STATE OF OREGON
DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES
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www.OregonGeology.org

Metallic and Industrial Mineral Resource Activity and Potential in Southern and Eastern Oregon

2016

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Metallic and Industrial Mineral Resource Potential of Southern and Eastern Oregon: Report to the Oregon Legislature

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PLATE 1

Introduction

This map summarizes the results of an evaluation of the mineral resource potential required by HB 3089 for southern and eastern Oregon counties. For this study, a mineral resource is defined as a sufficiently large concentration of a useful or valuable mineral such that extraction at a profit may be feasible under current or foreseeable conditions.

Twenty-two counties were assessed for fifteen different mineral commodities and were rated on the likelihood that a new mineral resource could be discovered or that further assessment of a known occurrence could define a new resource.

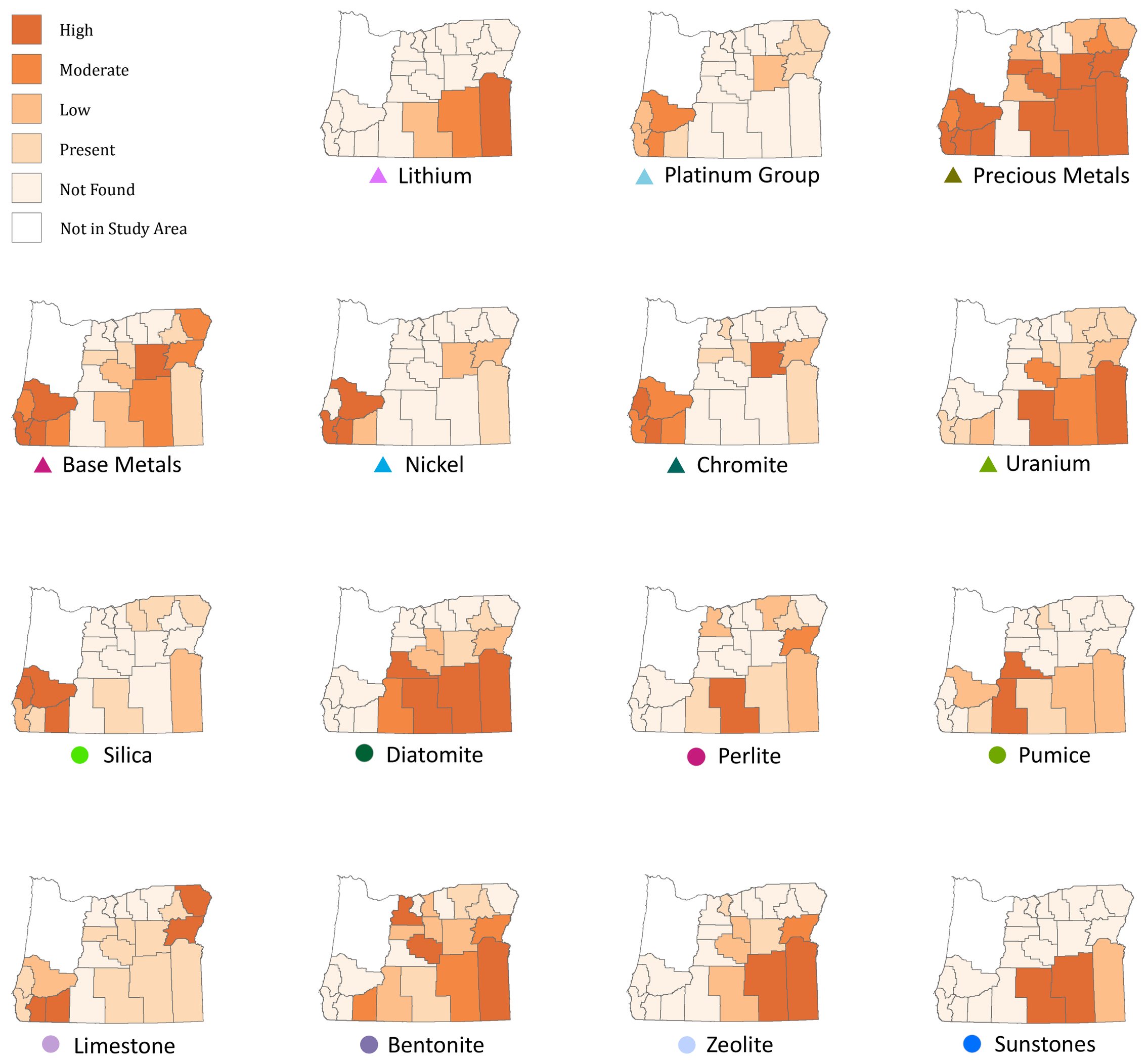
Criteria used for mineral potential ratings
County mineral potential ratings are defined as High, Moderate, Low, Present (where at least one occurrence of the commodity had been recorded in the county), or Not Found (where no occurrences of the commodity are known from the county). The results of this rating system are shown for each commodity in the series of small maps on this plate. The accompanying pamphlet includes general descriptions of each commodity and its potential. The large map on this plate shows an overall mineral potential rating for each county that combines the ratings for individual commodities in that county. To make the overall rating for each county, individual commodity ratings were assigned 3 points for High, 2 for Moderate, 1 for Low, and 0 for Present or Not Found, and the values were totaled. From these scores the counties on the large map were assigned a High, Moderate, Low, or Very Low overall resource potential. Note that a county with a Low or Moderate overall potential could rate High for an individual commodity.

