



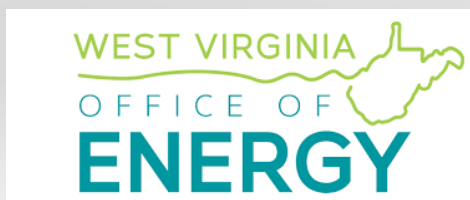
*Mine Land Property Evaluation
for Solar Farm Development*

McDonald Land Company
Man, Logan County, WV
June 2021

Prepared for:

WV Office Of Energy

A Division of the West Virginia
Development Office

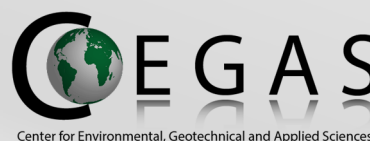


Report financially assisted through a grant
administered by the U.S. Department of Energy

Prepared by:

Marshall University

Center for Environmental, Geotechnical
and Applied Sciences and
Marshall University's
WV Brownfields Assistance Center



ACKNOWLEDGMENT: The development of this report was financially assisted through a grant administrated by the U.S. Department of Energy. This report was prepared through a cooperative effort by the WEST VIRGINIA OFFICE OF ENERGY and Marshall University Research Corporation (MURC) and compiled by Marshall University's Center for Environmental, Geotechnical and Applied Sciences (CEGAS).

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Introduction / Report Background

Marshall University's Center for Environmental, Geotechnical and Applied Sciences (CEGAS) and its West Virginia Brownfields Assistance Center was retained by the West Virginia Office of Energy, a division of the West Virginia Development Office, to complete limited property evaluation studies on select mine land properties for potential large-scale solar farm use. This specific evaluation is for surface mine sites on McDonald Land Company property and includes information obtained from multiple sources regarding site-specific information and conditions, local area demographics, available electric utilities, and interaction with property owners. The purpose of this evaluation is to provide sufficient information on the subject property for potential redevelopment and/or reuse considerations by interested parties for solar farm use. CEGAS believes, to the best of its knowledge, that the information contained in the report is accurate at the time of compilation; however, no guarantees are warranted. It is ultimately the responsibility of interested parties to perform their own due diligence in fully evaluating the subject property for potential new development.

Site Name and Location

McDonald Land Company's property is located in the southwest part of West Virginia (WV) near the town of Man in Logan County. The property is located approximately 70 miles south of Charleston, WV. The property can be accessed from Logan, WV via West Virginia Route 10. The property lies on both the north and south of the Route 10 corridor. A site location map is provided as an attachment.

In the Man, WV area, McDonald Land Company control approximately 22,400 acres within 68 parcels. The areas showing potential for solar are located on 8 parcels covering approximately 9,300 acres outside of the floodplain and are listed on the West Virginia Property Viewer (mapwv.gov/parcel) on the following tracts:

District: 8 (Triadelphia District)	Map: 0113	Parcel: 0003	Book: 107	Page: 430
District: 8 (Triadelphia District)	Map: 0114	Parcel: 0001	Book: 000	Page: 000
District: 8 (Triadelphia District)	Map: 0123	Parcel: 0007	Book: 365	Page: 438

District: 8 (Triadelphia District)	Map: 0124	Parcel: 0002	Book: 107	Page: 430
District: 8 (Triadelphia District)	Map: 0124	Parcel: 0003	Book: 543	Page: 302
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District: 8 (Triadelphia District)	Map: 0131	Parcel: 0003	Book: 514	Page: 163
District: 8 (Triadelphia District)	Map: 0137	Parcel: 0001	Book: 039	Page: 143

Current Property Owner

The property is currently owned by the McDonald Land Company. Their offices are located at 308 Huff Creek Pkwy Hwy, Man, WV 25635 . The company contacts for this property are:

Glenn Yost
President, McDonald Land
304-687-3074
gtyost@frontier.com

Jonathan Godby
Engineer
304-752-7233
jgodby@frontier.com

Site History and Current Status

The property has been utilized for underground and surface coal extraction throughout the 20th century to the present day. The surface mining north of Route 10 was permitted by Bandmill Coal LLC and is referred to as Taplin Surface Mine, while the surface mine south of Route 10 was permitted by Coal-Mac LLC and is referred to as Rich Creek Surface Mine. Operations included the use of trucks to transport the coal to nearby coal prep facilities.

