GSQ Sample Profile

This is the Geological Survey of Queensland's *sample* model. The model, overviewed in Figure 1, derives its basic metadata from the requirements for describing samples according to the International GeoSample Number (IGSN) system and takes as its `Sample`

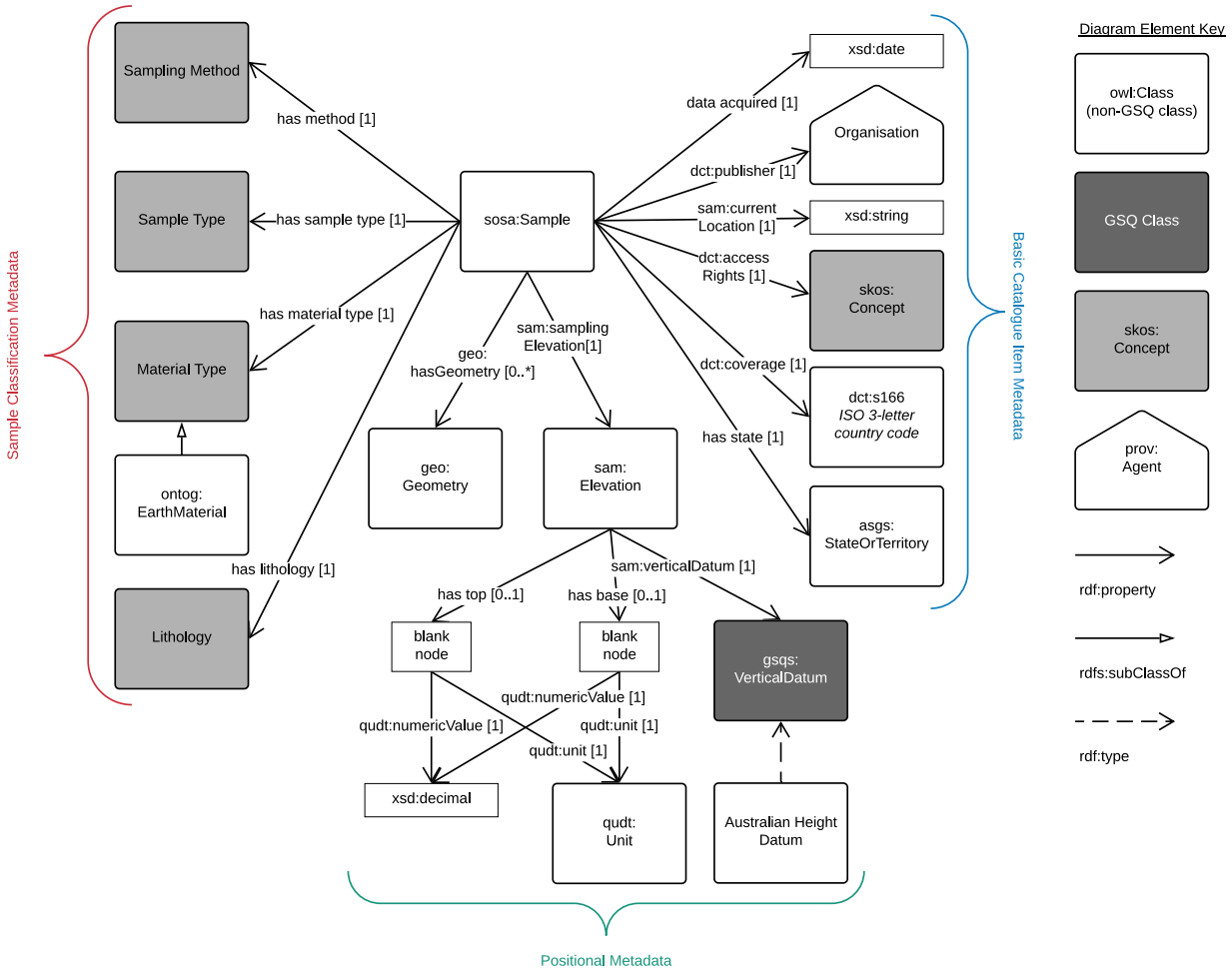

Figure 1: This model's `Sample` class showing basic properties

Linking Sample to the Geological Property Model

The *Geological Property* is the basis of the understanding of the surface and subsurface of Queensland. The model, overviewed in Figure 2, derives its basic metadata from the SOSA Vocabulary.

1. A survey is a one-time event on a feature of interest that results in samples being collected.
2. Observations, using a procedure, are performed on the samples to yield results.
3. The results inform the geological properties for the feature of interest.

