Appendix 2531-9

Request for Approval to Use Oxidized Overburden to Substitute for Topsoil and Subsoil in Topsoil Substitution Request Area No. 5

Five Forks Mine, Louisiana Surface Mining Permit LSM-5

Natchitoches Parish, Louisiana

Through more than four decades of experience on the parts of mine operators and regulatory agencies pursuant to the federal Surface Mining Control and Reclamation Act of 1977 (SMCRA) and the Louisiana Surface Mining and Reclamation Act of 1978 (LSMRA), certain soil properties (both physical and chemical) have been identified as especially important for consideration during the processes of evaluating materials for use in the top four feet of reclaimed soils (premining) and monitoring reclamation success (postmining). For the purposes of this discussion, "key soil properties" are those soil properties that have been identified as important to consider in selecting "best available materials" for reclamation of the postmining surface as required by SMCRA, LSMRA and their implementing regulations.

During 2009, continuous (from the surface to one foot below the lowest lignite seam planned for mining) overburden cores were collected within the LSM-5 Permit Area, including one near Topsoil Substitution Request Area (TSRA) No. 5. During 2014, an additional continuous core and four oxidized (from the surface to at least one foot below the base of oxidation) overburden cores were collected within or near TSRA No. 5. Five additional oxidized overburden cores were collected within or near TSRA No. 5 during 2020. Overburden core samples were collected under the supervision of Benson Chow, a Professional Geologist licensed in Louisiana. Laboratory analyses were conducted by Energy Laboratories, Inc. (ELI) at ELI's College Station, Texas (2009 and 2014) or Helena, Montana (2020) locations, and the resulting data were evaluated by Edward F. Janak, Jr., an ARCPACS Certified Professional Soil Scientist, Professional Geoscientist (Soil Science) licensed in Texas and Professional Soil Classifier licensed in Mississippi. Sample collection, laboratory analyses and data evaluation were completed in accordance with procedures outlined in the Soil Resources section of the Louisiana Department of Natural Resources Office of Conservation, Technical Guidelines for Surface Mining (Appendix 2531-4).

The boundaries of the LSM-5 Permit Area and TSRA No. 5 and the locations of overburden cores are depicted on Appendix 2531-9, Figure 1. Boring logs and descriptions of physical properties for each core are included in Appendix 2509-2. Appendix 2509-4 includes laboratory data for all continuous overburden and oxidized overburden cores. Exhibit 2509-1 depicts the locations of nine geologic cross-sections (Exhibits 2509-2 through 10).

In order to use the above-listed information to compare key properties of existing (native) soils to those of materials potentially available for use in the top four feet of reclaimed soils in TSRA No. 5, five vertical zones were defined:

- Topsoil - from the soil surface to the base of the topsoil;
- Subsoil – from the base of the topsoil to four feet;
- Lower oxidized overburden - from four feet to the uppermost observed base of oxidation;
- Oxidized overburden – from the soil surface to the uppermost observed base of oxidation (i.e., topsoil, subsoil and lower oxidized overburden);
- Unoxidized overburden – from the uppermost observed base of oxidation to total coring depth.

Appendix 2531-9, Table 1 identifies the vertical zone for each sample, and Appendix 2531-9, Table 2 summarizes maximum, minimum and weighted mean values for the following properties for each zone: pH (soil reaction), sand content, clay content, acid-base accounting, pyritic sulfur content, base saturation, aluminum saturation, cation exchange capacity, electrical conductivity, sodium adsorption ratio and selenium content. Appendix 2531-9, Table 3 summarizes the weighted mean values for these properties for the oxidized portion of each individual core. Weighted mean values and frequency distributions for pH, ABA, sand content, and clay content for topsoil, subsoil and oxidized overburden are summarized for comparison in Appendix 2531-9, Table 4.

Weathering and leaching are among the important processes contributing to soil conditions measurable in terms of key soil properties. Logically, the effects or expression of these processes generally decrease with increasing depth below the surface. For the most part, increased expression of these processes equates to undesirable soil properties such as low (acid) soil reaction (pH) values, low base saturation, high aluminum saturation, dense layers (pans) formed by accumulation of fine soil particles and/or chemical compounds, etc. Briefly summarized, the data presented in Appendix 2531-9, Table 2 indicate that the effects of weathering and leaching are quite evident in the near-surface (topsoil and subsoil) materials, somewhat evident in the lower oxidized overburden, and not evident in the unoxidized overburden; thus, the unoxidized overburden, with its moderately acid pH, high base saturation, low aluminum saturation and moderately fine textures appears to be the "best available material," with the important exception of one key property, pyritic sulfur content. When exposed to air and water (i.e., weathering), pyritic sulfur oxidizes, often creating acid drainage and/or acidic soils, both of which are undesirable conditions prohibited by both SMCRA and LSMRA. Further, as indicated by Appendix 2531-9, Table 2, selenium

content values for some intervals of the unoxidized overburden exceed those generally accepted as desirable for these parameters. Therefore, unoxidized overburden was not evaluated further, as it will not be considered or proposed for use as a topsoil or subsoil substitute in TSRA No. 5. As indicated above, none of the components (topsoil, subsoil and lower oxidized) of the oxidized overburden are as desirable as the unoxidized overburden in terms of pH and base saturation; however, none of the components of the oxidized overburden contain pyritic sulfur, and all are at least comparable to the unoxidized overburden in terms of texture. Two intervals (between 3 and 4 feet and immediately above the base of oxidation) of the oxidized overburden from Core NT1127CC have selenium values of 2.1 and 2.4, respectively (2.0 is the generally accepted limit); however, as indicated on Appendix 2531-9, Table 3, weighted mean selenium values do not exceed 1.0 (half the generally accepted limit) for the oxidized portion of any of the individual cores.

Appendix 2531-9, Table 4 depicts weighted mean pH values of 4.5, 4.1 and 4.4 for topsoil, subsoil and lower oxidized overburden, respectively, and weighted mean acid-base accounting values of -1, -3 and zero (0) ton(s) calcium carbonate for topsoil, subsoil and lower oxidized overburden, respectively. Both the pH and acid-base accounting distributions are skewed slightly in favor of the topsoil. The subsoil is clearly inferior to both the topsoil and lower oxidized overburden in these terms, i.e., more acidic. Appendix 2531-9, Table 2 depicts weighted mean aluminum saturation percentages for topsoil, subsoil and oxidized overburden of 33, 41 and 30, respectively, and weighted mean base saturation percentages for topsoil, subsoil and lower oxidized overburden are 40, 31 and 50, respectively. While all of these values reflect less than optimal conditions, practical differences among the topsoil, subsoil and oxidized overburden in terms of these properties are negligible, as postmining soils constructed from any of these materials (either the native topsoil and subsoil or the lower oxidized overburden) will require intensive management (liming) to deal with their very strongly acid nature for vegetative uses other than pine timber production.

Practical differences among the topsoil, subsoil and lower oxidized overburden are evident, however, in comparisons of physical properties, as represented by sand and clay content. Appendix 2531-9, Table 4 indicates weighted mean clay percentages of 15, 32 and 25 for topsoil, subsoil and lower oxidized overburden, respectively, and weighted mean sand percentages of 59, 39 and 39 for topsoil, subsoil and lower oxidized overburden, respectively. All (100 percent) of the topsoil contains 40 percent or less clay, as does 76 percent of the subsoil and 98 percent of the lower oxidized overburden. All (100 percent) of the topsoil and subsoil and most (95 percent) of the lower oxidized overburden materials contains less than 85 percent sand. As evidenced by these values, the particle size distribution of the lower oxidized overburden is slightly more balanced than those of both the topsoil and the subsoil. Available water capacity and cation exchange capacity (CEC) are two key properties directly related to particle size distribution. Relative to

the topsoil, significant, measurable improvements (increases) in terms of both of these properties are expected in postmining soils constructed from the oxidized overburden; as indicated in Appendix 2531-9 Table 2, the weighted mean CEC of the lower oxidized overburden (13.8 meq/100 gm) is nearly 2.5 times that of the topsoil (5.6 meq/100 gm).

Appendix 2531-9, Table 4 also includes weighted mean values and frequency distributions representing the entire oxidized column, i.e., from the surface to the base of oxidation (all oxidized). Weighted mean pH and acid-base accounting values for this mixture are essentially identical (within one unit of measurement) to those for the lower oxidized material.

To summarize these comparisons, the best available materials to support sustained productivity consist of a mixture of all oxidized overburden (i.e., from the surface to the base of oxidation). It should be noted that because the same materials will be used to construct the postmining subsoil as well as the topsoil, the favorable properties of the best available materials will extend throughout the soil profile; by comparison, the Sacul soils which comprise 44 percent of TSRA No. 5 (see Exhibit 2531-1 and Appendix 2531-1) have dense argillic horizons (claypans) which restrict moisture movement, and in turn, storage and availability to plants. The relatively texturally-uniform profile resulting from postmining soil construction using the best available materials will allow optimum movement of water into and through the soil, providing for maximum moisture storage and availability for use by plants, which in turn will result in productivity levels equal to or exceeding those of the premining soils (see Appendix 2531-1). Productivity of reclaimed soils will be demonstrated and measured using one or more of the procedures specified in Section 5423 of the Regulations, as appropriate to the approved postmining land use.

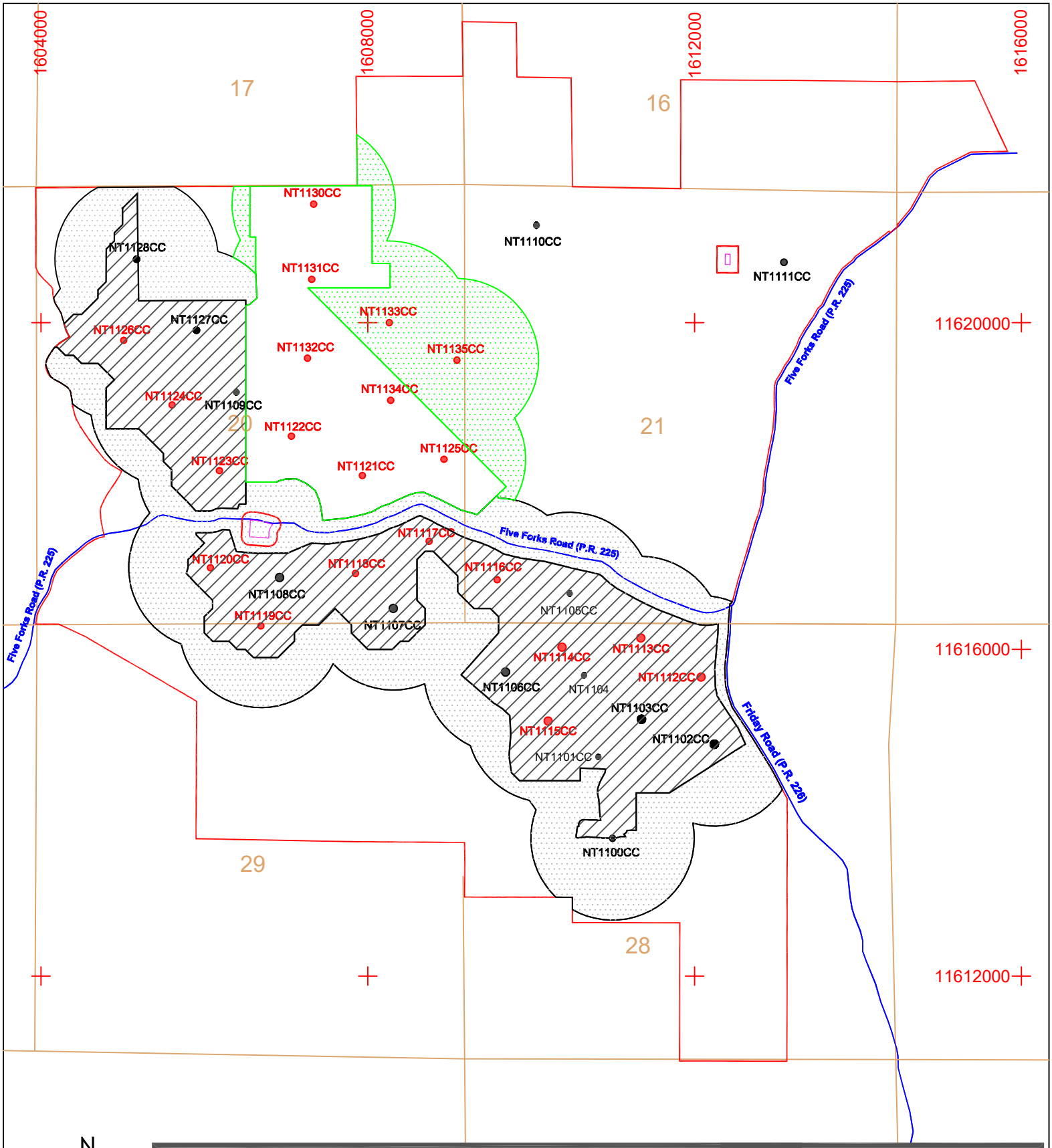
Soil Taxonomy is the soil classification system used by the National Cooperative Soil Survey, of which the USDA Natural Resources Conservation Service is the technical lead. Soil Taxonomy is a hierarchical system, with several levels ranging from the "order" (lowest) to the "family" (next to highest) to the "series" (highest). The series is the level of classification normally used in soil surveys, with ranges of characteristics for individual series (e.g., Sacul, Keithville, etc.) characterized at the family level. In general, the individual series that comprise a family are distinguished from one another on the basis of geography and/or geology rather than chemical or physical characteristics. With only very minor exceptions, the values listed in Appendix 2531-9, Table 3 conform to the family level classification of *fine-loamy, spolic, siliceous, active, acid, thermic Anthroportic Udorthents* (Keys to Soil Taxonomy, 12th Edition). Thus, the postmining soils constructed from the oxidized overburden are expected to classify

essentially the same throughout TSRA No. 5, with the only "mappable" differences based on postmining topography, i.e., slope class.

The oxidized materials will be removed and respread by mobile equipment, a process which includes multiple mixing events, i.e., shovel excavation, loading, dumping and respreading. Thus, any layers with less than desirable properties (e.g., clayey native subsoils) will be mixed and effectively diluted with respect to any less than desirable properties. In order to ensure that only the oxidized materials are used to construct postmining soils, supervisory and operating personnel of mobile equipment will be trained to identify and segregate the generally bright-colored (e.g., yellowish, reddish and/or brownish) oxidized materials from the very dark gray to black unoxidized materials. The striking visual contrast between the oxidized and unoxidized materials coupled with their vertical juxtaposition (oxidized above unoxidized) facilitates successful use of this approach.

As stated above, postmining soils constructed from a mixture of all oxidized overburden materials will require management (liming) to deal with their very strongly acid nature for vegetative land uses other than pine timber production. Cutside liming and/or other agriculturally accepted methods of lime application will be used as necessary to incorporate lime into materials targeted for respread in all areas. The cutside liming process consists of calculating the amount of lime required to raise a given volume of the materials in question to a desired pH level, then spreading the calculated amount of lime on the cutside surface prior to excavation. From that point, the processes described in the preceding paragraph (i.e., shovel excavation, loading, dumping and respreading) serve to mix the lime evenly throughout the respread materials.

In summary, using a mixture of all oxidized overburden as a substitute for topsoil and subsoil within TSRA No. 5 will provide a soil medium equal to or more suitable for sustaining vegetation than the available topsoil and subsoil, and a mixture of all oxidized overburden represents the best available materials to support sustained productivity. Accordingly, Five Forks requests approval of a mixture of all oxidized overburden as a substitute for both topsoil and subsoil in TSRA No. 5.



LEGEND

- Revised LSM-5 Permit Boundary
- Cemetery with 100-Foot Buffer
- Public Roads
- Continuous Overburden Core
- Oxidized Overburden Core
- Approved Topsoil Substitution Area (TSRA Nos. 1 through 4)
- Full Extent of Approved TSRA Core Influence
- Topsoil Substitution Request Area No. 5
- Full Extent of TSRA No. 5 Core Influence

Revised	
Date	By

FIVE FORKS MINE
NATCHITOCHES PARISH, LA

TOWNSHIP 12 NORTH
RANGE 7 WEST

Appendix 2531-9, Figure 1
Topsoil Substitution
Request Area No. 5

Drawn By: EFJ Date: August 2020

Appendix 2531-9, Table 1
Five Forks Mine, LSM-5 Topsoil Substitution Request Area No. 5
Soil/Overburden Sample Vertical Zone Identification

Laboratory ID	Sample ID	Depth (feet)	Zone
T09120069-052	NT1109CC	0.0 - 1.0	Topsoil
T09120069-053	NT1109CC	1.0 - 2.0	Subsoil
T09120069-054	NT1109CC	2.0 - 3.0	Subsoil
T09120069-055	NT1109CC	3.0 - 4.0	Subsoil
T09120069-056	NT1109CC	4.0 - 8.5	Oxidized OB
T09120069-057	NT1109CC	17.0 - 26.0	Oxidized OB
T09120069-058	NT1109CC	35.7 - 36.6	Oxidized OB
T09120069-059	NT1109CC	36.6 - 39.8	Oxidized OB
T09120069-060	NT1109CC	39.8 - 45.2	Unoxidized OB
T09120069-061	NT1109CC	53.0 - 55.4	Unoxidized OB
T09120069-062	NT1109CC	55.4 - 62.0	Unoxidized OB
T09120069-063	NT1109CC	74.7 - 76.2	Unoxidized OB
T09120069-064	NT1109CC	8.5 - 17.0	Oxidized OB
T09120069-065	NT1109CC	26.0 - 35.7	Oxidized OB
T09120069-066	NT1109CC	45.2 - 53.2	Unoxidized OB
T09120069-067	NT1109CC	63.8 - 69.1	Unoxidized OB
T14120101-016	NT1121CC	0.0 - 1.0	Topsoil
T14120101-017	NT1121CC	1.0 - 2.0	Subsoil
T14120101-018	NT1121CC	2.0 - 3.0	Subsoil
T14120101-019	NT1121CC	3.0 - 4.0	Subsoil
T14120101-020	NT1121CC	4.0 - 14.0	Oxidized OB
T14120101-021	NT1121CC	14.0 - 16.5	Oxidized OB
T14120101-022	NT1121CC	17.3 - 25.5	Oxidized OB
T14120101-023	NT1121CC	25.5 - 31.0	Unoxidized OB
T14120096-054	NT1122CC	0.0 - 1.0	Topsoil
T14120096-055	NT1122CC	1.0 - 2.0	Subsoil
T14120096-056	NT1122CC	2.0 - 3.0	Subsoil

Appendix 2531-9, Table 1
Five Forks Mine, LSM-5 Topsoil Substitution Request Area No. 5
Soil/Overburden Sample Vertical Zone Identification

Laboratory ID	Sample ID	Depth (feet)	Zone
T14120096-057	NT1122CC	3.0 - 4.0	Subsoil
T14120096-058	NT1122CC	4.0 - 13.0	Oxidized OB
T14120096-059	NT1122CC	13.0 - 22.5	Oxidized OB
T14120096-060	NT1122CC	23.0 - 24.4	Oxidized OB
T14120096-047	NT1122CC	24.4 - 28.0	Unoxidized OB
T14120096-048	NT1123CC	0.0 - 1.0	Topsoil
T14120096-049	NT1123CC	1.0 - 2.0	Subsoil
T14120096-050	NT1123CC	2.0 - 3.0	Subsoil
T14120096-051	NT1123CC	3.0 - 4.0	Subsoil
T14120096-052	NT1123CC	4.0 - 14.0	Oxidized OB
T14120096-053	NT1123CC	14.0 - 19.6	Unoxidized OB
T14120101-029	NT1125CC	0.0 - 1.0	Topsoil
T14120096-039	NT1125CC	1.0 - 2.0	Subsoil
T14120096-040	NT1125CC	2.0 - 3.0	Subsoil
T14120096-041	NT1125CC	3.0 - 4.0	Subsoil
T14120096-042	NT1125CC	4.0 - 4.5	Oxidized OB
T14120096-043	NT1125CC	4.5 - 14.5	Oxidized OB
T14120096-044	NT1125CC	14.5 - 15.3	Oxidized OB
T14120096-045	NT1125CC	15.3 - 23.8	Unoxidized OB
T14120096-009	NT1125CC	24.5 - 28.2	Unoxidized OB
T14120096-046	NT1125CC	33.6 - 34.6	Unoxidized OB
T14120101-001	NT1127CC	0.0 - 1.0	Topsoil
T14120101-002	NT1127CC	1.0 - 2.0	Subsoil
T14120101-003	NT1127CC	2.0 - 3.0	Subsoil
T14120101-004	NT1127CC	3.0 - 4.0	Subsoil
T14120101-005	NT1127CC	4.0 - 7.6	Oxidized OB
T14120101-006	NT1127CC	7.6 - 14.5	Oxidized OB

Appendix 2531-9, Table 1
Five Forks Mine, LSM-5 Topsoil Substitution Request Area No. 5
Soil/Overburden Sample Vertical Zone Identification

Laboratory ID	Sample ID	Depth (feet)	Zone
T14120101-007	NT1127CC	15.0 - 17.7	Oxidized OB
T14120101-008	NT1127CC	23.5 - 25.0	Unoxidized OB
H20070549-001	NT1130CC	0.0 - 1.0	T
H20070549-002	NT1130CC	1.0 - 4.0	S
H20070549-003	NT1130CC	4.0 - 6.0	OXOB
H20070549-004	NT1130CC	6.0 - 11.6	OXOB
H20070549-005	NT1130CC	11.6 - 21.5	OXOB
H20070549-006	NT1130CC	21.5 - 23.8	OXOB
H20070549-007	NT1131CC	0.0 - 1.0	Topsoil
H20070549-008	NT1131CC	1.0 - 4.0	Subsoil
H20070549-009	NT1131CC	4.0 - 6.0	Oxidized OB
H20070549-010	NT1131CC	6.0 - 8.2	Oxidized OB
H20070549-011	NT1131CC	8.2 - 16.0	Oxidized OB
H20070549-012	NT1132CC	0.0 - 1.0	Topsoil
H20070549-013	NT1132CC	1.0 - 4.0	Subsoil
H20070549-014	NT1132CC	4.0 - 6.9	Oxidized OB
H20070549-015	NT1132CC	6.9 - 11.4	Oxidized OB
H20070549-016	NT1132CC	11.4 - 16.0	Oxidized OB
H20070549-017	NT1133CC	0.0 - 1.0	Topsoil
H20070549-018	NT1133CC	1.0 - 4.0	Subsoil
H20070549-019	NT1133CC	4.0 - 6.6	Oxidized OB
H20070549-020	NT1133CC	6.6 - 11.6	Oxidized OB
H20070549-021	NT1133CC	11.6 - 14.0	Oxidized OB
H20070549-022	NT1133CC	14.0 - 18.8	Oxidized OB
H20070549-023	NT1134CC	0.0 - 1.0	Topsoil
H20070549-024	NT1134CC	1.0 - 4.0	Subsoil
H20070549-025	NT1134CC	4.0 - 8.8	Oxidized OB

Appendix 2531-9, Table 1
Five Forks Mine, LSM-5 Topsoil Substitution Request Area No. 5
Soil/Overburden Sample Vertical Zone Identification

Laboratory ID	Sample ID	Depth (feet)	Zone
H20070549-026	NT1134CC	8.8 - 17.3	Oxidized OB
H20070549-027	NT1134CC	17.3 - 20.8	Oxidized OB

Appendix 2531-9, Table 2
Five Forks Mine, LSM-5 Topsoil Substitution Request Area (TSRA) No. 5
Minimum, Maximum and Weighted Mean Values for Selected Parameters[1]:
Topsoil[2], Subsoil[3], Lower Oxidized Overburden[4], Oxidized Overburden[5] and Unoxidized Overburden[6]

		Topsoil	Subsoil	Lower Oxidized Overburden	Oxidized Overburden	Unoxidized Overburden
pH (s.u.)						
(4.8 - 8.4) [7]	**Minimum**	4.0	3.6	3.8	3.6	3.9
	Maximum	4.8	5.2	5.9	5.9	6.3
	Weighted Mean	4.5	4.1	4.4	4.3	5.3
Sand content (%)						
(< 85) [7]	**Minimum**	38.0	10.0	8.0	8.0	6.0
	Maximum	71.0	74.0	86.0	86.0	79.0
	Weighted Mean	58.8	38.6	39.5	40.3	25.8
Clay content (%)						
(< 40) [7]	**Minimum**	5.0	14.0	5.0	5.0	8.0
	Maximum	21.0	47.0	42.0	47.0	38.0
	Weighted Mean	15.1	32.0	24.7	25.3	27.6
Acid-Base Accounting (tons $CaCO_3$/1,000 tons)						
(> -5) [7]	**Minimum**	-1.2	-7.0	-14.0	-14.0	-30.0
	Maximum	0.4	0.0	7.1	7.1	6.0
	Weighted Mean	-0.6	-3.0	-0.4	-0.8	-12.7
Pyritic Sulfur (%)						
(< 0.1) [7]	**Minimum**	0.0	0.0	0.0	0.0	0.0
	Maximum	0.0	0.0	0.4	0.4	1.1
	Weighted Mean	0.0	0.0	0.0	0.0	0.5
Base Saturation (%)						
(> 35) [8]	**Minimum**	14.0	14.0	11.0	11.0	71.0
	Maximum	70.0	82.0	94.0	94.0	100.0
	Weighted Mean	39.5	30.5	49.6	46.4	90.4
Aluminum Saturation (%)						
(< 40) [8]	**Minimum**	10.4	4.0	0.0	0.0	0.0
	Maximum	64.3	72.7	79.2	79.2	13.0
	Weighted Mean	33.3	41.4	29.8	31.6	2.0
Cation Exchange Capacity (meq/100 gm)						
(> 3.5) [7]	**Minimum**	1.3	2.5	1.9	1.3	6.1
	Maximum	13.5	28.8	30.5	30.5	23.6
	Weighted Mean	5.6	14.2	13.8	13.4	16.2
Electrical Conductivity (mmhos/cm)						
(< 4) [7]	**Minimum**	0.3	0.0	0.0	0.0	0.9
	Maximum	0.9	0.4	4.9	4.9	4.7
	Weighted Mean	0.6	0.2	0.5	0.4	2.5
Sodium Adsorption Ratio						
(< 13) [8]	**Minimum**	0.4	0.4	1.0	0.4	0.7
	Maximum	2.0	4.3	7.7	7.7	4.7
	Weighted Mean	0.7	1.8	3.3	3.0	1.9
Selenium (ppm)						
(< 2) [8]	**Minimum**	0.1	0.1	0.0	0.0	0.5
	Maximum	0.8	2.1	2.4	2.4	3.5
	Weighted Mean	0.4	0.9	0.4	0.5	0.9

Appendix 2531-9, Table 2
Five Forks Mine, LSM-5 Topsoil Substitution Request Area (TSRA) No. 5
FOOTNOTES:

[1] Based on data (Appendix 2509-4) from 11 cores (2 continuous and 9 oxidized) collected in or immediately adjacent to TSRA No. 5 and analyzed by Energy Laboratories, Inc. at its College Station, Texas or Helena, Montana locations; regulatory or accepted range indicated in parentheses below parameter name.

[2] As represented by data (Appendix 2509-5) for the surface layer (0-1') of 11 cores collected in or immediately adjacent to TSRA No. 5.

[3] As represented by data (Appendix 2509-4) for the interval between the surface layer and 4' of 11 cores collected in or immediately adjacent to TSRA No. 5.

[4] As represented by data (Appendix 2509-4) for all intervals between 4' and the base of oxidation of 11 cores collected in or immediately adjacent to TSRA No. 5.

[5] As represented by data (Appendix 2509-4) for all intervals above the base of oxidation of 11 cores collected in or immediately adjacent to TSRA No. 5.

[6] As represented by data (Appendix 2509-4) for all intervals below the base of oxidation of 11 cores collected in or immediately adjacent to TSRA No. 5.

[7] Per LOC Technical Guidelines for Surface Mining Permit Application (Appendix 2531-4).

[8] Not specified in LOC Technical Guidelines for Surface Mining Permit Application; based on generally accepted agronomic principles.

Note: The specific criteria used to identify acid- (AFM) and toxic-forming materials (TFM) at the Five Forks Mine are based primarily on the LOC Technical Guidelines for Surface Mining Permit Application (Technical Guidelines) Minesoil Monitoring Plan, item 4, in which AFM and TFM are defined indirectly by the parameter suitability levels specified for postmine soils; specifically, AFM is identified as ABA <-5T CaCO3/kTsoil or >0.1% pyritic sulfur for most soils, or >0.5% pyritic sulfur for sandy soils, and TFM is identified by electrical conductivity >4mmhos/cm. Although not listed in the Technical Guidelines Minesoil Monitoring Plan, SAR and metals known to exist at elevated levels in Wilcox sediments (i.e., boron, cadmium and selenium) are also considered to identify potentially TFM, using standards based on those of state surface mining regulatory programs in neighboring states. As indicated in Appendix 2531-9, Table 2, weighted mean ABA and pyritic sulfur values identify the unoxidized materials at the Five Forks Mine as AFM. Thus, unoxidized overburden was not evaluated further, as it will not be considered or proposed for use as a topsoil or subsoil substitute.

The term "generally accepted agronomic principles" is used to identify the bases for limits used to evaluate data for parameters which are not specified in the Technical Guidelines, but for which there are known threshold values which correspond to limited vegetative growth and productivity. For example, sodium adsorption ratio (SAR) values greater than 13 generally correspond to dispersion of organic matter and clay particles, which in turn reduces the soil's capacity to accept and transmit water, as well as the ability of plants to extract water from the soil. The limits in question are based on common knowledge shared among the agricultural community in the form of extension bulletins, etc. and/or values from state surface mining regulatory programs in neighboring states. The technical basis for each of these limits can be found in "The Nature and Properties of Soils" (Nyle C. Brady and Ray R. Weil).

Value outside indicated regulatory or accepted range.

Appendix 2531-9, Table 3

Five Forks Mine, LSM-5 Topsoil Substitution Request Area (TSRA) No. 5

Weighted Means[1] of Selected Parameters for Oxidized Overburden[2]

CORE NO.	DEPTH	pH	ABA	CLAY	SAND	PYR. S	BS (%)	Al SAT.	CEC	EC	SAR	Se
NT1109CC	0 - 39.8	4.3	-1.2	16	70	0.0	28	62	4	0.1	3.8	0.2
NT1121CC	0 - 24.7	4.4	-1.7	26	51	0.0	62	33	8	0.2	1.2	0.4
NT1122CC	0 - 23.9	4.2	-3.5	30	38	0.0	54	41	12	0.2	2.5	0.5
NT1123CC	0 - 14.0	4.1	-3.3	32	23	0.0	48	48	13	0.2	2.5	0.6
NT1125CC	0 - 15.3	4.1	-2.5	29	23	0.0	63	32	14	0.7	4.8	0.7
NT1127CC	0 - 17.2	4.6	0.5	23	52	0.0	72	17	15	0.3	3.4	1.0
NT1130CC	0 - 23.8	4.3	0.1	21	45	0.0	35	24	15	0.2	1.6	0.3
NT1131CC	0 - 16.0	4.5	-1.2	21	38	0.0	35	19	12	0.2	1.9	0.4
NT1132CC	0 - 16.0	4.0	1.5	37	15	0.0	41	11	27	0.9	5.0	0.9
NT1133CC	0 - 18.8	4.9	4.0	26	24	0.0	57	8	19	2.5	4.6	0.6
NT1134CC	0 - 20.8	4.2	-0.2	32	18	0.0	37	18	20	0.1	1.9	0.7
Weighted Average		**4.3**	**-0.8**	**25**	**40**	**0.0**	**46**	**32**	**13**	**0.4**	**3.0**	**0.5**

[1] Based on data in Appendix 2509-4.

[2] All intervals from the surface to the base of oxidation.

Value outside regulatory or accepted range defined on Appendix 2531-9, Table 2.