Currently, the property has no coal extraction operations occurring. The Taplin area has been completely reclaimed. Some areas on the Rich Creek area have on-going mining reclamation activities.

Two general locations are included in this evaluation. The locations are identified as: Taplin Area and Rich Creek Area. Taplin Area includes ~290 acres; Rich Creek Area includes ~370 acres. The Taplin site is accessed by a paved road while the Rich Creek site is accessed by a gravel road. Both sites have cell phone coverage. Site maps and

aerial photos of each location are included as attachments. (Note - property boundaries indicated on each site map are based on information obtained from the WV Map Viewer and may or may not be completely accurate. For more accurate data, a field survey based on actual property deeds should be conducted). Aerial videos of each location, collected in March of 2021, can be viewed using the following web links:

Taplin Area - <https://youtu.be/0F0KC8r9tOI>

Rich Creek Area – <https://youtu.be/ZglGUixuAMk>

As seen on the aerial photos and videos, both areas have post-mine land scrubby growth, including small trees, bushes, fields and overgrown brushy areas throughout. Active natural gas wells and supply lines are located in the area but will not be a concern on the ridgetops.

Local Area Summary

Logan County is located within the Mount Gay-Shamrock, WV Micropolitan Statistical Area. This area has an estimated total population of 32,019. The local area associated with this property is within a primarily rural setting. Logan County has a population of only 32,019 in an area of 456 square miles (70 people per square mile). The local Town of Man has a population of 630 (population data from U.S. Census Bureau, 2019 estimates). No residences are located within the immediate area of the property.

Electric Utility Summary

Electric service is provided by Appalachian Power Company, a unit of American Electric Power Company, Inc. A substation is located south of Man. An 115-138 KV electric transmission line bisects the Rich Creek Surface Mine area and another 115-138 KV electric transmission line is just south of the Taplin Surface Mine area. A map depicting electric power lines in the vicinity of both areas is provided as an attachment. Additional power lines previously owned and used by the coal company are present on or near both areas, used historically for coal removal and related operations.

Potential Solar Farm Use

Each area has been evaluated using best available topographic information, including elevation Light Detection and Ranging (LIDAR) data collected in 2010 by the West Virginia Division of Environmental Protection (WVDEP). Since 2010, minimal topographic changes have occurred in either area evaluated. Both areas were evaluated using 10% and 15% maximum slope factors to determine available land potentially suitable for solar farm development. Using ESRI's ArcMap geographic information system software, slope analysis was calculated from LIDAR referenced data. Maps of both areas depicting slope characteristics are provided as attachments. A summary of each area is provided on the following table:

Location	Total Acreage	10% Slope Acreage	15% Slope Acreage
Taplin Area	~290	~60	~85
Rich Creek Area	~370	~100	~130

Property Availability

The McDonald Land Company is interested in long-term (25 year plus) lease agreements for solar farm use on suitable property in both areas. Terms for lease rates are negotiable. McDonald Land Company anticipates leasing property at the rate of \$1,500 per acre.

