggregate Type</u>	<u>Sieves</u>	<u>Water Absorption</u>
-5/8" +No. 4	natural rock	+ No. 4	1.3 %
Minus No. 4	natural fines	- No. 4	1.9 %

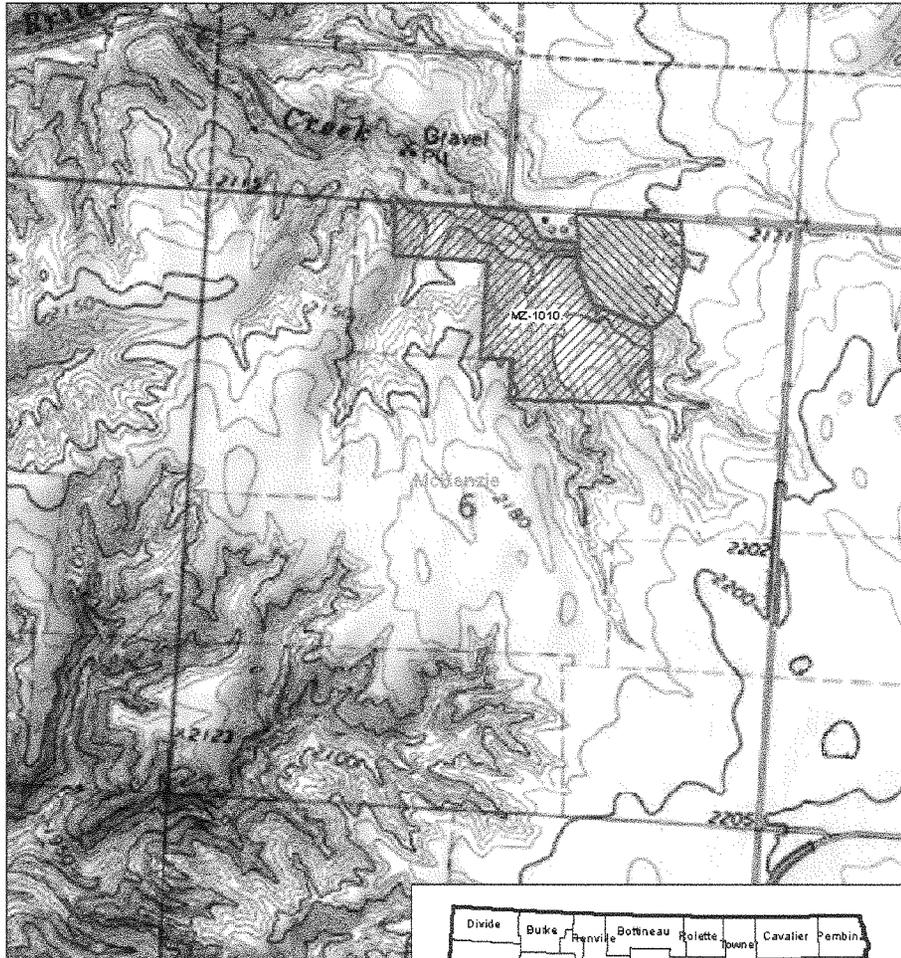
NOTE: The water absorption data is to be used for information purposes. Water absorption numbers may vary throughout the pit. The contractor shall be responsible for verifying the actual absorption prior to using the material in the project. Prior to the use of this location the contractor must acquire and comply with an Open Cut Mining Permit from the Montana Department of Environmental Quality (406-444-4970). Look at Material Source Certificate of Approval for other actions to follow. This deposit has a fair amount of oversize rock from 2" to 3" with not much over 3". There is a lot more material outside the drilled area to the east and south.

NDDOT Material Source Certificate of Approval is attached at the end of this job pit list.

Interested bidders are advised to investigate all the details concerning these deposits to their own satisfaction before considering them for bidding

NDDOT Material Source Certificate of Approval

MZ-1010



Pit Name:

NE/NW S. 6 T. 151 N, R 103 W

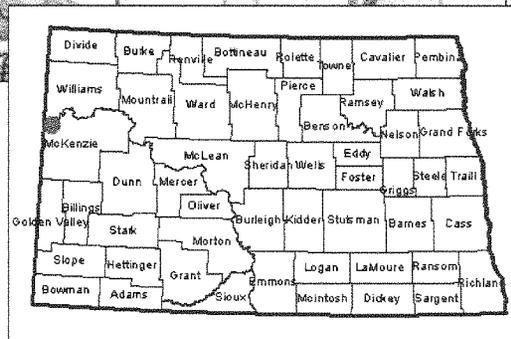
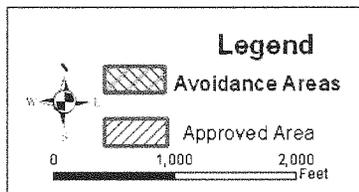
County: McKenzie

Conditions:

This location is approved for use, provided all avoidance areas shown on the map are avoided, and any Conditions listed above are complied with. NDDOT advises that all applicants (contractors or their representatives) may be subject to meeting certain legal responsibilities pursuant to one or more of the following authorities administered by the USFWS: Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703 et seq.); Endangered Species Act (ESA) (16 U.S.C. 1531 et seq.); and Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668d, 54 Stat. 250). It is unclear at this time what effects, if any, material source activities may have on plants, fish, and/or wildlife species protected by the above-mentioned Acts. It is the responsibility of the applicants and/or any individual conducting activities at any approved site to fulfill the requirements of these Acts.

This approval does not imply landowner permission to acquire material at this location. An agreement with the landowner is still necessary. The contractor will be responsible for any impacts to wetlands, including permitting those impacts and mitigating the loss of the wetlands. As with all projects, if cultural artifacts and/or features (e.g., stone tools, fire hearths, stone circles, burials) are encountered, provisions outlined in Section 107.04 of the Standard Specifications for Road and Bridge Construction shall be followed.

If you have any questions regarding material sources please email materialsourc@nd.gov



NDDOT Material Source Certificate of Approval

MZ-1011



Pit Name:

SE/SW

S. 31 T. 152 N, R 103 W

County:

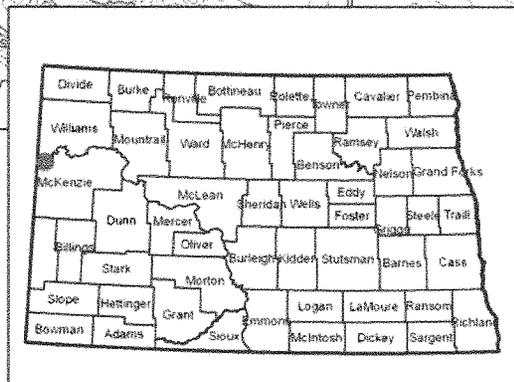
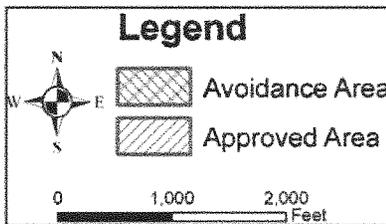
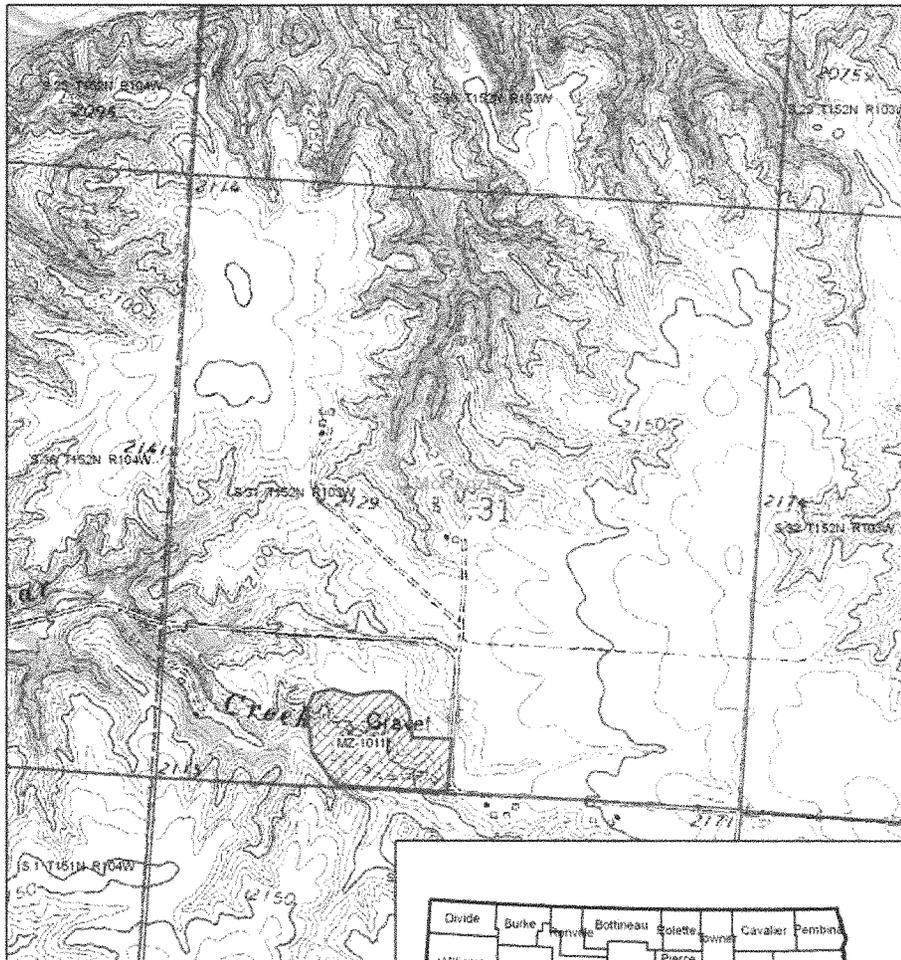
McKenzie

Conditions:

This location is approved for use, provided all avoidance areas shown on the map are avoided, and any Conditions listed above are complied with. NDDOT advises that all applicants (contractors or their representatives) may be subject to meeting certain legal responsibilities pursuant to one or more of the following authorities administered by the USFWS: Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703 et seq.); Endangered Species Act (ESA) (16 U.S.C. 1531 et seq.); and Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668d, 54 Stat. 250). It is unclear at this time what effects, if any, material source activities may have on plants, fish, and/or wildlife species protected by the above-mentioned Acts. It is the responsibility of the applicants and/or any individual conducting activities at any approved site to fulfill the requirements of these Acts.

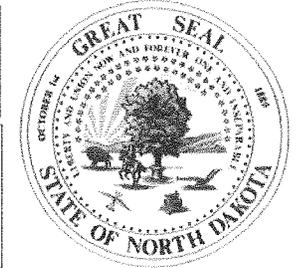
This approval does not imply landowner permission to acquire material at this location. An agreement with the landowner is still necessary. The contractor will be responsible for any impacts to wetlands, including permitting those impacts and mitigating the loss of the wetlands. As with all projects, if cultural artifacts and/or features (e.g., stone tools, fire hearths, stone circles, burials) are encountered, provisions outlined in Section 107.04 of the Standard Specifications for Road and Bridge Construction shall be followed.

If you have any questions regarding material sources please email materialsource@nd.gov



NDDOT Material Source Certificate of Approval

XX-1025



Pit Name:
Prewitt

SE S. 10 T. 24 N, R 59 W

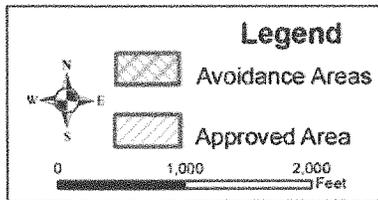
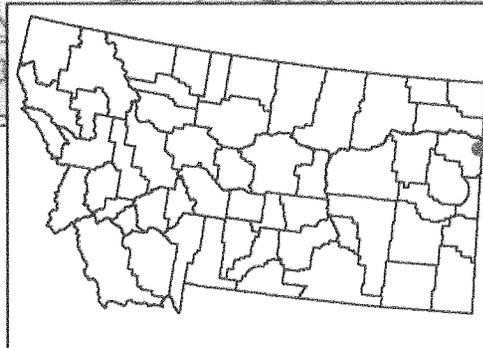
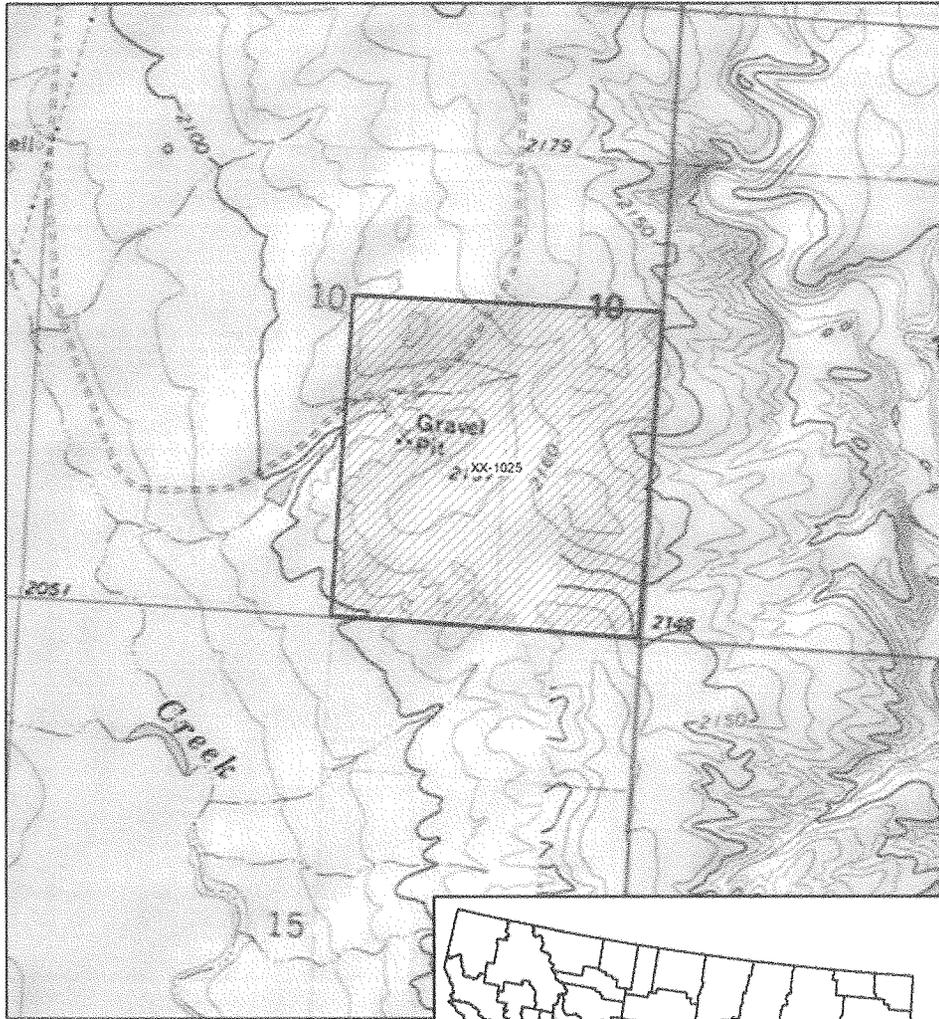
County: Montana - all

Conditions: Prior to the use of this location the contractor must acquire an Open Cut Mining Permit from the Montana Department of Environmental Quality (406-444-4970). Additionally, the source may be located on property encumbered by USFWS (United States Fish and Wildlife Service) property interest. The contractor must coordinate with Montana United States Fish and Wildlife Service Ecological Services (406-449-5225) in Helena, Montana and the landowner regarding any terms and conditions before using material from this source.