Data sources
The ratings described above depend to a large extent on data from the Mineral Information Layer for Oregon (MILO) and from records of mining claims from the Bureau of Land Management's Land and Mineral Legacy Rehost System (LR 2000). The presence of active and historical mines was also an important factor in determining ratings.

MILO data points are shown only for the commodities evaluated in the study; the full MILO inventory includes occurrences of other mineral commodities that were not evaluated. The BLM claims data extend back to the mid 1970s and are shown grouped according to the total number of open or closed claims located within each 1-mile-square section of the Public Land Survey System (PLSS) grid. Claims data do not differentiate the type of commodity sought. The large map also provides information about past and current mining in Oregon by showing the locations of all currently permitted metal and industrial mineral mines and as well as locations of the most significant historical mines extracted from the MILO database.

Mineral Resource Potential by Commodity

These maps show the mineral resource potential for each of the 15 commodities evaluated in this study. The ratings were based on 1) expert opinion informed by MILO, 2) data from the Oregon Geologic Data Compilation (OGDC), 3) mining claim data from the BLM Land and Mineral Legacy Rehost System (LR2000), and 4) publications included in Appendix B of the accompanying pamphlet.



Explanation of Map Symbols

County Mineral Resource Potential

Overall rating of mineral resource potential for each county, based on the potential for all of the commodities assessed.

- High
- Moderate
- Low
- Very Low

DOGAMI Permitted Mines, 2016

Metal or industrial mines with active DOGAMI permits.

Kelley Field (Industrial Minerals)

Significant Historical Mines

Mines with significant recorded or production or extensive reported workings.

Warner (Precious Metals)

DOGAMI Mineral Inventory

Metalic Minerals

- Lithium
- Platinum Group
- Precious Metals
- Base Metals
- Nickel
- Chromite
- Uranium

Industrial Minerals

- Silica
- Diatomite
- Perlite
- Pumice
- Limestone
- Bentonite
- Zeolite
- Sunstones

Mining Claims

Total number of open or closed claims located within each PLSS grid section.

- 1-10
- 11-25
- 26-100
- 101-332

General Features

- City
- River
- Interstate Highway
- OR Highway
- US Highway
- Waterbody
- County

The following data sources along with published DOGAMI reports and maps (see Appendix B of the accompanying pamphlet) were used to generate this map plate:

Land and Mineral Legacy Rehost System (LR2000), U.S. Department of the Interior, Bureau of Land Management
http://www.blm.gov/lr2000/
The BLM Legacy Rehost System called LR2000 provides reports on BLM land and mineral use authorizations for oil, gas, and geothermal leasing, rights-of-ways, coal and other mineral development, land and mineral title, mining claims, withdrawals, classifications, and more on federal lands or on federal mineral estate.

