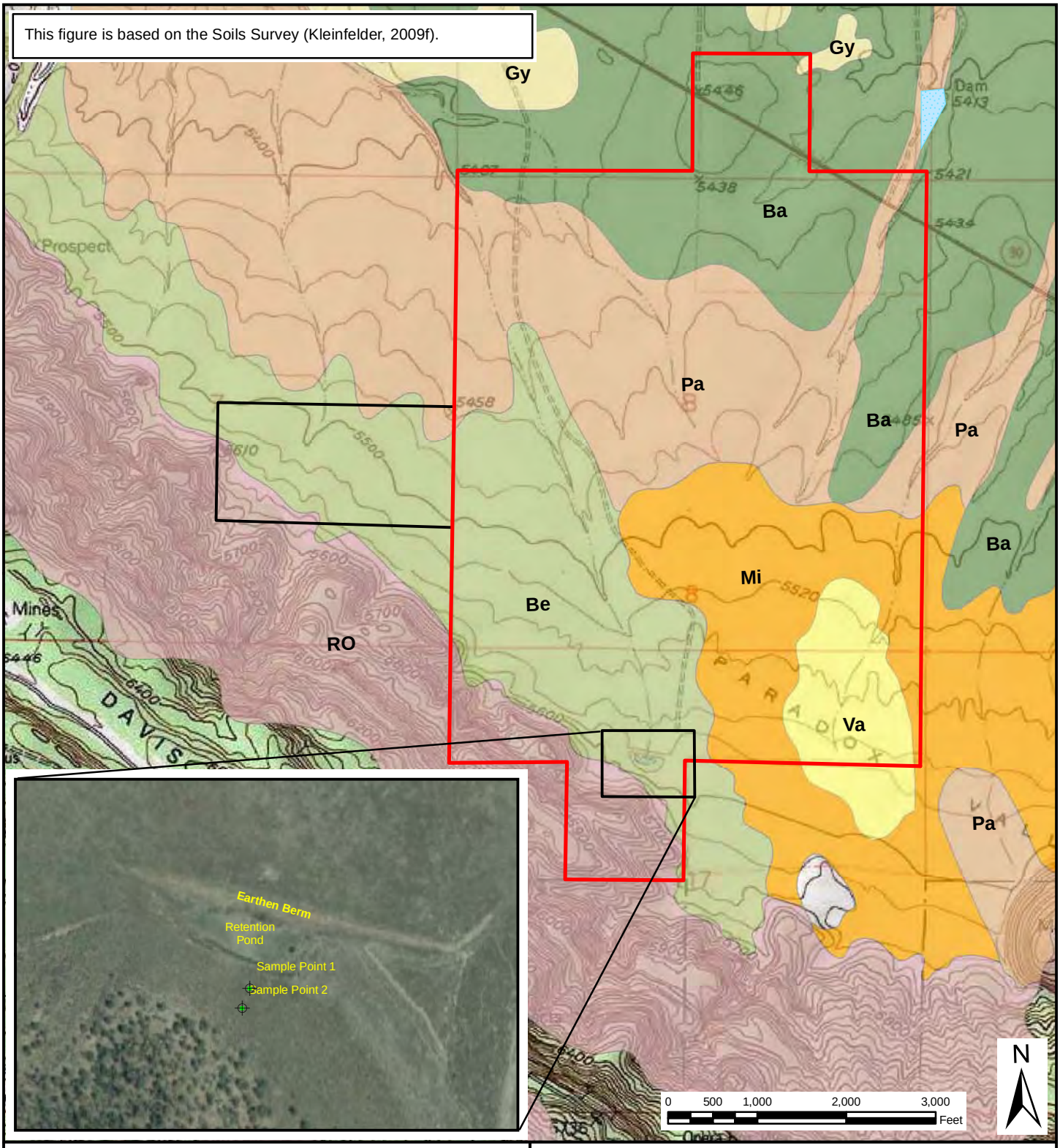

Property Boundary
Well Field Boundary

Soil Descriptions

- Ba Barx fine sandy loam, 3 to 6 percent slopes
- Be Begay fine sandy loam, 1 to 6 percent slopes
- Gy Gypsiorthids, 3 to 25 percent slopes
- Mi Mikim loam, 1 to 6 percent slopes
- Pa Paradox fine sandy loam, 1 to 4 percent slopes
- RO Rock outcrop
- Va Vananda silty clay, 1 to 6 percent slopes

Figure 3.3-12

NRCS Soils Data Map
Montrose County, Colorado

Table 3.3-3
Soil Series and General Characteristics within the Project Area [1]