This location is approved for use, provided all avoidance areas shown on the map are avoided and all Conditions listed above and below are complied with.

NDDOT advises that all applicants (contractors or their representatives) may be subject to meeting certain legal responsibilities pursuant to one or more of the following authorities administered by the USFWS: Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703 et seq.); Endangered Species Act (ESA) (16 U.S.C. 1531 et seq.); and Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668d, 54 Stat. 250). It is the responsibility of the applicants and/or any individual conducting activities at any approved site to fulfill the requirements of these Acts. The contractor will be responsible obtaining all applicable permits outlined in Section 107 of the Standard Specifications for Road and Bridge Construction (SSRBC). Additionally, contractor will be responsible for any impacts to wetlands, including permitting those impacts and mitigating the loss of the wetlands. As with all projects, if cultural artifacts and/or features (e.g., stone tools, fire hearths, stone circles, burials) are encountered, provisions outlined in Section 107.06 of SSRBC shall be followed.

This approval does not imply landowner permission to acquire material at this location. An agreement with the landowner is still necessary. If you have any questions regarding material sources please email materialsource@nd.gov



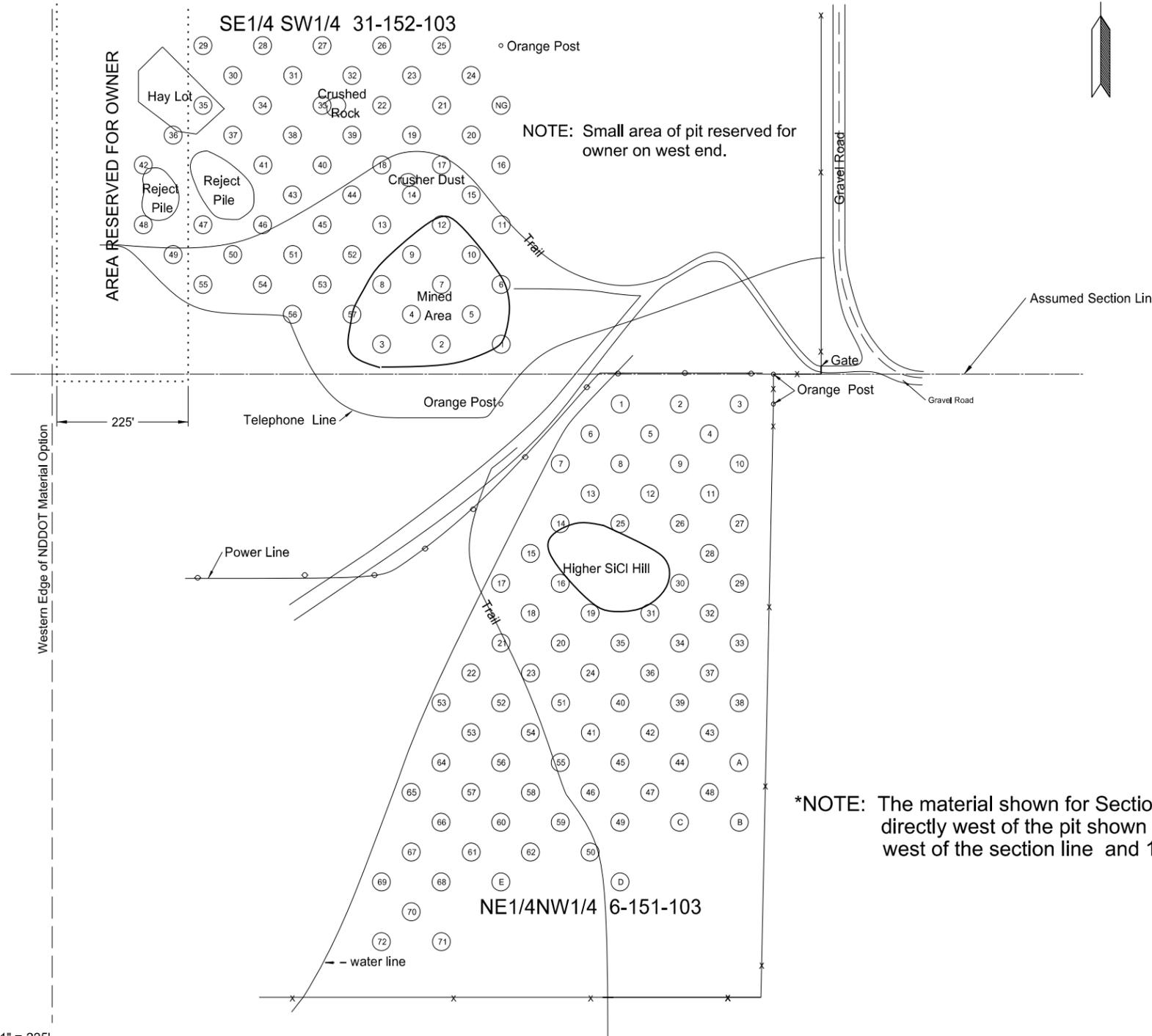
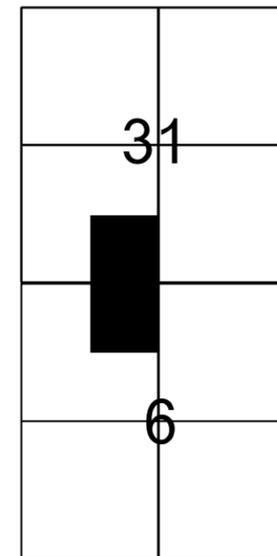
NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

TEST HOLE PLAT

Location: SE1/4SW1/4 31-152-103 & NE1/4NW1/4 6-151-103 County: McKenzie

Ownership: James & Diana Gullikson, Cartwright, ND

LOCATION OF PIT IN SECTION



NOTE: Small area of pit reserved for owner on west end.

SE1/4SW1/4 31-152-103
Area "A" consists of Test Holes 1 - 13
Area "B" consists of Test Holes 14 - 26
Area "C" consists of Test Holes 27 - 39
Area "D" consists of Test Holes 40 - 48
Area "E" consists of Test Holes 49 - 57

NE1/4NW1/4 6-151-103
Area "A" consists of Test Holes 1 - 13
Area "B" consists of Test Holes 14 - 24
Area "C" consists of Test Holes 25 - 37
Area "D" consists of Test Holes 38 - 50
Area "E" consists of Test Holes 51 - 62
Area "F" consists of Test Holes 63 - 72

Legend:

- gr = gravel
- sd = sand
- FS = fine sand
- Fgr = fine gravel
- CS = coarse sand
- sh = shale
- SiCl = silt clay
- rk = rock
- FeO = Iron oxide
- CoS = Coal Slack
- WL = water line
- NG = no gravel

*NOTE: The material shown for Section 6 may now be depleted. More material may be available directly west of the pit shown in Section 6. The NDDOT Material Option includes 1,320 feet west of the section line and 1,320 feet south of the section line in Section 6.

