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MINERALS & MINING PROGRAM

LEGAL DESCRIPTIONS FOR L&S ACCESS ROAD SMALL SCALE MINING PERMIT

The following legal descriptions identify lands under private ownership that will be included in a Small Scale Mining Permit that will allow for the development of an access road between the Shear/Clarkson West and Shear/Clarkson East mine sites. The road will be used for moving mine equipment between the mine sites but WILL NOT be used for hauling bentonite, nor will any mining be allowed under this Small Scale Permit.

A 150'-wide corridor will be permitted which will allow for a 35'-wide access road and associated topsoil piles. Total acreage to be permitted = 40.0 acres. Total acreage proposed for disturbance = 9.9 acres.

L&S ownership:

Township 9 North, Range 1 East, Butte County, South Dakota

Section 3

A portion of the $W\frac{1}{2}$ $NW\frac{1}{4}$ $NW\frac{1}{4}$

A portion of the $NW\frac{1}{4}$ $SW\frac{1}{4}$ $NW\frac{1}{4}$

Section 4

A portion of the $E\frac{1}{2}$ $NE\frac{1}{4}$ $NE\frac{1}{4}$

Clarkson ownership:

Township 10 North, Range 1 East, Butte County, South Dakota

Section 33

A portion of the $SW\frac{1}{4}$ $SE\frac{1}{4}$ $NE\frac{1}{4}$

A portion of the $N\frac{1}{2}$ $NE\frac{1}{4}$ $SE\frac{1}{4}$

A portion of the $SE\frac{1}{4}$ $SE\frac{1}{4}$ $SE\frac{1}{4}$

Section 34

A portion of the $SW\frac{1}{4}$

A portion of the $S\frac{1}{2}$ $SE\frac{1}{4}$

Section 35

A portion of the $SW\frac{1}{4}$ $SW\frac{1}{4}$ $SW\frac{1}{4}$

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**METES AND BOUNDS FOR SMALL SCALE MINING PERMIT
(L&S ACCESS ROAD)**

Commencing at the brass cap at the east quarter corner of Section 33, Township 10 North, Range 1 East, Butte County, SD, thence North 77 degrees, 57 minutes, 56 seconds West a distance of 1,356.58 feet which is the point of beginning of an access road corridor which lies 75' on either side of the following described centerline:

Thence South 57 degrees, 19 minutes, 38 seconds East a distance of 207.93 feet
Thence South 52 degrees, 18 minutes, 25 seconds East a distance of 288.89 feet
Thence South 54 degrees, 35 minutes, 3 seconds East a distance of 164.20 feet
Thence South 60 degrees, 46 minutes, 21 seconds East a distance of 229.73 feet
Thence South 55 degrees, 34 minutes, 4 seconds East a distance of 166.37 feet
Thence South 77 degrees, 52 minutes, 16 seconds East a distance of 78.09 feet
Thence North 83 degrees, 7 minutes, 10 seconds East a distance of 218.81 feet
Thence South 75 degrees, 40 minutes, 43 seconds East a distance of 342.98 feet
Thence South 87 degrees, 39 minutes, 45 seconds East a distance of 160.23 feet
Thence South 75 degrees, 5 minutes, 49 seconds East a distance of 414.97 feet
Thence South 68 degrees, 48 minutes, 17 seconds East a distance of 846.73 feet
Thence South 48 degrees, 10 minutes, 14 seconds East a distance of 192.19 feet
Thence South 59 degrees, 11 minutes, 24 seconds East a distance of 148.30 feet
Thence South 61 degrees, 7 minutes, 28 seconds East a distance of 869.20 feet
Thence South 71 degrees, 58 minutes, 9 seconds East a distance of 372.24 feet
Thence South 73 degrees, 24 minutes, 47 seconds East a distance of 175.11 feet
Thence South 87 degrees, 19 minutes, 47 seconds East a distance of 793.91 feet
Thence South 84 degrees, 32 minutes, 12 seconds East a distance of 673.06 feet
Thence South 67 degrees, 47 minutes, 21 seconds East a distance of 236.20 feet
Thence South 56 degrees, 31 minutes, 48 seconds East a distance of 351.12 feet
Thence South 60 degrees, 19 minutes, 36 seconds East a distance of 234.78 feet
Thence South 43 degrees, 25 minutes, 44 seconds East a distance of 82.99 feet
Thence South 1 degree, 53 minutes, 26 seconds East a distance of 487.27 feet to the end point ,
totaling 7,735.3 feet in length.