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Attachments

Maps



Legend

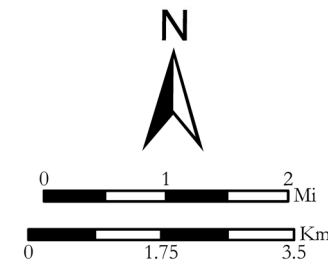
 McDonald Property

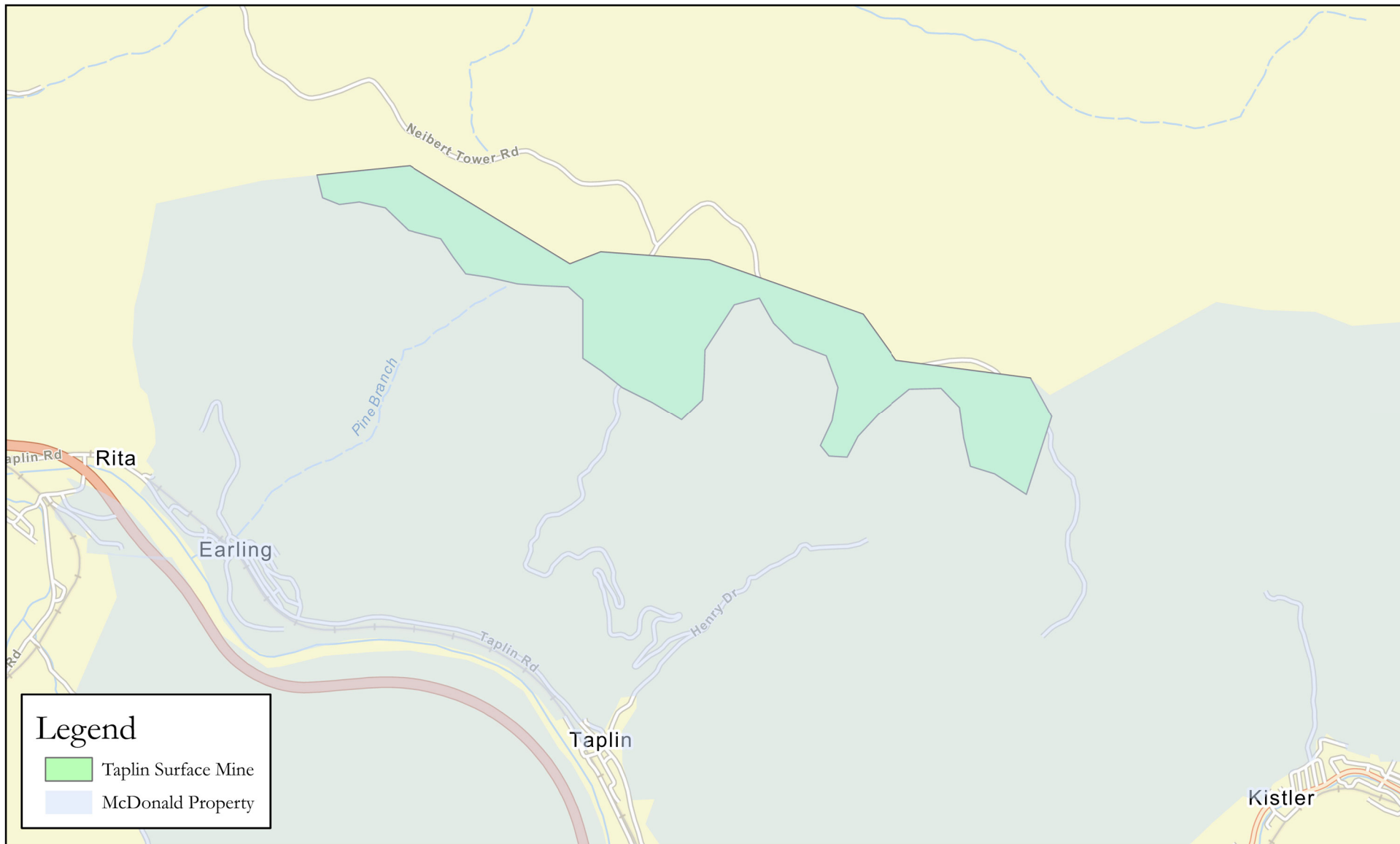


McDonald Property

Date: 6/9/2021

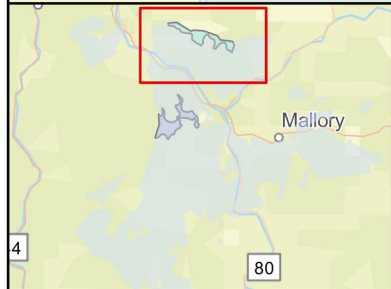
ACKNOWLEDGMENT: The development of this map was financially assisted through a grant administrated by the U.S. Department of Energy. This map was prepared through a cooperative effort by the WEST VIRGINIA OFFICE OF ENERGY and Marshall University Research Corporation (MURC).





