

An Introduction to DIGGS

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DIGGS

- DIGGS is made up of two work packages
 - Data Dictionary
 - Rules for creating files

Two Types of Expert

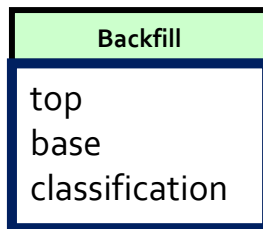
- Domain Expert
 - Professional who know the industry and its data requirements
 - Geoenvironmental/Geotechnical Professional
- Schema Expert
 - IT Professional who knows the world of XML.
 - Computer Science Professional

Fine Line

- We are not trying to turn Domain Experts in Schema Experts
- The majority of work is for the Domain Experts
- The following presentation is to help domain experts know how DIGGS works.
- It is not an XML lesson!

DIGGS Data Structure

- Environmental items and processes are represented using objects
 - Example DIGGS objects:-
 - Hole (item)
 - Backfill (item)
 - Purge (process)
 - Sample (item)
- Each object has a set of properties



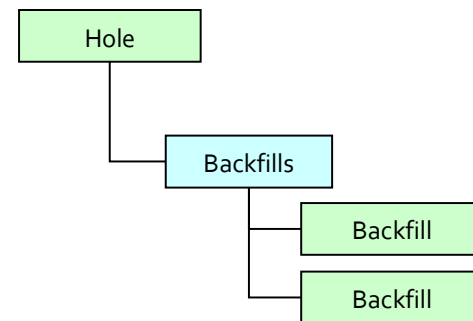
- DIGGS objects can be seen as a set of building blocks used to create the format. To extend DIGGS you simple make new building blocks and add them in.

Object relationships (how to build)

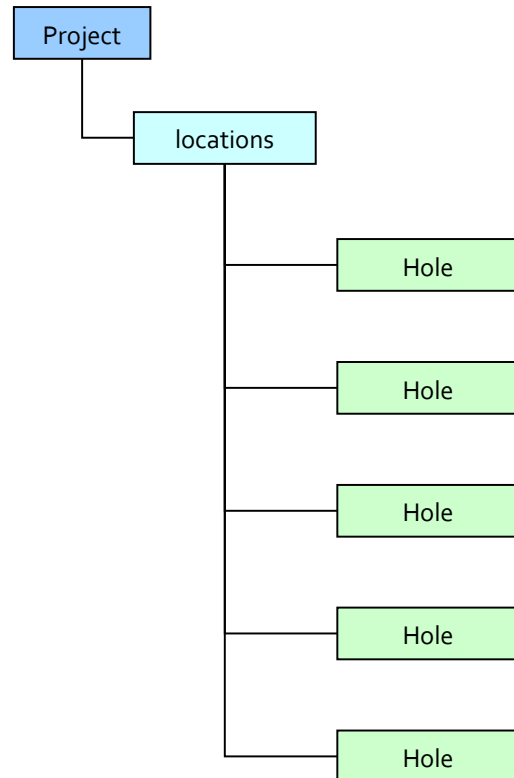
- If an object belongs exclusively to a parent the object is then nested within the parent.
- If many objects can belong to a parent a grouping object is used.

In this example each backfill detail can only belong to one hole and so the backfill object is nested below the hole.