Appendix 2531-9, Table 4
Five Forks Mine, LSM-5 Topsoil Substitution Request Area (TSRA) No. 5
Native Topsoil and Subsoil Versus Oxidized Overburden

	WEIGHTED MEAN[1]	FREQUENCY DISTRIBUTION (PERCENTAGES)[1]			
pH		*=> 4.8*	*4.3-4.7*	*3.8-4.2*	*<= 3.7*
Topsoil[2]	4.5	18.2	63.6	18.2	0.0
Subsoil[3]	4.1	3.0	33.3	48.5	15.2
Lower Oxidized[4]	4.4	14.9	31.3	53.8	0.0
All Oxidized[5]	4.3	13.3	33.2	51.3	2.2
ABA*		*=> 0*	*-1 to -2*	*-3 to -5*	*<= -6*
Topsoil[2]	-1	27.3	72.7	0.0	0.0
Subsoil[3]	-3	6.1	21.2	63.6	9.1
Lower Oxidized[4]	0	35.2	47.3	16.5	1.0
All Oxidized[5]	-1	30.6	44.8	22.5	2.1
Clay (%)		*<= 40 %*	*> 40%*		
Topsoil[2]	15	100.0	0.0		
Subsoil[3]	32	75.8	24.2		
Lower Oxidized[4]	25	97.6	2.4		
All Oxidized[5]	25	94.6	5.4		
Sand (%)		*<= 85 %*	*> 85%*		
Topsoil[2]	59	100.0	0.0		
Subsoil[3]	39	100.0	0.0		
Lower Oxidized[4]	39	95.2	4.8		
All Oxidized[5]	40	96.1	3.9		

[1] Based on data (Appendix 2509-4) from 11 cores (2 continuous and 9 oxidized) collected in or immediately adjacent to TSRA No. 5 and analyzed by Energy Laboratories, Inc. at its College Station, Texas or Helena, Montana locations.

[2] As represented by data (Appendix 2509-4) for the surface layer (0-1') of 11 cores collected in or immediately adjacent to TSRA No. 5.

[3] As represented by data (Appendix 2509-4) for the interval between the surface layer and 4' of 11 cores collected in or immediately adjacent to TSRA No. 5.

[4] As represented by data (Appendix 2509-4) for all intervals between 4' and the base of oxidation of 11 cores collected in or immediately adjacent to TSRA No. 5.

[5] As represented by data (Appendix 2509-4) for all intervals above the base of oxidation of 11 cores collected in or immediately adjacent to TSRA No. 5.

* Tons CaC03 per 1,000 tons; weighted mean rounded to whole number

APPENDIX 2509-2

LITHOLOGY LOGS

(2020 Modification Addendum)

NT1130

FROM	TO	LITHOLOGY
0	5	SAND, fine grained, medium red
5	15	SAND, very fine grained, light orangish tan
15	22	SAND, claey, light tan and putty
22	27	CLAY, medium grey
27	33	COAL
33	47	SAND, very fine grained, light grey

NT1131

FROM	TO	LITHOLOGY
0	15	SAND, fine grained, light tan and orange
15	45	CLAY, medium tan
45	50	COAL
50	55	CLAY, light grey
55	67	SAND, very fine grained, light grey

NT1132

FROM	TO	LITHOLOGY
0	5	SAND, claey, tan and orange
5	17	CLAY, silty, light tan and putty
17	20	CLAY, light grey
20	26	COAL
26	37	CLAY, light grey

NT1133

FROM	TO	LITHOLOGY
0	5	SAND, claey, dark reddish orange
5	15	CLAY, sandy, tan and orange mottles
15	19	CLAY, medium grey
19	24	COAL
24	35	CLAY, medium grey
35	37	SAND, very fine grained, light grey

NT1134

FROM	TO	LITHOLOGY
0	5	SAND, fine grained, medium red
5	20	CLAY, sandy, tan and orange mottles
20	28	CLAY, medium grey
28	33	COAL
33	40	CLAY, medium grey
40	47	SAND, very fine grained, light grey

NT1135

FROM	TO	LITHOLOGY
0	10	SAND, fine grained, tan
10	20	SAND, claey, tan and orange
20	25	CLAY, mauve
25	40	CLAY, light grey
40	45	COAL
45	57	CLAY, medium grey

APPENDIX 2509-4

OVERBURDEN LABORATORY REPORTS

(2020 Modification Addendum)

ANALYTICAL SUMMARY REPORT

August 10, 2020

Demery Resources Company LLC
839 Five Forks Road
Saline, LA 71071

Workorder No.: H20070549

Project Name: Oxidized Overburden Core Sites (NSBL)

Energy Laboratories Inc received the following 31 samples from Demery Resources Company LLC on 7/21/2020 for analysis.

Sample ID	Client Sample ID	Depth	Collect Date	Receive Date
H20070549-001	NT1130CC	0.0-1.0	7/15/2020	7/21/2020
H20070549-002	NT1130CC	1-4	7/15/2020	7/21/2020
H20070549-003	NT1130CC	4-6	7/15/2020	7/21/2020
H20070549-004	NT1130CC	6-11.6	7/15/2020	7/21/2020
H20070549-005	NT1130CC	11.6-21.5	7/15/2020	7/21/2020
H20070549-006	NT1130CC	21.5-23.8	7/15/2020	7/21/2020
H20070549-007	NT1131CC	0-1	7/15/2020	7/21/2020
H20070549-008	NT1131CC	1-4	7/15/2020	7/21/2020
H20070549-009	NT1131CC	4-6	7/15/2020	7/21/2020
H20070549-010	NT1131CC	6-8.2	7/15/2020	7/21/2020
H20070549-011	NT1131CC	8.2-16	7/15/2020	7/21/2020
H20070549-012	NT1132CC	0-1	7/15/2020	7/21/2020
H20070549-013	NT1132CC	1-4	7/15/2020	7/21/2020
H20070549-014	NT1132CC	4-6.9	7/15/2020	7/21/2020
H20070549-015	NT1132CC	6.9-11.4	7/15/2020	7/21/2020
H20070549-016	NT1132CC	11.4-16	7/15/2020	7/21/2020
H20070549-017	NT1133CC	0-1	7/15/2020	7/21/2020
H20070549-018	NT1133CC	1-4	7/15/2020	7/21/2020
H20070549-019	NT1133CC	4-6.6	7/15/2020	7/21/2020
H20070549-020	NT1133CC	6.6-11.6	7/15/2020	7/21/2020
H20070549-021	NT1133CC	11.6-14	7/15/2020	7/21/2020
H20070549-022	NT1133CC	14-18.8	7/15/2020	7/21/2020
H20070549-023	NT1134CC	0-1	7/15/2020	7/21/2020
H20070549-024	NT1134CC	1-4	7/15/2020	7/21/2020
H20070549-025	NT1134CC	4-8.8	7/15/2020	7/21/2020
H20070549-026	NT1134CC	8.8-17.3	7/15/2020	7/21/2020

ANALYTICAL SUMMARY REPORT

H20070549-027	NT1134CC	17.3-20.8	7/15/2020	7/21/2020
H20070549-028	NT1135CC	0-1	7/15/2020	7/21/2020
H20070549-029	NT1135CC	1-4	7/15/2020	7/21/2020
H20070549-030	NT1135CC	4-12.1	7/15/2020	7/21/2020
H20070549-031	NT1135CC	12.1-19	7/15/2020	7/21/2020

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:

CLIENT: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Work Order: H20070549

Report Date: 08/11/20

CASE NARRATIVE

Report format revised and signed 10/7/2020, No data changed from original report. STP

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Oxidized Overburden Core Sites (NSBL)
Workorder: H20070549

Report Date: 08/10/20
Date Received: 07/21/20

		Analysis	pH-SatPst	CEC	Exch Acidity	Exch Aluminum	Neut Potential	Acid Base Accounting	Potential Acidity	Total Pot Acidity	Sulfur, Total	Sulfur, Sulfate	Sulfur, Pyritic	Sulfur, Organic
		Units	s_u_	meq/100g	t/kt	meq/100g	t/kt	t/kt	t/kt	t/kt	%	%	%	%
Sample ID	**Client Sample ID**	**Depth**	**Results**	**Results**	**Results**	**Results**	**Results**	**Results**	**Results**	**Results**	**Results**	**Results**	**Results**	**Results**
H20070549-001	NT1130CC	0.0-1.0	4.5	11.9	1.2	3.6	0	-1.2	0	0	< 0.01	< 0.01	< 0.01	< 0.01
H20070549-002	NT1130CC	1-4	4.0	16.1	3.1	5.0	0	-3.1	0	0	< 0.01	< 0.01	< 0.01	< 0.01
H20070549-003	NT1130CC	4-6	4.0	8.76	2.0	4.0	0	-2.0	0	0	< 0.01	< 0.01	< 0.01	< 0.01
H20070549-004	NT1130CC	6-11.6	4.2	8.09	1.6	3.5	0	-1.6	0	0	< 0.01	< 0.01	< 0.01	< 0.01
H20070549-005	NT1130CC	11.6-21.5	4.4	18.5	1.0	1.7	3	1.5	0	0	< 0.01	< 0.01	< 0.01	< 0.01
H20070549-006	NT1130CC	21.5-23.8	4.9	20.9	0.4	1.1	5	4.6	0	0	< 0.01	< 0.01	< 0.01	< 0.01
H20070549-007	NT1131CC	0-1	4.6	3.41	0.5	1.5	0	-0.5	0	0	< 0.01	< 0.01	< 0.01	< 0.01
H20070549-008	NT1131CC	1-4	4.3	15.2	2.2	3.7	0	-2.2	0	0	< 0.01	< 0.01	< 0.01	< 0.01
H20070549-009	NT1131CC	4-6	4.0	12.8	2.4	3.9	0	-2.4	0	0	< 0.01	< 0.01	< 0.01	< 0.01
H20070549-010	NT1131CC	6-8.2	4.2	8.70	1.3	2.4	0	-1.3	0	0	< 0.01	< 0.01	< 0.01	< 0.01
H20070549-011	NT1131CC	8.2-16	4.8	13.4	0.5	1.2	2	-0.5	1.7	2.1	0.07	< 0.01	0.05	0.01
H20070549-012	NT1132CC	0-1	4.7	13.5	0.5	1.4	0	0.4	0	0.4	0.01	< 0.01	< 0.01	< 0.01
H20070549-013	NT1132CC	1-4	3.6	28.8	4.5	6.8	2	-2.5	0	0	< 0.01	< 0.01	< 0.01	< 0.01
H20070549-014	NT1132CC	4-6.9	3.9	28.4	2.7	3.9	4	1.5	0	0	< 0.01	< 0.01	< 0.01	< 0.01
H20070549-015	NT1132CC	6.9-11.4	4.2	30.5	1.4	1.9	5	3.8	0	0.7	0.02	< 0.01	< 0.01	< 0.01
H20070549-016	NT1132CC	11.4-16	4.0	25.3	1.2	1.8	3	2.0	0.3	2.1	0.07	0.02	0.01	0.03
H20070549-017	NT1133CC	0-1	4.8	10.4	0.5	1.6	0	0.1	0	0	< 0.01	< 0.01	< 0.01	< 0.01
H20070549-018	NT1133CC	1-4	4.2	16.5	2.6	4.7	0	-2.6	0	0	< 0.01	< 0.01	< 0.01	< 0.01
H20070549-019	NT1133CC	4-6.6	3.9	28.3	1.8	2.9	5	3.5	0	0.5	0.01	0.01	< 0.01	< 0.01
H20070549-020	NT1133CC	6.6-11.6	4.7	24.0	0.4	1.0	8	7.1	0	2.2	0.07	0.07	< 0.01	< 0.01
H20070549-021	NT1133CC	11.6-14	5.5	11.5	0.2	< 0.1	4	3.9	0	0.5	0.02	0.01	< 0.01	< 0.01
H20070549-022	NT1133CC	14-18.8	5.9	16.8	0.1	0.3	6	6.0	0	0.4	0.01	< 0.01	< 0.01	< 0.01
H20070549-023	NT1134CC	0-1	4.0	4.99	0.9	1.9	0	-0.9	0	0	< 0.01	< 0.01	< 0.01	< 0.01
H20070549-024	NT1134CC	1-4	4.0	22.1	3.9	6.4	0	-3.9	0	0	< 0.01	< 0.01	< 0.01	< 0.01
H20070549-025	NT1134CC	4-8.8	3.8	23.2	3.7	5.8	2	-2.2	0	0	< 0.01			
H20070549-026	NT1134CC	8.8-17.3	4.3	19.9	1.5	2.2	3	1.3	0.7	0.9	0.03	< 0.01	0.02	< 0.01
H20070549-027	NT1134CC	17.3-20.8	4.5	17.3	0.7	1.9	3	2.1	0	0.6	0.02	< 0.01	< 0.01	< 0.01
H20070549-028	NT1135CC	0-1	4.8	4.04	0.4	1.2	0	-0.4	0	0	< 0.01	< 0.01	< 0.01	< 0.01
H20070549-029	NT1135CC	1-4	4.1	15.9	3.1	4.9	0	-3.1	0	0	< 0.01	< 0.01	< 0.01	< 0.01
H20070549-030	NT1135CC	4-12.1	3.9	15.9	2.0	3.0	1	-1.0	0	0.4	0.01	< 0.01	< 0.01	< 0.01
H20070549-031	NT1135CC	12.1-19	4.1	18.5	1.2	1.6	3	0.6	0.9	1.7	0.05	< 0.01	0.03	0.02

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Oxidized Overburden Core Sites (NSBL)
Workorder: H20070549

Report Date: 08/10/20
Date Received: 07/21/20

		Analysis	Sand	Silt	Clay	Texture	Available P	OM-WB	Exch Fe
		Units	%	%	%		mg/kg	%	mg/kg
Sample ID	**Client Sample ID**	**Depth**	**Results**	**Results**	**Results**	**Results**	**Results**	**Results**	**Results**
H20070549-001	NT1130CC	0.0-1.0	46	34	20	L	5.33	1.6	16
H20070549-002	NT1130CC	1-4	38	36	26	L	2.22	0.2	24
H20070549-003	NT1130CC	4-6	66	22	12	SL	1.20		12
H20070549-004	NT1130CC	6-11.6	70	16	14	SL	1.44		14
H20070549-005	NT1130CC	11.6-21.5	38	38	24	L	3.04		7
H20070549-006	NT1130CC	21.5-23.8	8	66	26	SiL	4.65		5
H20070549-007	NT1131CC	0-1	66	22	12	SL	1.50	< 0.2	13
H20070549-008	NT1131CC	1-4	42	26	32	CL	1.70	0.4	28
H20070549-009	NT1131CC	4-6	62	16	22	SCL	1.64		51
H20070549-010	NT1131CC	6-8.2	62	20	18	SL	2.78		27
H20070549-011	NT1131CC	8.2-16	20	62	18	SiL	1.96		7
H20070549-012	NT1132CC	0-1	40	40	20	L	10.8	2.4	21
H20070549-013	NT1132CC	1-4	10	48	42	SiC	1.72	0.2	57
H20070549-014	NT1132CC	4-6.9	12	48	40	SiC	1.67		17
H20070549-015	NT1132CC	6.9-11.4	8	50	42	SiC	2.11		12
H20070549-016	NT1132CC	11.4-16	20	50	30	SiCL	< 1.00		13
H20070549-017	NT1133CC	0-1	38	48	14	L	10.2	2.2	12
H20070549-018	NT1133CC	1-4	26	42	32	CL	2.28	0.3	16
H20070549-019	NT1133CC	4-6.6	16	48	36	SiCL	1.79		15
H20070549-020	NT1133CC	6.6-11.6	10	58	32	SiCL	6.18		2
H20070549-021	NT1133CC	11.6-14	56	30	14	SL	5.90		< 1
H20070549-022	NT1133CC	14-18.8	22	58	20	SiL	8.44		< 1
H20070549-023	NT1134CC	0-1	64	22	14	SL	5.68	1.3	30
H20070549-024	NT1134CC	1-4	24	36	40	C	1.81	0.2	26
H20070549-025	NT1134CC	4-8.8	14	50	36	SiCL	1.30		27
H20070549-026	NT1134CC	8.8-17.3	14	54	32	SiCL	4.15		14
H20070549-027	NT1134CC	17.3-20.8	16	62	22	SiL	7.22		10
H20070549-028	NT1135CC	0-1	62	28	10	SL	4.30	0.8	10
H20070549-029	NT1135CC	1-4	50	16	34	SCL	1.18	< 0.2	19
H20070549-030	NT1135CC	4-12.1	36	40	24	L	1.20		15
H20070549-031	NT1135CC	12.1-19	14	58	28	SiCL	1.75		13

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Oxidized Overburden Core Sites (NSBL)
Workorder: H20070549

Report Date: 08/10/20
Date Received: 07/21/20

		Analysis	Percent Sat	Acidity, Sat_ Paste	Cond-SatPst	Ca-SatPst-Sat Paste	Mg-SatPst-Sat Paste	K-SatPst-Sat Paste	Na-SatPst-Sat Paste	SAR	Alk SatPst-SatPst	HCO3 SatPst-
		Units	%	mg/L	mmhos/cm	meq/L	meq/L	meq/L	meq/L	unitless	meq/L	meq/L
Sample ID	**Client Sample ID**	**Depth**	**Results**	**Results**	**Results**	**Results**	**Results**	**Results**	**Results**	**Results**	**Results**	**Results**
H20070549-001	NT1130CC	0.0-1.0	38.0	56	0.5	1.57	1.38	0.24	0.55	0.4	0.58	0.50
H20070549-002	NT1130CC	1-4	43.6	40	0.2	0.24	0.56	0.12	0.69	1.1	0.23	0.15
H20070549-003	NT1130CC	4-6	31.7	42	0.2	0.19	0.21	0.06	0.92	2.1	0.43	0.35
H20070549-004	NT1130CC	6-11.6	33.1	32	0.2	0.17	0.15	0.06	0.80	2.0	0.50	0.42
H20070549-005	NT1130CC	11.6-21.5	47.7	28	0.1	0.18	0.16	0.05	0.64	1.6	0.62	0.54
H20070549-006	NT1130CC	21.5-23.8	57.5	29	0.2	0.27	0.25	0.10	0.81	1.6	0.86	0.78
H20070549-007	NT1131CC	0-1	24.7	38	0.3	0.27	0.41	0.14	1.19	2.0	0.71	0.63
H20070549-008	NT1131CC	1-4	51.2	31	0.2	0.20	0.25	0.09	1.09	2.3	0.43	0.35
H20070549-009	NT1131CC	4-6	43.2	37	0.2	0.18	0.20	0.06	0.92	2.1	0.38	0.30
H20070549-010	NT1131CC	6-8.2	40.6	39	0.2	0.17	0.20	0.08	0.75	1.7	0.51	0.43
H20070549-011	NT1131CC	8.2-16	47.4	30	0.2	0.22	0.21	0.11	0.82	1.8	0.74	0.66
H20070549-012	NT1132CC	0-1	40.8	61	0.8	3.08	3.25	0.42	1.18	0.7	1.09	1.01
H20070549-013	NT1132CC	1-4	58.0	38	0.2	0.24	0.36	0.12	1.20	2.2	0.20	0.12
H20070549-014	NT1132CC	4-6.9	57.5	38	0.3	0.26	0.28	0.08	1.80	3.5	0.46	0.38
H20070549-015	NT1132CC	6.9-11.4	72.6	42	0.6	0.39	0.63	0.14	4.46	6.2	0.41	0.33
H20070549-016	NT1132CC	11.4-16	53.9	48	1.9	1.18	3.74	0.29	12.1	7.7	0.30	0.22
H20070549-017	NT1133CC	0-1	38.7	57	0.7	1.98	1.99	0.22	0.99	0.7	1.02	0.94
H20070549-018	NT1133CC	1-4	44.7	42	0.2	0.20	0.48	0.08	1.11	1.9	0.29	0.21
H20070549-019	NT1133CC	4-6.6	70.1	41	1.2	0.52	3.15	0.33	7.27	5.4	0.37	0.29
H20070549-020	NT1133CC	6.6-11.6	78.6	61	4.9	8.56	32.8	0.78	20.8	4.6	0.43	0.35
H20070549-021	NT1133CC	11.6-14	46.3	40	3.4	2.78	14.9	0.29	18.5	6.2	0.49	0.41
H20070549-022	NT1133CC	14-18.8	57.1	32	2.2	1.84	7.36	0.28	12.6	5.9	0.50	0.42
H20070549-023	NT1134CC	0-1	27.6	111	0.4	0.67	1.02	0.21	1.02	1.1	< 0.08	< 0.07
H20070549-024	NT1134CC	1-4	62.0	29	0.2	0.18	0.22	0.05	0.93	2.1	0.45	0.37
H20070549-025	NT1134CC	4-8.8	50.9	37	0.2	0.22	0.23	0.07	1.31	2.8	0.41	0.33
H20070549-026	NT1134CC	8.8-17.3	57.4	26	< 0.1	0.15	0.14	0.07	0.47	1.2	0.47	0.39
H20070549-027	NT1134CC	17.3-20.8	44.2	37	0.3	0.27	0.36	0.11	1.43	2.6	0.57	0.49
H20070549-028	NT1135CC	0-1	27.0	44	0.5	1.57	1.06	0.21	0.89	0.8	1.05	0.97
H20070549-029	NT1135CC	1-4	51.8	26	0.2	0.17	0.25	0.05	1.16	2.5	0.33	0.25
H20070549-030	NT1135CC	4-12.1	51.7	50	0.4	0.21	0.41	0.09	2.65	4.8	0.45	0.37
H20070549-031	NT1135CC	12.1-19	54.3	48	0.6	0.49	0.90	0.20	3.23	3.9	0.46	0.36

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Oxidized Overburden Core Sites (NSBL)
Workorder: H20070549

Report Date: 08/10/20
Date Received: 07/21/20

		Analysis	BASE-SAT	Ca-Ext-NH4OAC	Mg-Ext-NH4OAC	K-Ext-NH4OAC	Na-Ext-NH4OAC	Exch Ca	Exch Mg	Exch K	Exch Na
		Units	%	meq/100g	meq/100g	meq/100g	meq/100g	meq/100g	meq/100g	meq/100g	meq/100g
Sample ID	**Client Sample ID**	**Depth**	**Results**	**Results**	**Results**	**Results**	**Results**	**Results**	**Results**	**Results**	**Results**
H20070549-001	NT1130CC	0.0-1.0	23.0	1.61	1.12	0.140	0.063	1.6	1.1	0.1	< 0.1
H20070549-002	NT1130CC	1-4	15.0	0.182	2.01	0.164	0.130	0.2	2.0	0.2	0.1
H20070549-003	NT1130CC	4-6	15.0	0.117	1.02	0.070	0.185	0.1	1.0	< 0.1	0.2
H20070549-004	NT1130CC	6-11.6	23.0	0.240	1.33	0.082	0.221	0.2	1.3	< 0.1	0.2
H20070549-005	NT1130CC	11.6-21.5	47.0	2.09	5.96	0.225	0.463	2.1	6.0	0.2	0.4
H20070549-006	NT1130CC	21.5-23.8	65.0	4.08	8.61	0.431	0.598	4.1	8.6	0.4	0.6
H20070549-007	NT1131CC	0-1	21.0	0.176	0.418	0.077	0.097	0.2	0.4	< 0.1	< 0.1
H20070549-008	NT1131CC	1-4	14.0	0.145	1.51	0.212	0.310	0.1	1.5	0.2	0.2
H20070549-009	NT1131CC	4-6	17.0	0.102	1.72	0.120	0.282	< 0.1	1.7	0.1	0.2
H20070549-010	NT1131CC	6-8.2	23.0	0.206	1.59	0.115	0.179	0.2	1.6	0.1	0.2
H20070549-011	NT1131CC	8.2-16	52.0	2.30	4.17	0.274	0.364	2.3	4.2	0.3	0.3
H20070549-012	NT1132CC	0-1	33.0	2.59	1.94	0.203	0.124	2.5	1.8	0.2	< 0.1
H20070549-013	NT1132CC	1-4	29.0	0.850	6.51	0.426	0.657	0.8	6.5	0.4	0.6
H20070549-014	NT1132CC	4-6.9	42.0	1.21	8.84	0.416	1.52	1.2	8.8	0.4	1.4
H20070549-015	NT1132CC	6.9-11.4	47.0	2.13	9.64	0.471	2.53	2.1	9.6	0.5	2.2
H20070549-016	NT1132CC	11.4-16	44.0	2.30	7.12	0.378	2.35	2.2	6.9	0.4	1.7
H20070549-017	NT1133CC	0-1	21.0	1.29	0.884	0.126	0.087	1.2	0.8	0.1	< 0.1
H20070549-018	NT1133CC	1-4	17.0	0.22	2.32	0.163	0.238	0.2	2.3	0.2	0.2
H20070549-019	NT1133CC	4-6.6	48.0	1.10	10.9	0.495	2.00	1.1	10.6	0.5	1.5
H20070549-020	NT1133CC	6.6-11.6	78.0	4.69	15.0	0.627	3.44	4.0	12.4	0.6	1.8
H20070549-021	NT1133CC	11.6-14	67.0	1.37	5.93	0.153	1.90	1.2	5.2	0.1	1.0
H20070549-022	NT1133CC	14-18.8	66.0	2.17	7.75	0.294	2.19	2.1	7.3	0.3	1.5
H20070549-023	NT1134CC	0-1	14.0	0.291	0.351	0.066	0.081	0.3	0.3	< 0.1	< 0.1
H20070549-024	NT1134CC	1-4	16.0	0.196	2.75	0.189	0.479	0.2	2.7	0.2	0.4
H20070549-025	NT1134CC	4-8.8	29.0	0.211	5.25	0.279	1.06	0.2	5.2	0.3	1.0
H20070549-026	NT1134CC	8.8-17.3	46.0	1.64	6.65	0.402	0.517	1.6	6.6	0.4	0.5
H20070549-027	NT1134CC	17.3-20.8	53.0	2.27	6.05	0.315	0.677	2.3	6.0	0.3	0.6
H20070549-028	NT1135CC	0-1	25.0	0.620	0.350	0.070	0.062	0.6	0.3	< 0.1	< 0.1
H20070549-029	NT1135CC	1-4	21.0	0.296	2.61	0.145	0.437	0.3	2.6	0.1	0.4
H20070549-030	NT1135CC	4-12.1	41.0	0.630	4.92	0.181	0.919	0.6	4.9	0.2	0.8
H20070549-031	NT1135CC	12.1-19	55.0	2.33	6.67	0.409	1.03	2.3	6.6	0.4	0.8

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Oxidized Overburden Core Sites (NSBL)
Workorder: H20070549

Report Date: 08/10/20
Date Received: 07/21/20

		Analysis	B-CACL2	Al	As	Ba	Cd	Cu	Fe	Pb	Mn	Mo	Ni	Se	Zn
		Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Sample ID	**Client Sample ID**	**Depth**	**Results**	**Results**	**Results**	**Results**	**Results**	**Results**	**Results**	**Results**	**Results**	**Results**	**Results**	**Results**	**Results**
H20070549-001	NT1130CC	0.0-1.0	< 0.1	25600	5	246	< 0.1	6	13900	11	293	< 1	20	0.8	19
H20070549-002	NT1130CC	1-4	< 0.1	44900	5	349	< 0.1	6	17700	12	54	< 1	19	0.7	28
H20070549-003	NT1130CC	4-6	< 0.1	26600	2	384	< 0.1	5	9730	9	40	< 1	31	0.1	15
H20070549-004	NT1130CC	6-11.6	< 0.1	24500	3	377	< 0.1	6	12200	9	37	< 1	39	0.2	17
H20070549-005	NT1130CC	11.6-21.5	< 0.1	56400	6	588	< 0.1	9	23500	16	90	< 1	37	0.2	65
H20070549-006	NT1130CC	21.5-23.8	0.2	74800	5	608	< 0.1	9	30600	17	111	< 1	23	0.6	65
H20070549-007	NT1131CC	0-1	< 0.1	15800	2	274	< 0.1	5	7820	7	49	< 1	24	0.2	10
H20070549-008	NT1131CC	1-4	< 0.1	55900	8	392	< 0.1	8	24100	13	40	< 1	17	1.1	30
H20070549-009	NT1131CC	4-6	< 0.1	56800	3	508	< 0.1	5	14400	12	35	< 1	16	0.3	25
H20070549-010	NT1131CC	6-8.2	< 0.1	54200	5	570	< 0.1	5	18000	12	44	< 1	20	0.3	23
H20070549-011	NT1131CC	8.2-16	< 0.1	55000	4	584	< 0.1	6	19900	12	113	< 1	10	0.3	27
H20070549-012	NT1132CC	0-1	0.1	31900	5	324	< 0.1	6	15700	14	289	< 1	17	0.6	19
H20070549-013	NT1132CC	1-4	0.1	85300	10	467	< 0.1	10	38100	20	57	< 1	14	1.1	51
H20070549-014	NT1132CC	4-6.9	0.1	83100	8	833	< 0.1	10	33900	17	90	< 1	17	0.9	70
H20070549-015	NT1132CC	6.9-11.4	0.1	82200	11	600	< 0.1	14	36900	19	150	< 1	22	0.9	84
H20070549-016	NT1132CC	11.4-16	0.2	78100	11	862	< 0.1	11	36300	18	71	< 1	15	0.8	51
H20070549-017	NT1133CC	0-1	< 0.1	25100	6	310	< 0.1	5	15400	14	589	< 1	13	0.6	28
H20070549-018	NT1133CC	1-4	< 0.1	48400	7	275	< 0.1	7	28300	13	102	< 1	16	1.1	38
H20070549-019	NT1133CC	4-6.6	0.1	74800	8	856	< 0.1	11	47400	21	165	< 1	37	0.6	82
H20070549-020	NT1133CC	6.6-11.6	0.3	79000	10	616	< 0.1	12	30400	19	311	< 1	31	0.5	84
H20070549-021	NT1133CC	11.6-14	0.2	57400	4	636	< 0.1	6	21000	11	177	< 1	26	0.2	60
H20070549-022	NT1133CC	14-18.8	0.3	63400	5	619	0.1	7	23900	13	433	< 1	25	0.4	66
H20070549-023	NT1134CC	0-1	< 0.1	13200	2	177	< 0.1	4	8560	5	43	< 1	17	0.3	7
H20070549-024	NT1134CC	1-4	< 0.1	69100	8	352	< 0.1	9	34000	16	38	< 1	15	1.7	29
H20070549-025	NT1134CC	4-8.8	< 0.1	70500	7	522	< 0.1	9	26800	19	51	< 1	13	0.6	45
H20070549-026	NT1134CC	8.8-17.3	< 0.1	65900	8	574	< 0.1	10	29600	18	297	< 1	18	0.5	66
H20070549-027	NT1134CC	17.3-20.8	< 0.1	68100	4	600	< 0.1	9	16900	14	85	< 1	14	0.5	43
H20070549-028	NT1135CC	0-1	< 0.1	18500	3	332	< 0.1	4	8290	10	151	< 1	14	0.3	10
H20070549-029	NT1135CC	1-4	< 0.1	56900	5	359	< 0.1	7	22200	12	58	< 1	16	0.6	32
H20070549-030	NT1135CC	4-12.1	< 0.1	63400	4	630	< 0.1	6	25000	13	48	< 1	14	0.3	34
H20070549-031	NT1135CC	12.1-19	< 0.1	72300	5	670	< 0.1	11	23400	17	63	< 1	13	0.6	38

