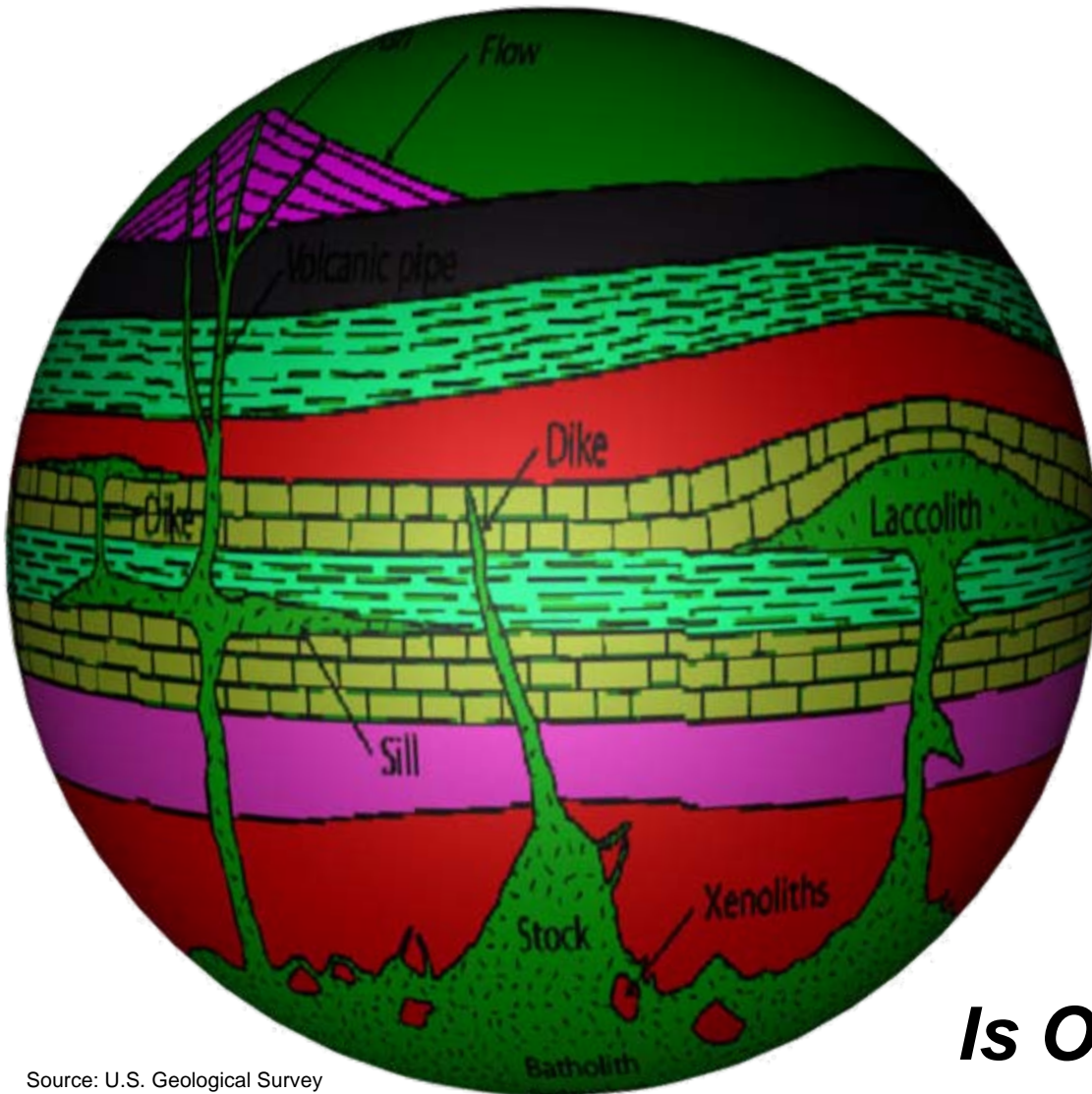


"I need someone well versed in the art of torture—do you know PowerPoint?"