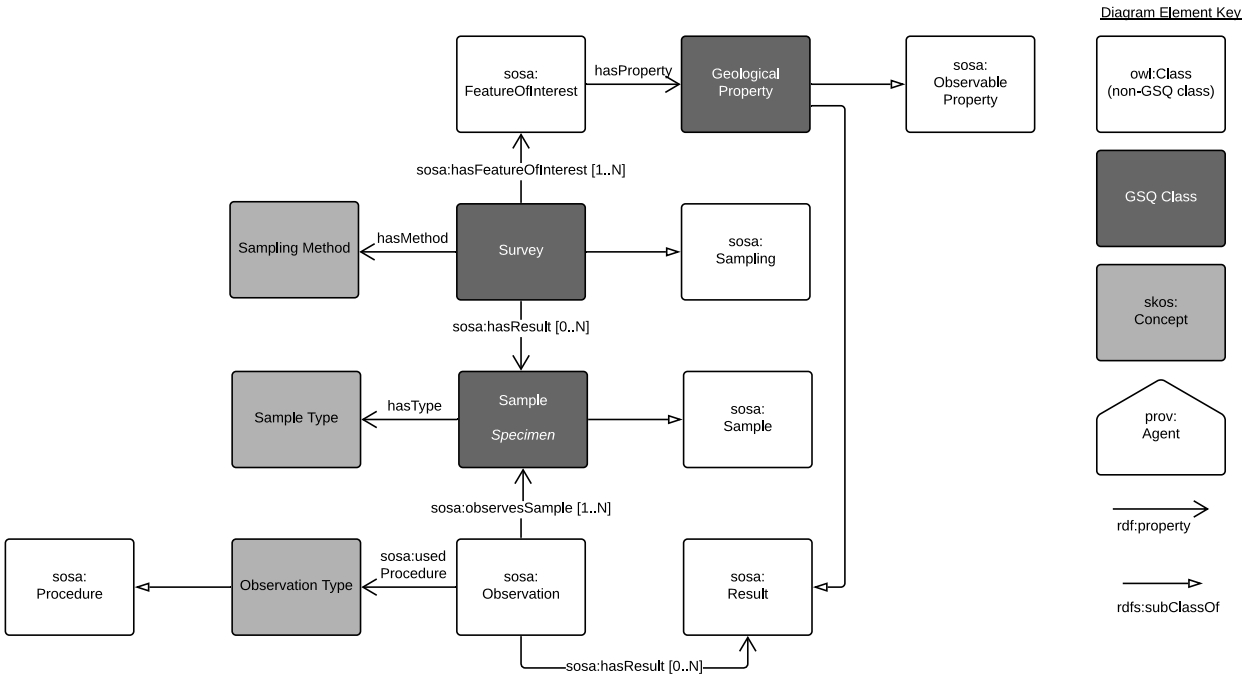

Figure 2: The survey > sample > geological property model

Geochemistry Product Model - high level

The *Geochemistry Product* is a *set* of geological observations, e.g. a compilation of all of the geochemistry data for a specific sub-block. The purpose of the *Geochemistry Product* is to create a distribution of data at level of compilation that is useful to consumers of that data. The compilation may be coarse-grain, e.g. whole of State, or fine-grained, e.g. within permit boundary.