Legend

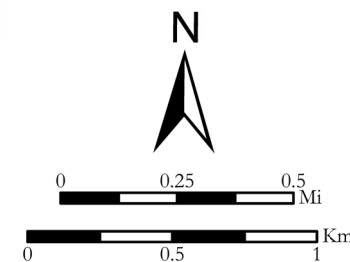
- Taplin Surface Mine
- McDonald Property

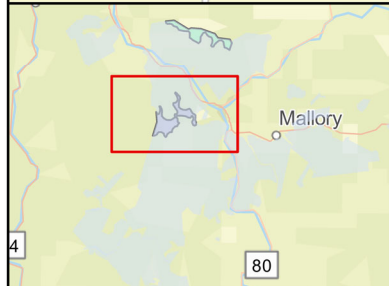
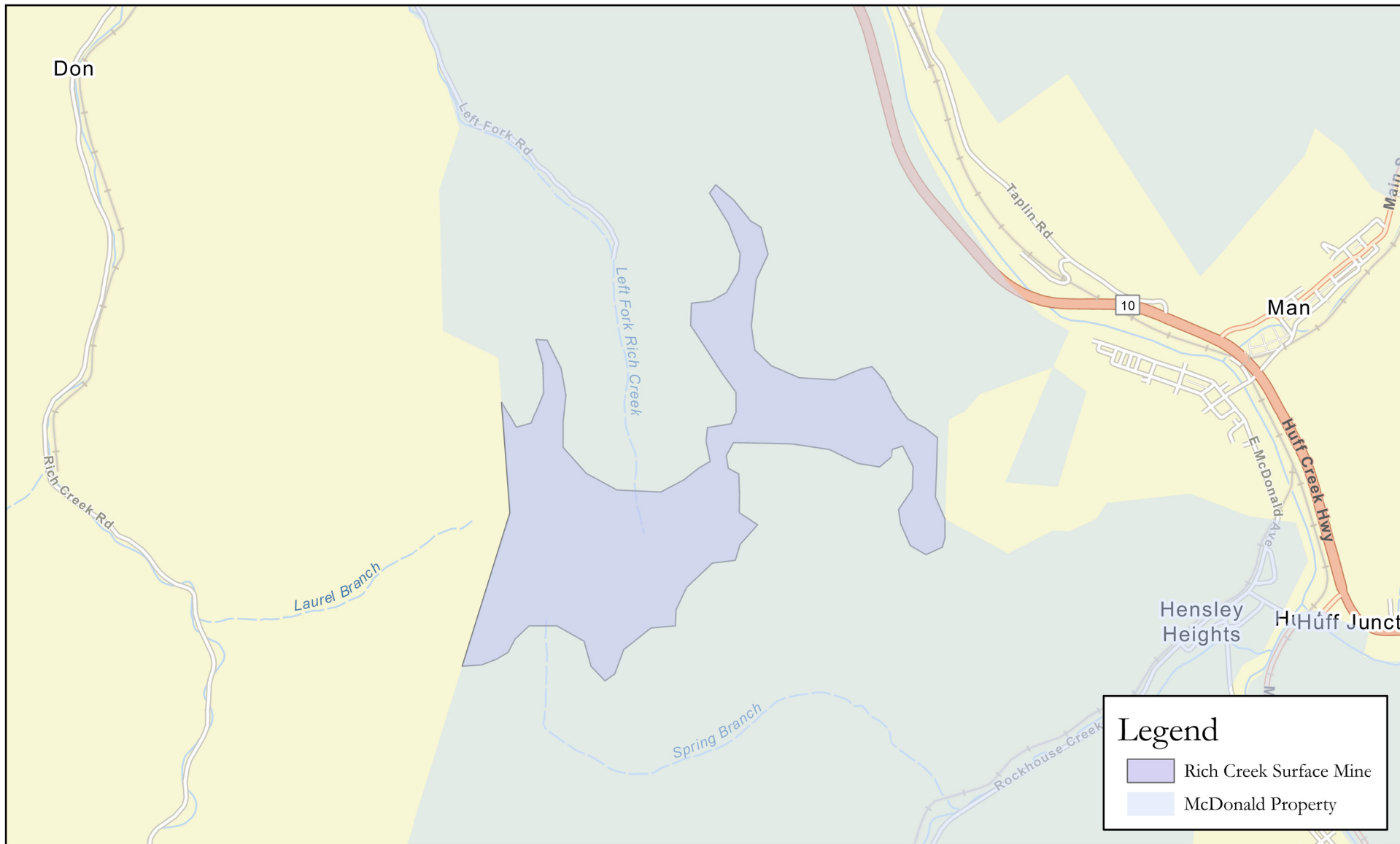