from: The New Yorker, 9/29/03





Source: U.S. Geological Survey

Geothermal Resources Information Layer for Oregon

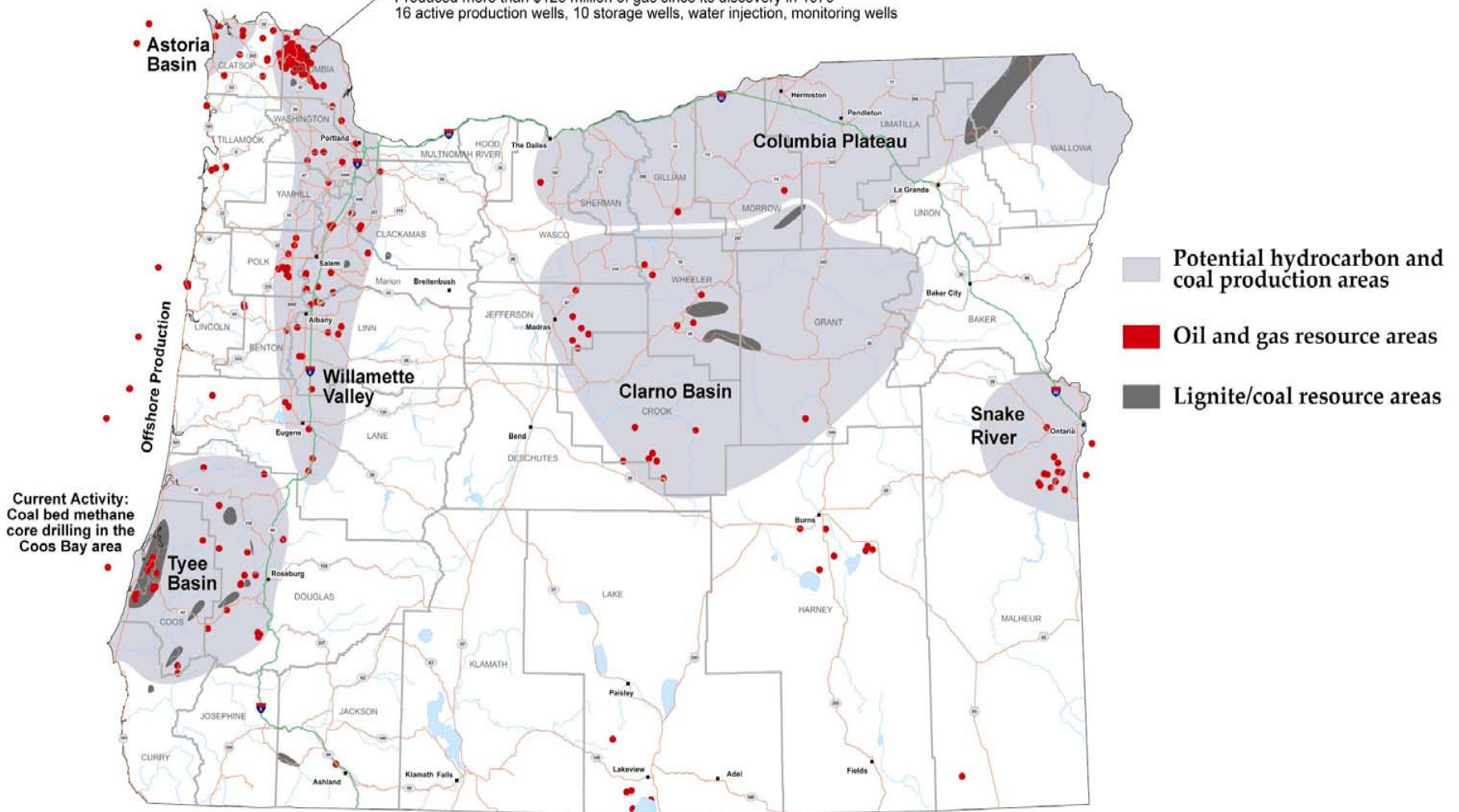
Is Oregon in Hot Water?



OREGON'S FOSSIL FUEL RESOURCES

The Mist (Natural) Gas Field

Total gas produced 1.5 BCF
 Produced more than \$125 million of gas since its discovery in 1979
 16 active production wells, 10 storage wells, water injection, monitoring wells



DOGAMI, unpublished map



GTILO

Outcome...

- **Statewide database of geothermal systems in Oregon**
- **Interactive Website providing free access to a selection of DOGAMI's geothermal data sets**

This work is supported by the Department of Energy under Grant No. DEFG36-04R021599 and an Interagency Agreement the Oregon Department of Energy and DOGAMI, No. I07075



