

# GTILO – Geothermal Information Layer for Oregon

HotSpringURI: <http://www.oregongeology.org/gtilo/ngds/sprg/KL-151.pdf>

Spreadsheet: Oregon\_HotSpringFeature\_metadata\_1\_13\_11.xls

This URI last updated: 2012-05-17 00:00:00

Clark Niewendorp, Industrial Minerals Geologist  
Oregon Department of Geology and Mineral Industries  
800 NE Oregon Street, #28, Suite 965  
Portland, OR 97232  
tel. (971) 673-1540  
[clark.niewendorp@dogami.state.or.us](mailto:clark.niewendorp@dogami.state.or.us)



## IDENTIFIER *See field key on last page for data field definitions.*

HotSpringURI: <http://www.oregongeology.org/gtilo/ngds/sprg/KL-151.pdf>

Name: Wilkerson (Patuchek; Nail) Hot Spring

Label: Natural spring that emits geothermally heated groundwater in Oregon

OtherName:

OtherIdentifier: KL-151

Source: Black, G.L., 1994, Low-temperature geothermal database for Oregon: Oregon Department of Geology and Mineral Industries Open-File Report O-94-08, 178 p., 5 location maps.

SourceURI:

FeatureType: warm

LandLeaseOwner:

OtherLocationName: Langell Valley

REF\_ID BlacGL1994a

## SPATIAL

TOPO24K Goodlow Mountain

TOPO100K Klamath Falls

County: Klamath

State: Oregon

PLSS\_Meridians: Willamette

Township: 040S

Range: 014E

Section: 6.0

SectionPart: ABD

Parcel:

UTM\_E:

UTM\_N:

UTMDatumZone:

LatDegree: 42.131452

LongDegree: -121.220275

SRS: EPSG:4326

LocationUncertainty-Statement: The method of digitization of thermal spring locations involved heads-up digitization from U.S. Geological Survey Digital Raster (DRG) Image of 1:24,000-scale quadrangles on the computer screen by using a computer mouse to scribe the feature. The DRG also acted as a marked base to guide and adjust the position of a previously scribed thermal spring feature based on thermal springs depicted on the DRG. The accuracy of this data depends on a number of different types of errors: geodetic, machine, cartographic, and random errors. Not least of which depends on the level of detail of the source material and the interpretation procedures for capturing that source.

## CHARACTERISTICS

ObservationURI: <http://www.oregongeology.org/gtilo/ngds/sprg/KL-151.pdf>

Temperature: 75.2

TemperatureUnits: Fahrenheit

Temp spot measurement  
Measurement  
Procedure:

Temp correctness date is time of publication  
Measurement by default  
DateTime:

Flow: 95.0

FlowUnits: l/min

FlowMeasurement spot measurement  
Procedure:

FlowMeasurement correctness date is time of publication  
DateTime: by default

Measurement-Source:

FlowContinuity:

Classification: 5

RelatedWater  
Chemistry:

HEAT Langell Valley

CLASS sprlo

## REFERENCE

DataEntrySource: Clark Niewendorp, 2006 (update, 2010); Industrial Minerals Geologist, Oregon Department of Geology and Mineral Industries; [clark.niewendorp@dogami.state.or.us](mailto:clark.niewendorp@dogami.state.or.us)

RelatedResources: *If available, related resources are listed on separate page.*

Remarks:

LASTUPDT 2012-05-17 00:00:00

## GTILO – Geothermal Information Layer for Oregon

**HotSpringURI:** <http://www.oregongeology.org/gtilo/ngds/sprg/KL-151.pdf>

Spreadsheet: Oregon\_HotSpringFeature\_metadata\_1\_13\_11.xls

This URI last updated: 2012-05-17 00:00:00

Clark Niewendorp, Industrial Minerals Geologist  
Oregon Department of Geology and Mineral Industries  
800 NE Oregon Street, #28, Suite 965  
Portland, OR 97232  
tel. (971) 673-1540  
[clark.niewendorp@dogami.state.or.us](mailto:clark.niewendorp@dogami.state.or.us)



### Related Resources:

*If any related resources for this URI exist, they are listed below.*

# GTILO – Geothermal Information Layer for Oregon

HotSpringURI: <http://www.oregongeology.org/gtilo/ngds/sprg/KL-151.pdf>

Spreadsheet: Oregon\_HotSpringFeature\_metadata\_1\_13\_11.xls

This URI last updated: 2012-05-17 00:00:00

Clark Niewendorp, Industrial Minerals Geologist  
Oregon Department of Geology and Mineral Industries  
800 NE Oregon Street, #28, Suite 965  
Portland, OR 97232  
tel. (971) 673-1540  
[clark.niewendorp@dogami.state.or.us](mailto:clark.niewendorp@dogami.state.or.us)



## FIELD KEY: AASG Geothermal Data: Hot Spring Feature content, v. 0.9

This spreadsheet indicates the content requested for basic data characterizing a hot spring feature for the AASG geothermal data project. Typically water temperatures are recorded with other information such as water quality or chemical analysis from a particular spring. The temperature and flow rate reported here are meant to be generalized characterization.