Taplin Surface Mine McDonald Property

(Approximately 290 Acres)

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Date: 6/9/2021



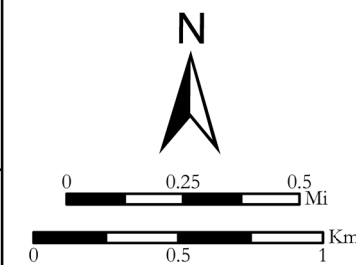


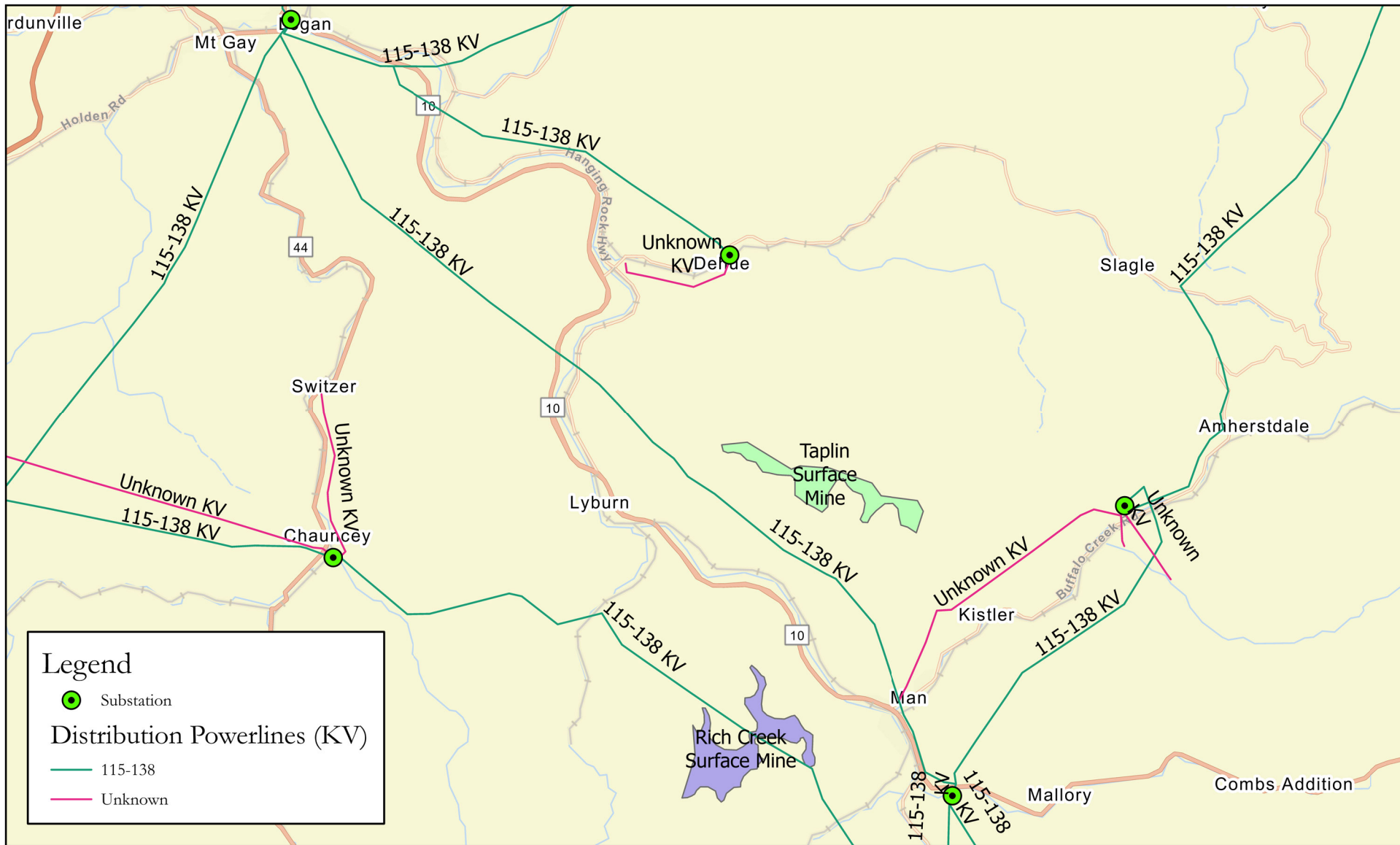
Rich Creek Surface Mine McDonald Property