Task 1: Electronically capture DOGAMI's geothermal data

- Over 50 DOGAMI research reports from the 1970s and 1980s
- 77 geothermal permit files and 96 geothermal prospect files
- 116 (3865 ft) geophysical logs/strip logs
- Selected data from other sources will be included

Task 2: GIS functionality

- Spatial data for GIS
- Tabular data for a relational database
- Metadata (FGDC and supporting info)

Task 3: Implementation of an interactive Website

- MapServer (mapserver.gis.umn.edu)





Geothermal Information Layer for Oregon

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0 19 38 57 76 95 mi

Setup **Tools**

SELECT LAYERS:

- Hot Springs
- Known Geothermal Res. Areas
- Wells > 65 deg C
- Wells Temperature Gradient

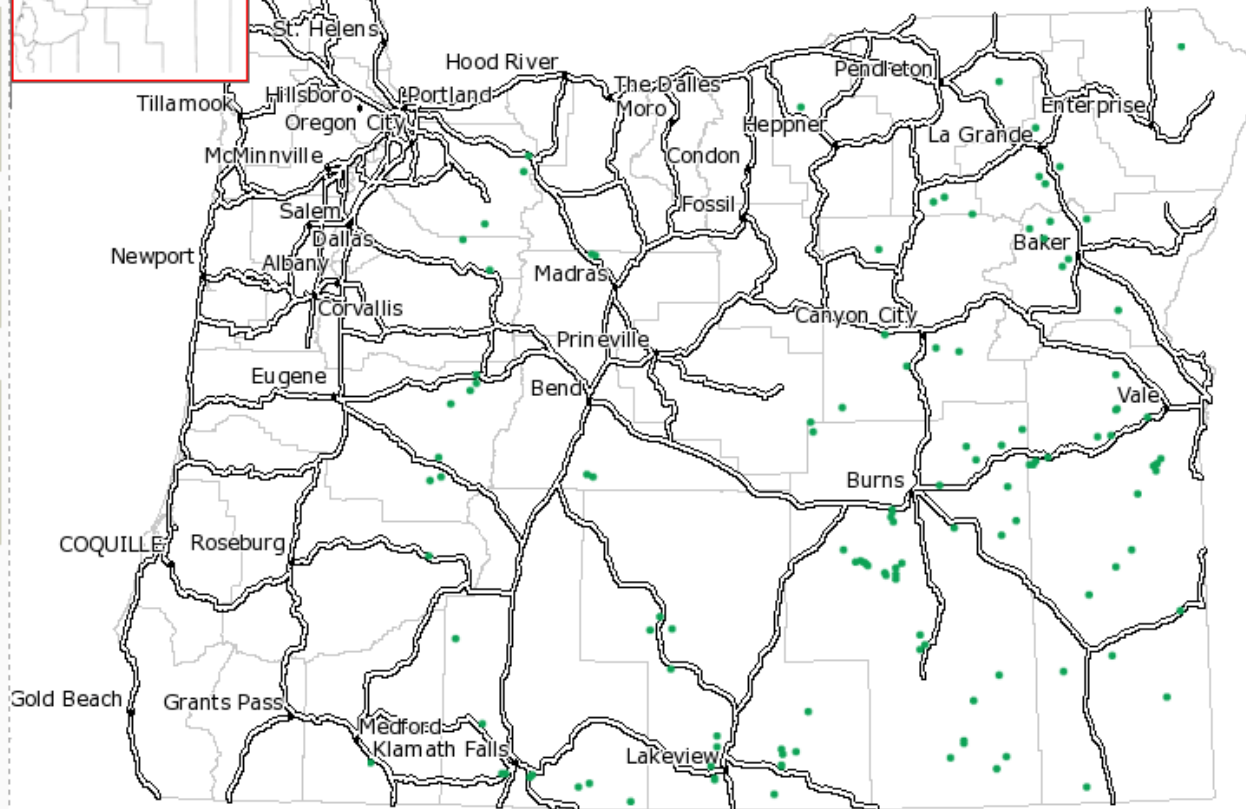
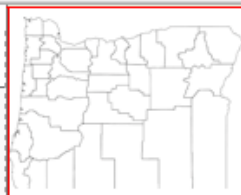
ADD BASEMAPS (optional)