As a hole can have more than one backfill detail a backfills group is used



Parent – Child Data Relationship



Data Structure

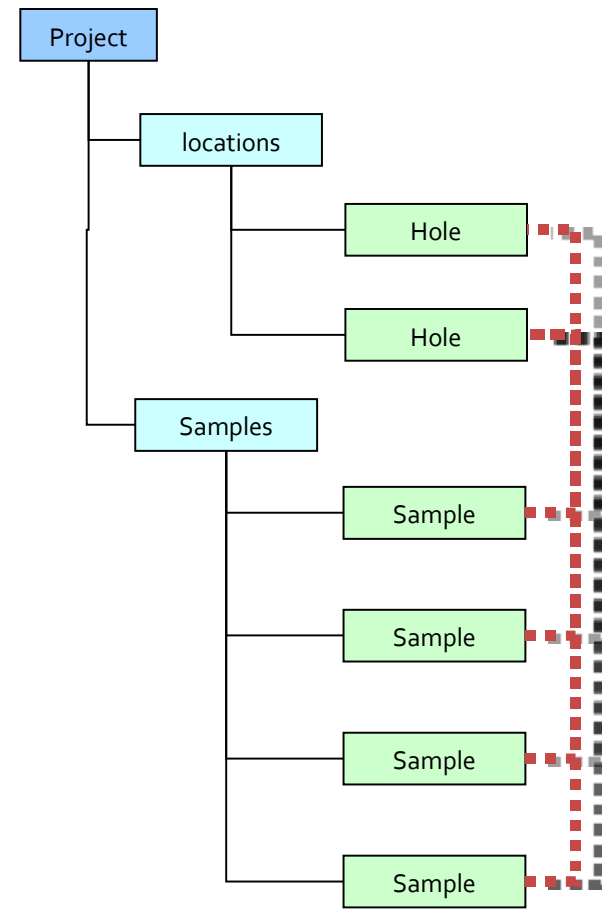
```
<project>
  <locations>
    <hole>
      <ID>BH127</ID>
    </hole>
    <hole>
      <ID>BH128</ID>
    </hole>
    <hole>
      <ID>BH129</ID>
    </hole>
    <hole>
      <ID>BH130</ID>
    </hole>
    <hole>
      <ID>BH131</ID>
    </hole>
  </locations>
</projects>
```

Example XML File

Multiple Parents

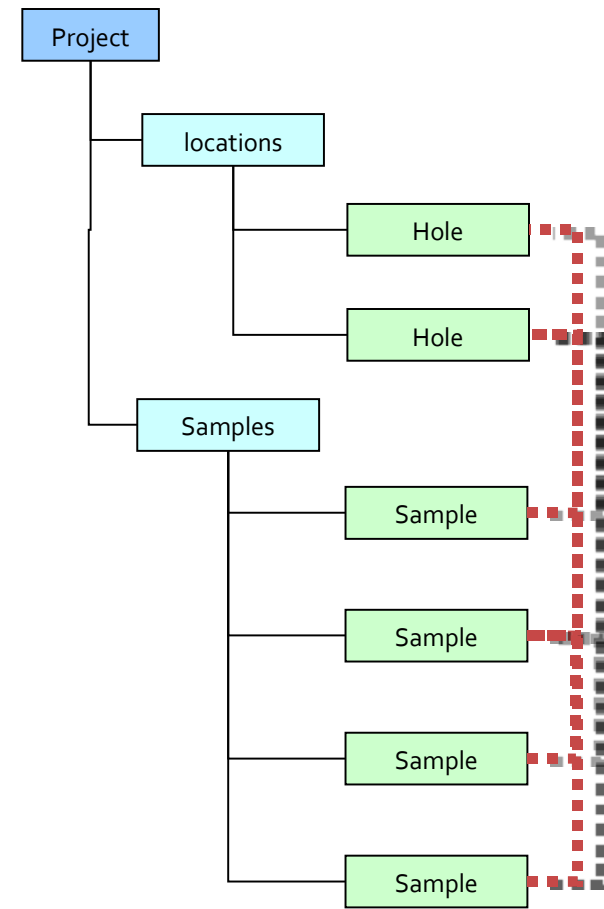
- If an object could belong to more than one parent then it is not nested inside all parents
- Instead it sits outside of the structure and references its parent(s) using a “source” property in the object

In this example the first 3 samples come from 1 borehole and the 4th is a combination of material from both.