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-001
Client Sample ID: NT1130CC [0.0-1.0]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	46	%		1		ASA15-5	08/03/20 08:56 / sah
Silt	34	%		1		ASA15-5	08/03/20 08:56 / sah
Clay	20	%		1		ASA15-5	08/03/20 08:56 / sah
Texture	L			1		ASA15-5	08/03/20 08:56 / sah
SATURATED PASTE							
Saturation	38.0	%		0.1		USDA27a	07/30/20 07:29 / swj
SATURATED PASTE							
pH, sat. paste	4.5	s.u.		0.1		ASA10-3	07/30/20 08:12 / kr
Acidity, Sat. Paste	56	mg/L		4		ASA10-3	08/03/20 12:50 / RAT
METALS, AMMONIUM ACETATE EXTRACTABLE							
Base Saturation	23.0	%		0.1		Calculation	08/06/20 13:57 / stp
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	0.5	mmhos/cm		0.1		ASA10-3	07/30/20 14:17 / kr
Calcium, sat. paste	1.57	meq/L		0.05		SW6010B	08/03/20 02:18 / sld
Magnesium, sat. paste	1.38	meq/L		0.08		SW6010B	08/03/20 02:18 / sld
Potassium, sat. paste	0.24	meq/L		0.03		SW6010B	08/03/20 02:18 / sld
Sodium, sat. paste	0.55	meq/L		0.04		SW6010B	08/03/20 02:18 / sld
Sodium Adsorption Ratio (SAR)	0.4	unitless		0.1		USDA20b	08/06/20 13:57 / stp
Alkalinity, sat. paste	0.58	meq/L		0.08		ASA10-3	07/30/20 15:18 / RAT
Bicarbonate, sat. paste	0.50	meq/L		0.07		ASA10-3	07/30/20 15:18 / RAT
CHEMICAL CHARACTERISTICS							
Calcium, Extractable	1.61	meq/100g		0.005		SW6010B	08/01/20 01:41 / sld
Magnesium, Extractable	1.12	meq/100g		0.008		SW6010B	08/01/20 01:41 / sld
Phosphorus, Available	5.33	mg/kg		1.00		SW6010B	08/03/20 12:00 / sld
Potassium, Extractable	0.140	meq/100g		0.003		SW6010B	08/01/20 01:41 / sld
Sodium, Extractable	0.063	meq/100g		0.004		SW6010B	08/01/20 01:41 / sld
Exchangeable Calcium	1.6	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Magnesium	1.1	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Potassium	0.1	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Sodium	ND	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Cation Exchange Capacity	11.9	meq/100g		0.09		SW6010B	08/03/20 14:09 / sld
Organic Matter	1.6	%		0.2		ASA29-3	07/30/20 16:05 / sah
CHEMICAL CHARACTERISTICS							
Exchangeable Acidity	1.2	t/kt		0.1		ASA9-4	07/31/20 14:45 / swj
EXCHANGEABLE ALUMINUM							
Exchangeable Aluminum	3.6	meq/100g		0.1		ASA9-4	07/31/20 14:45 / swj

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-001
Client Sample ID: NT1130CC [0.0-1.0]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
ACID BASE							
Neutralization Potential	0	t/kt				Sobek Modifie	07/29/20 13:19 / swj
ACID BASE							
Acid Base Accounting	-1.2	t/kt				Calculation	08/06/20 13:57 / stp
Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
Total Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
ACID BASE							
Sulfur, Total	ND	%		0.01		E3.2.3	07/30/20 11:54 / stp
Sulfur, Sulfate	ND	%		0.01		E3.2.3	07/30/20 11:54 / stp
Sulfur, Pyritic	ND	%		0.01		E3.2.3	07/30/20 11:54 / stp
Sulfur, Organic	ND	%		0.01		E3.2.3	07/30/20 11:54 / stp
CACL2 EXTRACTABLE METALS							
Boron	ND	mg/kg		0.1		SW6010B	08/03/20 04:57 / sld
METALS, TOTAL							
Aluminum	25600	mg/kg		1		E200.8	08/05/20 15:32 / dck
Arsenic	5	mg/kg		1		E200.8	08/05/20 14:01 / dck
Barium	246	mg/kg		1		E200.8	08/05/20 14:01 / dck
Cadmium	ND	mg/kg		0.1		E200.8	08/05/20 14:01 / dck
Copper	6	mg/kg		1		E200.8	08/05/20 14:01 / dck
Iron	13900	mg/kg	D	500		E200.8	08/05/20 15:32 / dck
Lead	11	mg/kg	D	2		E200.8	08/05/20 14:01 / dck
Manganese	293	mg/kg	D	10		E200.8	08/05/20 14:01 / dck
Molybdenum	ND	mg/kg		1		E200.8	08/05/20 14:01 / dck
Nickel	20	mg/kg	D	2		E200.8	08/05/20 14:01 / dck
Selenium	0.8	mg/kg		0.1		E200.8	08/05/20 14:01 / dck
Zinc	19	mg/kg	D	5		E200.8	08/05/20 14:01 / dck
EXCHANGEABLE IRON							
Exchangeable Iron	16	mg/kg		1		SW6010B	07/31/20 22:55 / sld

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-002
Client Sample ID: NT1130CC [1-4]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	38	%		1		ASA15-5	08/03/20 08:56 / sah
Silt	36	%		1		ASA15-5	08/03/20 08:56 / sah
Clay	26	%		1		ASA15-5	08/03/20 08:56 / sah
Texture	L			1		ASA15-5	08/03/20 08:56 / sah
SATURATED PASTE							
Saturation	43.6	%		0.1		USDA27a	07/30/20 07:29 / swj
SATURATED PASTE							
pH, sat. paste	4.0	s.u.		0.1		ASA10-3	07/30/20 08:13 / kr
Acidity, Sat. Paste	40	mg/L		4		ASA10-3	08/03/20 13:00 / RAT
METALS, AMMONIUM ACETATE EXTRACTABLE							
Base Saturation	15.0	%		0.1		Calculation	08/06/20 13:57 / stp
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	0.2	mmhos/cm		0.1		ASA10-3	07/30/20 14:18 / kr
Calcium, sat. paste	0.24	meq/L		0.05		SW6010B	08/03/20 02:22 / sld
Magnesium, sat. paste	0.56	meq/L		0.08		SW6010B	08/03/20 02:22 / sld
Potassium, sat. paste	0.12	meq/L		0.03		SW6010B	08/03/20 02:22 / sld
Sodium, sat. paste	0.69	meq/L		0.04		SW6010B	08/03/20 02:22 / sld
Sodium Adsorption Ratio (SAR)	1.1	unitless		0.1		USDA20b	08/06/20 13:57 / stp
Alkalinity, sat. paste	0.23	meq/L		0.08		ASA10-3	07/30/20 15:22 / RAT
Bicarbonate, sat. paste	0.15	meq/L		0.07		ASA10-3	07/30/20 15:22 / RAT
CHEMICAL CHARACTERISTICS							
Calcium, Extractable	0.182	meq/100g		0.005		SW6010B	08/01/20 01:55 / sld
Magnesium, Extractable	2.01	meq/100g		0.008		SW6010B	08/01/20 01:55 / sld
Phosphorus, Available	2.22	mg/kg		1.00		SW6010B	08/03/20 12:15 / sld
Potassium, Extractable	0.164	meq/100g		0.003		SW6010B	08/01/20 01:55 / sld
Sodium, Extractable	0.130	meq/100g		0.004		SW6010B	08/01/20 01:55 / sld
Exchangeable Calcium	0.2	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Magnesium	2.0	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Potassium	0.2	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Sodium	0.1	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Cation Exchange Capacity	16.1	meq/100g		0.09		SW6010B	08/03/20 14:24 / sld
Organic Matter	0.2	%		0.2		ASA29-3	07/30/20 16:05 / sah
CHEMICAL CHARACTERISTICS							
Exchangeable Acidity	3.1	t/kt		0.1		ASA9-4	07/31/20 14:45 / swj
EXCHANGEABLE ALUMINUM							
Exchangeable Aluminum	5.0	meq/100g		0.1		ASA9-4	07/31/20 14:45 / swj

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-002
Client Sample ID: NT1130CC [1-4]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
ACID BASE							
Neutralization Potential	0	t/kt				Sobek Modifie	07/29/20 13:27 / swj
ACID BASE							
Acid Base Accounting	-3.1	t/kt				Calculation	08/06/20 13:57 / stp
Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
Total Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
ACID BASE							
Sulfur, Total	ND	%		0.01		E3.2.3	07/30/20 11:57 / stp
Sulfur, Sulfate	ND	%		0.01		E3.2.3	07/30/20 11:57 / stp
Sulfur, Pyritic	ND	%		0.01		E3.2.3	07/30/20 11:57 / stp
Sulfur, Organic	ND	%		0.01		E3.2.3	07/30/20 11:57 / stp
CACL2 EXTRACTABLE METALS							
Boron	ND	mg/kg		0.1		SW6010B	08/03/20 05:12 / sld
METALS, TOTAL							
Aluminum	44900	mg/kg		1		E200.8	08/05/20 15:36 / dck
Arsenic	5	mg/kg		1		E200.8	08/05/20 14:04 / dck
Barium	349	mg/kg		1		E200.8	08/05/20 14:04 / dck
Cadmium	ND	mg/kg		0.1		E200.8	08/05/20 14:04 / dck
Copper	6	mg/kg		1		E200.8	08/05/20 14:04 / dck
Iron	17700	mg/kg	D	500		E200.8	08/05/20 15:36 / dck
Lead	12	mg/kg	D	2		E200.8	08/05/20 14:04 / dck
Manganese	54	mg/kg	D	10		E200.8	08/05/20 14:04 / dck
Molybdenum	ND	mg/kg		1		E200.8	08/05/20 14:04 / dck
Nickel	19	mg/kg	D	2		E200.8	08/05/20 14:04 / dck
Selenium	0.7	mg/kg		0.1		E200.8	08/05/20 14:04 / dck
Zinc	28	mg/kg	D	5		E200.8	08/05/20 14:04 / dck
EXCHANGEABLE IRON							
Exchangeable Iron	24	mg/kg		1		SW6010B	07/31/20 23:22 / sld

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-003
Client Sample ID: NT1130CC [4-6]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	66	%		1		ASA15-5	08/03/20 08:56 / sah
Silt	22	%		1		ASA15-5	08/03/20 08:56 / sah
Clay	12	%		1		ASA15-5	08/03/20 08:56 / sah
Texture	SL			1		ASA15-5	08/03/20 08:56 / sah
SATURATED PASTE							
Saturation	31.7	%		0.1		USDA27a	07/30/20 07:29 / swj
SATURATED PASTE							
pH, sat. paste	4.0	s.u.		0.1		ASA10-3	07/30/20 08:15 / kr
Acidity, Sat. Paste	42	mg/L		4		ASA10-3	08/03/20 13:09 / RAT
METALS, AMMONIUM ACETATE EXTRACTABLE							
Base Saturation	15.0	%		0.1		Calculation	08/06/20 13:57 / stp
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	0.2	mmhos/cm		0.1		ASA10-3	07/30/20 14:18 / kr
Calcium, sat. paste	0.19	meq/L		0.05		SW6010B	08/03/20 02:25 / sld
Magnesium, sat. paste	0.21	meq/L		0.08		SW6010B	08/03/20 02:25 / sld
Potassium, sat. paste	0.06	meq/L		0.03		SW6010B	08/03/20 02:25 / sld
Sodium, sat. paste	0.92	meq/L		0.04		SW6010B	08/03/20 02:25 / sld
Sodium Adsorption Ratio (SAR)	2.1	unitless		0.1		USDA20b	08/06/20 13:57 / stp
Alkalinity, sat. paste	0.43	meq/L		0.08		ASA10-3	07/30/20 15:26 / RAT
Bicarbonate, sat. paste	0.35	meq/L		0.07		ASA10-3	07/30/20 15:26 / RAT
CHEMICAL CHARACTERISTICS							
Calcium, Extractable	0.117	meq/100g		0.005		SW6010B	08/01/20 01:59 / sld
Magnesium, Extractable	1.02	meq/100g		0.008		SW6010B	08/01/20 01:59 / sld
Phosphorus, Available	1.20	mg/kg		1.00		SW6010B	08/03/20 12:18 / sld
Potassium, Extractable	0.070	meq/100g		0.003		SW6010B	08/01/20 01:59 / sld
Sodium, Extractable	0.185	meq/100g		0.004		SW6010B	08/01/20 01:59 / sld
Exchangeable Calcium	0.1	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Magnesium	1.0	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Potassium	ND	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Sodium	0.2	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Cation Exchange Capacity	8.76	meq/100g		0.09		SW6010B	08/03/20 14:28 / sld
CHEMICAL CHARACTERISTICS							
Exchangeable Acidity	2.0	t/kt		0.1		ASA9-4	07/31/20 14:45 / swj
EXCHANGEABLE ALUMINUM							
Exchangeable Aluminum	4.0	meq/100g		0.1		ASA9-4	07/31/20 14:45 / swj
ACID BASE							
Neutralization Potential	0	t/kt				Sobek Modifie	07/29/20 13:35 / swj

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-003
Client Sample ID: NT1130CC [4-6]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
ACID BASE							
Acid Base Accounting	-2.0	t/kt				Calculation	08/06/20 13:57 / stp
Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
Total Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
ACID BASE							
Sulfur, Total	ND	%		0.01		E3.2.3	07/30/20 12:00 / stp
Sulfur, Sulfate	ND	%		0.01		E3.2.3	07/30/20 12:00 / stp
Sulfur, Pyritic	ND	%		0.01		E3.2.3	07/30/20 12:00 / stp
Sulfur, Organic	ND	%		0.01		E3.2.3	07/30/20 12:00 / stp
CACL2 EXTRACTABLE METALS							
Boron	ND	mg/kg		0.1		SW6010B	08/03/20 05:16 / sld
METALS, TOTAL							
Aluminum	26600	mg/kg		1		E200.8	08/05/20 15:37 / dck
Arsenic	2	mg/kg		1		E200.8	08/05/20 14:06 / dck
Barium	384	mg/kg		1		E200.8	08/05/20 14:06 / dck
Cadmium	ND	mg/kg		0.1		E200.8	08/05/20 14:06 / dck
Copper	5	mg/kg		1		E200.8	08/05/20 14:06 / dck
Iron	9730	mg/kg	D	500		E200.8	08/05/20 15:37 / dck
Lead	9	mg/kg	D	2		E200.8	08/05/20 14:06 / dck
Manganese	40	mg/kg	D	10		E200.8	08/05/20 14:06 / dck
Molybdenum	ND	mg/kg		1		E200.8	08/05/20 14:06 / dck
Nickel	31	mg/kg	D	2		E200.8	08/05/20 14:06 / dck
Selenium	0.1	mg/kg		0.1		E200.8	08/05/20 14:06 / dck
Zinc	15	mg/kg	D	5		E200.8	08/05/20 14:06 / dck
EXCHANGEABLE IRON							
Exchangeable Iron	12	mg/kg		1		SW6010B	07/31/20 23:26 / sld

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-004
Client Sample ID: NT1130CC [6-11.6]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	70	%		1		ASA15-5	08/03/20 08:56 / sah
Silt	16	%		1		ASA15-5	08/03/20 08:56 / sah
Clay	14	%		1		ASA15-5	08/03/20 08:56 / sah
Texture	SL			1		ASA15-5	08/03/20 08:56 / sah
SATURATED PASTE							
Saturation	33.1	%		0.1		USDA27a	07/30/20 07:29 / swj
SATURATED PASTE							
pH, sat. paste	4.2	s.u.		0.1		ASA10-3	07/30/20 08:16 / kr
Acidity, Sat. Paste	32	mg/L		4		ASA10-3	08/03/20 13:19 / RAT
METALS, AMMONIUM ACETATE EXTRACTABLE							
Base Saturation	23.0	%		0.1		Calculation	08/06/20 13:57 / stp
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	0.2	mmhos/cm		0.1		ASA10-3	07/30/20 14:19 / kr
Calcium, sat. paste	0.17	meq/L		0.05		SW6010B	08/03/20 03:18 / sld
Magnesium, sat. paste	0.15	meq/L		0.08		SW6010B	08/03/20 03:18 / sld
Potassium, sat. paste	0.06	meq/L		0.03		SW6010B	08/03/20 03:18 / sld
Sodium, sat. paste	0.80	meq/L		0.04		SW6010B	08/03/20 03:18 / sld
Sodium Adsorption Ratio (SAR)	2.0	unitless		0.1		USDA20b	08/06/20 13:57 / stp
Alkalinity, sat. paste	0.50	meq/L		0.08		ASA10-3	07/30/20 15:31 / RAT
Bicarbonate, sat. paste	0.42	meq/L		0.07		ASA10-3	07/30/20 15:31 / RAT
CHEMICAL CHARACTERISTICS							
Calcium, Extractable	0.240	meq/100g		0.005		SW6010B	08/01/20 02:03 / sld
Magnesium, Extractable	1.33	meq/100g		0.008		SW6010B	08/01/20 02:03 / sld
Phosphorus, Available	1.44	mg/kg		1.00		SW6010B	08/03/20 12:30 / sld
Potassium, Extractable	0.082	meq/100g		0.003		SW6010B	08/01/20 02:03 / sld
Sodium, Extractable	0.221	meq/100g		0.004		SW6010B	08/01/20 02:03 / sld
Exchangeable Calcium	0.2	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Magnesium	1.3	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Potassium	ND	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Sodium	0.2	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Cation Exchange Capacity	8.09	meq/100g		0.09		SW6010B	08/03/20 14:32 / sld
CHEMICAL CHARACTERISTICS							
Exchangeable Acidity	1.6	t/kt		0.1		ASA9-4	07/31/20 14:45 / swj
EXCHANGEABLE ALUMINUM							
Exchangeable Aluminum	3.5	meq/100g		0.1		ASA9-4	07/31/20 14:45 / swj
ACID BASE							
Neutralization Potential	0	t/kt				Sobek Modifie	07/29/20 13:43 / swj

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-004
Client Sample ID: NT1130CC [6-11.6]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
ACID BASE							
Acid Base Accounting	-1.6	t/kt				Calculation	08/06/20 13:57 / stp
Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
Total Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
ACID BASE							
Sulfur, Total	ND	%		0.01		E3.2.3	07/30/20 12:03 / stp
Sulfur, Sulfate	ND	%		0.01		E3.2.3	07/30/20 12:03 / stp
Sulfur, Pyritic	ND	%		0.01		E3.2.3	07/30/20 12:03 / stp
Sulfur, Organic	ND	%		0.01		E3.2.3	07/30/20 12:03 / stp
CACL2 EXTRACTABLE METALS							
Boron	ND	mg/kg		0.1		SW6010B	08/03/20 05:19 / sld
METALS, TOTAL							
Aluminum	24500	mg/kg		1		E200.8	08/05/20 15:39 / dck
Arsenic	3	mg/kg		1		E200.8	08/05/20 14:08 / dck
Barium	377	mg/kg		1		E200.8	08/05/20 14:08 / dck
Cadmium	ND	mg/kg		0.1		E200.8	08/05/20 14:08 / dck
Copper	6	mg/kg		1		E200.8	08/05/20 14:08 / dck
Iron	12200	mg/kg	D	500		E200.8	08/05/20 15:39 / dck
Lead	9	mg/kg	D	2		E200.8	08/05/20 14:08 / dck
Manganese	37	mg/kg	D	10		E200.8	08/05/20 14:08 / dck
Molybdenum	ND	mg/kg		1		E200.8	08/05/20 14:08 / dck
Nickel	39	mg/kg	D	2		E200.8	08/05/20 14:08 / dck
Selenium	0.2	mg/kg		0.1		E200.8	08/05/20 14:08 / dck
Zinc	17	mg/kg	D	5		E200.8	08/05/20 14:08 / dck
EXCHANGEABLE IRON							
Exchangeable Iron	14	mg/kg		1		SW6010B	07/31/20 23:30 / sld

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-005
Client Sample ID: NT1130CC [11.6-21.5]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	38	%		1		ASA15-5	08/03/20 08:56 / sah
Silt	38	%		1		ASA15-5	08/03/20 08:56 / sah
Clay	24	%		1		ASA15-5	08/03/20 08:56 / sah
Texture	L			1		ASA15-5	08/03/20 08:56 / sah
SATURATED PASTE							
Saturation	47.7	%		0.1		USDA27a	07/30/20 07:29 / swj
SATURATED PASTE							
pH, sat. paste	4.4	s.u.		0.1		ASA10-3	07/30/20 08:17 / kr
Acidity, Sat. Paste	28	mg/L		4		ASA10-3	08/03/20 13:28 / RAT
METALS, AMMONIUM ACETATE EXTRACTABLE							
Base Saturation	47.0	%		0.1		Calculation	08/06/20 13:57 / stp
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	0.1	mmhos/cm		0.1		ASA10-3	07/30/20 14:19 / kr
Calcium, sat. paste	0.18	meq/L		0.05		SW6010B	08/03/20 03:21 / sld
Magnesium, sat. paste	0.16	meq/L		0.08		SW6010B	08/03/20 03:21 / sld
Potassium, sat. paste	0.05	meq/L		0.03		SW6010B	08/03/20 03:21 / sld
Sodium, sat. paste	0.64	meq/L		0.04		SW6010B	08/03/20 03:21 / sld
Sodium Adsorption Ratio (SAR)	1.6	unitless		0.1		USDA20b	08/06/20 13:57 / stp
Alkalinity, sat. paste	0.62	meq/L		0.08		ASA10-3	07/30/20 15:35 / RAT
Bicarbonate, sat. paste	0.54	meq/L		0.07		ASA10-3	07/30/20 15:35 / RAT
CHEMICAL CHARACTERISTICS							
Calcium, Extractable	2.09	meq/100g		0.005		SW6010B	08/01/20 02:07 / sld
Magnesium, Extractable	5.96	meq/100g		0.008		SW6010B	08/01/20 02:07 / sld
Phosphorus, Available	3.04	mg/kg		1.00		SW6010B	08/03/20 12:34 / sld
Potassium, Extractable	0.225	meq/100g		0.003		SW6010B	08/01/20 02:07 / sld
Sodium, Extractable	0.463	meq/100g		0.004		SW6010B	08/01/20 02:07 / sld
Exchangeable Calcium	2.1	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Magnesium	6.0	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Potassium	0.2	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Sodium	0.4	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Cation Exchange Capacity	18.5	meq/100g		0.09		SW6010B	08/03/20 14:36 / sld
CHEMICAL CHARACTERISTICS							
Exchangeable Acidity	1.0	t/kt		0.1		ASA9-4	07/31/20 14:45 / swj
EXCHANGEABLE ALUMINUM							
Exchangeable Aluminum	1.7	meq/100g		0.1		ASA9-4	07/31/20 14:45 / swj
ACID BASE							
Neutralization Potential	3	t/kt				Sobek Modifie	07/29/20 13:50 / swj

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-005
Client Sample ID: NT1130CC [11.6-21.5]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
ACID BASE							
Acid Base Accounting	1.5	t/kt				Calculation	08/06/20 13:57 / stp
Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
Total Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
ACID BASE							
Sulfur, Total	ND	%		0.01		E3.2.3	07/30/20 12:06 / stp
Sulfur, Sulfate	ND	%		0.01		E3.2.3	07/30/20 12:06 / stp
Sulfur, Pyritic	ND	%		0.01		E3.2.3	07/30/20 12:06 / stp
Sulfur, Organic	ND	%		0.01		E3.2.3	07/30/20 12:06 / stp
CACL2 EXTRACTABLE METALS							
Boron	ND	mg/kg		0.1		SW6010B	08/03/20 05:30 / sld
METALS, TOTAL							
Aluminum	56400	mg/kg		1		E200.8	08/05/20 17:57 / dck
Arsenic	6	mg/kg		1		E200.8	08/05/20 14:09 / dck
Barium	588	mg/kg		1		E200.8	08/05/20 14:09 / dck
Cadmium	ND	mg/kg		0.1		E200.8	08/05/20 14:09 / dck
Copper	9	mg/kg		1		E200.8	08/05/20 14:09 / dck
Iron	23500	mg/kg	D	500		E200.8	08/05/20 15:40 / dck
Lead	16	mg/kg	D	2		E200.8	08/05/20 14:09 / dck
Manganese	90	mg/kg	D	10		E200.8	08/05/20 14:09 / dck
Molybdenum	ND	mg/kg		1		E200.8	08/05/20 14:09 / dck
Nickel	37	mg/kg	D	2		E200.8	08/05/20 14:09 / dck
Selenium	0.2	mg/kg		0.1		E200.8	08/05/20 14:09 / dck
Zinc	65	mg/kg	D	5		E200.8	08/05/20 14:09 / dck
EXCHANGEABLE IRON							
Exchangeable Iron	7	mg/kg		1		SW6010B	07/31/20 23:34 / sld

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-006
Client Sample ID: NT1130CC [21.5-23.8]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	8	%		1		ASA15-5	08/03/20 08:56 / sah
Silt	66	%		1		ASA15-5	08/03/20 08:56 / sah
Clay	26	%		1		ASA15-5	08/03/20 08:56 / sah
Texture	SiL			1		ASA15-5	08/03/20 08:56 / sah
SATURATED PASTE							
Saturation	57.5	%		0.1		USDA27a	07/30/20 07:29 / swj
SATURATED PASTE							
pH, sat. paste	4.9	s.u.		0.1		ASA10-3	07/30/20 08:17 / kr
Acidity, Sat. Paste	29	mg/L		4		ASA10-3	08/03/20 13:53 / RAT
METALS, AMMONIUM ACETATE EXTRACTABLE							
Base Saturation	65.0	%		0.1		Calculation	08/06/20 13:57 / stp
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	0.2	mmhos/cm		0.1		ASA10-3	07/30/20 14:20 / kr
Calcium, sat. paste	0.27	meq/L		0.05		SW6010B	08/03/20 03:25 / sld
Magnesium, sat. paste	0.25	meq/L		0.08		SW6010B	08/03/20 03:25 / sld
Potassium, sat. paste	0.10	meq/L		0.03		SW6010B	08/03/20 03:25 / sld
Sodium, sat. paste	0.81	meq/L		0.04		SW6010B	08/03/20 03:25 / sld
Sodium Adsorption Ratio (SAR)	1.6	unitless		0.1		USDA20b	08/06/20 13:57 / stp
Alkalinity, sat. paste	0.86	meq/L		0.08		ASA10-3	07/30/20 15:41 / RAT
Bicarbonate, sat. paste	0.78	meq/L		0.07		ASA10-3	07/30/20 15:41 / RAT
CHEMICAL CHARACTERISTICS							
Calcium, Extractable	4.08	meq/100g		0.005		SW6010B	08/01/20 02:11 / sld
Magnesium, Extractable	8.61	meq/100g		0.008		SW6010B	08/01/20 02:11 / sld
Phosphorus, Available	4.65	mg/kg		1.00		SW6010B	08/03/20 12:38 / sld
Potassium, Extractable	0.431	meq/100g		0.003		SW6010B	08/01/20 02:11 / sld
Sodium, Extractable	0.598	meq/100g		0.004		SW6010B	08/01/20 02:11 / sld
Exchangeable Calcium	4.1	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Magnesium	8.6	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Potassium	0.4	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Sodium	0.6	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Cation Exchange Capacity	20.9	meq/100g		0.09		SW6010B	08/03/20 14:47 / sld
CHEMICAL CHARACTERISTICS							
Exchangeable Acidity	0.4	t/kt		0.1		ASA9-4	07/31/20 14:45 / swj
EXCHANGEABLE ALUMINUM							
Exchangeable Aluminum	1.1	meq/100g		0.1		ASA9-4	07/31/20 14:45 / swj
ACID BASE							
Neutralization Potential	5	t/kt				Sobek Modifie	07/29/20 13:58 / swj

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-006
Client Sample ID: NT1130CC [21.5-23.8]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
ACID BASE							
Acid Base Accounting	4.6	t/kt				Calculation	08/06/20 13:57 / stp
Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
Total Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
ACID BASE							
Sulfur, Total	ND	%		0.01		E3.2.3	07/30/20 12:08 / stp
Sulfur, Sulfate	ND	%		0.01		E3.2.3	07/30/20 12:08 / stp
Sulfur, Pyritic	ND	%		0.01		E3.2.3	07/30/20 12:08 / stp
Sulfur, Organic	ND	%		0.01		E3.2.3	07/30/20 12:08 / stp
CACL2 EXTRACTABLE METALS							
Boron	0.2	mg/kg		0.1		SW6010B	08/03/20 05:34 / sld
METALS, TOTAL							
Aluminum	74800	mg/kg		1		E200.8	08/05/20 17:58 / dck
Arsenic	5	mg/kg		1		E200.8	08/05/20 14:11 / dck
Barium	608	mg/kg		1		E200.8	08/05/20 14:11 / dck
Cadmium	ND	mg/kg		0.1		E200.8	08/05/20 14:11 / dck
Copper	9	mg/kg		1		E200.8	08/05/20 14:11 / dck
Iron	30600	mg/kg	D	500		E200.8	08/05/20 15:41 / dck
Lead	17	mg/kg	D	2		E200.8	08/05/20 14:11 / dck
Manganese	111	mg/kg	D	10		E200.8	08/05/20 14:11 / dck
Molybdenum	ND	mg/kg		1		E200.8	08/05/20 14:11 / dck
Nickel	23	mg/kg	D	2		E200.8	08/05/20 14:11 / dck
Selenium	0.6	mg/kg		0.1		E200.8	08/05/20 14:11 / dck
Zinc	65	mg/kg	D	5		E200.8	08/05/20 14:11 / dck
EXCHANGEABLE IRON							
Exchangeable Iron	5	mg/kg		1		SW6010B	07/31/20 23:38 / sld

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-007
Client Sample ID: NT1131CC [0-1]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	66	%		1		ASA15-5	08/03/20 08:56 / sah
Silt	22	%		1		ASA15-5	08/03/20 08:56 / sah
Clay	12	%		1		ASA15-5	08/03/20 08:56 / sah
Texture	SL			1		ASA15-5	08/03/20 08:56 / sah
SATURATED PASTE							
Saturation	24.7	%		0.1		USDA27a	07/30/20 07:29 / swj
SATURATED PASTE							
pH, sat. paste	4.6	s.u.		0.1		ASA10-3	07/30/20 08:19 / kr
Acidity, Sat. Paste	38	mg/L		4		ASA10-3	08/03/20 14:02 / RAT
METALS, AMMONIUM ACETATE EXTRACTABLE							
Base Saturation	21.0	%		0.1		Calculation	08/06/20 13:57 / stp
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	0.3	mmhos/cm		0.1		ASA10-3	07/30/20 14:20 / kr
Calcium, sat. paste	0.27	meq/L		0.05		SW6010B	08/03/20 03:29 / sld
Magnesium, sat. paste	0.41	meq/L		0.08		SW6010B	08/03/20 03:29 / sld
Potassium, sat. paste	0.14	meq/L		0.03		SW6010B	08/03/20 03:29 / sld
Sodium, sat. paste	1.19	meq/L		0.04		SW6010B	08/03/20 03:29 / sld
Sodium Adsorption Ratio (SAR)	2.0	unitless		0.1		USDA20b	08/06/20 13:57 / stp
Alkalinity, sat. paste	0.71	meq/L		0.08		ASA10-3	07/30/20 15:45 / RAT
Bicarbonate, sat. paste	0.63	meq/L		0.07		ASA10-3	07/30/20 15:45 / RAT
CHEMICAL CHARACTERISTICS							
Calcium, Extractable	0.176	meq/100g		0.005		SW6010B	08/03/20 09:54 / sld
Magnesium, Extractable	0.418	meq/100g		0.008		SW6010B	08/03/20 09:54 / sld
Phosphorus, Available	1.50	mg/kg		1.00		SW6010B	08/03/20 12:41 / sld
Potassium, Extractable	0.077	meq/100g		0.003		SW6010B	08/03/20 09:54 / sld
Sodium, Extractable	0.097	meq/100g		0.004		SW6010B	08/03/20 09:54 / sld
Exchangeable Calcium	0.2	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Magnesium	0.4	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Potassium	ND	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Sodium	ND	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Cation Exchange Capacity	3.41	meq/100g		0.09		SW6010B	08/03/20 14:51 / sld
Organic Matter	ND	%		0.2		ASA29-3	07/30/20 16:05 / sah
CHEMICAL CHARACTERISTICS							
Exchangeable Acidity	0.5	t/kt		0.1		ASA9-4	07/31/20 14:45 / swj
EXCHANGEABLE ALUMINUM							
Exchangeable Aluminum	1.5	meq/100g		0.1		ASA9-4	07/31/20 14:45 / swj