- Shaded Relief (DEM)
- Topographic Map (DRG)

ADD OVERLAYS (optional)

- Formation Boundaries
- Highways
- Cities/Towns

Update Map



Key

Location Info

Query Results





Geothermal Information Layer for Oregon

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0 19 38 57 76 95 mi

Setup Tools

NAVIGATION

Zoom In

Zoom Out

Pan

Zoom To Scale:

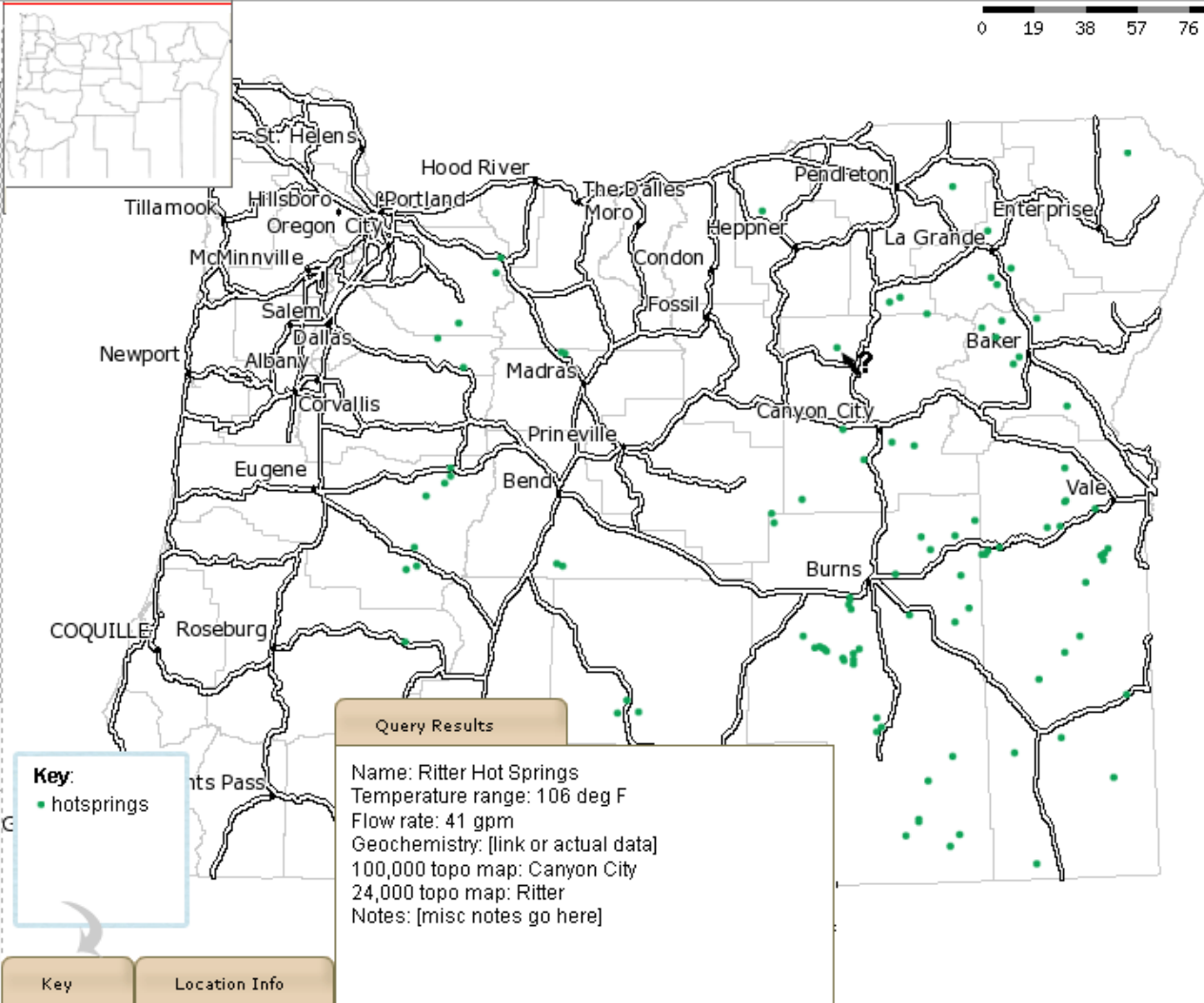
min 1 2 3 4 5 6 7 max

INFORMATION