and also:

Commencing at the brass cap at the east quarter corner of Section 33, Township 10 North, Range 1 East, Butte County, SD, thence South 58 degrees, 50 minutes, 52 seconds East a distance of 1,895.99 feet which is the point of beginning of an access road corridor which lies 75' on either side of the following described centerline:

Thence South 52 degrees, 3 minutes, 59 seconds West a distance of 43.78 feet
Thence South 35 degrees, 34 minutes, 21 seconds West a distance of 246.16 feet
Thence South 20 degrees, 24 minutes, 0 seconds West a distance of 243.16 feet
Thence South 38 degrees, 52 minutes, 58 seconds West a distance of 213.09 feet
Thence South 39 degrees, 1 minute, 16 seconds West a distance of 195.82 feet
Thence South 38 degrees, 58 minutes, 34 seconds West a distance of 83.78 feet

Thence South 73 degrees, 3 minutes, 11 seconds West a distance of 226.24 feet
Thence South 56 degrees, 20 minutes, 41 seconds West a distance of 378.17 feet
Thence South 51 degrees, 16 minutes, 25 seconds West a distance of 513.95 feet
Thence South 20 degrees, 29 minutes, 57 seconds West a distance of 208.48 feet
Thence South 3 degrees, 3 minutes, 51 seconds West a distance of 57.39 feet
Thence South 2 degrees, 22 minutes, 33 seconds East a distance of 224.76 feet
Thence South 1 degree, 58 minutes, 32 seconds East a distance of 219.83 feet
Thence South 2 degrees, 32 minutes, 4 seconds East a distance of 131.15 feet
Thence South 28 degrees, 19 minutes, 3 seconds East a distance of 84.49 feet
Thence South 48 degrees, 14 minutes, 39 seconds East a distance of 255.19 feet
Thence South 39 degrees, 18 minutes, 32 seconds East a distance of 93.01 feet
Thence South 16 degrees, 25 minutes, 3 seconds East a distance of 105.36 feet
Thence South 18 degrees, 57 minutes, 15 seconds West a distance of 146.26 feet
Thence South 30 degrees, 26 minutes, 39 seconds West a distance of 184.34 feet
Thence South 38 degrees, 22 minutes, 7 seconds West a distance of 21.70 feet to the end point
which is at a gate in the NW4SW4NW4, Section 3, Township 9 North, Range 1 East, totaling
3,876.11 feet in length.

SURFACE AND MINERAL OWNERSHIP

Surface Owners within Permit Area

L&S Cattle
17816 Prairie Winds Lane
Belle Fourche, SD 57717

Ferman M. Clarkson Inheritance Trust
P.O. Box 729
Belle Fourche, SD 57717

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Mineral Owners within Permit Area

F. L. Clarkson
P.O. Box 729
Belle Fourche SD 57717

Butte County
839 5th Ave.
Belle Fourche. SD 57717

Robert L. Nikodym
9681 W. Rice Ave.
Littleton, CO 80123

Thomas A. Broadhurst
P.O. Box 24
Spearfish, SD 57783

Jack Nikodym
2235 Willow Creek Rd.
Belle Fourche SD 57717

Surface Owners within 500 Feet of Permit Boundary

Spear E Ranch LLC
Agent: Terry Kudlock
11052 Kudlock Ln.
Belle Fourche, SD 57717

L&S Cattle
17816 Prairie Winds Lane
Belle Fourche, SD 57717

Dave and Wendy Garman
18665 Rehorst Rd.
Belle Fourche SD 57717

Ferman M. Clarkson Inheritance Trust
P.O. Box 729
Belle Fourche, SD 57717

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GENERAL DESCRIPTION OF THE TYPE OF MINING OPERATION PROPOSED AND HOW IT WOULD BE CONDUCTED

ARSD 74:29:10:03 (5)

American Colloid Company (ACC) is applying for a small scale mining permit (the L&S Access Road) to build an access road between Permit #471 Shear/Clarkson East and Permit #472 Shear/Clarkson West #mine sites.