Scale 1" = 225'

PIT LOGGING BY TEST HOLES								PIT LOGGING BY TEST HOLES								PIT LOGGING BY TEST HOLES								PIT LOGGING BY TEST HOLES							
Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1½" Screen	% Retained on ¾" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole	Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1½" Screen	% Retained on ¾" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole	Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1½" Screen	% Retained on ¾" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole	Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1½" Screen	% Retained on ¾" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole
1	1.5	9.0 gr	0	18	45	62	+WL16.5	16	0.5	0.5 Fgr	1	13	29	37	+WL 9.5	31	0.5	6.0 gr	3	23	55	75	+WL 6.5	52	0.5	1.5 gr	0	13	25	30	+WL 10.0
		1.5 FS								1.0 FS					32	0.5	5.5 gr	0	16	37	49	+WL 6.0			2.0 FS						
		4.5 gr								1.0 Fgr					33	0.5	1.5 gr	0	11	32	47	+WL 5.0			3.0 gr						
2	0.5	0.5 gr	0	16	33	42	+WL 7.0			2.0 FgrSiCl							1.0 FS								5.0 Fgr						
		1.0 Fgr								1.0 FS							2.0 gr								2.5 FS						
		1.0 Fgr SiCl								3.0 gr					34	0.5	5.5 gr	3	19	45	63	+WL 6.0	53	0.5	1.5 gr	0	15	29	37	+WL 9.5	
		1.0 Fgr						17	1.0	2.0 FS	0	15	33	40	+WL 7.0	35	0.5	7.5 gr	2	31	53	69	+WL 8.0			5.0 FS					
		1.0 Fgr SiCl								3.0 gr					36	0.5	4.5 FS SiCl	0	20	35	45	+WL 8.5			2.5 gr						
		2.0 gr								1.0 FS							3.5 gr						54	0.5	0.5 Fgr	0	23	46	59	+WL 11.0	
3	0.5	4.5 gr	2	17	32	51	+WL 5.0	18	0.5	6.5 gr	0	16	36	48	+WL 8.0	37	0.5	1.5 gr	0	10	28	37	+WL 5.0			10.0 gr					
4	0.5	3.5 gr	1	24	48	62	+WL 4.0			1.0 sd							1.0 FS						55	5.0	6.0 gr	2	20	38	52	+Cave	
5	5.0	1.0 gr	3	18	28	35	+WL 8.0	19	0.5	3.5 gr	0	10	27	35	+WL 6.0			1.0 gr								2.0 FS					
		1.0 FS								1.0 FS							1.0 FS						56	0.5	2.0 gr	0	11	24	34	+WL 10.0	
		1.0 gr								1.0 gr					38	0.5	5.5 gr	0	17	38	48	+WL 6.0			4.5 FS						
6	0.5	5.5 gr SiCl	1	12	27	33	+WL14.0	20	0.5	2.5 Fgr	0	14	32	43	+WL10.0	39	1.0	4.0 gr	0	13	31	44	+WL 5.0			2.0 gr					
		1.0 gr								3.0 gr					40	0.5	1.5 gr	0	9	24	33	+WL 6.0			1.0 FS						
		0.5 FS								0.5 FS							4.0 FS SiCl						57	0.5	6.0 gr	0	21	42	54	+WL 6.5	
		0.5 Fgr								3.5 gr					41	0.5	5.5 gr	0	13	36	48	+WL 6.0									
		4.0 gr						21	0.5	5.5 gr	0	14	33	44	+WL 6.0	42	0.5	2.5 sd	0	7	17	28	+WL 7.0								
		2.0 FS						22	0.5	0.5 sd	0	12	29	42	+WL 6.0			4.0 gr													
7	0.5	3.5 gr	0	12	24	37	+WL 4.0			4.5 gr					43	0.5	4.5 gr	0	21	46	60	+WL 8.0									
8	0.5	4.5 gr	1	26	48	58	+WL 5.0			0.5 Fgr							1.0 FS														
9	0.5	1.5 gr	1	22	33	37	+WL 2.0	23	0.5	1.5 sd	0	9	19	25	+WL 9.0			2.0 gr													
10	2.0	1.0 sd	2	21	40	50	+WL 8.0			1.0 sd SiCl					44	0.5	3.5 gr	0	6	19	27	+WL 7.0									
		4.0 gr								1.0 FS					45	0.5	3.0 gr	0	15	36	52	+WL 9.0									
		1.0 FS								3.0 gr							0.5 FS														
11	1.0	1.0 Fgr	2	21	41	54	+WL17.0			1.0 FS							1.5 gr														
		8.0 gr								1.0 gr							0.5 Fgr														
		1.0 Fgr						24	0.5	2.5 sd	0	4	12	17	+WL10.0			3.0 gr													
		2.0 gr								1.0 Fgr SiCl							1.0 sd														
		1.0 Fgr								3.0 gr					46	0.5	0.5 gr	2	22	42	54	+WL 8.5									
		3.0 gr								3.0 FS							1.0 sd														
12	0.5	0.5 FS	1	21	44	55	+WL 3.0	25	0.5	2.5 sd SiCl	0	11	25	31	+WL 9.0			4.0 gr													
		2.0 gr								5.0 gr							1.0 FS														
13	0.5	5.5 Fgr	0	9	22	29	+WL 9.0			1.0 FS					47	1.0	1.0 Fgr	0	16	39	53	+WL 8.0									
		1.0 sd						26	0.5	3.5 FS	0	6	15	20	+WL12.0			1.5 gr													
		1.0 Fgr								1.0 sd							6.0 gr														
		1.0 gr								1.0 FS					48	0.5	2.5 FS	0	11	24	31	+WL 8.0									
14	0.5	2.5 FS	0	7	19	29	+WL 8.0			1.0 Fgr							2.0 gr														
		3.0 gr								2.0 gr							2.0 FS														
		2.0 FS								3.0 FS							1.0 gr														
15	2.0	1.0 gr	1	17	35	43	+WL13.0	27	0.5	2.5 gr	0	9	19	26	+WL 7.0	49	1.5	7.5 gr	2	22	43	58	+WL 12.0	RANGE <u>103</u> TWP <u>152</u> SEC <u>SE¼SW¼</u> 31							
		1.0 sd								4.0 FS							1.0 gr Si Cl						COUNTY <u>McKenzie</u> <u>Sep-08</u>								
		6.0 gr						28	0.5	3.5 gr	2	28	44	50	+WL 8.0			2.0 gr						PROSPECTED BY <u>Volk/Swenson</u>							
		2.0 FS								1.0 FS					50	0.5	6.0 FS	0	9	21	31	+WL 10.5	INSPECTED & APPROVED <u>Carter Jun-09</u>								
		1.0 gr								3.0 gr							1.5 Fgr														
								29	0.5	4.5 gr	1	21	44	50	+WL 9.0			2.5 gr													
										2.0 FS					51	0.5	5.5 gr	3	25	41	51	+WL 9.5									
										2.0 gr							2.0 FS														
								30	0.5	7.5 gr	4	29	51	60	+WL 8.0			1.5 gr													