| NewAttrDispName              | AttrDesc                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HotSpringURI                 | Unique identifier for the hot spring. Best practice is to define an http URI that will dereference to a normative description of the feature.                                                                                                                                                                                                                                                                                                   |
| Name                         | human-intelligible label for feature                                                                                                                                                                                                                                                                                                                                                                                                            |
| Label                        | label as it would appear on a map, may include feature name and pertinent data such as temperature                                                                                                                                                                                                                                                                                                                                              |
| OtherName                    | other human-intelligible labels for feature such as secondary spring name or common name, other spellings                                                                                                                                                                                                                                                                                                                                       |
| OtherIdentifier              | Other identification associated with springs                                                                                                                                                                                                                                                                                                                                                                                                    |
| Source                       | short text explanation of source of information defining feature; should include some indication of how digital data originated. Recommend including full citation for source of the data in this record. Note a separate source field is available if temperature and flow data have a separate provenance. If all records in table are from same published source, the citation may be put on the dataset metadata sheet and left blank here. |
| SourceURI                    | Identifier for the cited source. Ideally an http URI that may be dereferenced to produce a representation of the original source document.                                                                                                                                                                                                                                                                                                      |
| FeatureType                  | term from controlled vocabulary classifying kind of geothermal feature; hot, warm, thermal                                                                                                                                                                                                                                                                                                                                                      |
| LandLeaseOwner               | list ownership if known                                                                                                                                                                                                                                                                                                                                                                                                                         |
| OtherLocation-Name           | Basin name, area name                                                                                                                                                                                                                                                                                                                                                                                                                           |
| County                       | county name                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| State                        | state name                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| PLSS_Meridians               | reference meridians used to define township and range grid.                                                                                                                                                                                                                                                                                                                                                                                     |
| Township                     | list township and direction ( 15 N)                                                                                                                                                                                                                                                                                                                                                                                                             |
| Range                        | list range and direction (7 E)                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Section                      | list section number of 1 through 36                                                                                                                                                                                                                                                                                                                                                                                                             |
| SectionPart                  | list quarter-quarter-quarter section                                                                                                                                                                                                                                                                                                                                                                                                            |
| Parcel                       | list assessors parcel number or recorded map number and parcel for location                                                                                                                                                                                                                                                                                                                                                                     |
| UTM_E                        | UTM easting coordinate.                                                                                                                                                                                                                                                                                                                                                                                                                         |
| UTM_N                        | UTM northing coordinate                                                                                                                                                                                                                                                                                                                                                                                                                         |
| UTMDatumZone                 | utm datum and zone, e.g. NAD27_12                                                                                                                                                                                                                                                                                                                                                                                                               |
| LatDegree                    | WGS 84 latitude                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| LongDegree                   | WGS 84 longitude                                                                                                                                                                                                                                                                                                                                                                                                                                |
| SRS                          | Spatial Reference System for latitude and longitude. Use WGS 84 for interoperability                                                                                                                                                                                                                                                                                                                                                            |
| LocationUncertaintyStatement | list method used to estimate feature location (middle of qtr section, GPS measurement, located on map for coordinates) and uncertainty of actual position                                                                                                                                                                                                                                                                                       |

| NewAttrDispName          | AttrDesc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ObservationURI           | Not required if only a single temperature or flow rate is reported. If this table is used to compile multiple temperature or flow-rate measurements associated with a single HotSpring occurrence (same HotSpringURI), then each measurement requires a distinct identifier in this column. If temperature or flow-rate measurement is auxiliary to a water-chemistry analysis, this should be the observationURI that identifies the chemical analysis. In the service architecture, a hot spring feature is characterized by a single temperature measurement that would be the average of multiple measurements reported for the spring. Each observation URI would be published via a 'water temperature observation service'-- cross referenced to the hot spring by a water source identifier. |
| Temperature              | Temperature of analyzed water when sampled.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| TemperatureUnits         | °C or °F                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| TempMeasurementProcedure | detail of basis for reported temperature, e.g. 'average of 27 measurements between 1957 and 1967';spot measurement on 12/15/94'.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| TempMeasurementDateTime  | YYYY-MM-DDThr:mm; formatting follows ISO 8601; time assumed to be GMT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Flow                     | Average measured volume of water per unit of time. Has units.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| FlowUnits                | Units of measurement in flow quantity. See data valid terms.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| FlowMeasurementProcedure | YYYY-MM-DDThr:mm; formatting follows ISO 8601; time assumed to be GMT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| FlowMeasurementDateTime  | Include information on how temperature and flow rate are measured, reference for original data                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Measurement-Source       | Citation for source of measurement. Corrected or extrapolated temperatures should record who made the corrections.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Classification           | detail of how measurement was acquired (field or laboratory instrument, correction or extrapolation) if known                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| RelatedWaterChemistry    | None if no chemical data available; string listing available constituents or analysis types if analyses are available.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| DataEntrySource          | information on person, date of creation of this data record.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Remarks                  | all other information pertaining to geothermal data that does not fit into a feature should be listed in remarks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

## Additional DOGAMI data fields:

|          |                                                      |
|----------|------------------------------------------------------|
| CLASS    | high (>35°C) or low temp. spring classification      |
| TOPO24K  | USGS 7.5 minute topographic quadrangle name          |
| TOPO100K | USGS 30 x 60 minute topographic quadrangle name      |
| HEAT     | direct-use application area                          |
| REF_ID   | internal DOGAMI source publication cataloging system |
| LASTUPDT | date this URI record was last updated                |