The road will be "T" shaped, comprised of an approximate 1.5-mile long segment connecting the two permit areas and a 0.75-mile long spur extending south to Highway 212. This will eliminate the need for ACC to load scrapers and dozers onto trailers and transport them by truck down Highway 212 when moving between Permits 471 and 472, which is a time consuming and costly task (the cost to ACC is several thousand dollars each time the equipment is moved by truck and trailer on the highway). Road use will be limited and occasional and will not be year round although it could occur at any time of the year.

The Request for Determination covers 40.0 acres occurring on private land in portions of Sections 3 and 4, T9N, R1E and portions of Sections 33, 34 and 35, T10N, R1E, Butte County, SD. See the Legal Descriptions section at the front of this document for more information.

The road is located approximately 10 miles northwest of Belle Fourche, SD on the north side of Highway 212.

Actual affected acreage will be about 9.9 acres for a 35-foot wide access road and associated topsoil piles.

Topsoil will be stripped and placed in temporary stockpiles along the road. The road will be bladed to have a 15-foot wide top and 10-foot wide ditches with 3:1 slopes that will contain water runoff along the roadway. If necessary, culverts will be placed to allow flow to continue in its natural drainage.

The road will be constructed along an existing two-track trail and across pasture land and will be used for moving equipment (scrapers and dozers and sometimes dozers on trailers) between the Shear/Clarkson East and the Shear/Clarkson West mine sites but will **not** be used for hauling bentonite. The road may be used for up to 15 years, depending on customer clay needs at the associated mine sites.

Following its use as a mine access road, the road will be reclaimed unless the landowner requests that it remain a two-track trail. In that case, the road will be reduced in width and the edges reclaimed and seeded.

Part II: DEFINING IF LAND IS SPECIAL, EXCEPTIONAL, CRITICAL OR UNIQUE

ARSD 74:29:10:03(6) and SDCL 45-6B-33.3

Environmental baseline studies do not indicate that the land covered by the L&S Access Road Small Scale Mining Permit is special, exceptional or unique.

The access road will be built along an existing trail and across pasture land that does not appear to be ecologically fragile. Plant and wildlife species occurring here are adapted to withstand wide ranges of fluctuation in temperature, moisture, sunlight, and wind. It is not expected that the proposed access road having limited occasional use will have a strong influence on the ecosystem.

Plant and wildlife species are similar to those observed in the general bentonite region of northeastern Wyoming and the Belle Fourche, South Dakota area.

Vegetation

The access road site is similar to surrounding land. The road will follow an existing trail and across pasture land in an upland Mixed Grass Prairie community that supports similar species composition, diversity, and amount of cover to that of the same community on adjoining lands.

Vegetation mapping and cover sampling was performed on adjoining lands (Shear/Clarkson East Permit #471 and the Shear/Clarkson West Permit #472) in 2006. Mixed Grass Prairie sampling from these two adjacent areas is representative of the plant species and amount of cover observed along the proposed access road.

On the Shear/Clarkson East project, absolute canopy cover averaged 27.9% with 52.4% litter and rock, and 30.6% bare ground. On the Shear/Clarkson West project, absolute canopy cover on adjacent Section 33 sample area averaged 23.9% with 37.6% litter and rock, and 47.3% bare ground.

Sample data shows that the following grasses are dominant in the Mixed Grass Prairie community type on these sites: western wheatgrass, buffalo grass, Japanese brome, and green needlegrass, all of which are common grasses on native rangeland.