Info Query

Download Map Image

Reset Map



Reset Map

Use this tool to refresh the browser



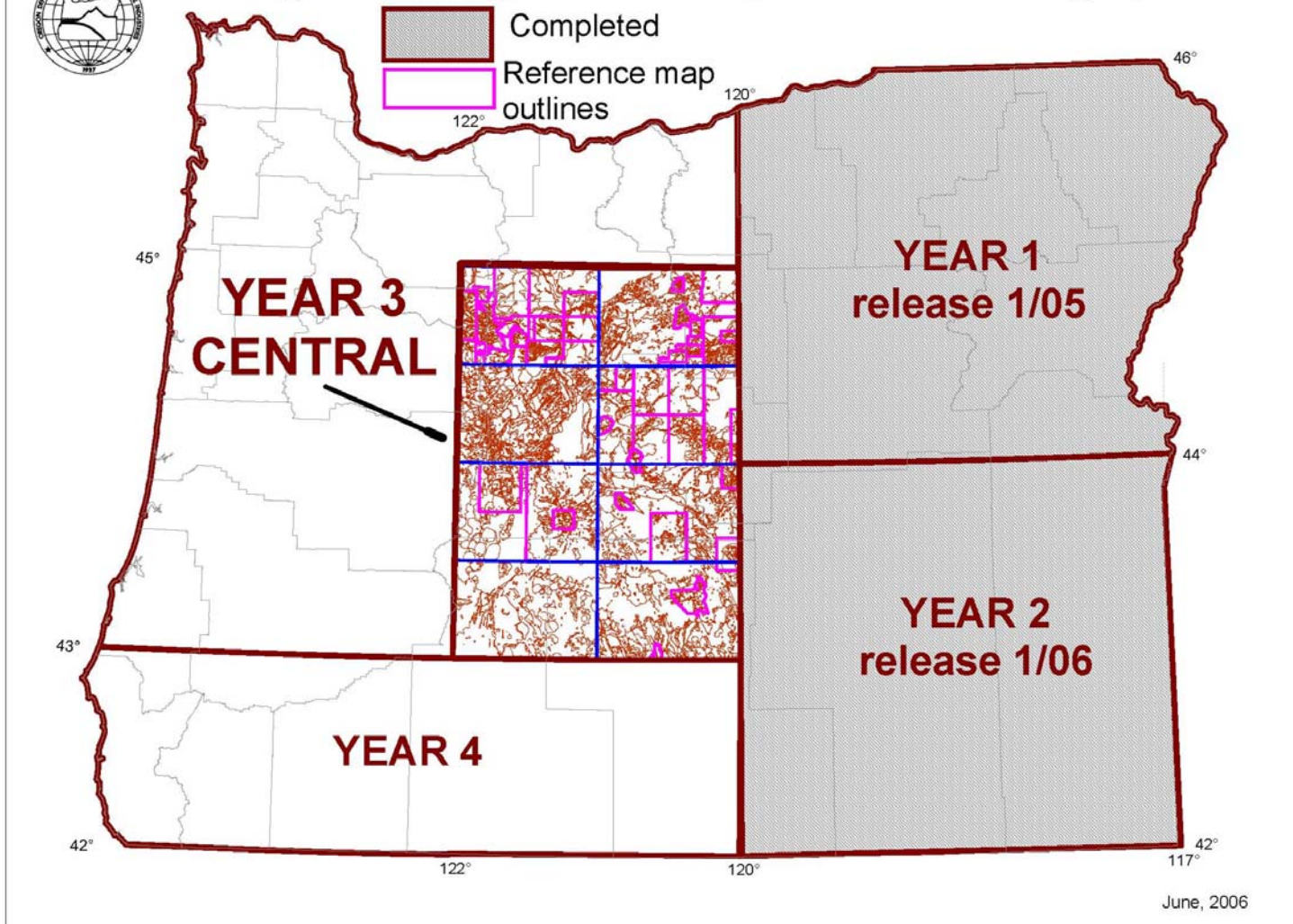
Oregon Geologic Data Compilation OGDC-v3 (NE, SE, and Central)

- CD contains the raw data:
 - Spatial data for GIS
 - Tabular data for relational database
 - Metadata (FGDC and supporting info)





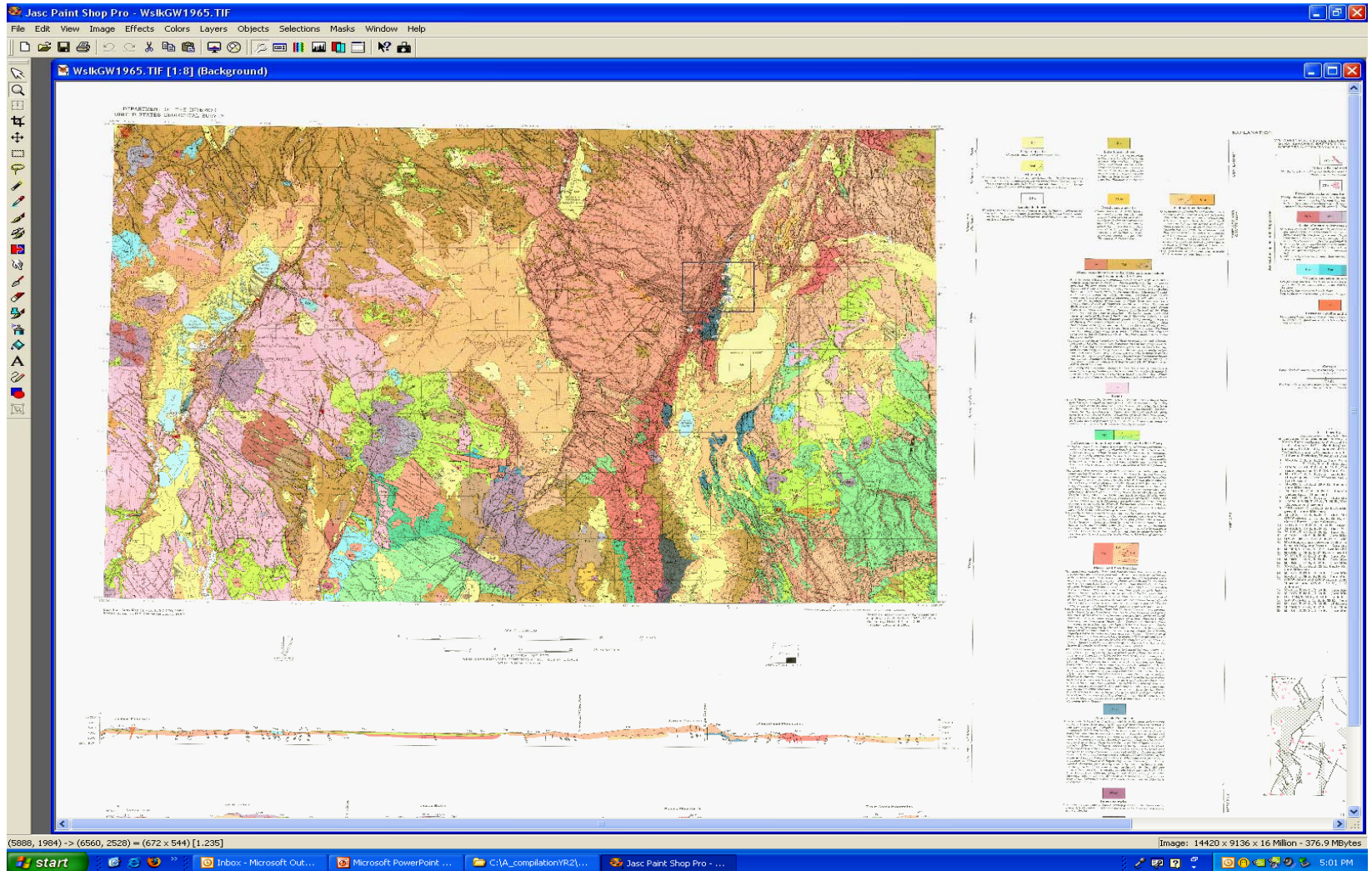
Oregon Geologic Data Compilation - status graphic