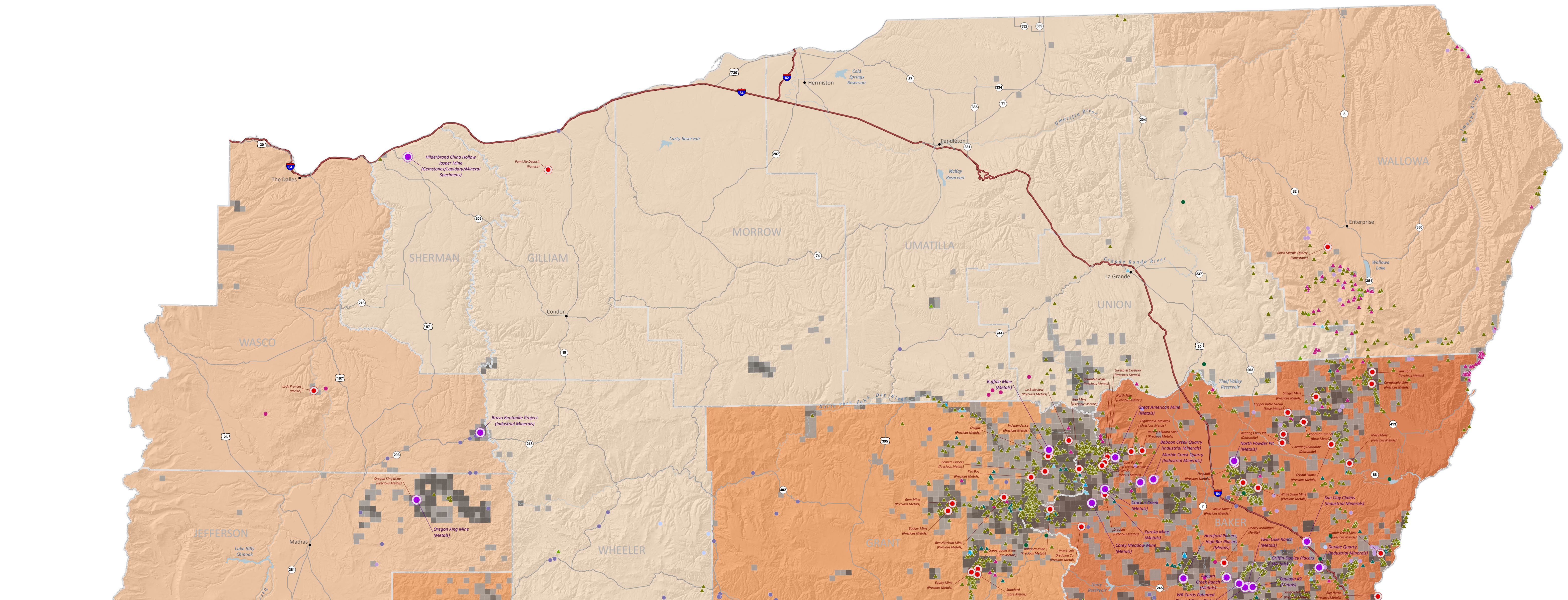
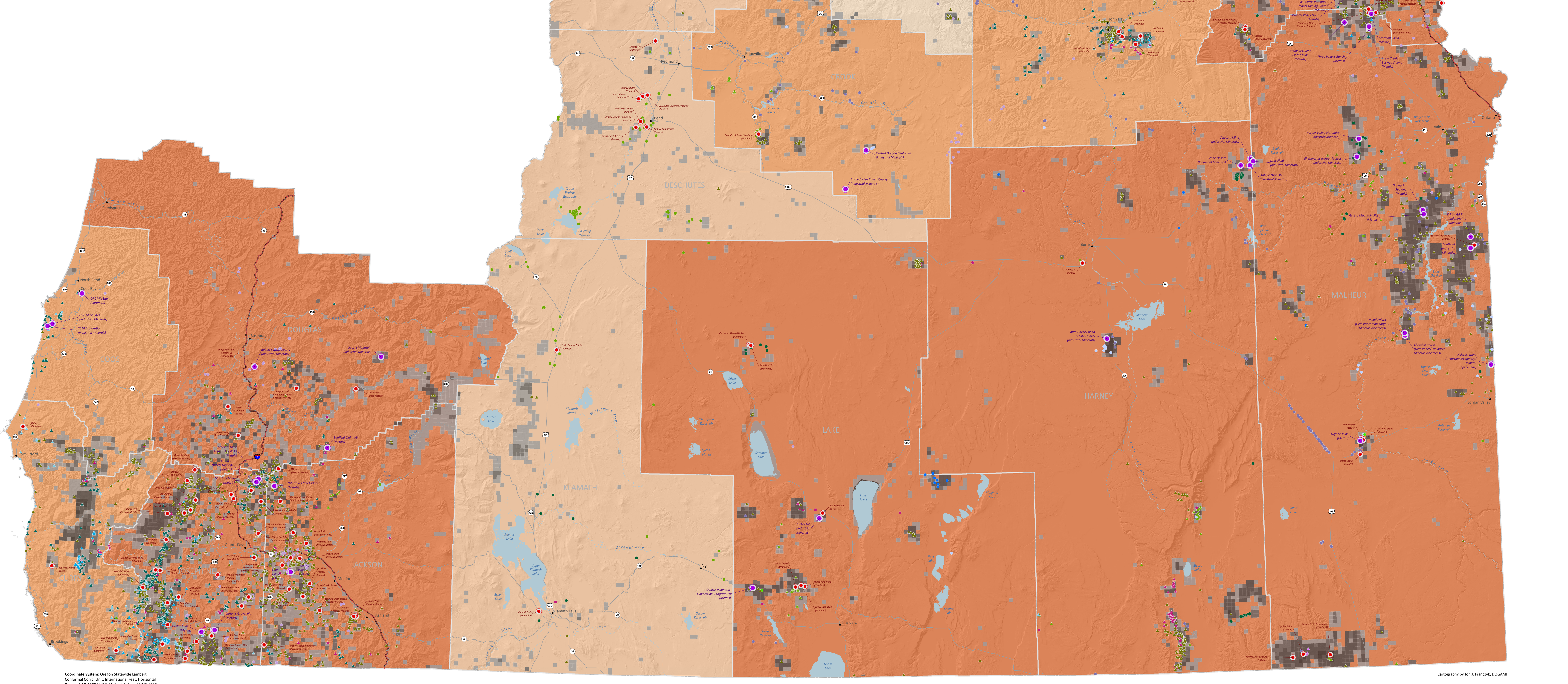
Prospect- and Mine-Related Features from U.S. Geological Survey 7.5- and 15-Minute Topographic Quadrangle Maps of the Western United States, U.S. Geological Survey
https://www.sciencebase.gov/catalog/item/57962314e4b007df0739fede