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-007
Client Sample ID: NT1131CC [0-1]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
ACID BASE							
Neutralization Potential	0	t/kt				Sobek Modifie	07/29/20 14:06 / swj
ACID BASE							
Acid Base Accounting	-0.5	t/kt				Calculation	08/06/20 13:57 / stp
Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
Total Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
ACID BASE							
Sulfur, Total	ND	%		0.01		E3.2.3	07/30/20 12:11 / stp
Sulfur, Sulfate	ND	%		0.01		E3.2.3	07/30/20 12:11 / stp
Sulfur, Pyritic	ND	%		0.01		E3.2.3	07/30/20 12:11 / stp
Sulfur, Organic	ND	%		0.01		E3.2.3	07/30/20 12:11 / stp
CACL2 EXTRACTABLE METALS							
Boron	ND	mg/kg		0.1		SW6010B	08/03/20 05:38 / sld
METALS, TOTAL							
Aluminum	15800	mg/kg		1		E200.8	08/05/20 15:43 / dck
Arsenic	2	mg/kg		1		E200.8	08/05/20 14:13 / dck
Barium	274	mg/kg		1		E200.8	08/05/20 14:13 / dck
Cadmium	ND	mg/kg		0.1		E200.8	08/05/20 14:13 / dck
Copper	5	mg/kg		1		E200.8	08/05/20 14:13 / dck
Iron	7820	mg/kg	D	500		E200.8	08/05/20 15:43 / dck
Lead	7	mg/kg	D	2		E200.8	08/05/20 14:13 / dck
Manganese	49	mg/kg	D	10		E200.8	08/05/20 14:13 / dck
Molybdenum	ND	mg/kg		1		E200.8	08/05/20 14:13 / dck
Nickel	24	mg/kg	D	2		E200.8	08/05/20 14:13 / dck
Selenium	0.2	mg/kg		0.1		E200.8	08/05/20 14:13 / dck
Zinc	10	mg/kg	D	5		E200.8	08/05/20 14:13 / dck
EXCHANGEABLE IRON							
Exchangeable Iron	13	mg/kg		1		SW6010B	07/31/20 23:42 / sld

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-008
Client Sample ID: NT1131CC [1-4]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	42	%		1		ASA15-5	08/03/20 08:56 / sah
Silt	26	%		1		ASA15-5	08/03/20 08:56 / sah
Clay	32	%		1		ASA15-5	08/03/20 08:56 / sah
Texture	CL			1		ASA15-5	08/03/20 08:56 / sah
SATURATED PASTE							
Saturation	51.2	%		0.1		USDA27a	07/30/20 07:30 / swj
SATURATED PASTE							
pH, sat. paste	4.3	s.u.		0.1		ASA10-3	07/30/20 08:20 / kr
Acidity, Sat. Paste	31	mg/L		4		ASA10-3	08/03/20 14:11 / RAT
METALS, AMMONIUM ACETATE EXTRACTABLE							
Base Saturation	14.0	%		0.1		Calculation	08/06/20 13:57 / stp
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	0.2	mmhos/cm		0.1		ASA10-3	07/30/20 14:21 / kr
Calcium, sat. paste	0.20	meq/L		0.05		SW6010B	08/03/20 03:33 / sld
Magnesium, sat. paste	0.25	meq/L		0.08		SW6010B	08/03/20 03:33 / sld
Potassium, sat. paste	0.09	meq/L		0.03		SW6010B	08/03/20 03:33 / sld
Sodium, sat. paste	1.09	meq/L		0.04		SW6010B	08/03/20 03:33 / sld
Sodium Adsorption Ratio (SAR)	2.3	unitless		0.1		USDA20b	08/06/20 13:57 / stp
Alkalinity, sat. paste	0.43	meq/L		0.08		ASA10-3	07/30/20 15:49 / RAT
Bicarbonate, sat. paste	0.35	meq/L		0.07		ASA10-3	07/30/20 15:49 / RAT
CHEMICAL CHARACTERISTICS							
Calcium, Extractable	0.145	meq/100g		0.005		SW6010B	08/03/20 09:57 / sld
Magnesium, Extractable	1.51	meq/100g		0.008		SW6010B	08/03/20 09:57 / sld
Phosphorus, Available	1.70	mg/kg		1.00		SW6010B	08/03/20 12:45 / sld
Potassium, Extractable	0.212	meq/100g		0.003		SW6010B	08/03/20 09:57 / sld
Sodium, Extractable	0.310	meq/100g		0.004		SW6010B	08/03/20 09:57 / sld
Exchangeable Calcium	0.1	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Magnesium	1.5	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Potassium	0.2	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Sodium	0.2	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Cation Exchange Capacity	15.2	meq/100g		0.09		SW6010B	08/03/20 14:55 / sld
Organic Matter	0.4	%		0.2		ASA29-3	07/30/20 16:05 / sah
CHEMICAL CHARACTERISTICS							
Exchangeable Acidity	2.2	t/kt		0.1		ASA9-4	07/31/20 14:45 / swj
EXCHANGEABLE ALUMINUM							
Exchangeable Aluminum	3.7	meq/100g		0.1		ASA9-4	07/31/20 14:45 / swj

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-008
Client Sample ID: NT1131CC [1-4]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
ACID BASE							
Neutralization Potential	0	t/kt				Sobek Modifie	07/29/20 14:14 / swj
ACID BASE							
Acid Base Accounting	-2.2	t/kt				Calculation	08/06/20 13:57 / stp
Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
Total Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
ACID BASE							
Sulfur, Total	ND	%		0.01		E3.2.3	07/30/20 12:17 / stp
Sulfur, Sulfate	ND	%		0.01		E3.2.3	07/30/20 12:17 / stp
Sulfur, Pyritic	ND	%		0.01		E3.2.3	07/30/20 12:17 / stp
Sulfur, Organic	ND	%		0.01		E3.2.3	07/30/20 12:17 / stp
CACL2 EXTRACTABLE METALS							
Boron	ND	mg/kg		0.1		SW6010B	08/03/20 05:42 / sld
METALS, TOTAL							
Aluminum	55900	mg/kg		1		E200.8	08/05/20 18:00 / dck
Arsenic	8	mg/kg		1		E200.8	08/05/20 14:14 / dck
Barium	392	mg/kg		1		E200.8	08/05/20 14:14 / dck
Cadmium	ND	mg/kg		0.1		E200.8	08/05/20 14:14 / dck
Copper	8	mg/kg		1		E200.8	08/05/20 14:14 / dck
Iron	24100	mg/kg	D	500		E200.8	08/05/20 15:44 / dck
Lead	13	mg/kg	D	2		E200.8	08/05/20 14:14 / dck
Manganese	40	mg/kg	D	10		E200.8	08/05/20 14:14 / dck
Molybdenum	ND	mg/kg		1		E200.8	08/05/20 14:14 / dck
Nickel	17	mg/kg	D	2		E200.8	08/05/20 14:14 / dck
Selenium	1.1	mg/kg		0.1		E200.8	08/05/20 14:14 / dck
Zinc	30	mg/kg	D	5		E200.8	08/05/20 14:14 / dck
EXCHANGEABLE IRON							
Exchangeable Iron	28	mg/kg		1		SW6010B	07/31/20 23:46 / sld

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-009
Client Sample ID: NT1131CC [4-6]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	62	%		1		ASA15-5	08/03/20 08:56 / sah
Silt	16	%		1		ASA15-5	08/03/20 08:56 / sah
Clay	22	%		1		ASA15-5	08/03/20 08:56 / sah
Texture	SCL			1		ASA15-5	08/03/20 08:56 / sah
SATURATED PASTE							
Saturation	43.2	%		0.1		USDA27a	07/30/20 07:30 / swj
SATURATED PASTE							
pH, sat. paste	4.0	s.u.		0.1		ASA10-3	07/30/20 08:21 / kr
Acidity, Sat. Paste	37	mg/L		4		ASA10-3	08/03/20 13:36 / RAT
METALS, AMMONIUM ACETATE EXTRACTABLE							
Base Saturation	17.0	%		0.1		Calculation	08/06/20 13:57 / stp
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	0.2	mmhos/cm		0.1		ASA10-3	07/30/20 14:21 / kr
Calcium, sat. paste	0.18	meq/L		0.05		SW6010B	08/03/20 03:37 / sld
Magnesium, sat. paste	0.20	meq/L		0.08		SW6010B	08/03/20 03:37 / sld
Potassium, sat. paste	0.06	meq/L		0.03		SW6010B	08/03/20 03:37 / sld
Sodium, sat. paste	0.92	meq/L		0.04		SW6010B	08/03/20 03:37 / sld
Sodium Adsorption Ratio (SAR)	2.1	unitless		0.1		USDA20b	08/06/20 13:57 / stp
Alkalinity, sat. paste	0.38	meq/L		0.08		ASA10-3	07/30/20 15:54 / RAT
Bicarbonate, sat. paste	0.30	meq/L		0.07		ASA10-3	07/30/20 15:54 / RAT
CHEMICAL CHARACTERISTICS							
Calcium, Extractable	0.102	meq/100g		0.005		SW6010B	08/03/20 10:01 / sld
Magnesium, Extractable	1.72	meq/100g		0.008		SW6010B	08/03/20 10:01 / sld
Phosphorus, Available	1.64	mg/kg		1.00		SW6010B	08/03/20 12:53 / sld
Potassium, Extractable	0.120	meq/100g		0.003		SW6010B	08/03/20 10:01 / sld
Sodium, Extractable	0.282	meq/100g		0.004		SW6010B	08/03/20 10:01 / sld
Exchangeable Calcium	ND	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Magnesium	1.7	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Potassium	0.1	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Sodium	0.2	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Cation Exchange Capacity	12.8	meq/100g		0.09		SW6010B	08/03/20 14:59 / sld
CHEMICAL CHARACTERISTICS							
Exchangeable Acidity	2.4	t/kt		0.1		ASA9-4	07/31/20 14:45 / swj
EXCHANGEABLE ALUMINUM							
Exchangeable Aluminum	3.9	meq/100g		0.1		ASA9-4	07/31/20 14:45 / swj
ACID BASE							
Neutralization Potential	0	t/kt				Sobek Modifie	07/29/20 14:21 / swj

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-009
Client Sample ID: NT1131CC [4-6]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
ACID BASE							
Acid Base Accounting	-2.4	t/kt				Calculation	08/06/20 13:57 / stp
Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
Total Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
ACID BASE							
Sulfur, Total	ND	%		0.01		E3.2.3	07/30/20 12:20 / stp
Sulfur, Sulfate	ND	%		0.01		E3.2.3	07/30/20 12:20 / stp
Sulfur, Pyritic	ND	%		0.01		E3.2.3	07/30/20 12:20 / stp
Sulfur, Organic	ND	%		0.01		E3.2.3	07/30/20 12:20 / stp
CACL2 EXTRACTABLE METALS							
Boron	ND	mg/kg		0.1		SW6010B	08/03/20 05:49 / sld
METALS, TOTAL							
Aluminum	56800	mg/kg		1		E200.8	08/05/20 18:01 / dck
Arsenic	3	mg/kg		1		E200.8	08/05/20 14:16 / dck
Barium	508	mg/kg		1		E200.8	08/05/20 14:16 / dck
Cadmium	ND	mg/kg		0.1		E200.8	08/05/20 14:16 / dck
Copper	5	mg/kg		1		E200.8	08/05/20 14:16 / dck
Iron	14400	mg/kg	D	500		E200.8	08/05/20 15:45 / dck
Lead	12	mg/kg	D	2		E200.8	08/05/20 14:16 / dck
Manganese	35	mg/kg	D	10		E200.8	08/05/20 14:16 / dck
Molybdenum	ND	mg/kg		1		E200.8	08/05/20 14:16 / dck
Nickel	16	mg/kg	D	2		E200.8	08/05/20 14:16 / dck
Selenium	0.3	mg/kg		0.1		E200.8	08/05/20 14:16 / dck
Zinc	25	mg/kg	D	5		E200.8	08/05/20 14:16 / dck
EXCHANGEABLE IRON							
Exchangeable Iron	51	mg/kg		1		SW6010B	08/01/20 00:06 / sld

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-010
Client Sample ID: NT1131CC [6-8.2]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	62	%		1		ASA15-5	08/03/20 08:56 / sah
Silt	20	%		1		ASA15-5	08/03/20 08:56 / sah
Clay	18	%		1		ASA15-5	08/03/20 08:56 / sah
Texture	SL			1		ASA15-5	08/03/20 08:56 / sah
SATURATED PASTE							
Saturation	40.6	%		0.1		USDA27a	07/30/20 07:30 / swj
SATURATED PASTE							
pH, sat. paste	4.2	s.u.		0.1		ASA10-3	07/30/20 08:24 / kr
Acidity, Sat. Paste	39	mg/L		4		ASA10-3	08/03/20 14:20 / RAT
METALS, AMMONIUM ACETATE EXTRACTABLE							
Base Saturation	23.0	%		0.1		Calculation	08/06/20 13:57 / stp
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	0.2	mmhos/cm		0.1		ASA10-3	07/30/20 14:23 / kr
Calcium, sat. paste	0.17	meq/L		0.05		SW6010B	08/03/20 03:44 / sld
Magnesium, sat. paste	0.20	meq/L		0.08		SW6010B	08/03/20 03:44 / sld
Potassium, sat. paste	0.08	meq/L		0.03		SW6010B	08/03/20 03:44 / sld
Sodium, sat. paste	0.75	meq/L		0.04		SW6010B	08/03/20 03:44 / sld
Sodium Adsorption Ratio (SAR)	1.7	unitless		0.1		USDA20b	08/06/20 13:57 / stp
Alkalinity, sat. paste	0.51	meq/L		0.08		ASA10-3	07/30/20 16:02 / RAT
Bicarbonate, sat. paste	0.43	meq/L		0.07		ASA10-3	07/30/20 16:02 / RAT
CHEMICAL CHARACTERISTICS							
Calcium, Extractable	0.206	meq/100g		0.005		SW6010B	08/03/20 10:09 / sld
Magnesium, Extractable	1.59	meq/100g		0.008		SW6010B	08/03/20 10:09 / sld
Phosphorus, Available	2.78	mg/kg		1.00		SW6010B	08/03/20 12:57 / sld
Potassium, Extractable	0.115	meq/100g		0.003		SW6010B	08/03/20 10:09 / sld
Sodium, Extractable	0.179	meq/100g		0.004		SW6010B	08/03/20 10:09 / sld
Exchangeable Calcium	0.2	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Magnesium	1.6	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Potassium	0.1	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Sodium	0.2	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Cation Exchange Capacity	8.70	meq/100g		0.09		SW6010B	08/03/20 15:06 / sld
CHEMICAL CHARACTERISTICS							
Exchangeable Acidity	1.3	t/kt		0.1		ASA9-4	07/31/20 14:45 / swj
EXCHANGEABLE ALUMINUM							
Exchangeable Aluminum	2.4	meq/100g		0.1		ASA9-4	07/31/20 14:45 / swj
ACID BASE							
Neutralization Potential	0	t/kt				Sobek Modifie	07/29/20 14:30 / swj

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-010
Client Sample ID: NT1131CC [6-8.2]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
ACID BASE							
Acid Base Accounting	-1.3	t/kt				Calculation	08/06/20 13:57 / stp
Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
Total Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
ACID BASE							
Sulfur, Total	ND	%		0.01		E3.2.3	07/30/20 12:22 / stp
Sulfur, Sulfate	ND	%		0.01		E3.2.3	07/30/20 12:22 / stp
Sulfur, Pyritic	ND	%		0.01		E3.2.3	07/30/20 12:22 / stp
Sulfur, Organic	ND	%		0.01		E3.2.3	07/30/20 12:22 / stp
CACL2 EXTRACTABLE METALS							
Boron	ND	mg/kg		0.1		SW6010B	08/03/20 05:53 / sld
METALS, TOTAL							
Aluminum	54200	mg/kg		1		E200.8	08/05/20 18:02 / dck
Arsenic	5	mg/kg		1		E200.8	08/05/20 14:18 / dck
Barium	570	mg/kg		1		E200.8	08/05/20 14:18 / dck
Cadmium	ND	mg/kg		0.1		E200.8	08/05/20 14:18 / dck
Copper	5	mg/kg		1		E200.8	08/05/20 14:18 / dck
Iron	18000	mg/kg	D	500		E200.8	08/05/20 15:47 / dck
Lead	12	mg/kg	D	2		E200.8	08/05/20 14:18 / dck
Manganese	44	mg/kg	D	10		E200.8	08/05/20 14:18 / dck
Molybdenum	ND	mg/kg		1		E200.8	08/05/20 14:18 / dck
Nickel	20	mg/kg	D	2		E200.8	08/05/20 14:18 / dck
Selenium	0.3	mg/kg		0.1		E200.8	08/05/20 14:18 / dck
Zinc	23	mg/kg	D	5		E200.8	08/05/20 14:18 / dck
EXCHANGEABLE IRON							
Exchangeable Iron	27	mg/kg		1		SW6010B	08/01/20 00:10 / sld

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-011
Client Sample ID: NT1131CC [8.2-16]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	20	%		1		ASA15-5	08/03/20 08:56 / sah
Silt	62	%		1		ASA15-5	08/03/20 08:56 / sah
Clay	18	%		1		ASA15-5	08/03/20 08:56 / sah
Texture	SiL			1		ASA15-5	08/03/20 08:56 / sah
SATURATED PASTE							
Saturation	47.4	%		0.1		USDA27a	07/30/20 07:30 / swj
SATURATED PASTE							
pH, sat. paste	4.8	s.u.		0.1		ASA10-3	07/30/20 08:26 / kr
Acidity, Sat. Paste	30	mg/L		4		ASA10-3	08/03/20 14:30 / RAT
METALS, AMMONIUM ACETATE EXTRACTABLE							
Base Saturation	52.0	%		0.1		Calculation	08/06/20 13:57 / stp
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	0.2	mmhos/cm		0.1		ASA10-3	07/30/20 14:24 / kr
Calcium, sat. paste	0.22	meq/L		0.05		SW6010B	08/03/20 03:48 / sld
Magnesium, sat. paste	0.21	meq/L		0.08		SW6010B	08/03/20 03:48 / sld
Potassium, sat. paste	0.11	meq/L		0.03		SW6010B	08/03/20 03:48 / sld
Sodium, sat. paste	0.82	meq/L		0.04		SW6010B	08/03/20 03:48 / sld
Sodium Adsorption Ratio (SAR)	1.8	unitless		0.1		USDA20b	08/06/20 13:57 / stp
Alkalinity, sat. paste	0.74	meq/L		0.08		ASA10-3	07/30/20 16:08 / RAT
Bicarbonate, sat. paste	0.66	meq/L		0.07		ASA10-3	07/30/20 16:08 / RAT
CHEMICAL CHARACTERISTICS							
Calcium, Extractable	2.30	meq/100g		0.005		SW6010B	08/03/20 10:13 / sld
Magnesium, Extractable	4.17	meq/100g		0.008		SW6010B	08/03/20 10:13 / sld
Phosphorus, Available	1.96	mg/kg		1.00		SW6010B	08/03/20 13:01 / sld
Potassium, Extractable	0.274	meq/100g		0.003		SW6010B	08/03/20 10:13 / sld
Sodium, Extractable	0.364	meq/100g		0.004		SW6010B	08/03/20 10:13 / sld
Exchangeable Calcium	2.3	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Magnesium	4.2	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Potassium	0.3	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Sodium	0.3	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Cation Exchange Capacity	13.4	meq/100g		0.09		SW6010B	08/03/20 15:10 / sld
CHEMICAL CHARACTERISTICS							
Exchangeable Acidity	0.5	t/kt		0.1		ASA9-4	07/31/20 14:45 / swj
EXCHANGEABLE ALUMINUM							
Exchangeable Aluminum	1.2	meq/100g		0.1		ASA9-4	07/31/20 14:45 / swj
ACID BASE							
Neutralization Potential	2	t/kt				Sobek Modifie	07/29/20 14:44 / swj

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-011
Client Sample ID: NT1131CC [8.2-16]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
ACID BASE							
Acid Base Accounting	-0.5	t/kt				Calculation	08/06/20 13:57 / stp
Potential Acidity	1.7	t/kt				Calculation	08/06/20 13:57 / stp
Total Potential Acidity	2.1	t/kt				Calculation	08/06/20 13:57 / stp
ACID BASE							
Sulfur, Total	0.07	%		0.01		E3.2.3	08/04/20 12:18 / stp
Sulfur, Sulfate	ND	%		0.01		E3.2.3	08/04/20 12:18 / stp
Sulfur, Pyritic	0.05	%		0.01		E3.2.3	08/04/20 12:18 / stp
Sulfur, Organic	0.01	%		0.01		E3.2.3	08/04/20 12:18 / stp
CACL2 EXTRACTABLE METALS							
Boron	ND	mg/kg		0.1		SW6010B	08/03/20 05:57 / sld
METALS, TOTAL							
Aluminum	55000	mg/kg		1		E200.8	08/05/20 18:05 / dck
Arsenic	4	mg/kg		1		E200.8	08/05/20 14:34 / dck
Barium	584	mg/kg		1		E200.8	08/05/20 14:34 / dck
Cadmium	ND	mg/kg		0.1		E200.8	08/05/20 14:34 / dck
Copper	6	mg/kg		1		E200.8	08/05/20 14:34 / dck
Iron	19900	mg/kg	D	500		E200.8	08/05/20 15:54 / dck
Lead	12	mg/kg	D	2		E200.8	08/05/20 14:34 / dck
Manganese	113	mg/kg	D	10		E200.8	08/05/20 14:34 / dck
Molybdenum	ND	mg/kg		1		E200.8	08/05/20 14:34 / dck
Nickel	10	mg/kg	D	2		E200.8	08/05/20 14:34 / dck
Selenium	0.3	mg/kg		0.1		E200.8	08/05/20 14:34 / dck
Zinc	27	mg/kg	D	5		E200.8	08/05/20 14:34 / dck
EXCHANGEABLE IRON							
Exchangeable Iron	7	mg/kg		1		SW6010B	08/01/20 00:14 / sld

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-012
Client Sample ID: NT1132CC [0-1]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	40	%		1		ASA15-5	08/03/20 08:56 / sah
Silt	40	%		1		ASA15-5	08/03/20 08:56 / sah
Clay	20	%		1		ASA15-5	08/03/20 08:56 / sah
Texture	L			1		ASA15-5	08/03/20 08:56 / sah
SATURATED PASTE							
Saturation	40.8	%		0.1		USDA27a	07/30/20 07:30 / swj
SATURATED PASTE							
pH, sat. paste	4.7	s.u.		0.1		ASA10-3	07/30/20 08:27 / kr
Acidity, Sat. Paste	61	mg/L		4		ASA10-3	08/03/20 14:39 / RAT
METALS, AMMONIUM ACETATE EXTRACTABLE							
Base Saturation	33.0	%		0.1		Calculation	08/06/20 13:57 / stp
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	0.8	mmhos/cm		0.1		ASA10-3	07/30/20 14:25 / kr
Calcium, sat. paste	3.08	meq/L		0.05		SW6010B	08/03/20 03:59 / sld
Magnesium, sat. paste	3.25	meq/L		0.08		SW6010B	08/03/20 03:59 / sld
Potassium, sat. paste	0.42	meq/L		0.03		SW6010B	08/03/20 03:59 / sld
Sodium, sat. paste	1.18	meq/L		0.04		SW6010B	08/03/20 03:59 / sld
Sodium Adsorption Ratio (SAR)	0.7	unitless		0.1		USDA20b	08/06/20 13:57 / stp
Alkalinity, sat. paste	1.09	meq/L		0.08		ASA10-3	07/30/20 16:14 / RAT
Bicarbonate, sat. paste	1.01	meq/L		0.07		ASA10-3	07/30/20 16:14 / RAT
CHEMICAL CHARACTERISTICS							
Calcium, Extractable	2.59	meq/100g		0.005		SW6010B	08/03/20 10:17 / sld
Magnesium, Extractable	1.94	meq/100g		0.008		SW6010B	08/03/20 10:17 / sld
Phosphorus, Available	10.8	mg/kg		1.00		SW6010B	08/03/20 13:05 / sld
Potassium, Extractable	0.203	meq/100g		0.003		SW6010B	08/03/20 10:17 / sld
Sodium, Extractable	0.124	meq/100g		0.004		SW6010B	08/03/20 10:17 / sld
Exchangeable Calcium	2.5	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Magnesium	1.8	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Potassium	0.2	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Sodium	ND	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Cation Exchange Capacity	13.5	meq/100g		0.09		SW6010B	08/03/20 15:14 / sld
Organic Matter	2.4	%		0.2		ASA29-3	07/30/20 16:05 / sah
CHEMICAL CHARACTERISTICS							
Exchangeable Acidity	0.5	t/kt		0.1		ASA9-4	07/31/20 14:45 / swj
EXCHANGEABLE ALUMINUM							
Exchangeable Aluminum	1.4	meq/100g		0.1		ASA9-4	07/31/20 14:45 / swj

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-012
Client Sample ID: NT1132CC [0-1]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
ACID BASE							
Neutralization Potential	0	t/kt				Sobek Modifie	07/29/20 14:53 / swj
ACID BASE							
Acid Base Accounting	0.4	t/kt				Calculation	08/06/20 13:57 / stp
Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
Total Potential Acidity	0.4	t/kt				Calculation	08/06/20 13:57 / stp
ACID BASE							
Sulfur, Total	0.01	%		0.01		E3.2.3	08/04/20 12:35 / stp
Sulfur, Sulfate	ND	%		0.01		E3.2.3	08/04/20 12:35 / stp
Sulfur, Pyritic	ND	%		0.01		E3.2.3	08/04/20 12:35 / stp
Sulfur, Organic	ND	%		0.01		E3.2.3	08/04/20 12:35 / stp
CACL2 EXTRACTABLE METALS							
Boron	0.1	mg/kg		0.1		SW6010B	08/03/20 06:01 / sld
METALS, TOTAL							
Aluminum	31900	mg/kg		1		E200.8	08/05/20 15:56 / dck
Arsenic	5	mg/kg		1		E200.8	08/05/20 14:35 / dck
Barium	324	mg/kg		1		E200.8	08/05/20 14:35 / dck
Cadmium	ND	mg/kg		0.1		E200.8	08/05/20 14:35 / dck
Copper	6	mg/kg		1		E200.8	08/05/20 14:35 / dck
Iron	15700	mg/kg	D	500		E200.8	08/05/20 15:56 / dck
Lead	14	mg/kg	D	2		E200.8	08/05/20 14:35 / dck
Manganese	289	mg/kg	D	10		E200.8	08/05/20 14:35 / dck
Molybdenum	ND	mg/kg		1		E200.8	08/05/20 14:35 / dck
Nickel	17	mg/kg	D	2		E200.8	08/05/20 14:35 / dck
Selenium	0.6	mg/kg		0.1		E200.8	08/05/20 14:35 / dck
Zinc	19	mg/kg	D	5		E200.8	08/05/20 14:35 / dck
EXCHANGEABLE IRON							
Exchangeable Iron	21	mg/kg		1		SW6010B	08/01/20 00:18 / sld

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-013
Client Sample ID: NT1132CC [1-4]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	10	%		1		ASA15-5	08/03/20 08:56 / sah
Silt	48	%		1		ASA15-5	08/03/20 08:56 / sah
Clay	42	%		1		ASA15-5	08/03/20 08:56 / sah
Texture	SiC			1		ASA15-5	08/03/20 08:56 / sah
SATURATED PASTE							
Saturation	58.0	%		0.1		USDA27a	07/30/20 07:30 / swj
SATURATED PASTE							
pH, sat. paste	3.6	s.u.		0.1		ASA10-3	07/30/20 08:28 / kr
Acidity, Sat. Paste	38	mg/L		4		ASA10-3	08/03/20 14:49 / RAT
METALS, AMMONIUM ACETATE EXTRACTABLE							
Base Saturation	29.0	%		0.1		Calculation	08/06/20 13:57 / stp
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	0.2	mmhos/cm		0.1		ASA10-3	07/30/20 14:25 / kr
Calcium, sat. paste	0.24	meq/L		0.05		SW6010B	08/03/20 04:03 / sld
Magnesium, sat. paste	0.36	meq/L		0.08		SW6010B	08/03/20 04:03 / sld
Potassium, sat. paste	0.12	meq/L		0.03		SW6010B	08/03/20 04:03 / sld
Sodium, sat. paste	1.20	meq/L		0.04		SW6010B	08/03/20 04:03 / sld
Sodium Adsorption Ratio (SAR)	2.2	unitless		0.1		USDA20b	08/06/20 13:57 / stp
Alkalinity, sat. paste	0.20	meq/L		0.08		ASA10-3	07/30/20 16:18 / RAT
Bicarbonate, sat. paste	0.12	meq/L		0.07		ASA10-3	07/30/20 16:18 / RAT
CHEMICAL CHARACTERISTICS							
Calcium, Extractable	0.850	meq/100g		0.005		SW6010B	08/03/20 10:21 / sld
Magnesium, Extractable	6.51	meq/100g		0.008		SW6010B	08/03/20 10:21 / sld
Phosphorus, Available	1.72	mg/kg		1.00		SW6010B	08/03/20 13:16 / sld
Potassium, Extractable	0.426	meq/100g		0.003		SW6010B	08/03/20 10:21 / sld
Sodium, Extractable	0.657	meq/100g		0.004		SW6010B	08/03/20 10:21 / sld
Exchangeable Calcium	0.8	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Magnesium	6.5	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Potassium	0.4	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Sodium	0.6	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Cation Exchange Capacity	28.8	meq/100g		0.09		SW6010B	08/03/20 15:18 / sld
Organic Matter	0.2	%		0.2		ASA29-3	07/30/20 16:05 / sah
CHEMICAL CHARACTERISTICS							
Exchangeable Acidity	4.5	t/kt		0.1		ASA9-4	07/31/20 14:45 / swj
EXCHANGEABLE ALUMINUM							
Exchangeable Aluminum	6.8	meq/100g		0.1		ASA9-4	07/31/20 14:45 / swj

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-013
Client Sample ID: NT1132CC [1-4]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
ACID BASE							
Neutralization Potential	2	t/kt				Sobek Modifie	07/29/20 15:01 / swj
ACID BASE							
Acid Base Accounting	-2.5	t/kt				Calculation	08/06/20 13:57 / stp
Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
Total Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
ACID BASE							
Sulfur, Total	ND	%		0.01		E3.2.3	07/30/20 12:35 / stp
Sulfur, Sulfate	ND	%		0.01		E3.2.3	07/30/20 12:35 / stp
Sulfur, Pyritic	ND	%		0.01		E3.2.3	07/30/20 12:35 / stp
Sulfur, Organic	ND	%		0.01		E3.2.3	07/30/20 12:35 / stp
CACL2 EXTRACTABLE METALS							
Boron	0.1	mg/kg		0.1		SW6010B	08/03/20 06:05 / sld
METALS, TOTAL							
Aluminum	85300	mg/kg		1		E200.8	08/05/20 18:06 / dck
Arsenic	10	mg/kg		1		E200.8	08/05/20 14:37 / dck
Barium	467	mg/kg		1		E200.8	08/05/20 14:37 / dck
Cadmium	ND	mg/kg		0.1		E200.8	08/05/20 14:37 / dck
Copper	10	mg/kg		1		E200.8	08/05/20 14:37 / dck
Iron	38100	mg/kg	D	500		E200.8	08/05/20 15:57 / dck
Lead	20	mg/kg	D	2		E200.8	08/05/20 14:37 / dck
Manganese	57	mg/kg	D	10		E200.8	08/05/20 14:37 / dck
Molybdenum	ND	mg/kg		1		E200.8	08/05/20 14:37 / dck
Nickel	14	mg/kg	D	2		E200.8	08/05/20 14:37 / dck
Selenium	1.1	mg/kg		0.1		E200.8	08/05/20 14:37 / dck
Zinc	51	mg/kg	D	5		E200.8	08/05/20 14:37 / dck
EXCHANGEABLE IRON							
Exchangeable Iron	57	mg/kg		1		SW6010B	08/01/20 00:22 / sld