PIT LOGGING BY TEST HOLES								PIT LOGGING BY TEST HOLES								PIT LOGGING BY TEST HOLES								PIT LOGGING BY TEST HOLES							
Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1½" Screen	% Retained on ¾" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole	Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1½" Screen	% Retained on ¾" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole	Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1½" Screen	% Retained on ¾" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole	Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1½" Screen	% Retained on ¾" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole
1	1.0	2.0 sd	2	25	46	58	+	12	1.0	2.0 sd SiCl	3	28	54	65	+	23	2.0	1.5 sd	1	20	38	49	+	33	4.0	8.0 FS	0	14	30	39	+
		2.0 gr								14.0 gr							3.5 gr								8.0 gr						
		1.5 sd								2.0 gr SiCl							1.0 FS						34	2.5	1.0 FS	0	14	37	49	+	
		13.5 gr								1.0 gr							4.5 gr								0.5 Fgr						
2	4.0	2.0 FS	2	14	33	45	+	13	2.0	16.0 gr	0	16	44	61	+			3.5 FS								6.5 gr					
		10.5 gr								2.0 FS							4.0 gr								0.5 FS						
		0.5 gr SiCl						14	8.0	1.0 sd Si Cl	0	11	31	43	+	24	2.0	1.5 FS	3	17	37	47	+			9.0 gr					
		1.5 gr								1.0 Fgr							6.5 gr						35	2.0	7.0 FS	0	18	35	42	+	
		0.5 gr CoS								2.0 gr							1.0 sd								9.0 gr						
		1.0 gr								2.0 FS							3.5 gr								1.0 FS						
3	2.0	2.0 gr	1	15	36	51	+			6.0 gr							0.5 sd								1.0 gr						
		1.0 FS						15	4.0	0.5 FS	0	21	44	59	+			1.5 gr						36	2.0	2.0 FS	1	14	31	42	+
		2.0 Fgr								4.0 gr							0.5 FS								1.0 sd						
		1.0 FS SiCl								0.5 FS							3.0 gr								1.0 Fgr						
		6.0 gr								11.0 gr					25	5.0	7.0 gr	1	21	45	57	+			1.0 gr						
		1.0 FS						16	9.0	4.0 Fgr	0	7	26	43	+			2.0 FS								1.0 FS					
		2.0 gr								1.0 gr							6.0 gr								6.5 gr						
		1.0 FS								1.0 FS					26	1.0	2.0 FS	3	19	37	50	+			2.5 FS						
		2.0 gr								4.0 Fgr							4.5 gr								3.0 gr						
4	2.0	2.0 FS SiCl	1	20	41	54	+			1.0 FS							1.5 FS						37	5.0	1.0 FS	0	15	41	54	+	
		14.5 gr						17	3.0	2.0 Fgr	1	14	34	44	+			9.5 gr								4.0 gr Si Cl					
		0.5 gr CoS								8.0 gr							1.0 FS								6.0 gr						
		1.0 Fgr								5.0 FS							0.5 Fgr								1.0 FS						
5	0.5	1.0 sd	1	23	48	60	+			1.0 gr					27	1.0	3.0 FS	1	18	41	54	+			1.0 gr						
		2.5 Fgr								1.0 FS							13.0 gr								1.5 gr Si Cl						
		14.0 gr						18	5.0	1.5 FS	2	16	34	46	+			1.5 FS								0.5 gr					
		1.0 FS								4.5 gr							1.5 gr						38	6.0	10.0 FS	0	4	13	17	+	
		1.0 gr								1.0 FS					28	2.0	2.0 sd	0	13	38	52	+			4.0 gr						
6	0.5	1.5 sd	2	18	44	58	+			8.0 gr							8.5 gr						39	3.0	2.0 FS	1	19	44	57	+	
		15.5 gr						19	6.0	9.0 FS	0	0	1	3	+ Cave			1.5 Fgr								6.5 gr					
		1.5 Fgr						20	4.0	1.5 FS	0	16	27	34	+			4.5 gr								1.5 Fgr					
7	0.5	0.5 sd	2	25	49	63	+			1.5 gr							1.5 gr Co S								7.0 gr						
		2.0 Fgr								1.0 FS					29	4.0	2.0 sd	1	13	32	46	+	40	1.0	19.0 gr	2	17	39	56	+	
		17.0 gr								2.0 gr							2.5 FS						41	2.0	3.0 gr	1	17	36	48	+	
8	1.0	1.0 Fgr	3	22	49	62	+			1.0 FS							4.5 gr								1.0 FS						
		1.0 sd								1.0 Fgr							4.0 Fgr								1.0 Fgr						
		8.0 gr								3.0 gr							3.0 gr								1.0 FS						
		2.0 FS								2.0 FS Si Cl					30	7.0	5.0 gr	0	16	37	50	+			5.0 gr						
		2.0 gr								0.5 Fgr							1.0 gr Si Cl								1.0 FS						
		2.0 gr SiCl								0.5 FS							1.0 gr								6.0 gr						
		3.0 gr								2.0 gr							1.0 gr Si Cl														
9	1.0	2.0 sd	0	21	43	55	+	21	1.0	1.0 FS	2	22	47	60	+			2.0 gr													
		15.5 gr								18.0 gr							2.0 FS														
		1.5 FS						22	1.0	1.0 FS	1	17	36	47	+			1.0 Fgr													
10	0.5	1.5 FS	3	22	49	62	+			2.0 gr					31	8.0	2.0 FS Si Cl	0	15	33	46	+									
		18.0 gr								0.5 FS							1.0 FS														
11	0.5	2.5 sd	1	20	42	56	+			1.5 Fgr							9.0 gr														
		2.0 Fgr								12.0 gr					32	7.0	6.0 gr	2	21	44	61	+									
		15.0 gr															1.0 gr Si Cl														
																	6.0 gr														

RANGE 103 TWP 152 SEC NE¼ NW¼ 6
COUNTY McKenzie Sep-08
PROSPECTED BY Volk/Swenson
INSPECTED & APPROVED Carter Jun-09

