**11/09/2013 Validation Rules**

**Borehole Info Module**

1. Compulsory Fields

* Project Name
* Borehole No
* Date - Default date to current system date
* Rig No
* Drilling Method
* Diameter of Casing
* Diameter of Borehole
* Supervisor
* Driller Name
* Assistant Name 1

1. Remarks Max Length 2000 characters
2. For a particular Borehole No:
   1. Date must be greater than the Previous Record
   2. Date cannot be greater than current system date
3. If Previous Record - Termination Depth > 0 then **NO NEW Borelog** can be created for the Borehole No.

**Journal Activity**

1. Compulsory Fields

* Start Time
  + Start Time cannot be duplicate
* Activity
* If Activity = "Installation"
  + Type of Installation
  + Depth

**Drilling Log (Soil/Rock Type)**

1. Soil Compulsory Fields

* From Depth
* Principal Soil Type

1. Rock Compulsory Fields
   * From Depth
   * Rock Common Name
2. Rock Drilling Log - Remarks Max Length 400 characters
3. From Depth (Applicable to both Soil & Rock)

* From Depth **must** be zero (0) for the 1st Soil/Rock Type record for the borehole (Meaning no Previous Record)
* From Depth **cannot** be duplicated and **must** **be greater** than the previous record entered regardless of whether the drilling type is Soil or Rock

Example for Borehole No 1:

1st Record From Depth: 0m Type = Soil

2nd Record From Depth: 2m Type = Soil

3rd Record From Depth: 2m Type = Rock >> Cannot because already have a depth entry of 2m although it is for soil. Depth cannot duplicate

1. End Depth (Applicable to both Soil & Rock)

* If End Depth entered. Cannot enter Termination Depth and vice versa (Mutually exclusive)
* End Depth **must be greater than or equal** to From Depth

1. Termination Depth (Applicable to both Soil & Rock)

* If Termination checkbox is checked, Termination Depth cannot be empty
* Termination Depth **must be greater** than From Depth

1. Within the current record entries, once End Depth or Termination Depth is entered, no new record can be added to Rock and Soil drilling logs
2. From the previous record, the Webservice GetLastDayBoreholeInfo will provide the “TerminationDepth” and the "LastRecordDepth" values.
   * If Termination Depth > 0, no new rock/soil drilling log can be entered
   * If Last Record Depth > 0, the new record created should be equal or greater than Last Record Depth
3. Validate before uploading record to server (Applicable to both Soil & Rock)
   * The last drilling record (Soil/Rock) of a borehole no, **must** have either an End Depth or a Termination Depth

**In-Situ Type**

1. Soil Compulsory Fields - In-Situ Test Log Type
2. If Test Type = Borehole Shifted or Trial Pit or Auger, there can only be 1 such record per Borehole No. All other test types can be multiple.
3. If Test Type =Borehole Shifted Or WSP Or PZS:
   * Compulsory to enter a 1 decimal value (Depth)
   * WSP can be multiple but cannot have duplicated Depth value
   * PZS can be multiple but cannot have duplicated Depth value
4. If Test Type =Trial Pit, compulsory to enter 3 decimal values called Length, Breadth and Depth
5. If Test Type =CR
   * From and To Depth is compulsory
   * To Depth must be greater than From Depth
   * Compulsory to enter additional 4 values TCR, SCR, RQD & FI
   * CR can be multiple but next record From depth must be **greater than or equal** to previous record To depth
   * To be able to upload a single image per record
6. If Test Type =Ground Water Observation
   * Compulsory fields are Time Stamp, Borehole Depth, Casing Depth and Water Depth
   * Can have multiple values but Time and/or Borehole depth cannot be duplicated
7. If Test Type =SPT
   * From and To Depth is compulsory
   * To Depth must be greater than From Depth
   * Compulsory to enter additional 6 values SPT 1st 75 mm to SPT 6th 75 mm
   * Compulsory to enter Penetration value (To be defaulted to 300)
   * SPT can be multiple but next record From depth must be **greater than or equal** to previous record To depth
   * To be able to upload a single image per record
   * Have a checkbox field called Rebound. If Checked, only compulsory to enter the FROM depth value.
   * For Rebound, the cannot be duplicate rule still applies in SPT
8. For all other Test Types, only have 2 compulsory fields
   * From and To Depth is compulsory
   * To Depth must be greater than From Depth
   * Individual Test types can be multiple but next record From depth must be **greater than or equal** to previous record To depth
   * For these 4 test Types = "TW" or "PS" or “MZ" or "UD", there is an additional optional field called Recovery