Mineral Resources of the Sagebrush Focal Areas of Idaho, Montana, Nevada, Oregon, Utah, and Wyoming, W. C. Day, T. P. Frost, J. M. Hammarstrom, and M. L. Zientek (eds.), U.S. Geological Survey Scientific Investigations Report 2016–5089, 2016.
http://dx.doi.org/10.3133/sir20165089

Guide to preparation of mineral survey reports on public lands, G. H. Goudarzi (complier), U.S. Geological Survey Open-File Report 84-787, 1984.
http://pubs.usgs.gov/of/1984/0787/report.pdf

Mineral Information Layer for Oregon (MILO) - release 2, DOGAMI
http://www.oregongeology.org/sub/milo/ohmi.htm - online map;
http://www.oregongeology.org/pubs/dds/p-MILO-2.htm - data download
MILO-2 is a geospatial database that stores and manages information regarding Oregon's mineral occurrences, prospects, and mines.

Oregon Geologic Data Compilation (OGDC), DOGAMI
http://www.oregongeology.org/pubs/dds/p-OGDC-6.htm - data download
OGDC is a statewide compilation of geologic data created by the Oregon Department of Geology and Mineral Industries (DOGAMI). The purpose of the compilation is to integrate and make available the best known geologic mapping for the state by combining maps and data into a single digital database. Sources of geologic mapping include state and federal agencies, student thesis work, and consultants.

Coordinate System: Oregon Statewide Lambert Conformal Conic, Unit: International Feet, Horizontal Datum: NAD 1983 HARN, Vertical Datum: NAVD 1988.

APPROXIMATE MEAN DECLINATION, 2014 — 16.5°

SCALE 1:500,000

0 12.5 25 50 Kilometers
0 12.5 25 50 Miles

Cartography by Jon J. Franczyk, DOGAMI