PIT LOGGING BY TEST HOLES								PIT LOGGING BY TEST HOLES								PIT LOGGING BY TEST HOLES								PIT LOGGING BY TEST HOLES							
Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1/2" Screen	% Retained on 3/4" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole	Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1/2" Screen	% Retained on 3/4" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole	Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1/2" Screen	% Retained on 3/4" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole	Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1/2" Screen	% Retained on 3/4" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole
42	2.0	2.0 FS	3	20	44	57	+	52	2.5	1.5 gr	1	21	41	54	+	60	5.0	3.0 FS	0	18	38	46	+	71	3.5	4.5 sd	0	0	4	3	+
		16.0 gr								2.0 FS								7.0 gr								12.0 FS					
43	3.5	4.5 FS	0	9	23	30	+			11.0 gr								1.0 sd						72	6.0	4.0 sd	1	12	29	42	+
		2.0 sd								2.0 FS								4.0 gr								4.0 gr					
		2.0 gr								1.0 gr						61	2.0	2.0 FS	0	7	19	29	+			1.5 FS					
		1.0 FS						53	2.0	0.5 gr	3	28	54	65	+			2.0 FS Co S								3.0 gr					
		1.5 gr								1.5 FS								1.0 Fgr								1.5 FS					
		3.5 FS								16.0 gr								2.0 FS													
		2.0 gr						54	3.0	2.5 gr	1	14	34	46	+			1.0 sd Si Cl													
44	6.0	2.0 FS	0	11	33	47	+			3.5 FS								1.0 FS													
		1.0 gr								3.0 gr								9.0 gr													
		1.0 FS								1.0 FS						62	8.5	1.5 FS	0	14	33	45	+								
		4.0 gr								1.0 gr								1.0 Fgr						A	1.0	3.0 FS	0	0	0	0	+
		1.0 Fgr								1.0 FS								1.0 FS								1.0 sd Si Cl					
		5.0 gr								5.0 gr								2.0 Fgr								16.0 FS					
45	3.0	1.0 sd	1	22	46	57	+	55	4.0	0.5 FS	1	18	37	48	+			6.0 gr						B	6.0	14.0 FS	0	0	0	0	+
		4.0 gr								2.5 gr						63	1.0	1.0 FS	2	20	45	58	+	C	1.0	14.0 FS	0	0	2	3	+
		1.0 FS								3.0 FS								1.0 Fgr								0.5 Fgr					
		1.0 gr								10.0 gr								17.0 gr								3.5 FS					
		1.0 FS						56	2.0	1.0 FS	0	10	24	35	+	64	2.0	7.0 gr	2	26	46	57	+			1.0 Fgr					
		9.0 gr								4.0 gr								3.0 FS						D	8.0	2.0 FS Si Cl	0	2	7	10	+
46	6.0	1.0 Fgr	1	23	46	56	+			1.0 FS								4.0 gr								1.0 gr Si Cl					
		4.0 gr								1.0 Fgr								1.0 FS								1.0 FS Si Cl					
		2.0 FS								1.0 FS								3.0 gr								8.0 FS					
		7.0 gr								1.0 Fgr						65	1.0	1.0 Fgr	0	19	44	56	+	E	2.0	1.0 FS	0	0	5	8	+
47	6.0	1.0 sd	1	18	39	51	+			1.0 FS								8.0 gr								1.0 Fgr					
		1.0 Fgr								4.0 gr								1.0 FS								1.0 sd Co S					
		5.0 gr								1.0 FS								9.0 gr								2.0 Fgr					
		1.0 FS								1.0 Fgr						66	3.5	1.5 FS	1	18	38	49	+			3.0 sd					
		1.0 Fgr								1.0 FS								6.0 gr								2.0 Fgr					
		5.0 gr								1.0 Fgr								3.0 FS								1.0 FS					
48	7.0	6.0 FS	0	9	27	40	+	57	2.0	2.5 FS	1	18	35	45	+			6.0 gr								1.5 Fgr					
		7.0 gr								4.5 gr						67	5.5	1.5 FS	0	16	42	55	+			0.5 gr					
49	8.0	1.0 FS	1	14	36	50	+			5.0 FS								9.0 gr													
		8.5 gr								5.0 gr								1.0 FS													
		0.5 FS								1.0 FS								3.0 gr													
		2.0 gr						58	2.0	3.0 FS	2	17	38	49	+	68	6.0	1.0 sd	0	12	27	38	+								
50	6.0	1.0 FS	0	12	27	38	+			1.0 Fgr								1.0 gr													
		1.0 Fgr								6.0 gr								3.0 FS													
		1.0 FS								0.5 FS								2.0 gr													
		1.0 Fgr Co S								0.5 Fgr								1.0 FS													
		1.0 Fgr Si Cl								7.0 gr								6.0 gr													
		2.0 FS						59	4.0	1.5 gr	1	14	32	42	+	69	5.5	0.5 FS	0	14	36	50	+								
		7.0 gr								2.5 FS								2.0 Fgr													
51	2.0	1.0 FS	0	20	40	50	+			8.0 gr								7.0 gr													
		9.0 gr								1.0 FS								1.0 sd													
		0.5 FS								2.0 gr								4.0 gr													
		1.5 Fgr								1.0 FS						70	4.0	1.0 gr	0	6	19	27	+								
		6.0 gr																10.0 FS													
																		5.0 gr													

***NOTE: THE MATERIAL IN SECTION 6 MIGHT BE DEPLETED**

RANGE 103 TWP 151 SEC NE 1/4 NW 1/4 6
 COUNTY McKenzie Sep-08
 PROSPECTED BY Volk/Swenson
 INSPECTED & APPROVED Carter Jun-09

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-5-200(024)075	180	9

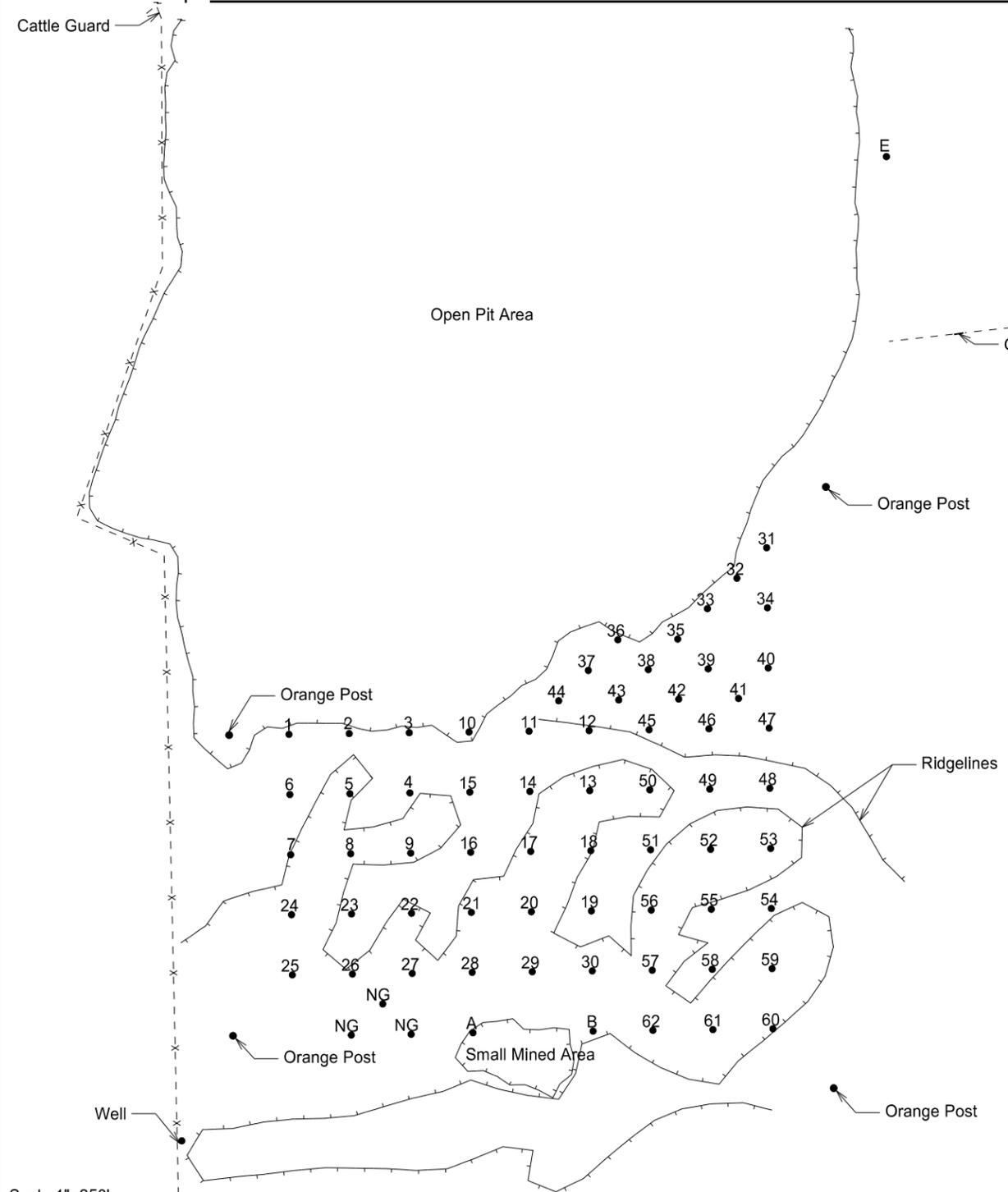
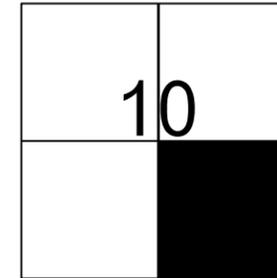
NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

