|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Sensors | Observations | Locations | Tiles | Projects |
| Sensors |  | make | position |  | group |
| Observations | make |  |  |  | link |
| Locations | position |  |  | contain |  |
| Tiles |  |  | contain |  |  |
| Projects | group | link |  |  |  |

**Cardinalities**

**Locations**

Cardinality- N, x and y can be infinite values

**Tiles**

Cardinality- N, as many different tiles as are in the grid as the max amount of N

**Sensors**

Cardinality- N

serial\_id

Cardinality- N, 6 sensors total for the six different locations, serial\_id can switch but there will only ever be 6 different ones at the same time

sensor\_type

Cardinality= N, 2, Diver or Star Oddi

Fixed

Mobile

Human- person ID,

**Observations**

Cardinality- N

obs\_id

Cardinatlity= N

**Assertions**

**Locations** can be contained withone base **Tile.**

Cardinality- N, as many tiles as are in the grid as the max amount of N

Permitting for parent tile systems

**Tiles** can contain multiple **Locations**.

Cardinality- N

**Locations** can position one or more **Sensors**.

Cardinality- 1

Mobile sensors

Fixed sensor

**Sensors** can be positioned at one or more **Locations**.

Cardinality- N

**Locations** can contain multiple **Observations.**

Cardinality- N

**Observations** can be linked to only one **Location.**

Cardinality- N

**Sensors** can make multiple **Observations**.

Cardinality- N

**Observations** can contain possibly multiple **Sensors.**

Cardinality- N

**Sensors** can manage at least one **Project.**

Cardinality- >1

Work flow for new project set up, New Projects would need to create sensors, and also a process to link an existing sensor

**Projects** can manage multiple **Sensors.**

Cardinality- N

**Imports** can load multiple **Observations**.

Cardinality- N

**Observations** can load multiple **Imports**.

Cardinality- N

-Naming the files should include:

-Sensor number, sensor type

-Date range

-Possibly site number, but sites will be linked to a sensor, so possibly it will be redundant with the sensor number, since a sensor number will be linked to a tile and location

Example-

S960932\_Star\_ Site1\_8.11\_10.02

S960933\_Site\_2\_Diver\_8.11\_10.02

S960935\_Diver\_8.11\_10.02