As noted in an independent vegetation study conducted by Plant Ecologist, Dr. Warren Keammerer (Boulder, CO), in 1987 for the northeastern Wyoming bentonite region, the above species and amount of cover are typical for native lands in the area.

No plant species listed by the U.S. Fish and Wildlife Service as Threatened or endangered were encountered on the adjacent permitted areas or observed in the project area.

Land use of the proposed permit land has been primarily as rangeland for cattle grazing, and grazing pressure is typically moderate for a few weeks in the summer.

Soils

Soil studies were performed in 2006 for the Shear/Clarkson East and Shear/Clarkson West permit areas. Soils were mapped and sampled for various chemical properties to determine soil salvage depths as presented in each of the permits. Existing data from these adjacent permits was considered in conjunction with Natural Resource Conservation Service (NRCS) mapping to extrapolate the estimated average suitable soil salvage depth for the L&S access road project area.

NRCS mapping indicated the occurrence of nine soil mapping units in the project area as presented in Table 1 below. Of these, five of these mapping units and associated salvage depths were identified in the adjacent permit areas. Two additional mapping units, Arvada Slickspots complex and Enning-Minnequa silty clay loams, were also mapped by the NRCS on the adjacent permit areas but remapped (after site specific evaluation) respectively as Twotop clay and Penrose clay for which the salvage depths were carried forward for this project. The remaining two map units, Hisle loam and Pierre clay (cumulatively covering less than one acre) were not mapped on the adjacent permits; salvage depths from soils map units immediately adjacent were utilized. None of the identified NRCS or adjacent permit soil mapping units are considered special or unique.

The north end of the L&S road ties into Penrose clay as mapped on the Shear Clarkson West permit, while the south end of the road ties into Twotop clay on the Shear Clarkson East permit at the south end of the road. Based upon studies performed for the adjacent permit areas, average recommended topsoil salvage depth for Penrose clay is 6 inches and recommended topsoil salvage soil depth for Twotop clay is 10 inches.

Recommended topsoil salvage soil depth for Hisle loam and Pierre clay was estimated to be 6 inches based on the recommended topsoil salvage depth of adjoining Enning-Minnequa silty clay loams (6 inches) and Kyle clay (10 inches). Recommended topsoil salvage soil depth for Graner clay was determined to be 6-inches due to previously recommended topsoil depth of adjoining Broadhurst clay (6 inches) and Grummit clay (6 inches).

Based on soils in the adjacent permit areas and NRCS soil mapping, 70% of the L&S Permit area disturbance boundary correlated with the recommendation of a topsoil salvage depth of 6 inches. Therefore, due to the small footprint of the disturbance area, an average topsoil salvage depth of 6 inches is recommended for the entire disturbance area (Table 1).

Table 1: Summary of NRCS Soils Mapping Units and Extrapolated Salvage Depths for the L&S Project Area

| NRCS Map Unit Soil Symbol | NRCS Soil Map Unit Name | Correlated Soil Name ACC 2006 Soil Study | Rec. TS Salvage Depth (in) | Soil Area within Dist. Area (ac) | Soil Area within Dist. (%) | Rec. TS Salvage Depth Area (ac) | Rec. TS Salvage Depth Area (%) |
|---------------------------|----------------------------------|--|----------------------------|----------------------------------|----------------------------|---------------------------------|--------------------------------|
| ArA | Arvada silt loam | | 2 | 0.63 | 6.42% | 1.39 | 14% |
| AsA | Arvada-Slickspots complex | Twotop clay | 2 | 0.75 | 7.64% | | |
| PrD | Pierre clay | | 6 | 0.26 | 2.58% | 6.96 | 70% |
| H1B | Hisle loam | | 6 | 0.62 | 6.30% | | |
| GrE | Grummit clay | | 6 | 0.88 | 8.87% | | |
| GnC | Graner clay | | 6 | 0.97 | 9.85% | | |
| PmD | Enning-Minnequa silty clay loams | Penrose clay | 6 | 1.72 | 17.38% | | |
| BtB | Broadhurst clay | | 6 | 2.52 | 25.52% | | |
| K1B | Kyle clay | | 10 | 1.53 | 15.45% | 1.53 | 15% |
| | TOTAL | | Average 6 | 9.88 | 1.00 | 9.88 | 100% |

Information from Natural Resource Conservation Service (NRCS) Web Soil Survey Database, retrieved April 28, 2014
 AMCOL = American Colloid, TS = Topsoil, Dist. = Disturbance, Rec. = recommended

The range site associated with these soils is the Pierre Shale Plains. This range site is not considered to be unusual or unique.