source: DOGAMI unpublished map



Digital conversion of 'best available' maps



Polygons appended

The screenshot displays the MapInfo Professional interface. The main map window shows a geologic map with various colored polygons (red, green, blue, purple, brown) overlaid on a grid. A dialog box titled "Append Rows to Table" is open, showing the "Append Table" set to "Central_merge_5_11_b" and "to Table" set to "6_Map_Unit". The "Info Tool" window is also open, displaying the following data:

Ref_ID_Cod:	SherDR2004
Map_unit_label:	Gb
ID:	818
Map_unit_name:	
Geology_merge_unit_label:	vol.Q.lhc.cpl.nd.nd.bas
Geology_general_unit:	volcanic
Age_name:	Quaternary
Terrane_group:	Late High Cascade Volcanics
Formation:	Cascade Platform Lavas
Member:	
Unit:	
Geology_rock_type:	basalt
Geology_merge_unit_name:	
Lithology_merge_unit_label:	
Lithology_merge_unit_name:	
Lithology_general_unit:	
Lithology_rock_type:	
Crystal_grain_sized:	
Layering:	
Geotechnical_properties:	
General_lithology_type:	
join:	SherDR2004Gb
test:	SherDR2004Gb-vol.Q.lhc.cpl.nd.nd.b

The status bar at the bottom shows "Zoom: 157.4 mi", "Editing: None", and "Selecting: None". The taskbar includes the Start button and several open applications: "Inbox - Microsoft Out...", "Microsoft PowerPoint...", "C:\A_compilation\VR2\...", and "MapInfo Professional". The system clock shows "5:24 PM".





Oregon Geologic Data Compilation

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Setup **Tools**

SELECT **MAP THEME**:

- Stratigraphy
- Rock Properties
- Basic Rock Type
- None

ADD **BASEMAPS** (optional)

- Shaded Relief (DEM)
- Topographic Map (DRG)

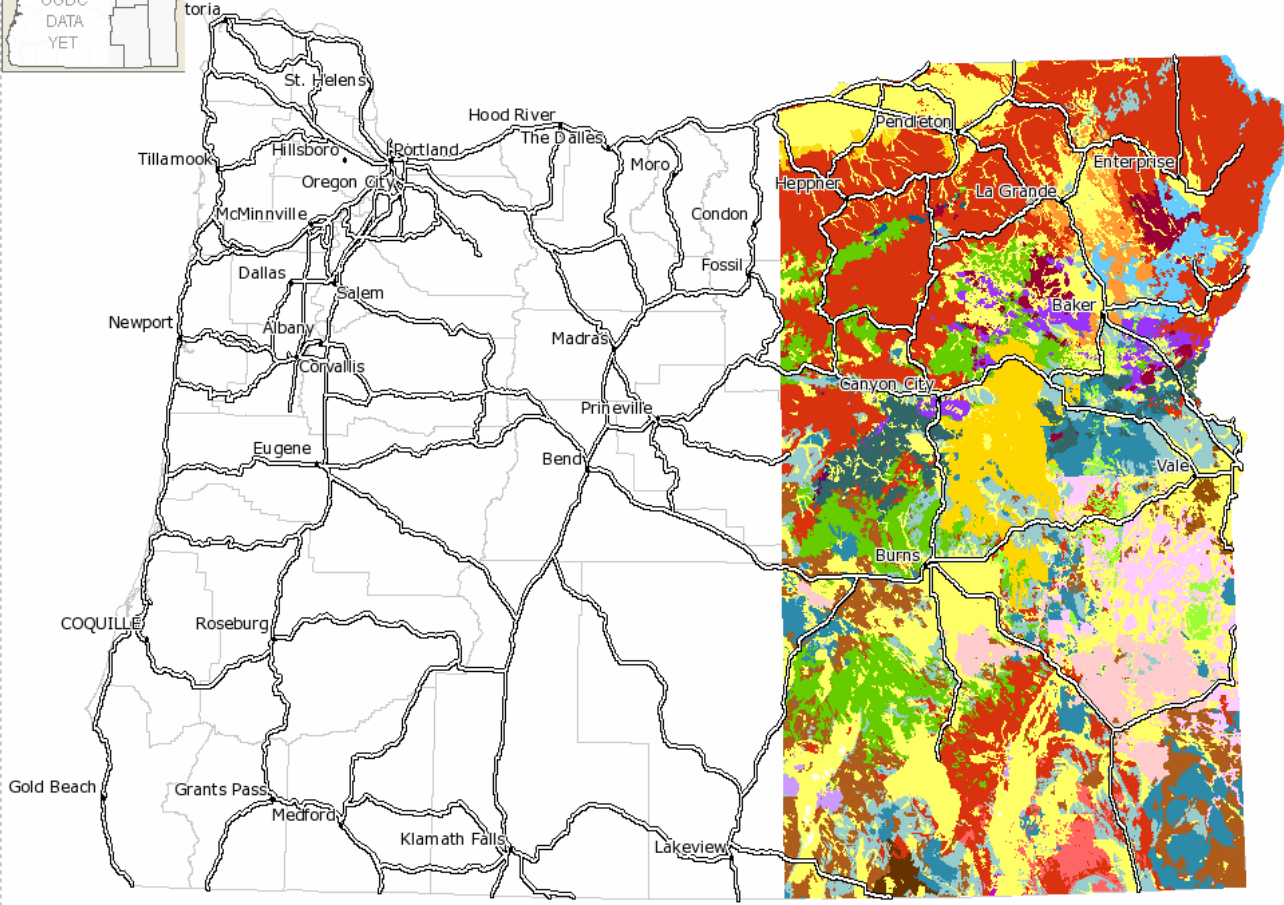
ADD **OVERLAYS** (optional)