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-014
Client Sample ID: NT1132CC [4-6.9]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	12	%		1		ASA15-5	08/03/20 08:56 / sah
Silt	48	%		1		ASA15-5	08/03/20 08:56 / sah
Clay	40	%		1		ASA15-5	08/03/20 08:56 / sah
Texture	SiC			1		ASA15-5	08/03/20 08:56 / sah
SATURATED PASTE							
Saturation	57.5	%		0.1		USDA27a	07/30/20 07:31 / swj
SATURATED PASTE							
pH, sat. paste	3.9	s.u.		0.1		ASA10-3	07/30/20 08:29 / kr
Acidity, Sat. Paste	38	mg/L		4		ASA10-3	08/03/20 14:58 / RAT
METALS, AMMONIUM ACETATE EXTRACTABLE							
Base Saturation	42.0	%		0.1		Calculation	08/06/20 13:57 / stp
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	0.3	mmhos/cm		0.1		ASA10-3	07/30/20 14:26 / kr
Calcium, sat. paste	0.26	meq/L		0.05		SW6010B	08/03/20 04:07 / sld
Magnesium, sat. paste	0.28	meq/L		0.08		SW6010B	08/03/20 04:07 / sld
Potassium, sat. paste	0.08	meq/L		0.03		SW6010B	08/03/20 04:07 / sld
Sodium, sat. paste	1.80	meq/L		0.04		SW6010B	08/03/20 04:07 / sld
Sodium Adsorption Ratio (SAR)	3.5	unitless		0.1		USDA20b	08/06/20 13:57 / stp
Alkalinity, sat. paste	0.46	meq/L		0.08		ASA10-3	07/30/20 16:22 / RAT
Bicarbonate, sat. paste	0.38	meq/L		0.07		ASA10-3	07/30/20 16:22 / RAT
CHEMICAL CHARACTERISTICS							
Calcium, Extractable	1.21	meq/100g	D	0.01		SW6010B	08/03/20 10:32 / sld
Magnesium, Extractable	8.84	meq/100g		0.008		SW6010B	08/03/20 10:32 / sld
Phosphorus, Available	1.67	mg/kg		1.00		SW6010B	08/03/20 13:20 / sld
Potassium, Extractable	0.416	meq/100g		0.003		SW6010B	08/03/20 10:32 / sld
Sodium, Extractable	1.52	meq/100g		0.004		SW6010B	08/03/20 10:32 / sld
Exchangeable Calcium	1.2	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Magnesium	8.8	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Potassium	0.4	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Sodium	1.4	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Cation Exchange Capacity	28.4	meq/100g		0.09		SW6010B	08/03/20 15:22 / sld
CHEMICAL CHARACTERISTICS							
Exchangeable Acidity	2.7	t/kt		0.1		ASA9-4	07/31/20 14:45 / swj
EXCHANGEABLE ALUMINUM							
Exchangeable Aluminum	3.9	meq/100g		0.1		ASA9-4	07/31/20 14:45 / swj
ACID BASE							
Neutralization Potential	4	t/kt				Sobek Modifie	07/29/20 15:07 / swj

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-014
Client Sample ID: NT1132CC [4-6.9]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
ACID BASE							
Acid Base Accounting	1.5	t/kt				Calculation	08/06/20 13:57 / stp
Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
Total Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
ACID BASE							
Sulfur, Total	ND	%		0.01		E3.2.3	07/30/20 12:38 / stp
Sulfur, Sulfate	ND	%		0.01		E3.2.3	07/30/20 12:38 / stp
Sulfur, Pyritic	ND	%		0.01		E3.2.3	07/30/20 12:38 / stp
Sulfur, Organic	ND	%		0.01		E3.2.3	07/30/20 12:38 / stp
CACL2 EXTRACTABLE METALS							
Boron	0.1	mg/kg		0.1		SW6010B	08/03/20 06:16 / sld
METALS, TOTAL							
Aluminum	83100	mg/kg		1		E200.8	08/05/20 18:08 / dck
Arsenic	8	mg/kg		1		E200.8	08/05/20 14:38 / dck
Barium	833	mg/kg		1		E200.8	08/05/20 14:38 / dck
Cadmium	ND	mg/kg		0.1		E200.8	08/05/20 14:38 / dck
Copper	10	mg/kg		1		E200.8	08/05/20 14:38 / dck
Iron	33900	mg/kg	D	500		E200.8	08/05/20 15:58 / dck
Lead	17	mg/kg	D	2		E200.8	08/05/20 14:38 / dck
Manganese	90	mg/kg	D	10		E200.8	08/05/20 14:38 / dck
Molybdenum	ND	mg/kg		1		E200.8	08/05/20 14:38 / dck
Nickel	17	mg/kg	D	2		E200.8	08/05/20 14:38 / dck
Selenium	0.9	mg/kg		0.1		E200.8	08/05/20 14:38 / dck
Zinc	70	mg/kg	D	5		E200.8	08/05/20 14:38 / dck
EXCHANGEABLE IRON							
Exchangeable Iron	17	mg/kg		1		SW6010B	08/01/20 00:26 / sld

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-015
Client Sample ID: NT1132CC [6.9-11.4]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	8	%		1		ASA15-5	08/03/20 08:56 / sah
Silt	50	%		1		ASA15-5	08/03/20 08:56 / sah
Clay	42	%		1		ASA15-5	08/03/20 08:56 / sah
Texture	SiC			1		ASA15-5	08/03/20 08:56 / sah
SATURATED PASTE							
Saturation	72.6	%		0.1		USDA27a	07/30/20 07:31 / swj
SATURATED PASTE							
pH, sat. paste	4.2	s.u.		0.1		ASA10-3	07/30/20 08:29 / kr
Acidity, Sat. Paste	42	mg/L		4		ASA10-3	08/03/20 15:08 / RAT
METALS, AMMONIUM ACETATE EXTRACTABLE							
Base Saturation	47.0	%		0.1		Calculation	08/06/20 13:57 / stp
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	0.6	mmhos/cm		0.1		ASA10-3	07/30/20 14:27 / kr
Calcium, sat. paste	0.39	meq/L		0.05		SW6010B	08/03/20 04:11 / sld
Magnesium, sat. paste	0.63	meq/L		0.08		SW6010B	08/03/20 04:11 / sld
Potassium, sat. paste	0.14	meq/L		0.03		SW6010B	08/03/20 04:11 / sld
Sodium, sat. paste	4.46	meq/L		0.04		SW6010B	08/03/20 04:11 / sld
Sodium Adsorption Ratio (SAR)	6.2	unitless		0.1		USDA20b	08/06/20 13:57 / stp
Alkalinity, sat. paste	0.41	meq/L		0.08		ASA10-3	07/30/20 16:27 / RAT
Bicarbonate, sat. paste	0.33	meq/L		0.07		ASA10-3	07/30/20 16:27 / RAT
CHEMICAL CHARACTERISTICS							
Calcium, Extractable	2.13	meq/100g	D	0.01		SW6010B	08/03/20 10:36 / sld
Magnesium, Extractable	9.64	meq/100g		0.008		SW6010B	08/03/20 10:36 / sld
Phosphorus, Available	2.11	mg/kg		1.00		SW6010B	08/03/20 13:23 / sld
Potassium, Extractable	0.471	meq/100g		0.003		SW6010B	08/03/20 10:36 / sld
Sodium, Extractable	2.53	meq/100g		0.004		SW6010B	08/03/20 10:36 / sld
Exchangeable Calcium	2.1	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Magnesium	9.6	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Potassium	0.5	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Sodium	2.2	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Cation Exchange Capacity	30.5	meq/100g		0.09		SW6010B	08/03/20 16:04 / sld
CHEMICAL CHARACTERISTICS							
Exchangeable Acidity	1.4	t/kt		0.1		ASA9-4	07/31/20 14:45 / swj
EXCHANGEABLE ALUMINUM							
Exchangeable Aluminum	1.9	meq/100g		0.1		ASA9-4	07/31/20 14:45 / swj
ACID BASE							
Neutralization Potential	5	t/kt				Sobek Modifie	07/29/20 15:14 / swj

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-015
Client Sample ID: NT1132CC [6.9-11.4]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
ACID BASE							
Acid Base Accounting	3.8	t/kt				Calculation	08/06/20 13:57 / stp
Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
Total Potential Acidity	0.7	t/kt				Calculation	08/06/20 13:57 / stp
ACID BASE							
Sulfur, Total	0.02	%		0.01		E3.2.3	08/04/20 12:43 / stp
Sulfur, Sulfate	ND	%		0.01		E3.2.3	08/04/20 12:43 / stp
Sulfur, Pyritic	ND	%		0.01		E3.2.3	08/04/20 12:43 / stp
Sulfur, Organic	ND	%		0.01		E3.2.3	08/04/20 12:43 / stp
CACL2 EXTRACTABLE METALS							
Boron	0.1	mg/kg		0.1		SW6010B	08/03/20 06:19 / sld
METALS, TOTAL							
Aluminum	82200	mg/kg		1		E200.8	08/05/20 18:09 / dck
Arsenic	11	mg/kg		1		E200.8	08/05/20 14:40 / dck
Barium	600	mg/kg		1		E200.8	08/05/20 14:40 / dck
Cadmium	ND	mg/kg		0.1		E200.8	08/05/20 14:40 / dck
Copper	14	mg/kg		1		E200.8	08/05/20 14:40 / dck
Iron	36900	mg/kg	D	500		E200.8	08/05/20 16:00 / dck
Lead	19	mg/kg	D	2		E200.8	08/05/20 14:40 / dck
Manganese	150	mg/kg	D	10		E200.8	08/05/20 14:40 / dck
Molybdenum	ND	mg/kg		1		E200.8	08/05/20 14:40 / dck
Nickel	22	mg/kg	D	2		E200.8	08/05/20 14:40 / dck
Selenium	0.9	mg/kg		0.1		E200.8	08/05/20 14:40 / dck
Zinc	84	mg/kg	D	5		E200.8	08/05/20 14:40 / dck
EXCHANGEABLE IRON							
Exchangeable Iron	12	mg/kg		1		SW6010B	08/01/20 00:30 / sld

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-016
Client Sample ID: NT1132CC [11.4-16]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	20	%		1		ASA15-5	08/03/20 08:56 / sah
Silt	50	%		1		ASA15-5	08/03/20 08:56 / sah
Clay	30	%		1		ASA15-5	08/03/20 08:56 / sah
Texture	SiCL			1		ASA15-5	08/03/20 08:56 / sah
SATURATED PASTE							
Saturation	53.9	%		0.1		USDA27a	07/30/20 07:31 / swj
SATURATED PASTE							
pH, sat. paste	4.0	s.u.		0.1		ASA10-3	07/30/20 08:30 / kr
Acidity, Sat. Paste	48	mg/L		4		ASA10-3	08/03/20 15:17 / RAT
METALS, AMMONIUM ACETATE EXTRACTABLE							
Base Saturation	44.0	%		0.1		Calculation	08/06/20 13:57 / stp
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	1.9	mmhos/cm		0.1		ASA10-3	07/30/20 14:27 / kr
Calcium, sat. paste	1.18	meq/L		0.05		SW6010B	08/03/20 04:14 / sld
Magnesium, sat. paste	3.74	meq/L		0.08		SW6010B	08/03/20 04:14 / sld
Potassium, sat. paste	0.29	meq/L		0.03		SW6010B	08/03/20 04:14 / sld
Sodium, sat. paste	12.1	meq/L		0.04		SW6010B	08/03/20 04:14 / sld
Sodium Adsorption Ratio (SAR)	7.7	unitless		0.1		USDA20b	08/06/20 13:57 / stp
Alkalinity, sat. paste	0.30	meq/L		0.08		ASA10-3	07/30/20 16:33 / RAT
Bicarbonate, sat. paste	0.22	meq/L		0.07		ASA10-3	07/30/20 16:33 / RAT
CHEMICAL CHARACTERISTICS							
Calcium, Extractable	2.30	meq/100g	D	0.01		SW6010B	08/03/20 10:40 / sld
Magnesium, Extractable	7.12	meq/100g		0.008		SW6010B	08/03/20 10:40 / sld
Phosphorus, Available	ND	mg/kg		1.00		SW6010B	08/03/20 13:27 / sld
Potassium, Extractable	0.378	meq/100g		0.003		SW6010B	08/03/20 10:40 / sld
Sodium, Extractable	2.35	meq/100g		0.004		SW6010B	08/03/20 10:40 / sld
Exchangeable Calcium	2.2	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Magnesium	6.9	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Potassium	0.4	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Sodium	1.7	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Cation Exchange Capacity	25.3	meq/100g		0.09		SW6010B	08/03/20 16:08 / sld
CHEMICAL CHARACTERISTICS							
Exchangeable Acidity	1.2	t/kt		0.1		ASA9-4	07/31/20 14:45 / swj
EXCHANGEABLE ALUMINUM							
Exchangeable Aluminum	1.8	meq/100g		0.1		ASA9-4	07/31/20 14:45 / swj
ACID BASE							
Neutralization Potential	3	t/kt				Sobek Modifie	07/31/20 11:26 / swj

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-016
Client Sample ID: NT1132CC [11.4-16]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
ACID BASE							
Acid Base Accounting	2.0	t/kt				Calculation	08/06/20 13:57 / stp
Potential Acidity	0.3	t/kt				Calculation	08/06/20 13:57 / stp
Total Potential Acidity	2.1	t/kt				Calculation	08/06/20 13:57 / stp
ACID BASE							
Sulfur, Total	0.07	%		0.01		E3.2.3	08/04/20 12:52 / stp
Sulfur, Sulfate	0.02	%		0.01		E3.2.3	08/04/20 12:52 / stp
Sulfur, Pyritic	0.01	%		0.01		E3.2.3	08/04/20 12:52 / stp
Sulfur, Organic	0.03	%		0.01		E3.2.3	08/04/20 12:52 / stp
CACL2 EXTRACTABLE METALS							
Boron	0.2	mg/kg		0.1		SW6010B	08/03/20 06:23 / sld
METALS, TOTAL							
Aluminum	78100	mg/kg		1		E200.8	08/05/20 18:10 / dck
Arsenic	11	mg/kg		1		E200.8	08/05/20 14:42 / dck
Barium	862	mg/kg		1		E200.8	08/05/20 14:42 / dck
Cadmium	ND	mg/kg		0.1		E200.8	08/05/20 14:42 / dck
Copper	11	mg/kg		1		E200.8	08/05/20 14:42 / dck
Iron	36300	mg/kg	D	500		E200.8	08/05/20 16:01 / dck
Lead	18	mg/kg	D	2		E200.8	08/05/20 14:42 / dck
Manganese	71	mg/kg	D	10		E200.8	08/05/20 14:42 / dck
Molybdenum	ND	mg/kg		1		E200.8	08/05/20 14:42 / dck
Nickel	15	mg/kg	D	2		E200.8	08/05/20 14:42 / dck
Selenium	0.8	mg/kg		0.1		E200.8	08/05/20 14:42 / dck
Zinc	51	mg/kg	D	5		E200.8	08/05/20 14:42 / dck
EXCHANGEABLE IRON							
Exchangeable Iron	13	mg/kg		1		SW6010B	08/01/20 00:34 / sld

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-017
Client Sample ID: NT1133CC [0-1]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	38	%		1		ASA15-5	08/03/20 08:56 / sah
Silt	48	%		1		ASA15-5	08/03/20 08:56 / sah
Clay	14	%		1		ASA15-5	08/03/20 08:56 / sah
Texture	L			1		ASA15-5	08/03/20 08:56 / sah
SATURATED PASTE							
Saturation	38.7	%		0.1		USDA27a	07/30/20 07:31 / swj
SATURATED PASTE							
pH, sat. paste	4.8	s.u.		0.1		ASA10-3	07/30/20 08:31 / kr
Acidity, Sat. Paste	57	mg/L		4		ASA10-3	08/03/20 15:26 / RAT
METALS, AMMONIUM ACETATE EXTRACTABLE							
Base Saturation	21.0	%		0.1		Calculation	08/06/20 13:57 / stp
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	0.7	mmhos/cm		0.1		ASA10-3	07/30/20 14:28 / kr
Calcium, sat. paste	1.98	meq/L		0.05		SW6010B	08/03/20 04:18 / sld
Magnesium, sat. paste	1.99	meq/L		0.08		SW6010B	08/03/20 04:18 / sld
Potassium, sat. paste	0.22	meq/L		0.03		SW6010B	08/03/20 04:18 / sld
Sodium, sat. paste	0.99	meq/L		0.04		SW6010B	08/03/20 04:18 / sld
Sodium Adsorption Ratio (SAR)	0.7	unitless		0.1		USDA20b	08/06/20 13:57 / stp
Alkalinity, sat. paste	1.02	meq/L		0.08		ASA10-3	07/30/20 16:39 / RAT
Bicarbonate, sat. paste	0.94	meq/L		0.07		ASA10-3	07/30/20 16:39 / RAT
CHEMICAL CHARACTERISTICS							
Calcium, Extractable	1.29	meq/100g	D	0.01		SW6010B	08/03/20 10:44 / sld
Magnesium, Extractable	0.884	meq/100g		0.008		SW6010B	08/03/20 10:44 / sld
Phosphorus, Available	10.2	mg/kg		1.00		SW6010B	08/03/20 13:31 / sld
Potassium, Extractable	0.126	meq/100g		0.003		SW6010B	08/03/20 10:44 / sld
Sodium, Extractable	0.087	meq/100g		0.004		SW6010B	08/03/20 10:44 / sld
Exchangeable Calcium	1.2	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Magnesium	0.8	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Potassium	0.1	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Sodium	ND	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Cation Exchange Capacity	10.4	meq/100g		0.09		SW6010B	08/03/20 16:12 / sld
Organic Matter	2.2	%		0.2		ASA29-3	07/30/20 16:05 / sah
CHEMICAL CHARACTERISTICS							
Exchangeable Acidity	0.5	t/kt		0.1		ASA9-4	07/31/20 14:45 / swj
EXCHANGEABLE ALUMINUM							
Exchangeable Aluminum	1.6	meq/100g		0.1		ASA9-4	07/31/20 14:45 / swj

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-017
Client Sample ID: NT1133CC [0-1]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
ACID BASE							
Neutralization Potential	0	t/kt				Sobek Modifie	07/31/20 11:34 / swj
ACID BASE							
Acid Base Accounting	0.1	t/kt				Calculation	08/06/20 13:57 / stp
Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
Total Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
ACID BASE							
Sulfur, Total	ND	%		0.01		E3.2.3	07/30/20 12:49 / stp
Sulfur, Sulfate	ND	%		0.01		E3.2.3	07/30/20 12:49 / stp
Sulfur, Pyritic	ND	%		0.01		E3.2.3	07/30/20 12:49 / stp
Sulfur, Organic	ND	%		0.01		E3.2.3	07/30/20 12:49 / stp
CACL2 EXTRACTABLE METALS							
Boron	ND	mg/kg		0.1		SW6010B	08/03/20 06:27 / sld
METALS, TOTAL							
Aluminum	25100	mg/kg		1		E200.8	08/05/20 16:02 / dck
Arsenic	6	mg/kg		1		E200.8	08/05/20 14:43 / dck
Barium	310	mg/kg		1		E200.8	08/05/20 14:43 / dck
Cadmium	ND	mg/kg		0.1		E200.8	08/05/20 14:43 / dck
Copper	5	mg/kg		1		E200.8	08/05/20 14:43 / dck
Iron	15400	mg/kg	D	500		E200.8	08/05/20 16:02 / dck
Lead	14	mg/kg	D	2		E200.8	08/05/20 14:43 / dck
Manganese	589	mg/kg	D	10		E200.8	08/05/20 14:43 / dck
Molybdenum	ND	mg/kg		1		E200.8	08/05/20 14:43 / dck
Nickel	13	mg/kg	D	2		E200.8	08/05/20 14:43 / dck
Selenium	0.6	mg/kg		0.1		E200.8	08/05/20 14:43 / dck
Zinc	28	mg/kg	D	5		E200.8	08/05/20 14:43 / dck
EXCHANGEABLE IRON							
Exchangeable Iron	12	mg/kg		1		SW6010B	08/01/20 00:50 / sld

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-018
Client Sample ID: NT1133CC [1-4]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	26	%		1		ASA15-5	08/03/20 08:56 / sah
Silt	42	%		1		ASA15-5	08/03/20 08:56 / sah
Clay	32	%		1		ASA15-5	08/03/20 08:56 / sah
Texture	CL			1		ASA15-5	08/03/20 08:56 / sah
SATURATED PASTE							
Saturation	44.7	%		0.1		USDA27a	07/30/20 07:31 / swj
SATURATED PASTE							
pH, sat. paste	4.2	s.u.		0.1		ASA10-3	07/30/20 08:33 / kr
Acidity, Sat. Paste	42	mg/L		4		ASA10-3	08/03/20 12:31 / RAT
METALS, AMMONIUM ACETATE EXTRACTABLE							
Base Saturation	17.0	%		0.1		Calculation	08/06/20 13:57 / stp
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	0.2	mmhos/cm		0.1		ASA10-3	07/30/20 14:28 / kr
Calcium, sat. paste	0.20	meq/L		0.05		SW6010B	08/03/20 04:22 / sld
Magnesium, sat. paste	0.48	meq/L		0.08		SW6010B	08/03/20 04:22 / sld
Potassium, sat. paste	0.08	meq/L		0.03		SW6010B	08/03/20 04:22 / sld
Sodium, sat. paste	1.11	meq/L		0.04		SW6010B	08/03/20 04:22 / sld
Sodium Adsorption Ratio (SAR)	1.9	unitless		0.1		USDA20b	08/06/20 13:57 / stp
Alkalinity, sat. paste	0.29	meq/L		0.08		ASA10-3	07/30/20 16:43 / RAT
Bicarbonate, sat. paste	0.21	meq/L		0.07		ASA10-3	07/30/20 16:43 / RAT
CHEMICAL CHARACTERISTICS							
Calcium, Extractable	0.22	meq/100g	D	0.01		SW6010B	08/03/20 10:48 / sld
Magnesium, Extractable	2.32	meq/100g		0.008		SW6010B	08/03/20 10:48 / sld
Phosphorus, Available	2.28	mg/kg		1.00		SW6010B	08/03/20 13:35 / sld
Potassium, Extractable	0.163	meq/100g		0.003		SW6010B	08/03/20 10:48 / sld
Sodium, Extractable	0.238	meq/100g		0.004		SW6010B	08/03/20 10:48 / sld
Exchangeable Calcium	0.2	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Magnesium	2.3	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Potassium	0.2	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Sodium	0.2	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Cation Exchange Capacity	16.5	meq/100g		0.09		SW6010B	08/03/20 16:15 / sld
Organic Matter	0.3	%		0.2		ASA29-3	07/30/20 16:05 / sah
CHEMICAL CHARACTERISTICS							
Exchangeable Acidity	2.6	t/kt		0.1		ASA9-4	07/31/20 14:45 / swj
EXCHANGEABLE ALUMINUM							
Exchangeable Aluminum	4.7	meq/100g		0.1		ASA9-4	07/31/20 14:45 / swj

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-018
Client Sample ID: NT1133CC [1-4]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
ACID BASE							
Neutralization Potential	0	t/kt				Sobek Modifie	07/31/20 11:42 / swj
ACID BASE							
Acid Base Accounting	-2.6	t/kt				Calculation	08/06/20 13:57 / stp
Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
Total Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
ACID BASE							
Sulfur, Total	ND	%		0.01		E3.2.3	07/30/20 12:52 / stp
Sulfur, Sulfate	ND	%		0.01		E3.2.3	07/30/20 12:52 / stp
Sulfur, Pyritic	ND	%		0.01		E3.2.3	07/30/20 12:52 / stp
Sulfur, Organic	ND	%		0.01		E3.2.3	07/30/20 12:52 / stp
CACL2 EXTRACTABLE METALS							
Boron	ND	mg/kg		0.1		SW6010B	08/03/20 06:31 / sld
METALS, TOTAL							
Aluminum	48400	mg/kg		1		E200.8	08/05/20 18:11 / dck
Arsenic	7	mg/kg		1		E200.8	08/05/20 14:47 / dck
Barium	275	mg/kg		1		E200.8	08/05/20 14:47 / dck
Cadmium	ND	mg/kg		0.1		E200.8	08/05/20 14:47 / dck
Copper	7	mg/kg		1		E200.8	08/05/20 14:47 / dck
Iron	28300	mg/kg	D	500		E200.8	08/05/20 16:05 / dck
Lead	13	mg/kg	D	2		E200.8	08/05/20 14:47 / dck
Manganese	102	mg/kg	D	10		E200.8	08/05/20 14:47 / dck
Molybdenum	ND	mg/kg		1		E200.8	08/05/20 14:47 / dck
Nickel	16	mg/kg	D	2		E200.8	08/05/20 14:47 / dck
Selenium	1.1	mg/kg		0.1		E200.8	08/05/20 14:47 / dck
Zinc	38	mg/kg	D	5		E200.8	08/05/20 14:47 / dck
EXCHANGEABLE IRON							
Exchangeable Iron	16	mg/kg		1		SW6010B	08/01/20 00:54 / sld

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-019
Client Sample ID: NT1133CC [4-6.6]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	16	%		1		ASA15-5	08/03/20 08:56 / sah
Silt	48	%		1		ASA15-5	08/03/20 08:56 / sah
Clay	36	%		1		ASA15-5	08/03/20 08:56 / sah
Texture	SiCL			1		ASA15-5	08/03/20 08:56 / sah
SATURATED PASTE							
Saturation	70.1	%		0.1		USDA27a	07/30/20 07:31 / swj
SATURATED PASTE							
pH, sat. paste	3.9	s.u.		0.1		ASA10-3	07/30/20 08:35 / kr
Acidity, Sat. Paste	41	mg/L		4		ASA10-3	08/03/20 15:36 / RAT
METALS, AMMONIUM ACETATE EXTRACTABLE							
Base Saturation	48.0	%		0.1		Calculation	08/06/20 13:57 / stp
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	1.2	mmhos/cm		0.1		ASA10-3	07/30/20 14:30 / kr
Calcium, sat. paste	0.52	meq/L		0.05		SW6010B	08/03/20 04:30 / sld
Magnesium, sat. paste	3.15	meq/L		0.08		SW6010B	08/03/20 04:30 / sld
Potassium, sat. paste	0.33	meq/L		0.03		SW6010B	08/03/20 04:30 / sld
Sodium, sat. paste	7.27	meq/L		0.04		SW6010B	08/03/20 04:30 / sld
Sodium Adsorption Ratio (SAR)	5.4	unitless		0.1		USDA20b	08/06/20 13:57 / stp
Alkalinity, sat. paste	0.37	meq/L		0.08		ASA10-3	07/30/20 16:52 / RAT
Bicarbonate, sat. paste	0.29	meq/L		0.07		ASA10-3	07/30/20 16:52 / RAT
CHEMICAL CHARACTERISTICS							
Calcium, Extractable	1.10	meq/100g	D	0.01		SW6010B	08/03/20 10:55 / sld
Magnesium, Extractable	10.9	meq/100g		0.008		SW6010B	08/03/20 10:55 / sld
Phosphorus, Available	1.79	mg/kg		1.00		SW6010B	08/03/20 13:39 / sld
Potassium, Extractable	0.495	meq/100g		0.003		SW6010B	08/03/20 10:55 / sld
Sodium, Extractable	2.00	meq/100g		0.004		SW6010B	08/03/20 10:55 / sld
Exchangeable Calcium	1.1	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Magnesium	10.6	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Potassium	0.5	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Sodium	1.5	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Cation Exchange Capacity	28.3	meq/100g		0.09		SW6010B	08/03/20 16:23 / sld
CHEMICAL CHARACTERISTICS							
Exchangeable Acidity	1.8	t/kt		0.1		ASA9-4	07/31/20 14:45 / swj
EXCHANGEABLE ALUMINUM							
Exchangeable Aluminum	2.9	meq/100g		0.1		ASA9-4	07/31/20 14:45 / swj
ACID BASE							
Neutralization Potential	5	t/kt				Sobek Modifie	07/31/20 11:50 / swj

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-019
Client Sample ID: NT1133CC [4-6.6]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
ACID BASE							
Acid Base Accounting	3.5	t/kt				Calculation	08/06/20 13:57 / stp
Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
Total Potential Acidity	0.5	t/kt				Calculation	08/06/20 13:57 / stp
ACID BASE							
Sulfur, Total	0.01	%		0.01		E3.2.3	08/04/20 13:00 / stp
Sulfur, Sulfate	0.01	%		0.01		E3.2.3	08/04/20 13:00 / stp
Sulfur, Pyritic	ND	%		0.01		E3.2.3	08/04/20 13:00 / stp
Sulfur, Organic	ND	%		0.01		E3.2.3	08/04/20 13:00 / stp
CACL2 EXTRACTABLE METALS							
Boron	0.1	mg/kg		0.1		SW6010B	08/03/20 06:35 / sld
METALS, TOTAL							
Aluminum	74800	mg/kg		1		E200.8	08/05/20 18:20 / dck
Arsenic	8	mg/kg		1		E200.8	08/05/20 14:48 / dck
Barium	856	mg/kg		1		E200.8	08/05/20 14:48 / dck
Cadmium	ND	mg/kg		0.1		E200.8	08/05/20 14:48 / dck
Copper	11	mg/kg		1		E200.8	08/05/20 14:48 / dck
Iron	47400	mg/kg	D	500		E200.8	08/05/20 16:06 / dck
Lead	21	mg/kg	D	2		E200.8	08/05/20 14:48 / dck
Manganese	165	mg/kg	D	10		E200.8	08/05/20 14:48 / dck
Molybdenum	ND	mg/kg		1		E200.8	08/05/20 14:48 / dck
Nickel	37	mg/kg	D	2		E200.8	08/05/20 14:48 / dck
Selenium	0.6	mg/kg		0.1		E200.8	08/05/20 14:48 / dck
Zinc	82	mg/kg	D	5		E200.8	08/05/20 14:48 / dck
EXCHANGEABLE IRON							
Exchangeable Iron	15	mg/kg		1		SW6010B	08/01/20 00:58 / sld