Water Resources

There are no special, exceptional, critical, or unique water resources associated with the proposed road which will run for the most part along the top of a relatively level ridge that breaks off at the north and south ends. Surface water resources mainly consist of weak ephemeral drainages at both ends of the road corridor that may contain run-off during precipitation events or snow melt.

Groundwater will not be impacted by the access road.

No drinking water wells are located on the project area.

Wildlife

The wildlife habitats along the proposed access road and in the general area are typical of the region, and no special, exceptional, critical, unique, or unusual wildlife features were identified.

The most common big game species observed in the area is the pronghorn (*Antilocapra americana*), with most sightings on sagebrush flats in the general area. White-tailed deer (*Odocoileus virginianus*) sightings are common along Crow Creek located approximately 0.25-0.75 mile northeast of the ridge that the road will follow.

Thunderbird Wildlife Consulting, Inc. (TWC, Gwyn McKee, Project Manager, Gillette, WY) was contracted by ACC to perform raptor nesting surveys (2013) and bald eagle (*Haliaeetus leucocephalus*) roost surveys (winter 2013/2014) for the proposed permit area and a 0.5-mile buffer. ACC personnel also conducted eagle roost surveys in early 2013 prior to formalization of this project area. All surveys were conducted in coordination with the South Dakota Department of Game, Fish and Parks (Stan Michals, Rapid City, SD) and were concentrated along the Crow Creek corridor.

The U.S. Fish and Wildlife Service removed the bald eagle from the Threatened and Endangered species list in July, 2007, but it is still on the SD list of Threatened species. Bald eagles are occasional winter visitors along the Crow Creek drainage. No eagles were observed within the project area or 0.5-mile buffer by ACC personnel during December 2012 – February 2013 roost surveys. Surveys were also conducted by TWC personnel over the same area in December 2013, January 2014, and February 2014 and no eagle roosts were observed within the 0.5-mile perimeter. However, one bald eagle was observed just outside the 0.5-mile buffer during two of the three winter 2013/2014 surveys.

The only active raptor nest within the survey area (permit area and 0.5-mile perimeter) in 2013 was a burrowing owl (*Athene cunicularia*) that nested in a small (25.7-acre), active black-tailed prairie dog (*Cynomys ludovicianus*) colony at the western end of the proposed new access road. The owls fledged at least one young that year. Approximately one acre at the extreme eastern edge of the colony will be affected by construction of the new access road. Depending on time of year, clearance surveys for species of concern will be conducted prior to surface disturbance in the colony.

Raptor species seen perched or hunting within 1.0 mile of the proposed road included the bald eagle, golden eagle (*Aquila chrysaetos*), northern harrier (*Circus cyaneus*), American kestrel (*Falco sparverius*), and great horned owl (*Bubo virginianus*), none of which are unusual for the area.

Other mammals noted in the general area in 2013 or during original baseline of adjacent projects included the red fox (*Vulpes vulpes*), coyote (*Canis latrans*), white-tailed jackrabbit (*Lepus townsendii*), deer mouse (*Peromyscus maniculatus*), northern grasshopper mouse (*Onychomys leucogaster*), and thirteen-lined ground squirrel (*Spermophilis tridecemlineatus*). All of these mammal species are common to the general area and region.

No sage grouse or sage grouse leks were discovered during the wildlife survey of the proposed road areas. The project area is dominated by upland grasses. Sagebrush is relatively limited in the area. Such habitat is not typically associated with sage grouse.