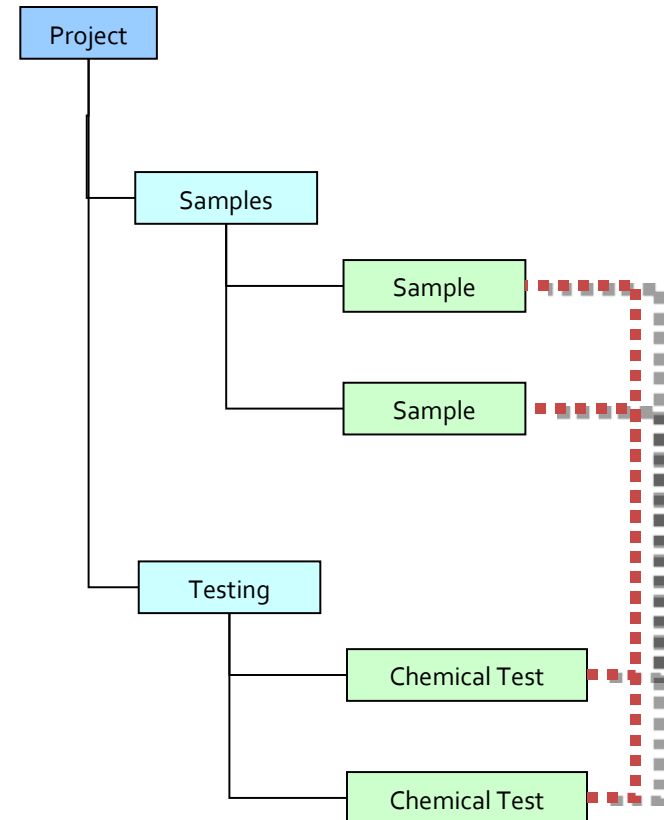
Samples

- Samples sit outside their parents as they can be made from more than one source
- Samples can also be created from more than one type of parent; either a hole or another sample (sub sample).



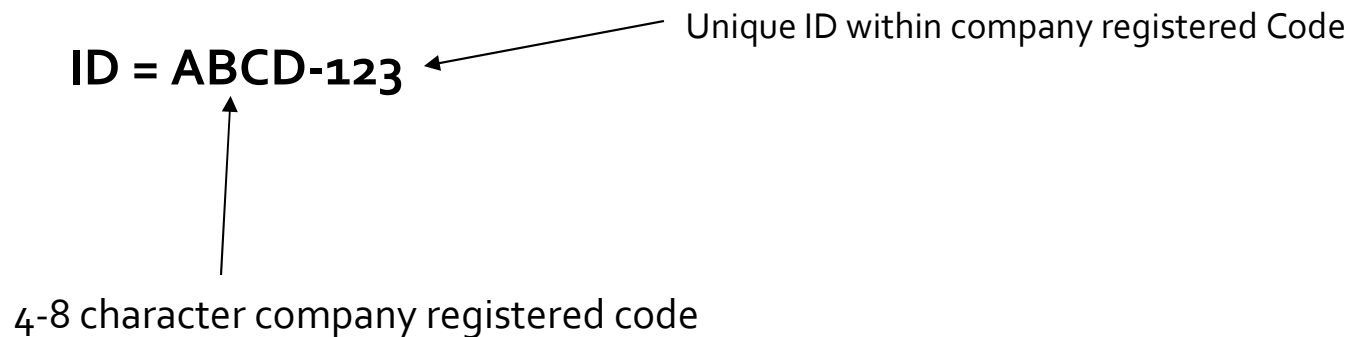
Testing

- Tests sit outside of sample as they could require more than on sample.



Referencing Samples

- AGS had a 4 field referencing system
- DIGGS uses a single value to identify a sample, test or any other object.