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-020
Client Sample ID: NT1133CC [6.6-11.6]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	10	%		1		ASA15-5	08/03/20 08:56 / sah
Silt	58	%		1		ASA15-5	08/03/20 08:56 / sah
Clay	32	%		1		ASA15-5	08/03/20 08:56 / sah
Texture	SiCL			1		ASA15-5	08/03/20 08:56 / sah
SATURATED PASTE							
Saturation	78.6	%		0.1		USDA27a	07/30/20 07:32 / swj
SATURATED PASTE							
pH, sat. paste	4.7	s.u.		0.1		ASA10-3	07/30/20 08:35 / kr
Acidity, Sat. Paste	61	mg/L		4		ASA10-3	08/03/20 15:46 / RAT
METALS, AMMONIUM ACETATE EXTRACTABLE							
Base Saturation	78.0	%		0.1		Calculation	08/06/20 13:57 / stp
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	4.9	mmhos/cm		0.1		ASA10-3	07/30/20 14:31 / kr
Calcium, sat. paste	8.56	meq/L		0.05		SW6010B	08/03/20 04:33 / sld
Magnesium, sat. paste	32.8	meq/L		0.08		SW6010B	08/03/20 04:33 / sld
Potassium, sat. paste	0.78	meq/L		0.03		SW6010B	08/03/20 04:33 / sld
Sodium, sat. paste	20.8	meq/L		0.04		SW6010B	08/03/20 04:33 / sld
Sodium Adsorption Ratio (SAR)	4.6	unitless		0.1		USDA20b	08/06/20 13:57 / stp
Alkalinity, sat. paste	0.43	meq/L		0.08		ASA10-3	07/30/20 16:56 / RAT
Bicarbonate, sat. paste	0.35	meq/L		0.07		ASA10-3	07/30/20 16:56 / RAT
CHEMICAL CHARACTERISTICS							
Calcium, Extractable	4.69	meq/100g	D	0.01		SW6010B	08/03/20 10:59 / sld
Magnesium, Extractable	15.0	meq/100g		0.008		SW6010B	08/03/20 10:59 / sld
Phosphorus, Available	6.18	mg/kg		1.00		SW6010B	08/03/20 13:46 / sld
Potassium, Extractable	0.627	meq/100g		0.003		SW6010B	08/03/20 10:59 / sld
Sodium, Extractable	3.44	meq/100g		0.004		SW6010B	08/03/20 10:59 / sld
Exchangeable Calcium	4.0	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Magnesium	12.4	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Potassium	0.6	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Sodium	1.8	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Cation Exchange Capacity	24.0	meq/100g		0.09		SW6010B	08/03/20 16:27 / sld
CHEMICAL CHARACTERISTICS							
Exchangeable Acidity	0.4	t/kt		0.1		ASA9-4	07/31/20 14:45 / swj
EXCHANGEABLE ALUMINUM							
Exchangeable Aluminum	1.0	meq/100g		0.1		ASA9-4	07/31/20 14:45 / swj
ACID BASE							
Neutralization Potential	8	t/kt				Sobek Modifie	07/31/20 11:57 / swj

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-020
Client Sample ID: NT1133CC [6.6-11.6]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
ACID BASE							
Acid Base Accounting	7.1	t/kt				Calculation	08/06/20 13:57 / stp
Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
Total Potential Acidity	2.2	t/kt				Calculation	08/06/20 13:57 / stp
ACID BASE							
Sulfur, Total	0.07	%		0.01		E3.2.3	08/04/20 13:09 / stp
Sulfur, Sulfate	0.07	%		0.01		E3.2.3	08/04/20 13:09 / stp
Sulfur, Pyritic	ND	%		0.01		E3.2.3	08/04/20 13:09 / stp
Sulfur, Organic	ND	%		0.01		E3.2.3	08/04/20 13:09 / stp
CACL2 EXTRACTABLE METALS							
Boron	0.3	mg/kg		0.1		SW6010B	08/03/20 06:42 / sld
METALS, TOTAL							
Aluminum	79000	mg/kg		1		E200.8	08/05/20 18:21 / dck
Arsenic	10	mg/kg		1		E200.8	08/05/20 14:50 / dck
Barium	616	mg/kg		1		E200.8	08/05/20 14:50 / dck
Cadmium	ND	mg/kg		0.1		E200.8	08/05/20 14:50 / dck
Copper	12	mg/kg		1		E200.8	08/05/20 14:50 / dck
Iron	30400	mg/kg	D	500		E200.8	08/05/20 16:07 / dck
Lead	19	mg/kg	D	2		E200.8	08/05/20 14:50 / dck
Manganese	311	mg/kg	D	10		E200.8	08/05/20 14:50 / dck
Molybdenum	ND	mg/kg		1		E200.8	08/05/20 14:50 / dck
Nickel	31	mg/kg	D	2		E200.8	08/05/20 14:50 / dck
Selenium	0.5	mg/kg		0.1		E200.8	08/05/20 14:50 / dck
Zinc	84	mg/kg	D	5		E200.8	08/05/20 14:50 / dck
EXCHANGEABLE IRON							
Exchangeable Iron	2	mg/kg		1		SW6010B	08/01/20 01:06 / sld

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-021
Client Sample ID: NT1133CC [11.6-14]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	56	%		1		ASA15-5	08/03/20 08:56 / sah
Silt	30	%		1		ASA15-5	08/03/20 08:56 / sah
Clay	14	%		1		ASA15-5	08/03/20 08:56 / sah
Texture	SL			1		ASA15-5	08/03/20 08:56 / sah
SATURATED PASTE							
Saturation	46.3	%		0.1		USDA27a	07/30/20 07:52 / swj
SATURATED PASTE							
pH, sat. paste	5.5	s.u.		0.1		ASA10-3	07/30/20 08:48 / kr
Acidity, Sat. Paste	40	mg/L		4		ASA10-3	08/03/20 17:22 / RAT
METALS, AMMONIUM ACETATE EXTRACTABLE							
Base Saturation	67.0	%		0.1		Calculation	08/06/20 13:57 / stp
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	3.4	mmhos/cm		0.1		ASA10-3	07/30/20 14:36 / kr
Calcium, sat. paste	2.78	meq/L		0.05		SW6010B	07/31/20 20:56 / sld
Magnesium, sat. paste	14.9	meq/L		0.08		SW6010B	07/31/20 20:56 / sld
Potassium, sat. paste	0.29	meq/L		0.03		SW6010B	07/31/20 20:56 / sld
Sodium, sat. paste	18.5	meq/L		0.04		SW6010B	07/31/20 20:56 / sld
Sodium Adsorption Ratio (SAR)	6.2	unitless		0.1		USDA20b	08/06/20 13:57 / stp
Alkalinity, sat. paste	0.49	meq/L		0.08		ASA10-3	07/30/20 17:50 / RAT
Bicarbonate, sat. paste	0.41	meq/L		0.07		ASA10-3	07/30/20 17:50 / RAT
CHEMICAL CHARACTERISTICS							
Calcium, Extractable	1.37	meq/100g		0.005		SW6010B	07/31/20 17:01 / sld
Magnesium, Extractable	5.93	meq/100g		0.008		SW6010B	08/03/20 07:36 / sld
Phosphorus, Available	5.90	mg/kg		1.00		SW6010B	07/31/20 19:14 / sld
Potassium, Extractable	0.153	meq/100g		0.003		SW6010B	07/31/20 17:01 / sld
Sodium, Extractable	1.90	meq/100g		0.004		SW6010B	08/03/20 07:36 / sld
Exchangeable Calcium	1.2	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Magnesium	5.2	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Potassium	0.1	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Sodium	1.0	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Cation Exchange Capacity	11.5	meq/100g		0.09		SW6010B	08/02/20 23:14 / sld
CHEMICAL CHARACTERISTICS							
Exchangeable Acidity	0.2	t/kt		0.1		ASA9-4	07/31/20 14:45 / swj
EXCHANGEABLE ALUMINUM							
Exchangeable Aluminum	ND	meq/100g		0.1		ASA9-4	08/02/20 13:30 / swj
ACID BASE							
Neutralization Potential	4	t/kt				Sobek Modifie	07/31/20 12:13 / swj

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-021
Client Sample ID: NT1133CC [11.6-14]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
ACID BASE							
Acid Base Accounting	3.9	t/kt				Calculation	08/06/20 13:57 / stp
Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
Total Potential Acidity	0.5	t/kt				Calculation	08/06/20 13:57 / stp
ACID BASE							
Sulfur, Total	0.02	%		0.01		E3.2.3	08/04/20 13:21 / stp
Sulfur, Sulfate	0.01	%		0.01		E3.2.3	08/04/20 13:21 / stp
Sulfur, Pyritic	ND	%		0.01		E3.2.3	08/04/20 13:21 / stp
Sulfur, Organic	ND	%		0.01		E3.2.3	08/04/20 13:21 / stp
CACL2 EXTRACTABLE METALS							
Boron	0.2	mg/kg		0.1		SW6010B	08/09/20 10:19 / sld
METALS, TOTAL							
Aluminum	57400	mg/kg		1		E200.8	08/05/20 18:22 / dck
Arsenic	4	mg/kg		1		E200.8	08/05/20 15:04 / dck
Barium	636	mg/kg		1		E200.8	08/05/20 15:04 / dck
Cadmium	ND	mg/kg		0.1		E200.8	08/05/20 15:04 / dck
Copper	6	mg/kg		1		E200.8	08/05/20 15:04 / dck
Iron	21000	mg/kg	D	500		E200.8	08/05/20 16:14 / dck
Lead	11	mg/kg	D	2		E200.8	08/05/20 15:04 / dck
Manganese	177	mg/kg	D	10		E200.8	08/05/20 15:04 / dck
Molybdenum	ND	mg/kg		1		E200.8	08/05/20 15:04 / dck
Nickel	26	mg/kg	D	2		E200.8	08/05/20 15:04 / dck
Selenium	0.2	mg/kg		0.1		E200.8	08/05/20 15:04 / dck
Zinc	60	mg/kg	D	5		E200.8	08/05/20 15:04 / dck
EXCHANGEABLE IRON							
Exchangeable Iron	< 1	mg/kg		1		SW6010B	08/03/20 00:36 / sld

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-022
Client Sample ID: NT1133CC [14-18.8]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	22	%		1		ASA15-5	08/03/20 08:56 / sah
Silt	58	%		1		ASA15-5	08/03/20 08:56 / sah
Clay	20	%		1		ASA15-5	08/03/20 08:56 / sah
Texture	SiL			1		ASA15-5	08/03/20 08:56 / sah
SATURATED PASTE							
Saturation	57.1	%		0.1		USDA27a	07/30/20 07:52 / swj
SATURATED PASTE							
pH, sat. paste	5.9	s.u.		0.1		ASA10-3	07/30/20 08:49 / kr
Acidity, Sat. Paste	32	mg/L		4		ASA10-3	08/03/20 17:30 / RAT
METALS, AMMONIUM ACETATE EXTRACTABLE							
Base Saturation	66.0	%		0.1		Calculation	08/06/20 13:57 / stp
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	2.2	mmhos/cm		0.1		ASA10-3	07/30/20 14:37 / kr
Calcium, sat. paste	1.84	meq/L		0.05		SW6010B	07/31/20 21:00 / sld
Magnesium, sat. paste	7.36	meq/L		0.08		SW6010B	07/31/20 21:00 / sld
Potassium, sat. paste	0.28	meq/L		0.03		SW6010B	07/31/20 21:00 / sld
Sodium, sat. paste	12.6	meq/L		0.04		SW6010B	07/31/20 21:00 / sld
Sodium Adsorption Ratio (SAR)	5.9	unitless		0.1		USDA20b	08/06/20 13:57 / stp
Alkalinity, sat. paste	0.50	meq/L		0.08		ASA10-3	07/30/20 17:55 / RAT
Bicarbonate, sat. paste	0.42	meq/L		0.07		ASA10-3	07/30/20 17:55 / RAT
CHEMICAL CHARACTERISTICS							
Calcium, Extractable	2.17	meq/100g		0.005		SW6010B	07/31/20 17:05 / sld
Magnesium, Extractable	7.75	meq/100g		0.008		SW6010B	08/03/20 07:40 / sld
Phosphorus, Available	8.44	mg/kg		1.00		SW6010B	07/31/20 19:17 / sld
Potassium, Extractable	0.294	meq/100g		0.003		SW6010B	07/31/20 17:05 / sld
Sodium, Extractable	2.19	meq/100g		0.004		SW6010B	08/03/20 07:40 / sld
Exchangeable Calcium	2.1	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Magnesium	7.3	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Potassium	0.3	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Sodium	1.5	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Cation Exchange Capacity	16.8	meq/100g		0.09		SW6010B	08/02/20 23:18 / sld
CHEMICAL CHARACTERISTICS							
Exchangeable Acidity	0.1	t/kt		0.1		ASA9-4	07/31/20 14:45 / swj
EXCHANGEABLE ALUMINUM							
Exchangeable Aluminum	0.3	meq/100g		0.1		ASA9-4	07/31/20 14:45 / swj
ACID BASE							
Neutralization Potential	6	t/kt				Sobek Modifie	07/31/20 12:21 / swj

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-022
Client Sample ID: NT1133CC [14-18.8]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
ACID BASE							
Acid Base Accounting	6.0	t/kt				Calculation	08/06/20 13:57 / stp
Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
Total Potential Acidity	0.4	t/kt				Calculation	08/06/20 13:57 / stp
ACID BASE							
Sulfur, Total	0.01	%		0.01		E3.2.3	08/04/20 13:38 / stp
Sulfur, Sulfate	ND	%		0.01		E3.2.3	08/04/20 13:38 / stp
Sulfur, Pyritic	ND	%		0.01		E3.2.3	08/04/20 13:38 / stp
Sulfur, Organic	ND	%		0.01		E3.2.3	08/04/20 13:38 / stp
CACL2 EXTRACTABLE METALS							
Boron	0.3	mg/kg		0.1		SW6010B	08/09/20 10:22 / sld
METALS, TOTAL							
Aluminum	63400	mg/kg		1		E200.8	08/05/20 18:24 / dck
Arsenic	5	mg/kg		1		E200.8	08/05/20 15:06 / dck
Barium	619	mg/kg		1		E200.8	08/05/20 15:06 / dck
Cadmium	0.1	mg/kg		0.1		E200.8	08/05/20 15:06 / dck
Copper	7	mg/kg		1		E200.8	08/05/20 15:06 / dck
Iron	23900	mg/kg	D	500		E200.8	08/05/20 16:15 / dck
Lead	13	mg/kg	D	2		E200.8	08/05/20 15:06 / dck
Manganese	433	mg/kg	D	10		E200.8	08/05/20 15:06 / dck
Molybdenum	ND	mg/kg		1		E200.8	08/05/20 15:06 / dck
Nickel	25	mg/kg	D	2		E200.8	08/05/20 15:06 / dck
Selenium	0.4	mg/kg		0.1		E200.8	08/05/20 15:06 / dck
Zinc	66	mg/kg	D	5		E200.8	08/05/20 15:06 / dck
EXCHANGEABLE IRON							
Exchangeable Iron	< 1	mg/kg		1		SW6010B	08/03/20 00:51 / sld

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-023
Client Sample ID: NT1134CC [0-1]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	64	%		1		ASA15-5	08/03/20 08:56 / sah
Silt	22	%		1		ASA15-5	08/03/20 08:56 / sah
Clay	14	%		1		ASA15-5	08/03/20 08:56 / sah
Texture	SL			1		ASA15-5	08/03/20 08:56 / sah
SATURATED PASTE							
Saturation	27.6	%		0.1		USDA27a	07/30/20 07:52 / swj
SATURATED PASTE							
pH, sat. paste	4.0	s.u.		0.1		ASA10-3	07/30/20 08:50 / kr
Acidity, Sat. Paste	111	mg/L		4		ASA10-3	08/03/20 17:40 / RAT
METALS, AMMONIUM ACETATE EXTRACTABLE							
Base Saturation	14.0	%		0.1		Calculation	08/06/20 13:57 / stp
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	0.4	mmhos/cm		0.1		ASA10-3	07/30/20 14:38 / kr
Calcium, sat. paste	0.67	meq/L		0.05		SW6010B	07/31/20 21:23 / sld
Magnesium, sat. paste	1.02	meq/L		0.08		SW6010B	07/31/20 21:23 / sld
Potassium, sat. paste	0.21	meq/L		0.03		SW6010B	07/31/20 21:23 / sld
Sodium, sat. paste	1.02	meq/L		0.04		SW6010B	07/31/20 21:23 / sld
Sodium Adsorption Ratio (SAR)	1.1	unitless		0.1		USDA20b	08/06/20 13:57 / stp
Alkalinity, sat. paste	ND	meq/L		0.08		ASA10-3	07/30/20 18:01 / RAT
Bicarbonate, sat. paste	ND	meq/L		0.07		ASA10-3	07/30/20 18:01 / RAT
CHEMICAL CHARACTERISTICS							
Calcium, Extractable	0.291	meq/100g		0.005		SW6010B	07/31/20 17:09 / sld
Magnesium, Extractable	0.351	meq/100g		0.008		SW6010B	08/03/20 07:43 / sld
Phosphorus, Available	5.68	mg/kg		1.00		SW6010B	07/31/20 19:21 / sld
Potassium, Extractable	0.066	meq/100g		0.003		SW6010B	07/31/20 17:09 / sld
Sodium, Extractable	0.081	meq/100g		0.004		SW6010B	08/03/20 07:43 / sld
Exchangeable Calcium	0.3	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Magnesium	0.3	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Potassium	ND	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Sodium	ND	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Cation Exchange Capacity	4.99	meq/100g		0.09		SW6010B	08/02/20 23:22 / sld
Organic Matter	1.3	%		0.2		ASA29-3	07/30/20 16:05 / sah
CHEMICAL CHARACTERISTICS							
Exchangeable Acidity	0.9	t/kt		0.1		ASA9-4	07/31/20 14:45 / swj
EXCHANGEABLE ALUMINUM							
Exchangeable Aluminum	1.9	meq/100g		0.1		ASA9-4	07/31/20 14:45 / swj

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-023
Client Sample ID: NT1134CC [0-1]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
ACID BASE							
Neutralization Potential	0	t/kt				Sobek Modifie	07/31/20 12:29 / swj
ACID BASE							
Acid Base Accounting	-0.9	t/kt				Calculation	08/06/20 13:57 / stp
Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
Total Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
ACID BASE							
Sulfur, Total	ND	%		0.01		E3.2.3	07/30/20 13:14 / stp
Sulfur, Sulfate	ND	%		0.01		E3.2.3	07/30/20 13:14 / stp
Sulfur, Pyritic	ND	%		0.01		E3.2.3	07/30/20 13:14 / stp
Sulfur, Organic	ND	%		0.01		E3.2.3	07/30/20 13:14 / stp
CACL2 EXTRACTABLE METALS							
Boron	ND	mg/kg		0.1		SW6010B	08/03/20 09:01 / sld
METALS, TOTAL							
Aluminum	13200	mg/kg		1		E200.8	08/05/20 16:16 / dck
Arsenic	2	mg/kg		1		E200.8	08/05/20 15:07 / dck
Barium	177	mg/kg		1		E200.8	08/05/20 15:07 / dck
Cadmium	ND	mg/kg		0.1		E200.8	08/05/20 15:07 / dck
Copper	4	mg/kg		1		E200.8	08/05/20 15:07 / dck
Iron	8560	mg/kg	D	500		E200.8	08/05/20 16:16 / dck
Lead	5	mg/kg	D	2		E200.8	08/05/20 15:07 / dck
Manganese	43	mg/kg	D	10		E200.8	08/05/20 15:07 / dck
Molybdenum	ND	mg/kg		1		E200.8	08/05/20 15:07 / dck
Nickel	17	mg/kg	D	2		E200.8	08/05/20 15:07 / dck
Selenium	0.3	mg/kg		0.1		E200.8	08/05/20 15:07 / dck
Zinc	7	mg/kg	D	5		E200.8	08/05/20 15:07 / dck
EXCHANGEABLE IRON							
Exchangeable Iron	30	mg/kg		1		SW6010B	08/03/20 00:55 / sld

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-024
Client Sample ID: NT1134CC [1-4]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	24	%		1		ASA15-5	08/03/20 08:56 / sah
Silt	36	%		1		ASA15-5	08/03/20 08:56 / sah
Clay	40	%		1		ASA15-5	08/03/20 08:56 / sah
Texture	C			1		ASA15-5	08/03/20 08:56 / sah
SATURATED PASTE							
Saturation	62.0	%		0.1		USDA27a	07/30/20 07:52 / swj
SATURATED PASTE							
pH, sat. paste	4.0	s.u.		0.1		ASA10-3	07/30/20 08:51 / kr
Acidity, Sat. Paste	29	mg/L		4		ASA10-3	08/03/20 16:45 / RAT
METALS, AMMONIUM ACETATE EXTRACTABLE							
Base Saturation	16.0	%		0.1		Calculation	08/06/20 13:57 / stp
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	0.2	mmhos/cm		0.1		ASA10-3	07/30/20 14:38 / kr
Calcium, sat. paste	0.18	meq/L		0.05		SW6010B	07/31/20 21:27 / sld
Magnesium, sat. paste	0.22	meq/L		0.08		SW6010B	07/31/20 21:27 / sld
Potassium, sat. paste	0.05	meq/L		0.03		SW6010B	07/31/20 21:27 / sld
Sodium, sat. paste	0.93	meq/L		0.04		SW6010B	07/31/20 21:27 / sld
Sodium Adsorption Ratio (SAR)	2.1	unitless		0.1		USDA20b	08/06/20 13:57 / stp
Alkalinity, sat. paste	0.45	meq/L		0.08		ASA10-3	07/30/20 18:04 / RAT
Bicarbonate, sat. paste	0.37	meq/L		0.07		ASA10-3	07/30/20 18:04 / RAT
CHEMICAL CHARACTERISTICS							
Calcium, Extractable	0.196	meq/100g		0.005		SW6010B	07/31/20 17:13 / sld
Magnesium, Extractable	2.75	meq/100g		0.008		SW6010B	08/03/20 07:47 / sld
Phosphorus, Available	1.81	mg/kg		1.00		SW6010B	07/31/20 19:25 / sld
Potassium, Extractable	0.189	meq/100g		0.003		SW6010B	07/31/20 17:13 / sld
Sodium, Extractable	0.479	meq/100g		0.004		SW6010B	08/03/20 07:47 / sld
Exchangeable Calcium	0.2	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Magnesium	2.7	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Potassium	0.2	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Sodium	0.4	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Cation Exchange Capacity	22.1	meq/100g		0.09		SW6010B	08/02/20 23:26 / sld
Organic Matter	0.2	%		0.2		ASA29-3	07/30/20 16:05 / sah
CHEMICAL CHARACTERISTICS							
Exchangeable Acidity	3.9	t/kt		0.1		ASA9-4	07/31/20 14:45 / swj
EXCHANGEABLE ALUMINUM							
Exchangeable Aluminum	6.4	meq/100g		0.1		ASA9-4	07/31/20 14:45 / swj

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-024
Client Sample ID: NT1134CC [1-4]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
ACID BASE							
Neutralization Potential	0	t/kt				Sobek Modifie	07/31/20 12:37 / swj
ACID BASE							
Acid Base Accounting	-3.9	t/kt				Calculation	08/06/20 13:57 / stp
Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
Total Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
ACID BASE							
Sulfur, Total	ND	%		0.01		E3.2.3	07/30/20 13:17 / stp
Sulfur, Sulfate	ND	%		0.01		E3.2.3	07/30/20 13:17 / stp
Sulfur, Pyritic	ND	%		0.01		E3.2.3	07/30/20 13:17 / stp
Sulfur, Organic	ND	%		0.01		E3.2.3	07/30/20 13:17 / stp
CACL2 EXTRACTABLE METALS							
Boron	ND	mg/kg		0.1		SW6010B	08/03/20 09:04 / sld
METALS, TOTAL							
Aluminum	69100	mg/kg		1		E200.8	08/05/20 18:25 / dck
Arsenic	8	mg/kg		1		E200.8	08/05/20 15:09 / dck
Barium	352	mg/kg		1		E200.8	08/05/20 15:09 / dck
Cadmium	ND	mg/kg		0.1		E200.8	08/05/20 15:09 / dck
Copper	9	mg/kg		1		E200.8	08/05/20 15:09 / dck
Iron	34000	mg/kg	D	500		E200.8	08/05/20 16:18 / dck
Lead	16	mg/kg	D	2		E200.8	08/05/20 15:09 / dck
Manganese	38	mg/kg	D	10		E200.8	08/05/20 15:09 / dck
Molybdenum	ND	mg/kg		1		E200.8	08/05/20 15:09 / dck
Nickel	15	mg/kg	D	2		E200.8	08/05/20 15:09 / dck
Selenium	1.7	mg/kg		0.1		E200.8	08/05/20 15:09 / dck
Zinc	29	mg/kg	D	5		E200.8	08/05/20 15:09 / dck
EXCHANGEABLE IRON							
Exchangeable Iron	26	mg/kg		1		SW6010B	08/03/20 00:59 / sld

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-025
Client Sample ID: NT1134CC [4-8.8]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	14	%		1		ASA15-5	08/03/20 08:56 / sah
Silt	50	%		1		ASA15-5	08/03/20 08:56 / sah
Clay	36	%		1		ASA15-5	08/03/20 08:56 / sah
Texture	SiCL			1		ASA15-5	08/03/20 08:56 / sah
SATURATED PASTE							
Saturation	50.9	%		0.1		USDA27a	07/30/20 07:53 / swj
SATURATED PASTE							
pH, sat. paste	3.8	s.u.		0.1		ASA10-3	07/30/20 08:53 / kr
Acidity, Sat. Paste	37	mg/L		4		ASA10-3	08/03/20 17:49 / RAT
METALS, AMMONIUM ACETATE EXTRACTABLE							
Base Saturation	29.0	%		0.1		Calculation	08/06/20 13:57 / stp
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	0.2	mmhos/cm		0.1		ASA10-3	07/30/20 14:40 / kr
Calcium, sat. paste	0.22	meq/L		0.05		SW6010B	07/31/20 21:34 / sld
Magnesium, sat. paste	0.23	meq/L		0.08		SW6010B	07/31/20 21:34 / sld
Potassium, sat. paste	0.07	meq/L		0.03		SW6010B	07/31/20 21:34 / sld
Sodium, sat. paste	1.31	meq/L		0.04		SW6010B	07/31/20 21:34 / sld
Sodium Adsorption Ratio (SAR)	2.8	unitless		0.1		USDA20b	08/06/20 13:57 / stp
Alkalinity, sat. paste	0.41	meq/L		0.08		ASA10-3	07/30/20 18:13 / RAT
Bicarbonate, sat. paste	0.33	meq/L		0.07		ASA10-3	07/30/20 18:13 / RAT
CHEMICAL CHARACTERISTICS							
Calcium, Extractable	0.211	meq/100g		0.005		SW6010B	07/31/20 17:20 / sld
Magnesium, Extractable	5.25	meq/100g		0.008		SW6010B	08/03/20 07:55 / sld
Phosphorus, Available	1.30	mg/kg		1.00		SW6010B	08/02/20 20:37 / sld
Potassium, Extractable	0.279	meq/100g		0.003		SW6010B	07/31/20 17:20 / sld
Sodium, Extractable	1.06	meq/100g		0.004		SW6010B	08/03/20 07:55 / sld
Exchangeable Calcium	0.2	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Magnesium	5.2	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Potassium	0.3	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Sodium	1.0	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Cation Exchange Capacity	23.2	meq/100g		0.09		SW6010B	08/02/20 23:41 / sld
CHEMICAL CHARACTERISTICS							
Exchangeable Acidity	3.7	t/kt		0.1		ASA9-4	07/31/20 14:45 / swj
EXCHANGEABLE ALUMINUM							
Exchangeable Aluminum	5.8	meq/100g		0.1		ASA9-4	07/31/20 14:45 / swj
ACID BASE							
Neutralization Potential	2	t/kt				Sobek Modifie	07/31/20 12:45 / swj

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-025
Client Sample ID: NT1134CC [4-8.8]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
ACID BASE							
Acid Base Accounting	-2.2	t/kt				Calculation	08/06/20 13:57 / stp
Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
Total Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
ACID BASE							
Sulfur, Total	ND	%		0.01		E3.2.3	07/30/20 13:20 / stp
CACL2 EXTRACTABLE METALS							
Boron	ND	mg/kg		0.1		SW6010B	08/09/20 10:26 / sld
METALS, TOTAL							
Aluminum	70500	mg/kg		1		E200.8	08/05/20 18:26 / dck
Arsenic	7	mg/kg		1		E200.8	08/05/20 15:11 / dck
Barium	522	mg/kg		1		E200.8	08/05/20 15:11 / dck
Cadmium	ND	mg/kg		0.1		E200.8	08/05/20 15:11 / dck
Copper	9	mg/kg		1		E200.8	08/05/20 15:11 / dck
Iron	26800	mg/kg	D	500		E200.8	08/05/20 16:19 / dck
Lead	19	mg/kg	D	2		E200.8	08/05/20 15:11 / dck
Manganese	51	mg/kg	D	10		E200.8	08/05/20 15:11 / dck
Molybdenum	ND	mg/kg		1		E200.8	08/05/20 15:11 / dck
Nickel	13	mg/kg	D	2		E200.8	08/05/20 15:11 / dck
Selenium	0.6	mg/kg		0.1		E200.8	08/05/20 15:11 / dck
Zinc	45	mg/kg	D	5		E200.8	08/05/20 15:11 / dck
EXCHANGEABLE IRON							
Exchangeable Iron	27	mg/kg		1		SW6010B	08/03/20 01:15 / sld

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-026
Client Sample ID: NT1134CC [8.8-17.3]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	14	%		1		ASA15-5	08/03/20 08:56 / sah
Silt	54	%		1		ASA15-5	08/03/20 08:56 / sah
Clay	32	%		1		ASA15-5	08/03/20 08:56 / sah
Texture	SiCL			1		ASA15-5	08/03/20 08:56 / sah
SATURATED PASTE							
Saturation	57.4	%		0.1		USDA27a	07/30/20 07:53 / swj
SATURATED PASTE							
pH, sat. paste	4.3	s.u.		0.1		ASA10-3	07/30/20 08:54 / kr
Acidity, Sat. Paste	26	mg/L		4		ASA10-3	08/03/20 17:59 / RAT
METALS, AMMONIUM ACETATE EXTRACTABLE							
Base Saturation	46.0	%		0.1		Calculation	08/06/20 13:57 / stp
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	ND	mmhos/cm		0.1		ASA10-3	07/30/20 14:40 / kr
Calcium, sat. paste	0.15	meq/L		0.05		SW6010B	07/31/20 21:38 / sld
Magnesium, sat. paste	0.14	meq/L		0.08		SW6010B	07/31/20 21:38 / sld
Potassium, sat. paste	0.07	meq/L		0.03		SW6010B	07/31/20 21:38 / sld
Sodium, sat. paste	0.47	meq/L		0.04		SW6010B	07/31/20 21:38 / sld
Sodium Adsorption Ratio (SAR)	1.2	unitless		0.1		USDA20b	08/06/20 13:57 / stp
Alkalinity, sat. paste	0.47	meq/L		0.08		ASA10-3	07/30/20 18:19 / RAT
Bicarbonate, sat. paste	0.39	meq/L		0.07		ASA10-3	07/30/20 18:19 / RAT
CHEMICAL CHARACTERISTICS							
Calcium, Extractable	1.64	meq/100g		0.005		SW6010B	07/31/20 17:24 / sld
Magnesium, Extractable	6.65	meq/100g		0.008		SW6010B	08/03/20 07:59 / sld
Phosphorus, Available	4.15	mg/kg		1.00		SW6010B	07/31/20 19:44 / sld
Potassium, Extractable	0.402	meq/100g		0.003		SW6010B	07/31/20 17:24 / sld
Sodium, Extractable	0.517	meq/100g		0.004		SW6010B	08/03/20 07:59 / sld
Exchangeable Calcium	1.6	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Magnesium	6.6	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Potassium	0.4	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Sodium	0.5	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Cation Exchange Capacity	19.9	meq/100g		0.09		SW6010B	08/02/20 23:45 / sld
CHEMICAL CHARACTERISTICS							
Exchangeable Acidity	1.5	t/kt		0.1		ASA9-4	07/31/20 14:45 / swj
EXCHANGEABLE ALUMINUM							
Exchangeable Aluminum	2.2	meq/100g		0.1		ASA9-4	07/31/20 14:45 / swj
ACID BASE							
Neutralization Potential	3	t/kt				Sobek Modifie	07/31/20 12:53 / swj