(Approximately 370 Acres)

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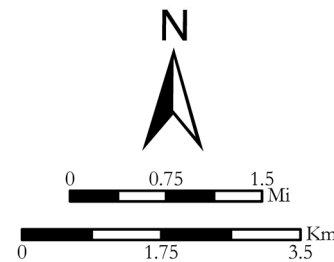


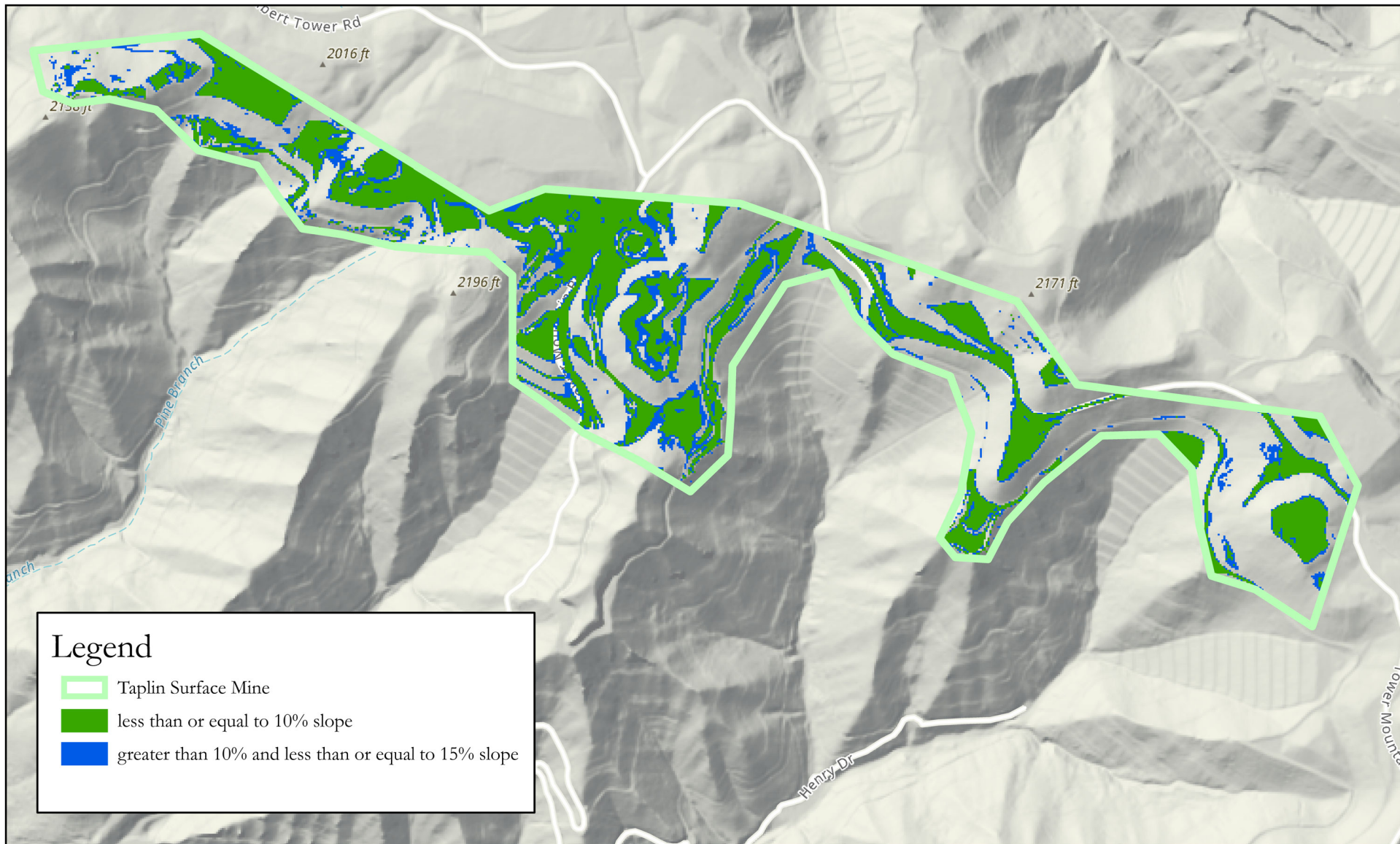
Electric Utility

McDonald Properties

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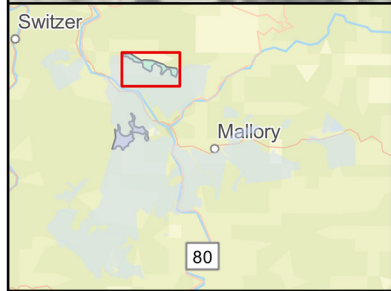
Date: 6/9/2021





Legend

- Taplin Surface Mine
- less than or equal to 10% slope
- greater than 10% and less than or equal to 15% slope