No federal or state Threatened or Endangered species were encountered in the project area by TWC biologists or ACC personnel.

Analysis of the project area indicates that no significant impacts to wildlife are anticipated by construction and occasional use of the proposed access road.

Part III: ENVIRONMENTAL BASELINE STUDIES DO NOT INDICATE THAT THE PROPOSED PERMIT LAND HAS SIGNIFICANT SCENIC, HISTORIC, ARCHAEOLOGICAL, TOPOGRAPHIC, GEOLOGIC, ETHNOLOGIC, SCIENTIFIC, CULTURAL, OR RECREATIONAL NATURE, AS FURTHER DESCRIBED BELOW:

Scenic

The L&S Access Road Small Scale Mining Permit (for an access road) is located along a two-track trail and across cattle pasture that is similar to surrounding lands and does not exhibit unique scenic or aesthetic qualities.

The proposed access road will be from Highway 212 to a ridge about ½ mile north of Highway 212 and will be visible to motorists and ranchers in the area but should not have a strong impact because use will be limited and occasional.

Historic and Archaeological

Llano Consultants (principal investigator, Jack Savini, Casper, WY) was contracted by ACC to conduct an extensive field survey of the proposed permit land with attention to any archaeological, historic, ethnologic, or cultural remains.

The work was completed in 2013, and no resources were discovered. See Appendix D-3 Cultural Resources

Topographic

The proposed access road extends from US 212 to and along the top of a northwest-trending ridge spur. Topography ranges from relatively flat on the top to moderately sloping off the sides. Elevations range from approximately 3200 to 3280 feet.

No significant or unique topography occurs within the project area.

Geologic

Geologic formations will not be affected by building of the access road as disturbance will be limited to near surface. No mining will occur along the road. As recommended by previous soils surveys in the area, approximately 6 inches of topsoil is estimated to be available for salvage along the proposed road. Soils will be temporarily stored in stock piles along the road and will be respread during road reclamation.

Ethnologic

No known ethnologic concerns on the proposed project area.

Scientific

Results of baseline vegetation, wildlife, and soils studies in the area indicated that no unique scientific characteristics occur. Additionally, no Threatened or Endangered plant or wildlife species have been observed.

Assessment of soil survey information indicates that an estimated 6 inches of topsoil is available for salvage in the project area. Lab analyses of the soil samples for adjacent project areas did not reveal any unusual soil properties. The soil resources will be salvaged during road construction and replaced during reclamation activities.

No wetlands or water wells will be affected by the proposed access road.

Cultural

No known cultural concerns occur on the proposed permit land as concluded from Llano Consultants' Class III survey on the project in 2013.

Recreational

Primary land use on the proposed permit has been livestock grazing, and no unusual or aesthetic features occur that would suggest it be classified as a recreational site. There are no trees and no water resources within the permit boundary.

Recreational use is limited to deer and antelope hunting which is restricted by the private landowners.

Reclamation activities will restore the land to grassland pasture or to a two-track trail if desired by the landowners.

July 7, 2014

Register of Deeds
839 5th Avenue
Belle Fourche, SD 57717



AMERICAN COLLOID COMPANY

Permitting & Reclamation Department
P.O. Box 2010 • Belle Fourche, South Dakota 57717
(605) 892.6950 • Fax (605) 892.3178

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Re: L&S Access Road Small Scale Mining Permit

To Whom It May Concern:

American Colloid Company is submitting a small scale mining permit application (for an access road) to the South Dakota Department of Environment and Natural Resources, Pierre, SD.

Enclosed is a copy of the package which contains to Request for Determination form, map, legal descriptions, narratives describing the project, assessment of special, critical or unique status, and supporting information.

Please have these documents available in your office for public viewing.

Sincerely,

A handwritten signature in black ink, appearing to read 'Nick Semenza'.

Nick Semenza
Environmental Specialist

The Butte County Register of Deeds Office has the above information available for public viewing.

A handwritten signature in black ink, appearing to read 'Julie Brunner - Deputy Register of Deeds'.
Signature
