# DNR Open-File Project 400: Establishing the Potential for Lithium Mineralization on State-Managed Mineral Rights

## Data released on August 2, 2017

orr2_bulk_fsp_samples.pdf

This DNR map displays the general location of the ORR2 area and where the bulk samples and feldspar samples were collected from.

## LIBS

libs_images_05112017.pdf

These photographs provide a key for the LIBS work. The four bulk samples are divided into smaller subsamples. A photograph, label, number of analytical areas, and the mass is given for each subsample.

libs_orr2-bulk1_052017.zip

These Excel files contain the results of the LIBS analysis for sample ORR2-BULK1. Wavelength is in nanometers. Values for "Shot #" is the intensity of light from the plasma and has an arbitrary unit. Due to the large volume of data contained, the files are only formatted for ease of use in Excel or similar data analysis program. They are not formatted for printing or easy viewing.

libs_orr2-bulk2_052017.zip

These Excel files contain the results of the LIBS analysis for sample ORR2-BULK2. Wavelength is in nanometers. Values for "Shot #" is the intensity of light from the plasma and has an arbitrary unit. Due to the large volume of data contained, the files are only formatted for ease of use in Excel or similar data analysis program. They are not formatted for printing or easy viewing.

libs_orr2-bulk3_052017.zip

These Excel files contain the results of the LIBS analysis for sample ORR2-BULK3. Wavelength is in nanometers. Values for "Shot #" is the intensity of light from the plasma and has an arbitrary unit. Due to the large volume of data contained, the files are only formatted for ease of use in Excel or similar data analysis program. They are not formatted for printing or easy viewing.

libs_orr2-bulk4_052017.zip

These Excel files contain the results of the LIBS analysis for sample ORR2-BULK4. Wavelength is in nanometers. Values for "Shot #" is the intensity of light from the plasma and has an arbitrary

unit. Due to the large volume of data contained, the files are only formatted for ease of use in Excel or similar data analysis program. They are not formatted for printing or easy viewing.

## EMPA

**empa_analytical_conditions_06092017.pdf**

This document describes the operating conditions, standards, emission lines, and data corrections used on the University of Minnesota's electron microprobe analyzer.

**empa_images_06092017.zip**

The backscattered electron images (.bmp files) in this folder show where the analytical points were placed on the feldspar samples. The images reveal that most of the feldspar is a variety known as perthite. Light gray areas are K-feldspar. Dark gray areas are usually albite or quartz. Black areas are epoxy, void space, or dust. White areas with blurred boundaries are most likely showing the movement of liquid polishing compound leaving pore spaces. White areas with sharp boundaries appear to be metal oxides. While some metal oxides in these samples are naturally occurring, the ones here are most likely to be derived from the steel tools used to prepare samples.

**empa_results_gis_06092017.xlsx**

These DNR data tables provide feldspar sample locations as UTM coordinates and electron microprobe stage positions, type of feldspar, element quantity by weight percent, detection limit at 99% confidence level for element weight percent, element quantity by oxide weight percent, detection limit at 99% confidence level for oxide weight percent, formula units on the basis of 8 oxygen, and reference standards. It also includes a description of the field headings. Tables are formatted to provide easy use with GIS software.

**empa_results_print_06092017.xlsx**

These DNR data tables provide feldspar sample locations as UTM coordinates and electron microprobe stage positions, type of feldspar, element quantity by weight percent, detection limit at 99% confidence level for element weight percent, element quantity by oxide weight percent, detection limit at 99% confidence level for oxide weight percent, formula units on the basis of 8 oxygen, and reference standards. It also includes a description of the field headings. Tables are formatted to provide easy viewing and printing.