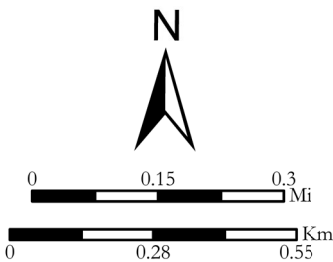


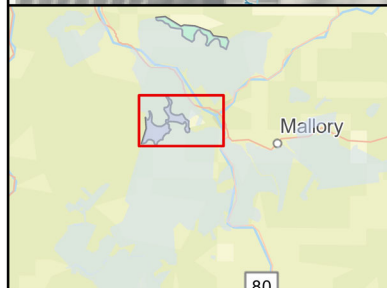
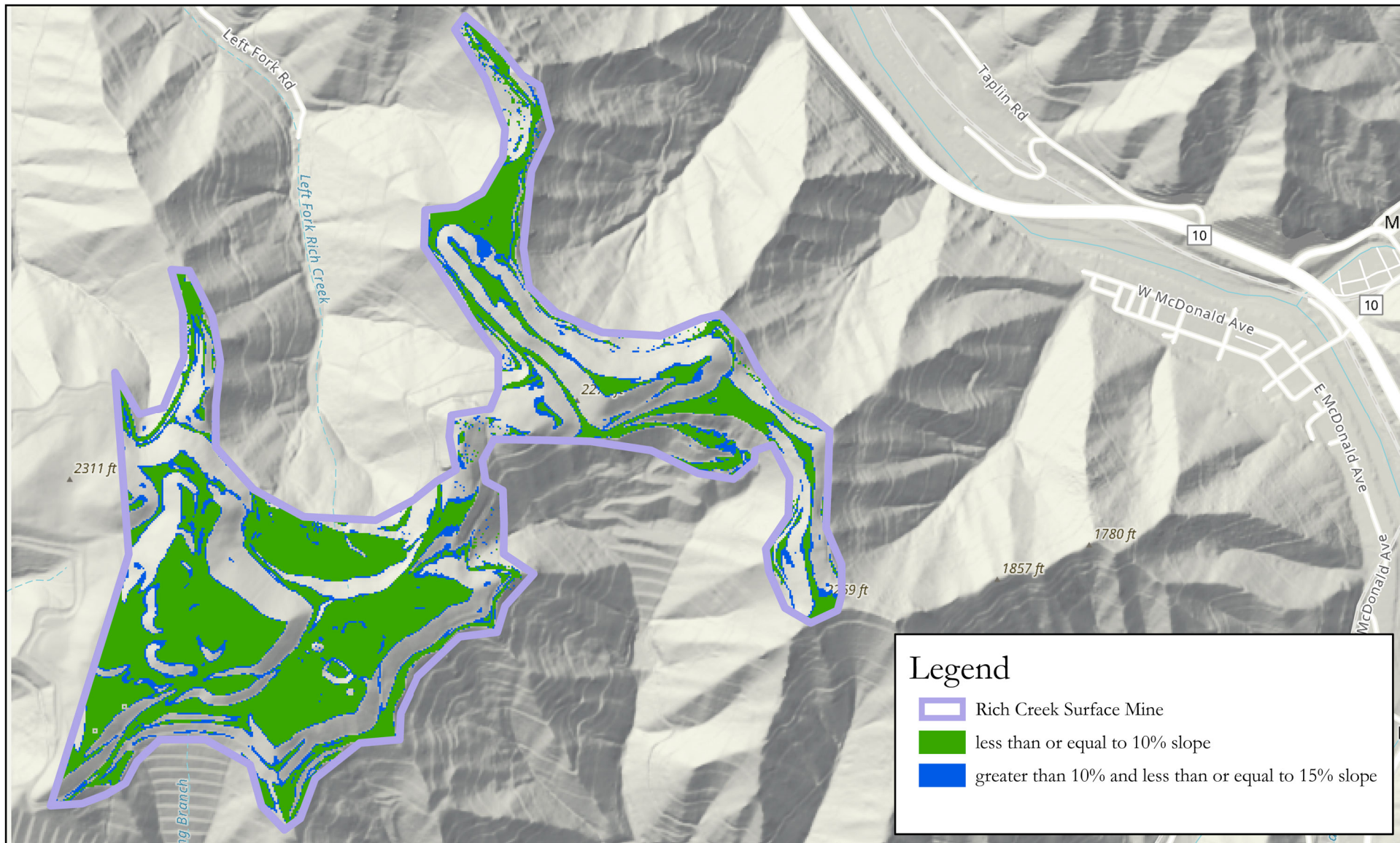
Percent Slope (2010)

Taplin Surface Mine

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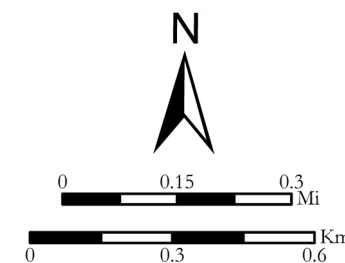


Percent Slope (2010)

Rich Creek Surface Mine

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Date: 6/9/2021



Taplin Surface Mine Area Photos



North Facing



Southeast Facing



East Facing



West Facing

Rich Creek Surface Mine Area Photos



North Facing



North Facing



Northeast Facing



South Facing



South Facing



South Facing



Southeast Facing



Southwest Facing



East Facing



East Facing



East Facing



West Facing



West Facing