- Formation Boundaries
- Highways
- Cities/Towns

Update Map



0 14 28 42 56 70 mi



Key Location Info

source: www.oregongeology.com

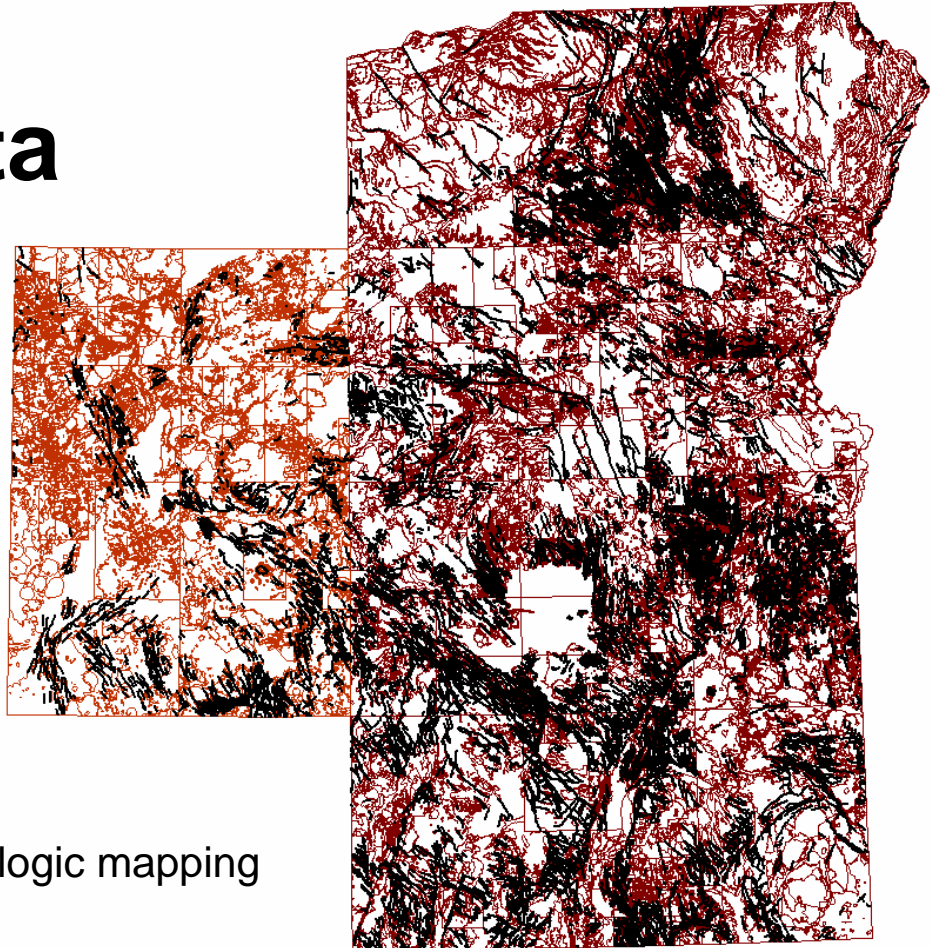
Oregon Geothermal Working Group

November 7, 2006





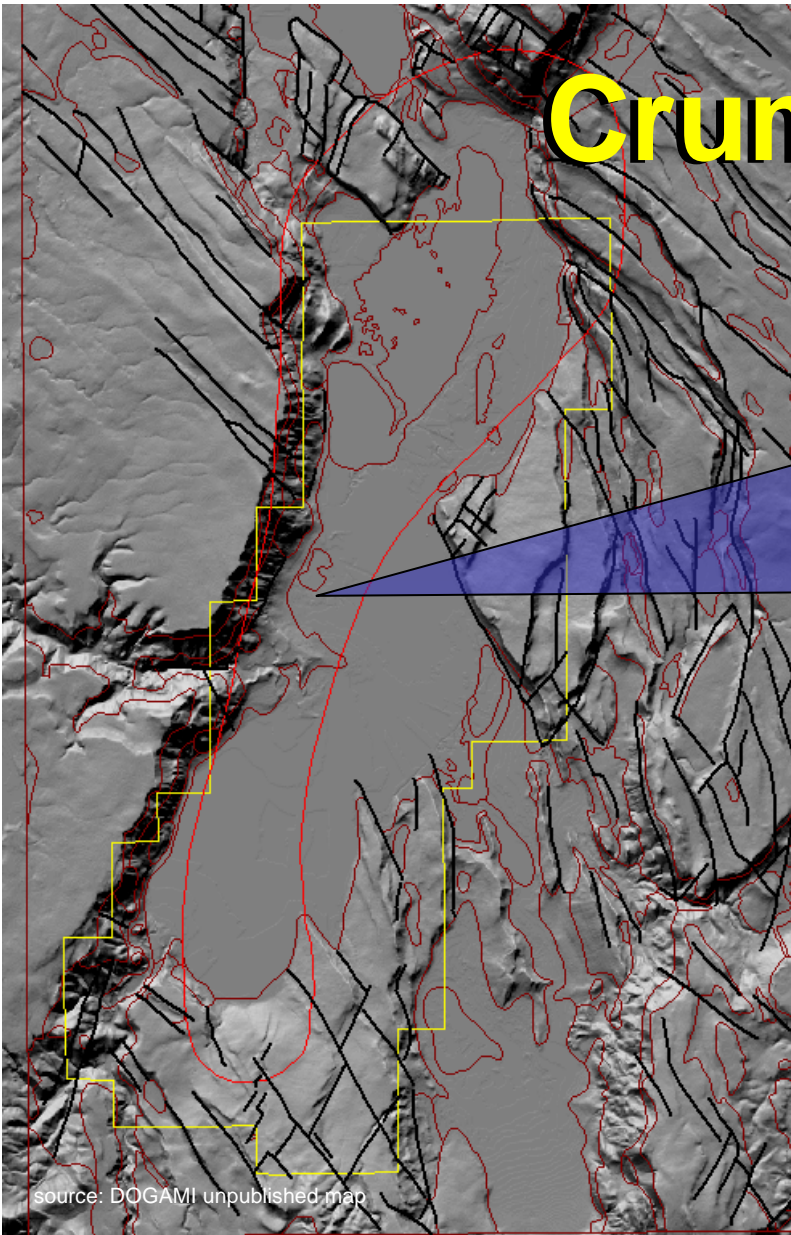
Oregon Geologic Data Compilation



1:100,000-scale GIS-based geologic mapping



Crump Geyser



source: DOGAMI unpublished map

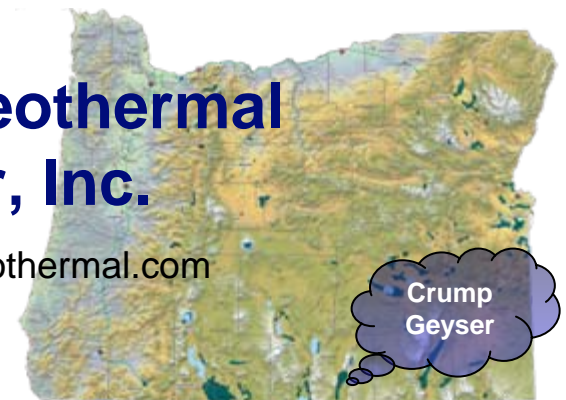


DOGAMI photo: July 1959

source: www.nevadageothermal.com

Nevada Geothermal Power, Inc.

www.nevadageothermal.com



DOGAMI, unpublished map; KGRA outlines from Geothermal Resources of Oregon, 1982



Neal Hot Springs



U.S. Geothermal,
Inc.

Cottonwood Mtn.