LOCATION OF PIT IN SECTION

TEST HOLE PLAT

Location: SE1/4 10-24-59 County: Richland, MT

Ownership: Prewitt Land & Livestock



Area "A" consists of test holes 1-9
 Area "B" consists of test holes 10-18
 Area "C" consists of test holes 19-30
 Area "D" consists of test holes 31-44
 Area "E" consists of test holes 45-53
 Area "F" consists of test holes 54-62
 Test Holes A-E are for Information only

Legend
 gr = gravel
 Fgr = fine gravel
 CGr = coarse gravel
 sd = sand
 FS = fine sand
 CS = coarse sand
 sh = shale
 SiCl = silt clay
 rk = rock
 FeO = iron oxide
 CoS = coal slack
 NG = no gravel
 DM = disturbed material
 WL = water line

Scale 1"=250'

																								STATE	PROJECT NO.	SECTION NO.	SHEET NO.
																								ND	SOIB-5-200(024)075	180	10

PIT LOGGING BY TEST HOLES								PIT LOGGING BY TEST HOLES								PIT LOGGING BY TEST HOLES								PIT LOGGING BY TEST HOLES							
Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1½" Screen	% Retained on ¾" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole	Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1½" Screen	% Retained on ¾" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole	Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1½" Screen	% Retained on ¾" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole	Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1½" Screen	% Retained on ¾" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole
1	0.5	6.0 gr	0	15	38	55	+	10	0.5	1.0 FS	1	19	36	47	+	17	0.5	0.5 gr Si Cl	0	12	34	48	+	24	1.0	1.0 Fgr Si Cl	0	4	19	30	Si Cl
		0.5 sd								3.5 gr							1.0 sd								1.5 Fgr						
		4.0 gr								1.0 FS							1.0 sd Si Cl								0.5 sd						
		1.0 Fgr								4.0 gr							1.0 gr								1.0 gr Si Cl						
		6.0 gr								1.0 Si Cl							1.0 Fgr						25	0.5	2.5 gr	1	19	40	52	Si Cl	
		2.0 gr Si Cl								2.0 gr							1.0 gr						26	1.0	1.0 gr Si Cl	0	13	35	48	Si Cl	
2	2.0	3.0 gr	1	16	37	53	+			3.0 FS							1.0 sd								2.0 gr						
		1.0 FS								4.0 gr							6.0 gr								1.0 sd						
		1.0 sd						11	2.0	11.5 gr	0	13	31	46	+			2.0 gr Si Cl								3.0 gr					
		13.0 gr								0.5 sd							1.0 Fgr								0.5 gr Si Cl						
3	1.0	4.0 gr	1	16	35	51	+			3.0 gr							2.0 gr						27	5.0	1.0 sd	0	9	24	35	Si Cl	
		2.0 sd								1.0 sd							1.0 gr Co S								2.0 gr						
		1.0 FS								2.0 gr							1.0 gr								1.0 FS						
		12.0 gr						12	1.0	2.0 sd	0	14	30	41	+	18	0.5	1.5 gr Si Cl	0	15	28	37	+			2.0 sd					
4	2.0	1.0 Fgr Si Cl	0	13	37	53	+			1.5 Fgr							4.0 gr						28	3.0	1.0 Fgr Si Cl	0	8	24	42	Si Cl	
		2.0 gr								3.0 gr							0.5 Si Cl								1.0 gr Si Cl						
		1.0 Fgr Si Cl								1.0 FS							2.5 FS						29	2.5	1.5 gr Si Cl	1	24	43	54	Si Cl	
		11.0 gr								3.0 gr							1.0 gr								1.5 gr						
		1.0 gr Co S								1.0 FS							2.0 sd								3.5 gr Si Cl						
		2.0 gr								4.5 gr							1.0 FS Co S						30	0.5	12.5 gr	1	13	39	56	Si Cl	
5	0.5	2.5 gr	1	17	40	55	Si Cl			3.0 FS							2.0 gr						31	2.0	8.0 gr	1	17	38	51	Si Cl	
		1.0 FS						13	0.5	2.5 gr	0	10	29	42	+			3.0 FS								1.0 FS					
		8.0 gr								2.0 sd							2.0 gr								1.0 gr Si Cl						
		2.0 FS								1.0 gr					19	4.0	3.0 sd	0	17	35	44	+			4.5 gr						
		5.0 gr								0.5 Fgr							13.0 gr						32	0.5	0.5 gr Si Cl	0	12	32	47	Si Cl	
6	0.5	0.5 Fgr Si Cl	0	11	33	48	Si Cl			1.0 gr					20	2.0	1.0 sd Si Cl	0	16	36	48	Si Cl			8.0 gr						
		9.0 gr								1.5 sd							8.0 gr								1.0 Fgr						
		1.0 sd Si Cl								1.0 Fgr					21	1.5	0.5 Fgr Si Cl	0	12	30	45	Si Cl			2.0 FS						
		0.5 sd								6.5 gr							2.5 gr								5.0 gr						
		0.5 Fgr								0.5 sd							0.5 sd								1.0 gr Si Cl						
		3.0 gr								1.0 Fgr							1.0 gr						33	3.0	5.0 gr	0	12	26	36	+	
		3.0 gr Si Cl								2.0 gr							1.0 sd								1.0 sd						
7	0.5	4.0 gr	1	15	36	50	Si Cl	14	2.0	2.0 sd	1	16	35	47	+			2.0 gr								1.0 gr					
		0.5 FS								14.0 gr							1.0 sd								1.5 sd						
		1.5 gr								1.0 sd							4.0 gr								2.5 gr						
		2.5 FS								1.0 Fgr							2.0 gr Si Cl								1.0 gr Si Cl						
		4.5 gr						15	2.0	0.5 sd Si Cl	0	16	39	55	+	22	1.5	0.5 Fgr Si Cl	0	17	38	52	Si Cl			1.0 gr					
8	1.0	1.0 gr Si Cl	0	10	31	45	Si Cl			0.5 Fgr							9.0 gr								4.0 sd						
		2.0 gr								17.0 gr							1.0 Fgr														
		1.0 gr Co S						16	0.5	2.5 gr Si Cl	1	15	30	39	+			3.0 gr													
		1.0 gr								4.0 gr							1.0 gr Si Cl														
		1.0 sd								6.0 FS					23	0.5	1.5 gr Si Cl	1	19	41	53	Si Cl									
		4.0 gr								4.0 gr							8.0 gr														
		1.0 gr Si Cl								1.5 gr Si Cl							0.5 FS														
9	0.5	1.5 gr Si Cl	2	24	44	55	+			1.5 gr							0.5 gr														
		13.0 gr															2.0 sd														
		1.0 FS															3.0 gr														
		4.0 gr																													