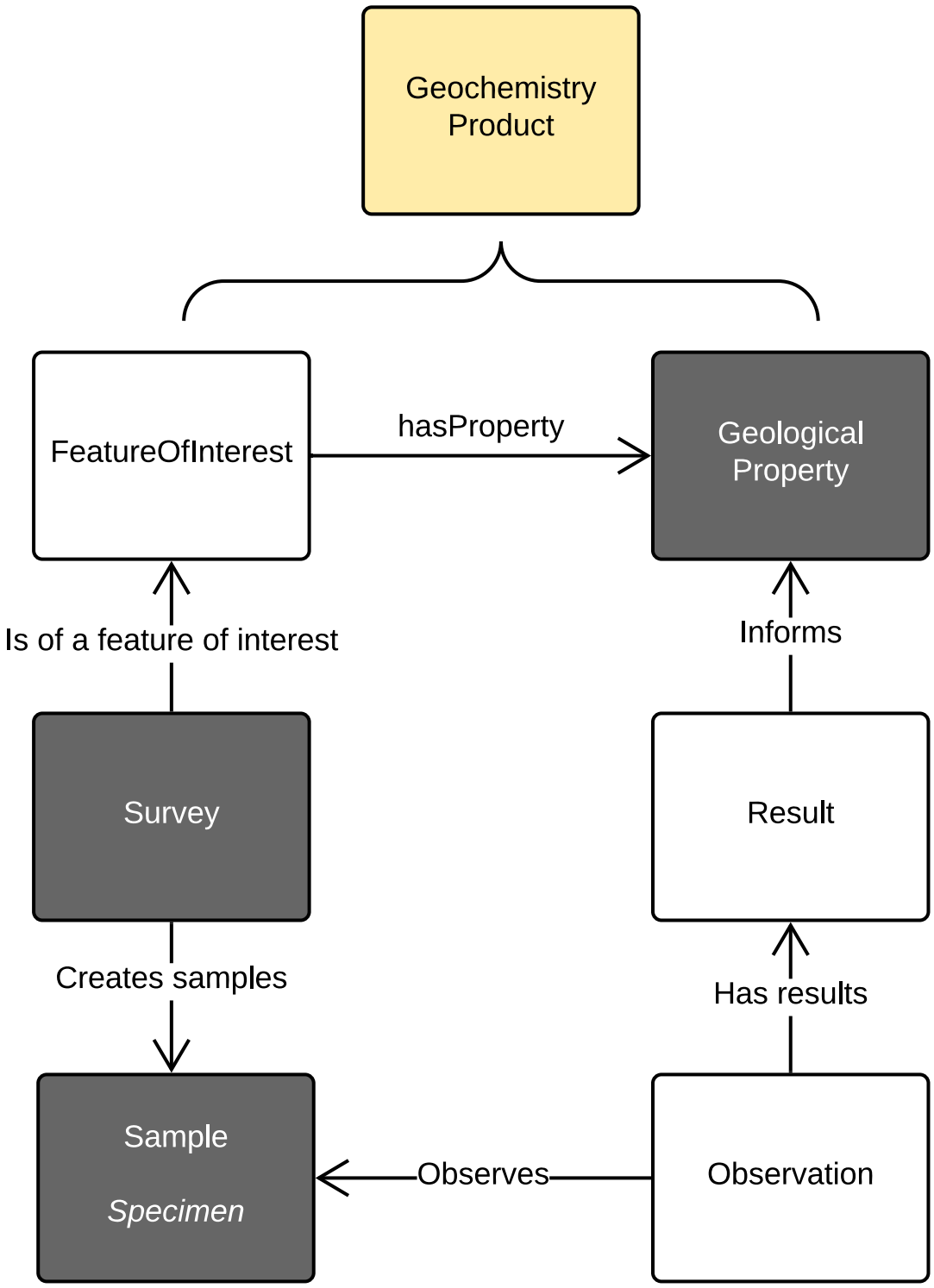

Figure 3: The geochemistry product model

Profile contents

The contents of this profile - files within this repository - are:

1. model/ - folder containing image and machine-redable versions of this profile's models
2. shapes/ - folder containing SHACL shapes files used to validate data's conformance to this profile's model
3. profile.ttl - the formal description of this Profile according to the The Profiles Vocabulary

GSQ classes

CLasses used in this profile:

1. Queensland Mining Permits
2. Dataset

OWL classes

1. SOSA sampling
2. SOSA sample
3. SOSA feature of interest
4. SOSA procedure
5. SOSA observation
6. SOSA observable property
7. FOAF document - used to capture the secondary metadata in JSON format
8. Geometry
9. ProperInterval

Vocabularies

The vocabularies used in this profile are:

1. Seismic Sampling Method
2. BFO Dimensionality - Basic Formal Ontology spatial region
3. Mining Survey Status
4. Data Access Rights

License

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References

[1] Atkinson, Coyle, Isaac & Car (2019) *Profile Guidance*. W3C Editor's Draft. https://w3c.github.io/dxwg/profiles/

[2] Atkinson & Car (2019), "The Profiles Ontology", W3C Recommendation - First Public Working Draft. World Wide Web Consortium. https://www.w3.org/TR/dx-prof

[3] Open Geospatial Consortium, “OGC Geoscience Markup Language 4.1 (GeoSciML)”, Open Geospatial Consortium, OGC Standard, Jan. 2017. http://www.opengis.net/doc/geosciml/4.1

[4] A. Haller, K. Janowicz, S. Cox, D. Le Phuoc, K. Taylor, and M. Lefrançois, “Semantic Sensor Network Ontology” World Wide Web Consortium, W3C Recommendation, Oct. 2017., https://www.w3.org/TR/vocab-ssn/