Boise, Id

<http://www.usgeothermal.com/>

source: modified from Orr, 1999



Bully Creek Reservoir

source: DOGAMI unpublished mapped map

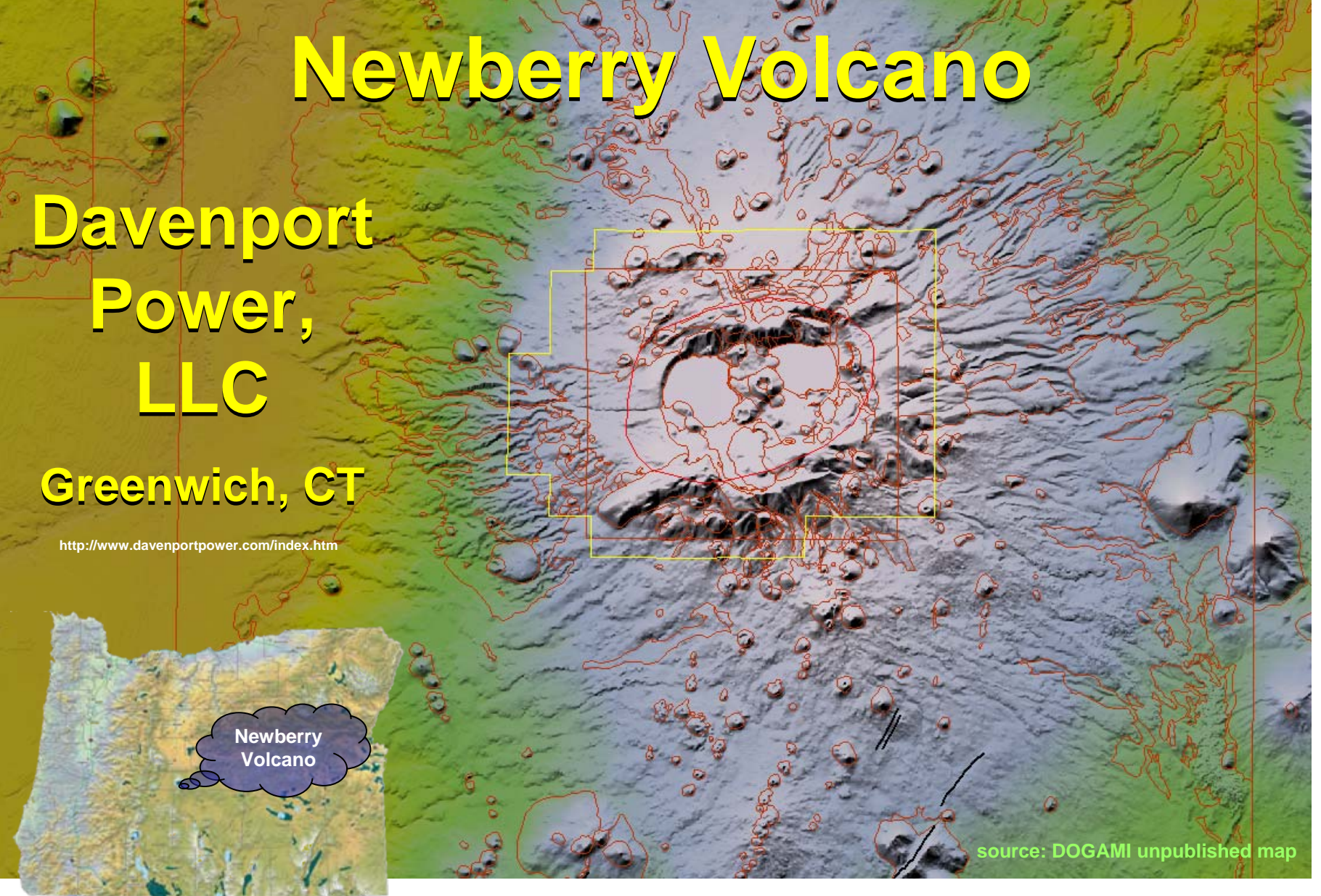


Newberry Volcano

Davenport
Power,
LLC

Greenwich, CT

<http://www.davenportpower.com/index.htm>



Newberry
Volcano

source: DOGAMI unpublished map





OREGON GEOLOGY

Oregon Department of Geology and Mineral Industries

Volume 65, Number 1, Spring 2003

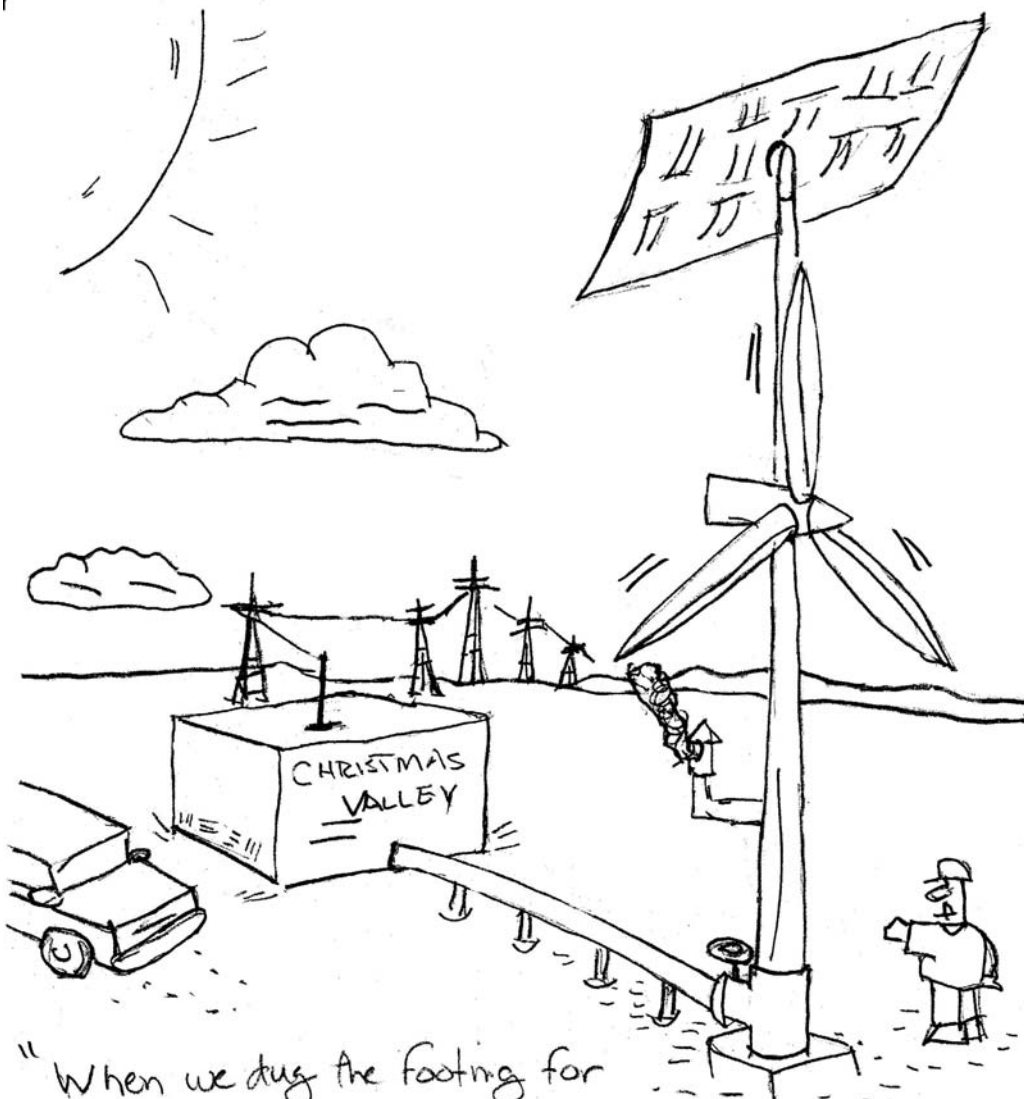
Compilation of DOGAMI's Geothermal Resource Publications, by JL Clark



INSIDE THIS ISSUE: Geothermal Resource Publications of the Oregon Department of Geology and Mineral Industries

www.oregongeology.com





"When we dug the footing for the Nova 2000 Windturbine/Solar combo, we struck Steam."

[My vision...]

Questions?

No activity, whether building, landscaping, producing art, or breathing, is without environmental consequences! Whether we like it or not, we extract (resources) to be able to live, even to be able to protest extraction – Ron Geitgey