RANGE 59 TWP 24 SEC SE1/4 10
COUNTY Richland MT Oct-15
PROSPECTED BY Volk/Nelson
INSPECTED & APPROVED Jeffrey Swank Oct-15

PIT LOGGING BY TEST HOLES								PIT LOGGING BY TEST HOLES								PIT LOGGING BY TEST HOLES								PIT LOGGING BY TEST HOLES							
Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1½" Screen	% Retained on ¾" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole	Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1½" Screen	% Retained on ¾" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole	Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1½" Screen	% Retained on ¾" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole	Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1½" Screen	% Retained on ¾" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole
34	3.0	1.0 gr	0	12	28	38	+	41	1.0	2.0 sd	0	15	30	41	+	47	1.0	1.0 sd Si Cl	0	9	24	35	+	54	4.0	7.5 FS	0	8	19	26	+
		1.0 FS								1.0 Fgr								3.0 sd								2.5 gr					
		3.0 gr								1.0 sd								1.0 Fgr								2.0 FS					
		2.0 FS								2.0 gr								2.0 sd								4.0 gr					
		2.0 gr								1.0 Fgr								1.0 Fgr						55	2.0	9.0 gr	0	15	36	51	+
		1.0 FS								4.0 gr								1.0 sd								1.0 sd					
		1.0 gr Si Cl								1.0 Fgr								1.0 Fgr								1.0 FS					
		2.0 gr								3.5 gr								1.5 gr								5.5 gr					
		1.0 FS								1.5 sd								0.5 sd								0.5 sd					
		1.5 gr								1.0 gr								5.5 gr								1.0 gr					
		1.5 FS								1.0 sd								0.5 sd						56	3.5	2.5 FS	1	16	35	47	+
35	2.5	1.5 sd Si Cl	0	14	35	46	+	42	1.0	1.5 sd	1	8	32	47	+			1.0 gr								10.0 gr					
		1.0 Fgr								1.5 Fgr						48	4.0	2.0 FS	0	5	11	16	+			1.0 FS					
		3.0 gr								6.0 gr								10.0 sd								3.0 gr					
		1.0 Fgr								1.0 FS Co S								2.0 gr						57	1.0	2.0 gr Si Cl	0	13	40	53	Si Cl
		4.0 gr								2.0 gr								1.0 gr Si Cl								6.0 gr					
		2.0 gr Si Cl								1.0 sd								1.0 gr								1.0 gr Si Cl					
		4.0 gr								2.0 gr						49	3.0	8.0 sd	0	8	20	31	+			3.0 gr					
		1.0 sd								1.0 FS								1.0 Fgr								1.0 gr Si Cl					
36	4.0	7.0 gr	0	13	31	47	+			3.0 gr								7.0 gr						58	0.5	0.5 gr	1	14	33	44	+
		1.0 FS						43	1.0	1.0 sd	1	13	36	52	+Cave			1.0 Fgr Si Cl								5.0 FS					
		4.0 gr								6.0 gr						50	2.0	1.0 sd	1	14	28	39	+			1.0 gr					
		2.0 gr Si Cl								1.0 gr Si Cl								2.0 gr								1.5 FS					
		2.0 FS								8.0 gr								2.0 FS								11.5 gr					
37	4.0	2.0 sd Si Cl	0	10	23	34	+	44	1.0	0.5 sd	1	12	32	44	+			5.0 gr						59	0.5	0.5 gr	0	15	35	47	+
		1.0 gr								2.0 gr								0.5 Si Cl								1.0 Fgr					
		1.0 Fgr								1.5 sd								2.5 gr								2.5 gr					
		3.0 gr								6.5 gr								3.0 FS								1.5 sd					
		3.0 sd								1.5 FS								2.0 gr								2.0 FS					
		1.0 sd Si Cl								3.0 gr						51	3.0	2.0 gr	0	12	32	44	+			0.5 sd					
		1.0 gr								1.0 FS								1.0 sd								10.5 gr					
		1.0 Fgr								2.0 Si Cl								5.0 gr								1.0 sd					
		1.5 gr								2.0 gr								1.0 Fgr						60	5.0	1.0 sd	0	16	32	42	+
		1.5 sd						45	1.0	3.0 sd	0	13	31	42	+			1.0 gr								2.0 gr					
38	4.0	2.5 FS	0	8	23	34	+			1.0 Fgr								3.0 sd								1.0 gr Si Cl					
		5.5 gr								2.0 gr								1.0 Fgr								4.0 FS					
		3.0 FS								2.0 sd								3.0 gr								7.0 gr					
		5.0 gr								3.0 gr						52	1.0	1.0 Fgr	1	12	28	38	+								
39	2.0	3.0 sd	0	9	25	38	+			1.0 gr Co S								1.0 FS													
		1.0 gr Si Cl								5.0 gr								7.5 gr													
		6.0 gr								1.0 Fgr								5.5 FS													
		2.0 sd								1.0 gr								4.0 gr													
		2.0 gr						46	4.0	2.0 sd	0	12	28	39	+	53	2.0	1.0 sd	0	13	31	41	+								
		1.0 Fgr								2.0 Fgr								2.0 FS													
		3.0 gr								7.5 gr								1.0 sd													
40	3.0	3.0 gr	1	14	32	47	+			0.5 FS								9.0 gr													
		1.0 FS								4.0 gr								1.0 FS													
		13.0 gr																1.0 Fgr Si Cl													
																		2.0 gr Si Cl													
																		1.0 sd													

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PIT LOGGING BY TEST HOLES								PIT LOGGING BY TEST HOLES								PIT LOGGING BY TEST HOLES								PIT LOGGING BY TEST HOLES												
Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1 1/2" Screen	% Retained on 3/4" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole	Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1 1/2" Screen	% Retained on 3/4" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole	Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1 1/2" Screen	% Retained on 3/4" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole	Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1 1/2" Screen	% Retained on 3/4" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole					
61	0.5	0.5 Fgr	2	18	38	51	+	A	0.5	1.5 gr Si Cl	1	24	46	57	Si Cl																					
		12.0 gr								4.0 gr																										
		1.0 Fgr						B	0.5	1.5 gr	0	14	36	50	+																					
		3.0 gr								1.0 sd																										
		2.0 sd Si Cl								1.0 FS																										
		1.0 gr								3.0 gr																										
62	1.5	1.5 gr Si Cl	1	17	39	54	Si Cl			3.0 Fgr																										
		9.0 gr								7.0 gr																										
								C	2.5	0.5 gr Si Cl	0	12	30	41	+																					
										2.0 sd																										
										2.0 gr																										
										2.5 Fgr																										
										4.5 gr																										
										2.0 sd																										
								D	1.5	5.5 sd	0	11	24	34	+																					
										9.0 gr																										
										2.0 Fgr																										
										2.0 FS																										
								E	5.0	3.5 gr	2	23	40	52	+																					
										1.5 sd																										
										1.0 gr																										
										1.0 Si Cl																										
										5.0 gr																										
										3.0 gr Si Cl																										

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