NRCS Soil Mapping Units	Soil Mapping Unit Name	Composition of Mapping Unit (percent)	Acres within Site (percent composition)	Depth to restrictive layer [2]	Saturated Conductivity [3]	Available Water Capacity [4]	Salinity (maximum - Electrical Conductivity mmhos/cm) [5]	Sodium Adsorption Ratio- SAR (maximum) [6]	Topsoil suitability Rating; limiting factors and (Optimum depth) [7]	Prime Farmland Designation [8]	Hydric [9]
15	Barx fine sandy loam, 3 to 6 percent slopes (Ba)	85	187.38 (21.3)	> 80 in	Moderately high to high (0.60 top 2.00 in/hr)	High 9.5 inches	Nonsaline to slightly saline (2.0 to 4.0)	10.0	Fair; Low organic matter content, carbonate content – Alkalinity (9-15 inches)	Prime farmland, if irrigated	No
18	Begay fine sandy loam, 1 to 6 percent slopes (Be)	85	197.41 (22.5)	> 80 in	High (2.0 top 6.00 in/hr)	Moderate 8.0 inches	Nonsaline (0.0 – 2.0)	10.0	Fair: Low organic (12-16 inches)	Prime farmland, if irrigated	No
49	Gypsiorthids, 3 to 25 percent slopes (Gy)	85	0.59 (<0.01)	> 80 in	Moderately high to high (0.60 to 2.0 in/hr)	Low 5.1 inches	Very slightly saline to slightly saline (4.0 to 8.0)	N/A	Fair; Salinity (6-12 inches)	No	No
56	Mikim loam, 1 to 6 percent slopes (Mi)	90	144.71(16.4)	> 80 in	Moderately high to high (0.60 to 2.0 in/hr)	Moderate 8.3 inches	Nonsaline (0.0 to 2.0)	10.0	Fair (9 inches)	Prime farmland, if irrigated	No
73	Paradox fine sandy loam, 1 to 4 percent slopes (Pa)	85	243.60 (27.8)	> 80 in	Moderately high to high (0.60 to 2.0 in/hr)	High 9.2 inches	Nonsaline (0.0 to 2.0)	N/A	Good (12-19 inches)	Prime farmland, if irrigated	No
87	Rock outcrop Unweathered bedrock (RO)	90	56.61 (6.4)	0 to 4 in to lithic bedrock	Very low to low (0.00 to 0.00 in/hr)	N/A	N/A	N/A	Not rated	No	No
104	Vananda silty clay, 1 to 6 percent slopes (Va)	85	49.70 (5.6)	> 80 in	Low to moderately low (0.01 to 0.06 in/hr)	Moderate 9.0 inches	Nonsaline to slightly saline (2.0 to 8.0)	15.0	Poor Clay content, Sodium and Salinity (<6 inches)	No	Partially hydric
		Total	**880.0 (100)**								

[1] Source: NRCS, 2009b.
[2] Restriction layers limit plant growth by restricting the limits of the rooting zone. They also impede or restrict the movement of soil water vertically through the soil profile. The restrictive layer hardness and thickness have a significant impact on the ease of mechanical excavation.
[3] Estimates of saturated hydraulic conductivity are based on soil properties and include texture, structure, pore size, density, organic matter, and mineralogy.
[4] Available water capacity is the volume of water that should be available to plants if the soil, inclusive of fragments, were at field capacity. It is commonly estimated as the amount of water held between field capacity and wilting point, with corrections for salinity, fragments, and rooting depth.
[5] Electrical conductivity is a measure of the concentration of water-soluble salts in soils and is used to determine saline soils. High concentrations of neutral salts, such as sodium chloride and sodium sulfate, may interfere with the absorption of water by plants because the osmotic pressure in the soil solution is nearly as high or higher than that in the plant cells. Salts may also interfere with the exchange capacity of nutrient ions, thereby resulting in nutritional deficiencies in plants. (Salinity Classes: Nonsaline = 0-2 mmhos cm^{-1}; Very slightly Saline = 2-4 mmhos cm^{-1}; Slightly Saline 4-8 mmhos cm^{-1}; Moderately Saline 8-16 mmhos cm^{-1}; Strongly Saline > 16 mmhos cm^{-1})
[6] Soils that have values for sodium adsorption ratio of 13 or more may have an increased dispersion of organic matter and clay particles, reduced saturated hydraulic conductivity and aeration, and a general degradation of soil structure.
[7] Topsoil ratings are based the upper 40 inches of the soil according to NRCS (2009) and are based on the soil properties that affect plant growth; the ease of excavation, loading and spreading the material affect the reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material. Onsite management is needed during salvaging operations to validate these interpretations and to confirm the identity of the soil on-site.
[8] Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and that is available for these uses. It has the combination of soil properties, growing season, and moisture supply needed to produce sustained high yields of crops in an economic manner if it is treated and managed according to acceptable farming methods. In general, prime farmland has an adequate and dependable water supply from precipitation or irrigation, a favorable temperature and growing season, an acceptable level of acidity or alkalinity, an acceptable content of salt or sodium, and few or no rocks. Its soils are permeable to water and air. Prime farmland is not excessively eroded or saturated with water for long periods of time, and it either does not flood frequently during the growing season or is protected from flooding.
[9] A hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part. Hydric soils along with hydrophytic vegetation and wetland hydrology are used to define wetlands.