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-026
Client Sample ID: NT1134CC [8.8-17.3]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
ACID BASE							
Acid Base Accounting	1.3	t/kt				Calculation	08/06/20 13:57 / stp
Potential Acidity	0.7	t/kt				Calculation	08/06/20 13:57 / stp
Total Potential Acidity	0.9	t/kt				Calculation	08/06/20 13:57 / stp
ACID BASE							
Sulfur, Total	0.03	%		0.01		E3.2.3	08/04/20 13:46 / stp
Sulfur, Sulfate	ND	%		0.01		E3.2.3	08/04/20 13:46 / stp
Sulfur, Pyritic	0.02	%		0.01		E3.2.3	08/04/20 13:46 / stp
Sulfur, Organic	ND	%		0.01		E3.2.3	08/04/20 13:46 / stp
CACL2 EXTRACTABLE METALS							
Boron	ND	mg/kg		0.1		SW6010B	08/09/20 10:30 / sld
METALS, TOTAL							
Aluminum	65900	mg/kg		1		E200.8	08/05/20 18:28 / dck
Arsenic	8	mg/kg		1		E200.8	08/05/20 15:12 / dck
Barium	574	mg/kg		1		E200.8	08/05/20 15:12 / dck
Cadmium	ND	mg/kg		0.1		E200.8	08/05/20 15:12 / dck
Copper	10	mg/kg		1		E200.8	08/05/20 15:12 / dck
Iron	29600	mg/kg	D	500		E200.8	08/05/20 16:20 / dck
Lead	18	mg/kg	D	2		E200.8	08/05/20 15:12 / dck
Manganese	297	mg/kg	D	10		E200.8	08/05/20 15:12 / dck
Molybdenum	ND	mg/kg		1		E200.8	08/05/20 15:12 / dck
Nickel	18	mg/kg	D	2		E200.8	08/05/20 15:12 / dck
Selenium	0.5	mg/kg		0.1		E200.8	08/05/20 15:12 / dck
Zinc	66	mg/kg	D	5		E200.8	08/05/20 15:12 / dck
EXCHANGEABLE IRON							
Exchangeable Iron	14	mg/kg		1		SW6010B	08/03/20 01:23 / sld

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-027
Client Sample ID: NT1134CC [17.3-20.8]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	16	%		1		ASA15-5	08/03/20 08:56 / sah
Silt	62	%		1		ASA15-5	08/03/20 08:56 / sah
Clay	22	%		1		ASA15-5	08/03/20 08:56 / sah
Texture	SiL			1		ASA15-5	08/03/20 08:56 / sah
SATURATED PASTE							
Saturation	44.2	%		0.1		USDA27a	07/30/20 07:53 / swj
SATURATED PASTE							
pH, sat. paste	4.5	s.u.		0.1		ASA10-3	07/30/20 08:54 / kr
Acidity, Sat. Paste	37	mg/L		4		ASA10-3	08/03/20 18:07 / RAT
METALS, AMMONIUM ACETATE EXTRACTABLE							
Base Saturation	53.0	%		0.1		Calculation	08/06/20 13:57 / stp
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	0.3	mmhos/cm		0.1		ASA10-3	07/30/20 14:41 / kr
Calcium, sat. paste	0.27	meq/L		0.05		SW6010B	07/31/20 21:42 / sld
Magnesium, sat. paste	0.36	meq/L		0.08		SW6010B	07/31/20 21:42 / sld
Potassium, sat. paste	0.11	meq/L		0.03		SW6010B	07/31/20 21:42 / sld
Sodium, sat. paste	1.43	meq/L		0.04		SW6010B	07/31/20 21:42 / sld
Sodium Adsorption Ratio (SAR)	2.6	unitless		0.1		USDA20b	08/06/20 13:57 / stp
Alkalinity, sat. paste	0.57	meq/L		0.08		ASA10-3	07/30/20 18:25 / RAT
Bicarbonate, sat. paste	0.49	meq/L		0.07		ASA10-3	07/30/20 18:25 / RAT
CHEMICAL CHARACTERISTICS							
Calcium, Extractable	2.27	meq/100g		0.005		SW6010B	07/31/20 17:28 / sld
Magnesium, Extractable	6.05	meq/100g		0.008		SW6010B	08/03/20 08:03 / sld
Phosphorus, Available	7.22	mg/kg		1.00		SW6010B	07/31/20 19:48 / sld
Potassium, Extractable	0.315	meq/100g		0.003		SW6010B	07/31/20 17:28 / sld
Sodium, Extractable	0.677	meq/100g		0.004		SW6010B	08/03/20 08:03 / sld
Exchangeable Calcium	2.3	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Magnesium	6.0	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Potassium	0.3	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Sodium	0.6	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Cation Exchange Capacity	17.3	meq/100g		0.09		SW6010B	08/02/20 23:49 / sld
CHEMICAL CHARACTERISTICS							
Exchangeable Acidity	0.7	t/kt		0.1		ASA9-4	07/31/20 14:45 / swj
EXCHANGEABLE ALUMINUM							
Exchangeable Aluminum	1.9	meq/100g		0.1		ASA9-4	07/31/20 14:45 / swj
ACID BASE							
Neutralization Potential	3	t/kt				Sobek Modifie	07/31/20 13:01 / swj

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-027
Client Sample ID: NT1134CC [17.3-20.8]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
ACID BASE							
Acid Base Accounting	2.1	t/kt				Calculation	08/06/20 13:57 / stp
Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
Total Potential Acidity	0.6	t/kt				Calculation	08/06/20 13:57 / stp
ACID BASE							
Sulfur, Total	0.02	%		0.01		E3.2.3	08/04/20 13:55 / stp
Sulfur, Sulfate	ND	%		0.01		E3.2.3	08/04/20 13:55 / stp
Sulfur, Pyritic	ND	%		0.01		E3.2.3	08/04/20 13:55 / stp
Sulfur, Organic	ND	%		0.01		E3.2.3	08/04/20 13:55 / stp
CACL2 EXTRACTABLE METALS							
Boron	ND	mg/kg		0.1		SW6010B	08/09/20 10:34 / sld
METALS, TOTAL							
Aluminum	68100	mg/kg		1		E200.8	08/05/20 18:30 / dck
Arsenic	4	mg/kg		1		E200.8	08/05/20 15:15 / dck
Barium	600	mg/kg		1		E200.8	08/05/20 15:15 / dck
Cadmium	ND	mg/kg		0.1		E200.8	08/05/20 15:15 / dck
Copper	9	mg/kg		1		E200.8	08/05/20 15:15 / dck
Iron	16900	mg/kg	D	500		E200.8	08/05/20 16:23 / dck
Lead	14	mg/kg	D	2		E200.8	08/05/20 15:15 / dck
Manganese	85	mg/kg	D	10		E200.8	08/05/20 15:15 / dck
Molybdenum	ND	mg/kg		1		E200.8	08/05/20 15:15 / dck
Nickel	14	mg/kg	D	2		E200.8	08/05/20 15:15 / dck
Selenium	0.5	mg/kg		0.1		E200.8	08/05/20 15:15 / dck
Zinc	43	mg/kg	D	5		E200.8	08/05/20 15:15 / dck
EXCHANGEABLE IRON							
Exchangeable Iron	10	mg/kg		1		SW6010B	08/03/20 01:27 / sld

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-028
Client Sample ID: NT1135CC [0-1]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	62	%		1		ASA15-5	08/03/20 08:56 / sah
Silt	28	%		1		ASA15-5	08/03/20 08:56 / sah
Clay	10	%		1		ASA15-5	08/03/20 08:56 / sah
Texture	SL			1		ASA15-5	08/03/20 08:56 / sah
SATURATED PASTE							
Saturation	27.0	%		0.1		USDA27a	07/30/20 07:53 / swj
SATURATED PASTE							
pH, sat. paste	4.8	s.u.		0.1		ASA10-3	07/30/20 08:56 / kr
Acidity, Sat. Paste	44	mg/L		4		ASA10-3	08/03/20 18:17 / RAT
METALS, AMMONIUM ACETATE EXTRACTABLE							
Base Saturation	25.0	%		0.1		Calculation	08/06/20 13:57 / stp
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	0.5	mmhos/cm		0.1		ASA10-3	07/30/20 14:41 / kr
Calcium, sat. paste	1.57	meq/L		0.05		SW6010B	07/31/20 21:46 / sld
Magnesium, sat. paste	1.06	meq/L		0.08		SW6010B	07/31/20 21:46 / sld
Potassium, sat. paste	0.21	meq/L		0.03		SW6010B	07/31/20 21:46 / sld
Sodium, sat. paste	0.89	meq/L		0.04		SW6010B	07/31/20 21:46 / sld
Sodium Adsorption Ratio (SAR)	0.8	unitless		0.1		USDA20b	08/06/20 13:57 / stp
Alkalinity, sat. paste	1.05	meq/L		0.08		ASA10-3	07/30/20 18:31 / RAT
Bicarbonate, sat. paste	0.97	meq/L		0.07		ASA10-3	07/30/20 18:31 / RAT
CHEMICAL CHARACTERISTICS							
Calcium, Extractable	0.620	meq/100g		0.005		SW6010B	07/31/20 17:32 / sld
Magnesium, Extractable	0.350	meq/100g		0.008		SW6010B	08/03/20 08:14 / sld
Phosphorus, Available	4.30	mg/kg		1.00		SW6010B	07/31/20 19:51 / sld
Potassium, Extractable	0.070	meq/100g		0.003		SW6010B	07/31/20 17:32 / sld
Sodium, Extractable	0.062	meq/100g		0.004		SW6010B	08/03/20 08:14 / sld
Exchangeable Calcium	0.6	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Magnesium	0.3	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Potassium	ND	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Sodium	ND	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Cation Exchange Capacity	4.04	meq/100g		0.09		SW6010B	08/02/20 23:53 / sld
Organic Matter	0.8	%		0.2		ASA29-3	07/30/20 16:05 / sah
CHEMICAL CHARACTERISTICS							
Exchangeable Acidity	0.4	t/kt		0.1		ASA9-4	07/31/20 14:45 / swj
EXCHANGEABLE ALUMINUM							
Exchangeable Aluminum	1.2	meq/100g		0.1		ASA9-4	07/31/20 14:45 / swj

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-028
Client Sample ID: NT1135CC [0-1]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
ACID BASE							
Neutralization Potential	0	t/kt				Sobek Modifie	07/31/20 13:09 / swj
ACID BASE							
Acid Base Accounting	-0.4	t/kt				Calculation	08/06/20 13:57 / stp
Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
Total Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
ACID BASE							
Sulfur, Total	ND	%		0.01		E3.2.3	07/30/20 13:33 / stp
Sulfur, Sulfate	ND	%		0.01		E3.2.3	07/30/20 13:33 / stp
Sulfur, Pyritic	ND	%		0.01		E3.2.3	07/30/20 13:33 / stp
Sulfur, Organic	ND	%		0.01		E3.2.3	07/30/20 13:33 / stp
CACL2 EXTRACTABLE METALS							
Boron	ND	mg/kg		0.1		SW6010B	08/03/20 09:23 / sld
METALS, TOTAL							
Aluminum	18500	mg/kg		1		E200.8	08/05/20 16:24 / dck
Arsenic	3	mg/kg		1		E200.8	08/05/20 15:17 / dck
Barium	332	mg/kg		1		E200.8	08/05/20 15:17 / dck
Cadmium	ND	mg/kg		0.1		E200.8	08/05/20 15:17 / dck
Copper	4	mg/kg		1		E200.8	08/05/20 15:17 / dck
Iron	8290	mg/kg	D	500		E200.8	08/05/20 16:24 / dck
Lead	10	mg/kg	D	2		E200.8	08/05/20 15:17 / dck
Manganese	151	mg/kg	D	10		E200.8	08/05/20 15:17 / dck
Molybdenum	ND	mg/kg		1		E200.8	08/05/20 15:17 / dck
Nickel	14	mg/kg	D	2		E200.8	08/05/20 15:17 / dck
Selenium	0.3	mg/kg		0.1		E200.8	08/05/20 15:17 / dck
Zinc	10	mg/kg	D	5		E200.8	08/05/20 15:17 / dck
EXCHANGEABLE IRON							
Exchangeable Iron	10	mg/kg		1		SW6010B	08/03/20 01:31 / sld

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-029
Client Sample ID: NT1135CC [1-4]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	50	%		1		ASA15-5	08/03/20 08:56 / sah
Silt	16	%		1		ASA15-5	08/03/20 08:56 / sah
Clay	34	%		1		ASA15-5	08/03/20 08:56 / sah
Texture	SCL			1		ASA15-5	08/03/20 08:56 / sah
SATURATED PASTE							
Saturation	51.8	%		0.1		USDA27a	07/30/20 07:54 / swj
SATURATED PASTE							
pH, sat. paste	4.1	s.u.		0.1		ASA10-3	07/30/20 08:57 / kr
Acidity, Sat. Paste	26	mg/L		4		ASA10-3	08/03/20 18:26 / RAT
METALS, AMMONIUM ACETATE EXTRACTABLE							
Base Saturation	21.0	%		0.1		Calculation	08/06/20 13:57 / stp
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	0.2	mmhos/cm		0.1		ASA10-3	07/30/20 14:42 / kr
Calcium, sat. paste	0.17	meq/L		0.05		SW6010B	07/31/20 21:49 / sld
Magnesium, sat. paste	0.25	meq/L		0.08		SW6010B	07/31/20 21:49 / sld
Potassium, sat. paste	0.05	meq/L		0.03		SW6010B	07/31/20 21:49 / sld
Sodium, sat. paste	1.16	meq/L		0.04		SW6010B	07/31/20 21:49 / sld
Sodium Adsorption Ratio (SAR)	2.5	unitless		0.1		USDA20b	08/06/20 13:57 / stp
Alkalinity, sat. paste	0.33	meq/L		0.08		ASA10-3	07/30/20 18:36 / RAT
Bicarbonate, sat. paste	0.25	meq/L		0.07		ASA10-3	07/30/20 18:36 / RAT
CHEMICAL CHARACTERISTICS							
Calcium, Extractable	0.296	meq/100g		0.005		SW6010B	07/31/20 17:36 / sld
Magnesium, Extractable	2.61	meq/100g		0.008		SW6010B	08/03/20 08:18 / sld
Phosphorus, Available	1.18	mg/kg		1.00		SW6010B	07/31/20 19:55 / sld
Potassium, Extractable	0.145	meq/100g		0.003		SW6010B	07/31/20 17:36 / sld
Sodium, Extractable	0.437	meq/100g		0.004		SW6010B	08/03/20 08:18 / sld
Exchangeable Calcium	0.3	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Magnesium	2.6	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Potassium	0.1	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Sodium	0.4	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Cation Exchange Capacity	15.9	meq/100g		0.09		SW6010B	08/02/20 23:57 / sld
Organic Matter	ND	%		0.2		ASA29-3	07/30/20 16:05 / sah
CHEMICAL CHARACTERISTICS							
Exchangeable Acidity	3.1	t/kt		0.1		ASA9-4	07/31/20 14:45 / swj
EXCHANGEABLE ALUMINUM							
Exchangeable Aluminum	4.9	meq/100g		0.1		ASA9-4	07/31/20 14:45 / swj

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-029
Client Sample ID: NT1135CC [1-4]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
ACID BASE							
Neutralization Potential	0	t/kt				Sobek Modifie	07/31/20 13:17 / swj
ACID BASE							
Acid Base Accounting	-3.1	t/kt				Calculation	08/06/20 13:57 / stp
Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
Total Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
ACID BASE							
Sulfur, Total	ND	%		0.01		E3.2.3	07/30/20 13:39 / stp
Sulfur, Sulfate	ND	%		0.01		E3.2.3	07/30/20 13:39 / stp
Sulfur, Pyritic	ND	%		0.01		E3.2.3	07/30/20 13:39 / stp
Sulfur, Organic	ND	%		0.01		E3.2.3	07/30/20 13:39 / stp
CACL2 EXTRACTABLE METALS							
Boron	ND	mg/kg		0.1		SW6010B	08/03/20 09:27 / sld
METALS, TOTAL							
Aluminum	56900	mg/kg		1		E200.8	08/05/20 18:31 / dck
Arsenic	5	mg/kg		1		E200.8	08/05/20 15:19 / dck
Barium	359	mg/kg		1		E200.8	08/05/20 15:19 / dck
Cadmium	ND	mg/kg		0.1		E200.8	08/05/20 15:19 / dck
Copper	7	mg/kg		1		E200.8	08/05/20 15:19 / dck
Iron	22200	mg/kg	D	500		E200.8	08/05/20 16:25 / dck
Lead	12	mg/kg	D	2		E200.8	08/05/20 15:19 / dck
Manganese	58	mg/kg	D	10		E200.8	08/05/20 15:19 / dck
Molybdenum	ND	mg/kg		1		E200.8	08/05/20 15:19 / dck
Nickel	16	mg/kg	D	2		E200.8	08/05/20 15:19 / dck
Selenium	0.6	mg/kg		0.1		E200.8	08/05/20 15:19 / dck
Zinc	32	mg/kg	D	5		E200.8	08/05/20 15:19 / dck
EXCHANGEABLE IRON							
Exchangeable Iron	19	mg/kg		1		SW6010B	08/03/20 01:35 / sld

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-030
Client Sample ID: NT1135CC [4-12.1]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	36	%		1		ASA15-5	08/03/20 08:56 / sah
Silt	40	%		1		ASA15-5	08/03/20 08:56 / sah
Clay	24	%		1		ASA15-5	08/03/20 08:56 / sah
Texture	L			1		ASA15-5	08/03/20 08:56 / sah
SATURATED PASTE							
Saturation	51.7	%		0.1		USDA27a	07/30/20 07:54 / swj
SATURATED PASTE							
pH, sat. paste	3.9	s.u.		0.1		ASA10-3	07/30/20 08:58 / kr
Acidity, Sat. Paste	50	mg/L		4		ASA10-3	08/03/20 18:35 / RAT
METALS, AMMONIUM ACETATE EXTRACTABLE							
Base Saturation	41.0	%		0.1		Calculation	08/06/20 13:57 / stp
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	0.4	mmhos/cm		0.1		ASA10-3	07/30/20 14:43 / kr
Calcium, sat. paste	0.21	meq/L		0.05		SW6010B	07/31/20 22:31 / sld
Magnesium, sat. paste	0.41	meq/L		0.08		SW6010B	07/31/20 22:31 / sld
Potassium, sat. paste	0.09	meq/L		0.03		SW6010B	07/31/20 22:31 / sld
Sodium, sat. paste	2.65	meq/L		0.04		SW6010B	07/31/20 22:31 / sld
Sodium Adsorption Ratio (SAR)	4.8	unitless		0.1		USDA20b	08/06/20 13:57 / stp
Alkalinity, sat. paste	0.45	meq/L		0.08		ASA10-3	07/30/20 18:41 / RAT
Bicarbonate, sat. paste	0.37	meq/L		0.07		ASA10-3	07/30/20 18:41 / RAT
CHEMICAL CHARACTERISTICS							
Calcium, Extractable	0.630	meq/100g		0.005		SW6010B	07/31/20 18:17 / sld
Magnesium, Extractable	4.92	meq/100g		0.008		SW6010B	07/31/20 18:17 / sld
Phosphorus, Available	1.20	mg/kg		1.00		SW6010B	07/31/20 19:59 / sld
Potassium, Extractable	0.181	meq/100g		0.003		SW6010B	07/31/20 18:17 / sld
Sodium, Extractable	0.919	meq/100g		0.004		SW6010B	07/31/20 18:17 / sld
Exchangeable Calcium	0.6	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Magnesium	4.9	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Potassium	0.2	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Sodium	0.8	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Cation Exchange Capacity	15.9	meq/100g		0.09		SW6010B	08/03/20 00:01 / sld
CHEMICAL CHARACTERISTICS							
Exchangeable Acidity	2.0	t/kt		0.1		ASA9-4	07/31/20 14:45 / swj
EXCHANGEABLE ALUMINUM							
Exchangeable Aluminum	3.0	meq/100g		0.1		ASA9-4	07/31/20 14:45 / swj
ACID BASE							
Neutralization Potential	1	t/kt				Sobek Modifie	07/31/20 13:25 / swj

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-030
Client Sample ID: NT1135CC [4-12.1]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
ACID BASE							
Acid Base Accounting	-1.0	t/kt				Calculation	08/06/20 13:57 / stp
Potential Acidity	0	t/kt				Calculation	08/06/20 13:57 / stp
Total Potential Acidity	0.4	t/kt				Calculation	08/06/20 13:57 / stp
ACID BASE							
Sulfur, Total	0.01	%		0.01		E3.2.3	08/04/20 14:03 / stp
Sulfur, Sulfate	ND	%		0.01		E3.2.3	08/04/20 14:03 / stp
Sulfur, Pyritic	ND	%		0.01		E3.2.3	08/04/20 14:03 / stp
Sulfur, Organic	ND	%		0.01		E3.2.3	08/04/20 14:03 / stp
CACL2 EXTRACTABLE METALS							
Boron	ND	mg/kg		0.1		SW6010B	08/03/20 09:31 / sld
METALS, TOTAL							
Aluminum	63400	mg/kg		1		E200.8	08/05/20 18:33 / dck
Arsenic	4	mg/kg		1		E200.8	08/05/20 15:20 / dck
Barium	630	mg/kg		1		E200.8	08/05/20 15:20 / dck
Cadmium	ND	mg/kg		0.1		E200.8	08/05/20 15:20 / dck
Copper	6	mg/kg		1		E200.8	08/05/20 15:20 / dck
Iron	25000	mg/kg	D	500		E200.8	08/05/20 16:27 / dck
Lead	13	mg/kg	D	2		E200.8	08/05/20 15:20 / dck
Manganese	48	mg/kg	D	10		E200.8	08/05/20 15:20 / dck
Molybdenum	ND	mg/kg		1		E200.8	08/05/20 15:20 / dck
Nickel	14	mg/kg	D	2		E200.8	08/05/20 15:20 / dck
Selenium	0.3	mg/kg		0.1		E200.8	08/05/20 15:20 / dck
Zinc	34	mg/kg	D	5		E200.8	08/05/20 15:20 / dck
EXCHANGEABLE IRON							
Exchangeable Iron	15	mg/kg		1		SW6010B	08/03/20 01:39 / sld

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-031
Client Sample ID: NT1135CC [12.1-19]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	14	%		1		ASA15-5	08/03/20 08:56 / sah
Silt	58	%		1		ASA15-5	08/03/20 08:56 / sah
Clay	28	%		1		ASA15-5	08/03/20 08:56 / sah
Texture	SiCL			1		ASA15-5	08/03/20 08:56 / sah
SATURATED PASTE							
Saturation	54.3	%		0.1		USDA27a	07/30/20 07:54 / swj
SATURATED PASTE							
pH, sat. paste	4.1	s.u.		0.1		ASA10-3	07/30/20 08:59 / kr
Acidity, Sat. Paste	48	mg/L		4		ASA10-3	08/03/20 17:03 / RAT
METALS, AMMONIUM ACETATE EXTRACTABLE							
Base Saturation	55.0	%		0.1		Calculation	08/06/20 13:57 / stp
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	0.6	mmhos/cm		0.1		ASA10-3	07/30/20 14:44 / kr
Calcium, sat. paste	0.49	meq/L		0.05		SW6010B	07/31/20 22:35 / sld
Magnesium, sat. paste	0.90	meq/L		0.08		SW6010B	07/31/20 22:35 / sld
Potassium, sat. paste	0.20	meq/L		0.03		SW6010B	07/31/20 22:35 / sld
Sodium, sat. paste	3.23	meq/L		0.04		SW6010B	07/31/20 22:35 / sld
Sodium Adsorption Ratio (SAR)	3.9	unitless		0.1		USDA20b	08/06/20 13:57 / stp
Alkalinity, sat. paste	0.46	meq/L		0.08		ASA10-3	08/03/20 12:28 / RAT
Bicarbonate, sat. paste	0.36	meq/L		0.07		ASA10-3	08/03/20 12:28 / RAT
CHEMICAL CHARACTERISTICS							
Calcium, Extractable	2.33	meq/100g		0.005		SW6010B	07/31/20 18:21 / sld
Magnesium, Extractable	6.67	meq/100g		0.008		SW6010B	07/31/20 18:21 / sld
Phosphorus, Available	1.75	mg/kg		1.00		SW6010B	07/31/20 20:07 / sld
Potassium, Extractable	0.409	meq/100g		0.003		SW6010B	07/31/20 18:21 / sld
Sodium, Extractable	1.03	meq/100g		0.004		SW6010B	07/31/20 18:21 / sld
Exchangeable Calcium	2.3	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Magnesium	6.6	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Potassium	0.4	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Exchangeable Sodium	0.8	meq/100g		0.1		Calculation	08/06/20 13:57 / stp
Cation Exchange Capacity	18.5	meq/100g		0.09		SW6010B	08/03/20 00:05 / sld
CHEMICAL CHARACTERISTICS							
Exchangeable Acidity	1.2	t/kt		0.1		ASA9-4	07/31/20 14:45 / swj
EXCHANGEABLE ALUMINUM							
Exchangeable Aluminum	1.6	meq/100g		0.1		ASA9-4	07/31/20 14:45 / swj
ACID BASE							
Neutralization Potential	3	t/kt				Sobek Modifie	07/31/20 13:33 / swj

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC
Project: Five Forks Mine -Oxidized Overburden
Lab ID: H20070549-031
Client Sample ID: NT1135CC [12.1-19]

Report Date: 08/11/20
Collection Date: 07/15/20 13:00
DateReceived: 07/21/20
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
ACID BASE							
Acid Base Accounting	0.6	t/kt				Calculation	08/06/20 13:57 / stp
Potential Acidity	0.9	t/kt				Calculation	08/06/20 13:57 / stp
Total Potential Acidity	1.7	t/kt				Calculation	08/06/20 13:57 / stp
ACID BASE							
Sulfur, Total	0.05	%		0.01		E3.2.3	08/04/20 14:12 / stp
Sulfur, Sulfate	ND	%		0.01		E3.2.3	08/04/20 14:12 / stp
Sulfur, Pyritic	0.03	%		0.01		E3.2.3	08/04/20 14:12 / stp
Sulfur, Organic	0.02	%		0.01		E3.2.3	08/04/20 14:12 / stp
CACL2 EXTRACTABLE METALS							
Boron	ND	mg/kg		0.1		SW6010B	08/09/20 10:38 / sld
METALS, TOTAL							
Aluminum	72300	mg/kg		1		E200.8	08/05/20 18:34 / dck
Arsenic	5	mg/kg		1		E200.8	08/05/20 15:22 / dck
Barium	670	mg/kg		1		E200.8	08/05/20 15:22 / dck
Cadmium	ND	mg/kg		0.1		E200.8	08/05/20 15:22 / dck
Copper	11	mg/kg		1		E200.8	08/05/20 15:22 / dck
Iron	23400	mg/kg	D	500		E200.8	08/05/20 16:28 / dck
Lead	17	mg/kg	D	2		E200.8	08/05/20 15:22 / dck
Manganese	63	mg/kg	D	10		E200.8	08/05/20 15:22 / dck
Molybdenum	ND	mg/kg		1		E200.8	08/05/20 15:22 / dck
Nickel	13	mg/kg	D	2		E200.8	08/05/20 15:22 / dck
Selenium	0.6	mg/kg		0.1		E200.8	08/05/20 15:22 / dck
Zinc	38	mg/kg	D	5		E200.8	08/05/20 15:22 / dck
EXCHANGEABLE IRON							
Exchangeable Iron	13	mg/kg		1		SW6010B	08/03/20 01:47 / sld

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC **Work Order:** H20070549 **Report Date:** 08/10/20

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPDRefVal	%RPD	RPDLimit	Qual
Test: 200.7.8-S-HCLO4										Batch: 52389
Lab Id: H20070549-001ADup Type: DUP Client ID: NT1130CC [0.0-1.0]										08/05/20 14:02
Aluminum	24200	mg/kg	1.0				23800	1.6	20	
Arsenic	5.18	mg/kg	1.0				5.155	0.6	20	
Barium	245	mg/kg	1.1				246.3	0.4	20	
Cadmium	0.0389	mg/kg	0.10				0.04086		20	
Copper	6.34	mg/kg	1.0				6.24	1.6	20	
Iron	14100	mg/kg	50				14100	0.3	20	
Lead	10.8	mg/kg	1.6				10.69	0.7	20	
Manganese	296	mg/kg	11				292.9	1.2	20	
Molybdenum	0.725	mg/kg	1.0				0.752		20	
Nickel	19.9	mg/kg	1.8				19.56	1.9	20	
Selenium	0.719	mg/kg	0.10				0.762	5.8	20	
Zinc	19.2	mg/kg	4.7				18.93	1.7	20	
Lab Id: H20070549-010ADup Type: DUP Client ID: NT1131CC [6-8.2]										08/05/20 14:19
Arsenic	4.87	mg/kg	1.0				4.653	4.5	20	
Barium	602	mg/kg	1.1				569.5	5.5	20	
Cadmium	ND	mg/kg	0.10				0		20	
Copper	5.74	mg/kg	1.0				5.225	9.4	20	
Lead	13.3	mg/kg	1.6				12.41	6.7	20	
Manganese	48.6	mg/kg	11				44.36	9.2	20	
Molybdenum	0.644	mg/kg	1.0				0.567		20	
Nickel	22.2	mg/kg	1.8				20.32	8.7	20	
Selenium	0.305	mg/kg	0.10				0.28	8.7	20	
Zinc	25.0	mg/kg	4.7				23.14	7.9	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC **Work Order:** H20070549 **Report Date:** 08/10/20

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPDRefVal	%RPD	RPDLimit	Qual
Test: 200.7.8-S-HCLO4										Batch: 52431
Lab Id: H20070549-017ADup Type: DUP Client ID: NT1133CC [0-1]										08/03/20 18:48
Aluminum	17900	mg/kg	1.0				16050	11	20	
Arsenic	4.86	mg/kg	1.0				4.91	1.0	20	
Barium	269	mg/kg	1.1				284.2	5.3	20	
Cadmium	0.0609	mg/kg	0.10				0.0575		20	
Copper	3.98	mg/kg	1.0				4.255	6.8	20	
Iron	12600	mg/kg	50				13050	3.5	20	
Lead	12.4	mg/kg	1.6				13.3	6.8	20	
Manganese	510	mg/kg	11				537.5	5.3	20	
Molybdenum	0.423	mg/kg	1.0				0.4563		20	
Nickel	11.6	mg/kg	1.8				11.93	3.1	20	
Selenium	0.452	mg/kg	0.10				0.4748	5.0	20	
Zinc	18.8	mg/kg	4.7				19.58	4.0	20	
Lab Id: H20070549-026ADup Type: DUP Client ID: NT1134CC [8.8-17.3]										08/03/20 19:21
Aluminum	25000	mg/kg	1.0				25780	3.1	20	
Arsenic	5.08	mg/kg	1.0				5.135	1.0	20	
Barium	501	mg/kg	1.1				511	2.0	20	
Cadmium	0.0411	mg/kg	0.10				0		20	
Copper	9.70	mg/kg	1.0				10.09	4.0	20	
Iron	19300	mg/kg	50				20060	3.9	20	
Lead	16.5	mg/kg	1.6				16.93	2.4	20	
Manganese	258	mg/kg	11				269.6	4.3	20	
Molybdenum	0.520	mg/kg	1.0				0.53		20	
Nickel	17.2	mg/kg	1.8				18.02	4.6	20	
Selenium	0.313	mg/kg	0.10				0.2792	11	20	
Zinc	66.5	mg/kg	4.7				69.8	4.8	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC **Work Order:** H20070549 **Report Date:** 08/10/20