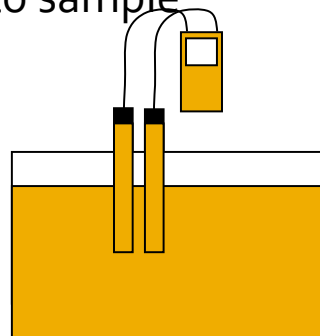
The Sample Journey



Sample Removed from site
Given an ID and sent to Lab



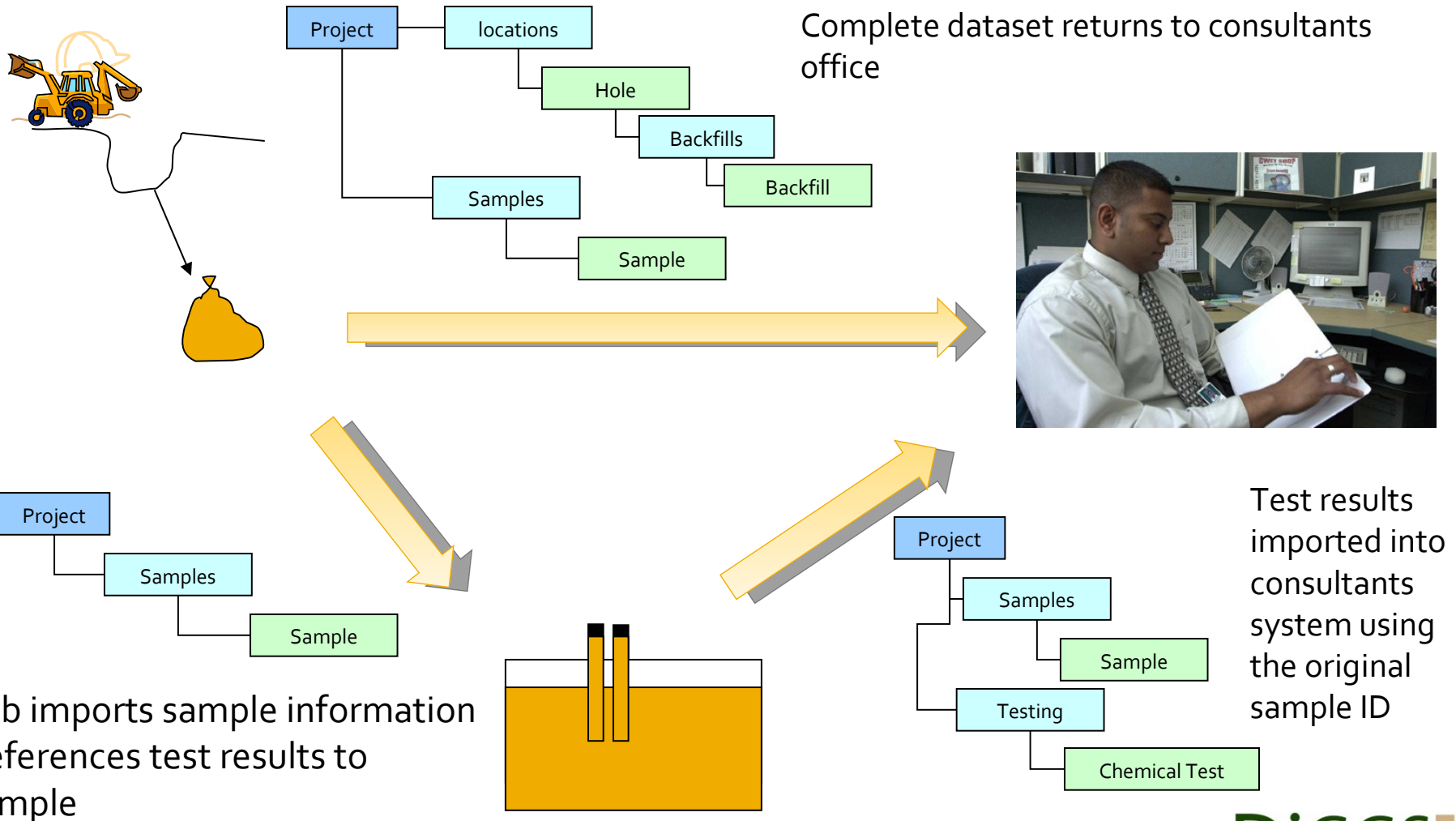
Lab imports sample
information
References test results
to sample



Test results imported
into consultants system
using the original
sample ID

IDs are meaningless references and should not be changed during the journey

The Data Journey



Code Lists

- External Abbreviation Files
 - Hosted on servers or shipped with file
 - AGS will have standard Code List
 - `<type codeSpace="AGS_codelist_v1.xml">`

 - EA may have additional Code List
 - `<type codeSpace="EA_codelist_v1.xml">`

 - Two code lists can be referenced in the same file

Extension Schema

- External DICT Files
 - Hosted on servers or shipped with file
 - AGS will have standard Schema set
 - HA may have additional fields and tables in their Extension Schema
 - Many Extension Schema can be referenced in the same file
 - An Extension Schema can extend Extension Schemas