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPDRefVal	%RPD	RPDLimit	Qual
Test: 6010.20-S-CACL2										Batch: 52410
Lab Id: H20070549-008Adup Type: DUP Client ID: NT1131CC [1-4]										08/03/20 05:46
Boron	0.0867	mg/kg	0.10				0.09318		20	
Lab Id: H20070549-019Adup Type: DUP Client ID: NT1133CC [4-6.6]										08/03/20 06:38
Boron	0.131	mg/kg	0.10				0.1098	18	20	
Test: 6010.20-S-CACL2										Batch: 52411
Lab Id: H20070549-030Adup Type: DUP Client ID: NT1135CC [4-12.1]										08/03/20 09:35
Boron	0.0580	mg/kg	0.10				0.05026		20	
Test: 6010.20-S-CEC										Batch: 52408
Lab Id: H20070549-009Adup Type: DUP Client ID: NT1131CC [4-6]										08/03/20 15:03
Sodium	147	mg/kg	1.0				147.7	0.4	30	
Cation Exchange Capacity	12.8	meq/100g	0.087				12.85	0.4	30	
Lab Id: H20070549-018Adup Type: DUP Client ID: NT1133CC [1-4]										08/03/20 16:19
Sodium	215	mg/kg	1.0				189.3	13	30	
Cation Exchange Capacity	18.7	meq/100g	0.087				16.47	13	30	
Test: 6010.20-S-CEC										Batch: 52409
Lab Id: H20070549-024Adup Type: DUP Client ID: NT1134CC [1-4]										08/02/20 23:30
Sodium	237	mg/kg	1.0				254.2	6.9	30	
Cation Exchange Capacity	20.6	meq/100g	0.087				22.12	6.9	30	
Lab Id: H20070549-031Adup Type: DUP Client ID: NT1135CC [12.1-19]										08/03/20 00:08
Sodium	236	mg/kg	1.0				213.2	10	30	
Cation Exchange Capacity	20.5	meq/100g	0.087				18.55	10	30	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC **Work Order:** H20070549 **Report Date:** 08/10/20

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPDRefVal	%RPD	RPDLimit	Qual
Test: 6010.20-S-EDTA										Batch: 52414
Lab Id: H20070549-008Adup Type: DUP Client ID: NT1131CC [1-4]										08/03/20 12:49
Phosphorus	1.41	mg/kg	1.0				1.701	19	20	
Phosphorus, Available	1.41	mg/kg	1.0				1.701	19	20	
Lab Id: H20070549-019Adup Type: DUP Client ID: NT1133CC [4-6.6]										08/03/20 13:42
Phosphorus	1.88	mg/kg	1.0				1.792	4.6	20	
Phosphorus, Available	1.88	mg/kg	1.0				1.792	4.6	20	
Test: 6010.20-S-EDTA										Batch: 52415
Lab Id: H20070549-025Adup Type: DUP Client ID: NT1134CC [4-8.8]										08/02/20 20:41
Phosphorus	1.40	mg/kg	1.0				1.297	7.3	20	
Phosphorus, Available	1.40	mg/kg	1.0				1.297	7.3	20	
Lab Id: H20070549-030Adup Type: DUP Client ID: NT1135CC [4-12.1]										07/31/20 20:03
Phosphorus	1.32	mg/kg	1.0				1.2	9.5	20	
Phosphorus, Available	1.32	mg/kg	1.0				1.2	9.5	20	
Test: 6010.20-S-EXCHFE										Batch: 52412
Lab Id: H20070549-008Adup Type: DUP Client ID: NT1131CC [1-4]										08/01/20 00:02
Iron	28	mg/kg	1.0				28.01	0.2	20	
Exchangeable Iron	28	mg/kg	1.0				28.01	0.2	20	
Lab Id: H20070549-019Adup Type: DUP Client ID: NT1133CC [4-6.6]										08/01/20 01:02
Iron	14	mg/kg	1.0				14.79	4.5	20	
Exchangeable Iron	14	mg/kg	1.0				14.79	4.5	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC **Work Order:** H20070549 **Report Date:** 08/10/20

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPDRefVal	%RPD	RPDLimit	Qual
Test: 6010.20-S-EXCHFE										Batch: 52413
Lab Id: H20070549-025Adup Type: DUP Client ID: NT1134CC [4-8.8]										08/03/20 01:19
Iron	26	mg/kg	1.0				27.32	3.2	20	
Exchangeable Iron	26	mg/kg	1.0				27.32	3.2	20	
Lab Id: H20070549-030Adup Type: DUP Client ID: NT1135CC [4-12.1]										08/03/20 01:43
Iron	16	mg/kg	1.0				15.43	2.6	20	
Exchangeable Iron	16	mg/kg	1.0				15.43	2.6	20	
Test: 6010.20-S-NH4OAC										Batch: 52406
Lab Id: H20070549-009Adup Type: DUP Client ID: NT1131CC [4-6]										08/03/20 10:05
Calcium	19.3	mg/kg	1.0				20.5	5.9	20	
Magnesium	207	mg/kg	1.0				207.4	0.4	20	
Sodium	66.2	mg/kg	1.0				64.79	2.2	20	
Potassium	50.0	mg/kg	1.0				46.99	6.2	20	
Calcium, Extractable	0.0965	meq/100g	0.0050				0.1023	5.9	20	
Magnesium, Extractable	1.71	meq/100g	0.0083				1.721	0.4	20	
Potassium, Extractable	0.128	meq/100g	0.0026				0.1203	6.2	20	
Sodium, Extractable	0.288	meq/100g	0.0044				0.2818	2.2	20	
Lab Id: H20070549-018Adup Type: DUP Client ID: NT1133CC [1-4]										08/03/20 10:51
Calcium	42.2	mg/kg	2.3				43.47	2.9	20	
Magnesium	260	mg/kg	1.0				279.4	7.1	20	
Sodium	55.0	mg/kg	1.0				54.71	0.6	20	
Potassium	63.3	mg/kg	1.0				63.61	0.5	20	
Calcium, Extractable	0.211	meq/100g	0.012				0.2169	2.9	20	
Magnesium, Extractable	2.16	meq/100g	0.0083				2.319	7.1	20	
Potassium, Extractable	0.162	meq/100g	0.0026				0.1628	0.5	20	
Sodium, Extractable	0.239	meq/100g	0.0044				0.238	0.6	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC **Work Order:** H20070549 **Report Date:** 08/10/20

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPDRefVal	%RPD	RPDLimit	Qual
Test: 6010.20-S-NH4OAC										Batch: 52407
Lab Id: H20070549-024Adup Type: DUP Client ID: NT1134CC [1-4]										07/31/20 17:17
Calcium	40.5	mg/kg	1.0				39.31	2.9	20	
Magnesium	343	mg/kg	1.0				336.3	2.0	20	
Sodium	96.7	mg/kg	1.0				93.1	3.8	20	
Potassium	77.6	mg/kg	1.0				73.91	4.8	20	
Calcium, Extractable	0.202	meq/100g	0.0050				0.1962	2.9	20	
Magnesium, Extractable	2.85	meq/100g	0.0083				0		20	
Potassium, Extractable	0.199	meq/100g	0.0026				0.1892	4.8	20	
Sodium, Extractable	0.421	meq/100g	0.0044				0		20	
Lab Id: H20070549-031Adup Type: DUP Client ID: NT1135CC [12.1-19]										07/31/20 18:25
Calcium	465	mg/kg	1.0				467.2	0.6	20	
Magnesium	820	mg/kg	1.0				803.9	2.0	20	
Sodium	240	mg/kg	1.0				236.4	1.7	20	
Potassium	162	mg/kg	1.0				159.9	1.5	20	
Calcium, Extractable	2.32	meq/100g	0.0050				2.332	0.6	20	
Magnesium, Extractable	6.80	meq/100g	0.0083				6.672	2.0	20	
Potassium, Extractable	0.416	meq/100g	0.0026				0.4094	1.5	20	
Sodium, Extractable	1.05	meq/100g	0.0044				1.028	1.7	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC **Work Order:** H20070549 **Report Date:** 08/10/20

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPDRefVal	%RPD	RPDLimit	Qual
Test: 6010.20-S-PASTE										Batch: 52404
Lab Id: H20070549-009Adup Type: DUP Client ID: NT1131CC [4-6]										08/03/20 03:40
Calcium	3.59	mg/L	1.0				3.7	2.9	30	
Magnesium	2.36	mg/L	1.0				2.431	2.9	30	
Potassium	2.30	mg/L	1.0				2.162	6.3	30	
Sodium	21.9	mg/L	1.0				21.2	3.1	30	
Calcium, sat. paste	0.179	meq/L	0.050				0.1846	2.9	30	
Magnesium, sat. paste	0.194	meq/L	0.082				0.2001	2.9	30	
Potassium, sat. paste	0.0589	meq/L	0.026				0.05532	6.3	30	
Sodium, sat. paste	0.951	meq/L	0.043				0.9218	3.1	30	
Lab Id: H20070549-018Adup Type: DUP Client ID: NT1133CC [1-4]										08/03/20 04:26
Calcium	3.66	mg/L	1.0				3.953	7.6	30	
Magnesium	5.35	mg/L	1.0				5.79	7.9	30	
Potassium	3.09	mg/L	1.0				3.227	4.3	30	
Sodium	25.4	mg/L	1.0				25.58	0.6	30	
Calcium, sat. paste	0.183	meq/L	0.050				0.1973	7.6	30	
Magnesium, sat. paste	0.440	meq/L	0.082				0.4765	7.9	30	
Potassium, sat. paste	0.0790	meq/L	0.026				0.08254	4.3	30	
Sodium, sat. paste	1.11	meq/L	0.043				1.112	0.6	30	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC **Work Order:** H20070549 **Report Date:** 08/10/20

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPDRefVal	%RPD	RPDLimit	Qual
Test: 6010.20-S-PASTE										Batch: 52405
Lab Id: H20070549-024Adup Type: DUP Client ID: NT1134CC [1-4]										07/31/20 21:30
Calcium	3.51	mg/L	1.0				3.564	1.4	30	
Magnesium	2.91	mg/L	1.0				2.7	7.6	30	
Potassium	2.35	mg/L	1.0				2.108	11	30	
Sodium	24.1	mg/L	1.0				21.39	12	30	
Calcium, sat. paste	0.175	meq/L	0.050				0.1779	1.4	30	
Magnesium, sat. paste	0.240	meq/L	0.082				0.2222	7.6	30	
Potassium, sat. paste	0.0602	meq/L	0.026				0.05393	11	30	
Sodium, sat. paste	1.05	meq/L	0.043				0.9299	12	30	
Lab Id: H20070549-031Adup Type: DUP Client ID: NT1135CC [12.1-19]										07/31/20 22:39
Calcium	9.19	mg/L	1.0				9.885	7.3	30	
Magnesium	10.7	mg/L	1.0				10.9	2.0	30	
Potassium	8.12	mg/L	1.0				7.844	3.4	30	
Sodium	75.4	mg/L	1.0				74.31	1.5	30	
Calcium, sat. paste	0.459	meq/L	0.050				0.4933	7.3	30	
Magnesium, sat. paste	0.879	meq/L	0.082				0.8969	2.0	30	
Potassium, sat. paste	0.208	meq/L	0.026				0.2007	3.4	30	
Sodium, sat. paste	3.28	meq/L	0.043				3.231	1.5	30	
Test: ABP-S										Batch: 52350
Lab Id: H20070549-010ADUP Type: DUP Client ID: NT1131CC [6-8.2]										07/29/20 14:38
Neutralization Potential	-0.57	t/kt					-0.85	39	20	
Lab Id: H20070549-015ADUP Type: DUP Client ID: NT1132CC [6.9-11.4]										07/29/20 15:21
Neutralization Potential	5.1	t/kt					5.22	1.5	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC **Work Order:** H20070549 **Report Date:** 08/10/20

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPDRefVal	%RPD	RPDLimit	Qual
Test: ABP-S										Batch: 52351
Lab Id: H20070549-020ADUP Type: DUP Client ID: NT1133CC [6.6-11.6]										07/31/20 12:05
Neutralization Potential	7.4	t/kt					7.52	0.9	20	
Lab Id: H20070549-031ADUP Type: DUP Client ID: NT1135CC [12.1-19]										07/31/20 13:41
Neutralization Potential	2.7	t/kt					2.73	0.4	20	
Test: ACID-BASE-BAL										Batch: R156848
Lab Id: H20070549-009ADUP Type: DUP Client ID: NT1131CC [4-6]										08/06/20 13:57
Acid Base Accounting	-2.4	t/kt								
Potential Acidity	0	t/kt	0.0							
Total Potential Acidity	0	t/kt	0.0							
Lab Id: H20070549-018ADUP Type: DUP Client ID: NT1133CC [1-4]										08/06/20 13:57
Acid Base Accounting	-2.6	t/kt								
Potential Acidity	0	t/kt	0.0							
Total Potential Acidity	0	t/kt	0.0							
Lab Id: H20070549-024ADUP Type: DUP Client ID: NT1134CC [1-4]										08/06/20 13:57
Acid Base Accounting	-3.9	t/kt								
Potential Acidity	0	t/kt	0.0							
Total Potential Acidity	0	t/kt	0.0							
Test: ACID-S-PASTE										Batch: 52404
Lab Id: H20070549-009ADUP Type: DUP Client ID: NT1131CC [4-6]										08/03/20 13:45
Acidity, Sat. Paste	37	mg/L	4				36.5	1.4	20	
Lab Id: H20070549-018ADUP Type: DUP Client ID: NT1133CC [1-4]										08/03/20 12:41
Acidity, Sat. Paste	41	mg/L	4				41.6	1.0	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC **Work Order:** H20070549 **Report Date:** 08/10/20

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPDRefVal	%RPD	RPDLimit	Qual
Test: ACID-S-PASTE										Batch: 52405
Lab Id: H20070549-024ADUP Type: DUP Client ID: NT1134CC [1-4]										08/03/20 16:54
Acidity, Sat. Paste	32	mg/L	4				28.8	12	20	
Lab Id: H20070549-031ADUP Type: DUP Client ID: NT1135CC [12.1-19]										08/03/20 17:12
Acidity, Sat. Paste	48	mg/L	4				48	0.0	20	
Test: ALK-S-PASTE										Batch: 52404
Lab Id: H20070549-009ADUP Type: DUP Client ID: NT1131CC [4-6]										07/30/20 15:58
Alkalinity, Total as CaCO3	22.8	mg/L	4.0							
Bicarbonate as HCO3	22.9	mg/L	4.0							
Alkalinity, sat. paste	0.456	meq/L	0.080				0.376	19	30	
Bicarbonate, sat. paste	0.376	meq/L	0.066				0.2959	24	30	
Lab Id: H20070549-018ADUP Type: DUP Client ID: NT1133CC [1-4]										07/30/20 16:47
Alkalinity, Total as CaCO3	13.6	mg/L	4.0							
Bicarbonate as HCO3	11.7	mg/L	4.0							
Alkalinity, sat. paste	0.272	meq/L	0.080				0.288	5.7	30	
Bicarbonate, sat. paste	0.192	meq/L	0.066				0.208	8.0	30	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC **Work Order:** H20070549 **Report Date:** 08/10/20

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPDRefVal	%RPD	RPDLimit	Qual
Test: ALK-S-PASTE										Batch: 52405
Lab Id: H20070549-024ADUP Type: DUP Client ID: NT1134CC [1-4]										07/30/20 18:08
Alkalinity, Total as CaCO3	21.2	mg/L	4.0							
Bicarbonate as HCO3	21.0	mg/L	4.0							
Alkalinity, sat. paste	0.424	meq/L	0.080				0.448	5.5	30	
Bicarbonate, sat. paste	0.344	meq/L	0.066				0.3679	6.7	30	
Lab Id: H20070549-031ADUP Type: DUP Client ID: NT1135CC [12.1-19]										08/03/20 12:34
Alkalinity, Total as CaCO3	22.5	mg/L	4.0							
Bicarbonate as HCO3	21.4	mg/L	4.0							
Alkalinity, sat. paste	0.450	meq/L	0.080				0.46	2.2	30	
Bicarbonate, sat. paste	0.350	meq/L	0.066				0.3599	2.8	30	
Test: ALUMINUM-S-EXCHANGEABLE										Batch: R156729
Lab Id: H20070549-007ADUP Type: DUP Client ID: NT1131CC [0-1]										07/31/20 14:45
Exchangeable Aluminum	1.60	meq/100g	0.10				1.451	9.8	20	
Lab Id: H20070549-014ADUP Type: DUP Client ID: NT1132CC [4-6.9]										07/31/20 14:45
Exchangeable Aluminum	3.75	meq/100g	0.10				3.903	3.9	20	
Lab Id: H20070549-021ADUP Type: DUP Client ID: NT1133CC [11.6-14]										08/02/20 13:30
Exchangeable Aluminum	ND	meq/100g	0.10				0		20	
Lab Id: H20070549-028ADUP Type: DUP Client ID: NT1135CC [0-1]										07/31/20 14:45
Exchangeable Aluminum	1.00	meq/100g	0.10				1.201	18	20	
Lab Id: H20070549-031ADUP Type: DUP Client ID: NT1135CC [12.1-19]										07/31/20 14:45
Exchangeable Aluminum	1.75	meq/100g	0.10				1.601	9.0	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC **Work Order:** H20070549 **Report Date:** 08/10/20

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPDRefVal	%RPD	RPDLimit	Qual
Test: BASE SAT										Batch: R156848
Lab Id: H20070549-009ADUP Type: DUP Client ID: NT1131CC [4-6]										08/06/20 13:57
Base Saturation	17.0	%	0.10				17	0.0	20	
Lab Id: H20070549-018ADUP Type: DUP Client ID: NT1133CC [1-4]										08/06/20 13:57
Base Saturation	14.0	%	0.10				17	19	20	
Lab Id: H20070549-024ADUP Type: DUP Client ID: NT1134CC [1-4]										08/06/20 13:57
Base Saturation	18.0	%	0.10				16	12	20	
Lab Id: H20070549-031ADUP Type: DUP Client ID: NT1135CC [12.1-19]										08/06/20 13:57
Base Saturation	50.0	%	0.10				55	9.5	20	
Test: COND-S-PASTE										Batch: 52404
Lab Id: H20070549-009ADUP Type: DUP Client ID: NT1131CC [4-6]										07/30/20 14:22
Conductivity, sat. paste	0.196	mmhos/cm	0.10				0.188	4.3	20	
Lab Id: H20070549-018ADUP Type: DUP Client ID: NT1133CC [1-4]										07/30/20 14:29
Conductivity, sat. paste	0.220	mmhos/cm	0.10				0.2357	7.0	20	
Test: COND-S-PASTE										Batch: 52405
Lab Id: H20070549-024ADUP Type: DUP Client ID: NT1134CC [1-4]										07/30/20 14:39
Conductivity, sat. paste	0.188	mmhos/cm	0.10				0.1737	8.2	20	
Lab Id: H20070549-031ADUP Type: DUP Client ID: NT1135CC [12.1-19]										07/30/20 14:45
Conductivity, sat. paste	0.579	mmhos/cm	0.10				0.5767	0.4	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC **Work Order:** H20070549 **Report Date:** 08/10/20

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPDRefVal	%RPD	RPDLimit	Qual
Test: EXCHACID-S										Batch: R156729
Lab Id: H20070549-007ADUP Type: DUP Client ID: NT1131CC [0-1]										07/31/20 14:45
Exchangeable Acidity	0.477	t/kt	0.10				0.451	5.6	20	
Lab Id: H20070549-014ADUP Type: DUP Client ID: NT1132CC [4-6.9]										07/31/20 14:45
Exchangeable Acidity	2.54	t/kt	0.10				2.667	5.0	20	
Lab Id: H20070549-021ADUP Type: DUP Client ID: NT1133CC [11.6-14]										07/31/20 14:45
Exchangeable Acidity	0.116	t/kt	0.10				0.1675	36	20	
Lab Id: H20070549-028ADUP Type: DUP Client ID: NT1135CC [0-1]										07/31/20 14:45
Exchangeable Acidity	0.374	t/kt	0.10				0.3737	0.0	20	
Lab Id: H20070549-031ADUP Type: DUP Client ID: NT1135CC [12.1-19]										07/31/20 14:45
Exchangeable Acidity	1.17	t/kt	0.10				1.198	2.2	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC **Work Order:** H20070549 **Report Date:** 08/10/20

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPDRefVal	%RPD	RPDLimit	Qual
Test: EXCHANGEABLE CATIONS										Batch: R156848
Lab Id: H20070549-009ADUP Type: DUP Client ID: NT1131CC [4-6]										08/06/20 13:57
Exchangeable Calcium	0.0900	meq/100g	0.10				0.09		30	
Exchangeable Magnesium	1.70	meq/100g	0.10				1.71	0.6	30	
Exchangeable Potassium	0.130	meq/100g	0.10				0.12	8.0	30	
Exchangeable Sodium	0.250	meq/100g	0.10				0.24	4.1	30	
Lab Id: H20070549-018ADUP Type: DUP Client ID: NT1133CC [1-4]										08/06/20 13:57
Exchangeable Calcium	0.200	meq/100g	0.10				0.21	4.9	30	
Exchangeable Magnesium	2.14	meq/100g	0.10				2.3	7.2	30	
Exchangeable Potassium	0.160	meq/100g	0.10				0.16	0.0	30	
Exchangeable Sodium	0.190	meq/100g	0.10				0.19	0.0	30	
Lab Id: H20070549-024ADUP Type: DUP Client ID: NT1134CC [1-4]										08/06/20 13:57
Exchangeable Calcium	0.200	meq/100g	0.10				0.19	5.1	30	
Exchangeable Magnesium	2.84	meq/100g	0.10				2.74	3.6	30	
Exchangeable Potassium	0.220	meq/100g	0.10				0.19	15	30	
Exchangeable Sodium	0.420	meq/100g	0.10				0.42	0.0	30	
Lab Id: H20070549-031ADUP Type: DUP Client ID: NT1135CC [12.1-19]										08/06/20 13:57
Exchangeable Calcium	2.29	meq/100g	0.10				2.3	0.4	30	
Exchangeable Magnesium	6.75	meq/100g	0.10				6.62	1.9	30	
Exchangeable Potassium	0.410	meq/100g	0.10				0.4	2.5	30	
Exchangeable Sodium	0.870	meq/100g	0.10				0.85	2.3	30	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC **Work Order:** H20070549 **Report Date:** 08/10/20

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPDRefVal	%RPD	RPDLimit	Qual
Test: OC-WB-S										Batch: 52365
Lab Id: H20070549-012ADUP Type: DUP Client ID: NT1132CC [0-1]										07/30/20 16:05
Organic Matter	2.48	%	0.17							
Lab Id: H20070549-024ADUP Type: DUP Client ID: NT1134CC [1-4]										07/30/20 16:05
Organic Matter	0.213	%	0.17							
Test: PH-S-PASTE										Batch: 52404
Lab Id: H20070549-009ADUP Type: DUP Client ID: NT1131CC [4-6]										07/30/20 08:22
pH, sat. paste	4.07	s.u.	0.10				4.05	0.5	20	
Lab Id: H20070549-018ADUP Type: DUP Client ID: NT1133CC [1-4]										07/30/20 08:34
pH, sat. paste	4.16	s.u.	0.10				4.17	0.2	20	
Test: PH-S-PASTE										Batch: 52405
Lab Id: H20070549-024ADUP Type: DUP Client ID: NT1134CC [1-4]										07/30/20 08:52
pH, sat. paste	3.99	s.u.	0.10				4.01	0.5	20	
Lab Id: H20070549-031ADUP Type: DUP Client ID: NT1135CC [12.1-19]										07/30/20 09:00
pH, sat. paste	4.12	s.u.	0.10				4.08	1.0	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC **Work Order:** H20070549 **Report Date:** 08/10/20

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPDRefVal	%RPD	RPDLimit	Qual
Test: **PSA-TEXTURE-S**										Batch: 52416
Lab Id: **H20070549-007ADUP** **Type:** **DUP** **Client ID:** **NT1131CC [0-1]**										08/03/20 08:56
Sand	66.0	%	1.0				66	0.0	20	
Silt	22.0	%	1.0				22	0.0	20	
Clay	12.0	%	1.0				12	0.0	20	
Texture	SL		1.0							
Lab Id: **H20070549-014ADUP** **Type:** **DUP** **Client ID:** **NT1132CC [4-6.9]**										08/03/20 08:56
Sand	12.0	%	1.0				12	0.0	20	
Silt	48.0	%	1.0				48	0.0	20	
Clay	40.0	%	1.0				40	0.0	20	
Texture	SiC		1.0							
Lab Id: **H20070549-021ADUP** **Type:** **DUP** **Client ID:** **NT1133CC [11.6-14]**										08/03/20 08:56
Sand	54.0	%	1.0				56	3.6	20	
Silt	30.0	%	1.0				30	0.0	20	
Clay	16.0	%	1.0				14	13	20	
Texture	SL		1.0							
Lab Id: **H20070549-028ADUP** **Type:** **DUP** **Client ID:** **NT1135CC [0-1]**										08/03/20 08:56
Sand	62.0	%	1.0				62	0.0	20	
Silt	28.0	%	1.0				28	0.0	20	
Clay	10.0	%	1.0				10	0.0	20	
Texture	SL		1.0							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC **Work Order:** H20070549 **Report Date:** 08/10/20

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPDRefVal	%RPD	RPDLimit	Qual
Test: SAR-CALC-S										Batch: R156848
Lab Id: H20070549-009ADUP Type: DUP Client ID: NT1131CC [4-6]										08/06/20 13:57
Sodium Adsorption Ratio (SAR)	2.21	unitless	0.10				2.11	4.6	30	
Lab Id: H20070549-018ADUP Type: DUP Client ID: NT1133CC [1-4]										08/06/20 13:57
Sodium Adsorption Ratio (SAR)	1.99	unitless	0.10				1.9	4.6	30	
Lab Id: H20070549-024ADUP Type: DUP Client ID: NT1134CC [1-4]										08/06/20 13:57
Sodium Adsorption Ratio (SAR)	2.29	unitless	0.10				2.08	9.6	30	
Lab Id: H20070549-031ADUP Type: DUP Client ID: NT1135CC [12.1-19]										08/06/20 13:57
Sodium Adsorption Ratio (SAR)	4.01	unitless	0.10				3.87	3.6	30	
Test: SAT-S										Batch: 52404
Lab Id: H20070549-009ADUP Type: DUP Client ID: NT1131CC [4-6]										07/30/20 07:30
Saturation	43.9	%	0.10				43.2	1.5	20	
Lab Id: H20070549-018ADUP Type: DUP Client ID: NT1133CC [1-4]										07/30/20 07:31
Saturation	46.8	%	0.10				44.7	4.5	20	
Test: SAT-S										Batch: 52405
Lab Id: H20070549-024ADUP Type: DUP Client ID: NT1134CC [1-4]										07/30/20 07:53
Saturation	58.0	%	0.10				61.98	6.7	20	
Lab Id: H20070549-031ADUP Type: DUP Client ID: NT1135CC [12.1-19]										07/30/20 07:54
Saturation	54.7	%	0.10				54.33	0.7	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC **Work Order:** H20070549 **Report Date:** 08/10/20

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPDRefVal	%RPD	RPDLimit	Qual
Test: SFORMS-S-E3.2.3										Batch: R156682
Lab Id: H20070549-007ADUP Type: DUP Client ID: NT1131CC [0-1]										07/30/20 12:14
Sulfur, Total	ND	%	0.010				0		30	
Sulfur, Sulfate	ND	%	0.010				0		30	
Sulfur, Pyritic	ND	%	0.010				0		30	
Sulfur, Organic	ND	%	0.010				0		30	
Lab Id: H20070549-014ADUP Type: DUP Client ID: NT1132CC [4-6.9]										07/30/20 12:41
Sulfur, Total	ND	%	0.010				0		30	
Sulfur, Sulfate	ND	%	0.010				0		30	
Sulfur, Pyritic	ND	%	0.010				0		30	
Sulfur, Organic	ND	%	0.010				0		30	
Lab Id: H20070549-028ADUP Type: DUP Client ID: NT1135CC [0-1]										07/30/20 13:36
Sulfur, Total	ND	%	0.010				0		30	
Sulfur, Sulfate	ND	%	0.010				0		30	
Sulfur, Pyritic	ND	%	0.010				0		30	
Sulfur, Organic	ND	%	0.010				0		30	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Demery Resources Company LLC **Work Order:** H20070549 **Report Date:** 08/10/20

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPDRefVal	%RPD	RPDLimit	Qual
Test: SFORMS-S-E3.2.3										Batch: R156788
Lab Id: H20070549-011ADUP Type: DUP Client ID: NT1131CC [8.2-16]										08/04/20 12:26
Sulfur, Total	0.0749	%	0.010				0.0663	12	30	
Sulfur, Sulfate	ND	%	0.010				0		30	
Sulfur, Pyritic	0.0576	%	0.010				0.05486	4.9	30	
Sulfur, Organic	ND	%	0.010				0.011		30	
Lab Id: H20070549-021ADUP Type: DUP Client ID: NT1133CC [11.6-14]										08/04/20 13:29
Sulfur, Total	0.0144	%	0.010				0.01642	13	30	
Sulfur, Sulfate	ND	%	0.010				0.01344		30	
Sulfur, Pyritic	ND	%	0.010				0		30	
Sulfur, Organic	ND	%	0.010				0		30	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

Work Order Receipt Checklist

Demery Resources Company LLC H20070549

Login completed by: Skyler T. Pester
Reviewed by: BL2000\spester
Reviewed Date: 8/10/2020

Date Received: 7/21/2020
Received by: kjk
Carrier name: UPS Ground

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☐	No ☑	Not Applicable ☐
Container/Temp Blank temperature:	18.5°C No Ice		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☑

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

Contact and Corrective Action Comments:

No collection time provided, collection time estimated in laboratory. 7/21/2020 STP.

Demery Resources Company, LLC
839 Five Forks Road
Saline, Louisiana 71070
(318) 875-5000

CHAIN OF CUSTODY

Sample type: Oxidized Overburden Core Sites (NSBL)
Sampled by: Benson Chow
Sample date: 7/15/2020

Core ID	Depth (feet)	Core ID	Depth (feet)	Core ID	Depth (feet)
NT**1130**CC	0.0-1.0	NT**1131**CC	0.0-1.0	NT**1132**CC	0.0-1.0
NT**1130**CC	1.0-4.0	NT**1131**CC	1.0-4.0	NT**1132**CC	1.0-4.0
NT**1130**CC	4.0-6.0	NT**1131**CC	4.0-6.0	NT**1132**CC	4.0-6.9
NT**1130**CC	6.0-11.6	NT**1131**CC	6.0-8.2	NT**1132**CC	6.9-11.4
NT**1130**CC	11.6-21.5	NT**1131**CC	8.2-16.0	NT**1132**CC	11.4-16.0
NT**1130**CC	21.5-23.8				

Core ID	Depth (feet)	Core ID	Depth (feet)	Core ID	Depth (feet)
NT**1133**CC	0.0-1.0	NT**1134**CC	0.0-1.0	NT**1135**CC	0.0-1.0
NT**1133**CC	1.0-4.0	NT**1134**CC	1.0-4.0	NT**1135**CC	1.0-4.0
NT**1133**CC	4.0-6.6	NT**1134**CC	4.0-8.8	NT**1135**CC	4.0-12.1
NT**1133**CC	6.6-11.6	NT**1134**CC	8.8-17.3	NT**1135**CC	12.1-19.0
NT**1133**CC	11.6-14.0	NT**1134**CC	17.3-20.8		
NT**1133**CC	14.0-18.8				

ANALYZE ALL SAMPLES AS FOLLOWS:

PH_SP	CEC	EXTR_NA	TOT_SE
ABA	AV_P	EXCH_CA	TOT_AL
EA	EXCH_FE	EXCH_MG	TOT_BA
NP	SAT	EXCH_K	TOT_FE
EXCH_AL	EC_SP	EXCH_NA	TOT_ZN
PA_CALC	SAR	BASE_SAT	TOT_HG
PA_TOT_CALC	SOL_CA	TOT_AS	OM*
TOT_S	SOL_MG	SOL_B	
SO4_S	SOL_K	TOT_CD	
PYR_S	ACIDITY_SP	TOT_CU	
ORG_S	ALK_SP	TOT_MN	
SAND	EXTR_CA	TOT_MO	
SILT	EXTR_MG	TOT_NI	
CLAY	EXTR_K	TOT_PB	

*Please run OM for 0.0-1.0' and 1.0-4.0' samples only *

H20070549

RELINQUISHED BY:	DATE:	RECEIVED BY:	DATE:
[signature]	7/16/2020		
RELINQUISHED BY:	DATE:	RECEIVED BY:	DATE:
		[signature]	7-21-20 0950

18.5° / UPS Gel / No Ice or TB

*2 boxes of samples