Using AGS digital data transfer format

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Synopsis

• UK Business model
• What is the AGS?
• What is AGS digital data transfer format?
• Using AGS data
UK business model

Client

Consultant

Main Site Investigation contractor

Construction contractors + subcontractors

Geotechnical Laboratory

Chemical Laboratory

Site investigation subcontractors
What is the AGS?
http://www.ags.org.uk/site/home/index.cfm

- Association of Geotechnical and Geoenvironmental Specialists
- Trade association – non profit making
- Improve profile and quality of geotechnical and geoenvironmental engineering
- Membership – UK organisations and individuals
  - Site investigation, ground engineering, geoenvironmental engineering
What is the AGS? committees

- Contaminated Land
- Loss prevention
- Business Practice
- Safety
- **Data Management** - sub committee - developing **BS 8574 Management of geotechnical data code of practice**
- Laboratories
AGS digital data transfer format - History

1980’s - Proliferation of software systems and data formats for site investigations.
Need for standardise data transfer and storage of site investigation data

- AGS working Party set up in 1991- version 1 1992
- 2nd edition 1994
- 3rd edition 1999 updated 3.1 2005
- 4th edition 2010
AGS digital transfer format
Underlying philosophy

- Transfer geotechnical and geoenvironmental data between parties
- Standard software tool to produce a data file
- Widest level of acceptance - ASCII files

2 Golden Rules

Rule 1 – Only enter data once
Rule 2 – Get someone else to do it
Data Journey

- Paper Reporting
  - Site Exploration
  - Laboratory Testing
  - SI Presentation
  - Engineering Analysis
  - CAD Presentation, 3D modelling and GIS
  - Local or National Archive

- Electronic Reporting
  - Site Exploration
  - Laboratory Testing
  - SI Presentation
  - Engineering Analysis
  - CAD Presentation, 3D modelling and GIS
  - Local or National Archive

Potential data entry points

Data transfer
AGS digital data transfer format
http://www.ags.org.uk/site/datatransfer/intro.cfm

Includes

• Rules that shall be used
• Group (table) relations
• Data dictionary – data sets, types, units
• Group (table) names, contents and notes for guidance
• Security of media, media labelling and index recording
• General notes for guidance
• Web based user support, discussion board, pick list codes
• Flexible easy to add new Groups - local requirements ‘International’
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Group Relationships

Project and transmission details

Hole

Geology / In situ testing

Monitoring

Samples

Specimen Laboratory
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Project and data transmission details

• Project details
• Abbreviation definitions – (pick list from website)
• Data file transmission and data status
• Associated files (as required)
• Definition of data types
• Definition of units
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In situ data - examples

• Borehole and pit formation and completion
• Monitoring (various types)
• Sample information
• Description and classification
• Dynamic, static cone and standard penetration test
• Water strikes, permeability, soak away tests
• RQD etc, Fracture spacing
• Plate, Pressure meter tests
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Laboratory - examples

- Aggregates tests (11)
- Compaction, CBR, MCV
- Consolidation
- Chemical tests (Engineering and contamination) (2)
- Frost susceptibility
- Density, water content, particle density
- Strength (undrained, drained, rock)
- Geophysics
- Permeability
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• Commas and quotes

"**PROJ"

"*PROJ_ID","*PROJ_NAME","*PROJ_CLNT","*PROJ_CONT","*PROJ_ENG","*PROJ_MEMO","*PROJ_DATE","*PROJ_AGS","*?PROJ_ISNO","*?PROJ_PROD","*?PROJ_RECV"

"<UNITS>","","","","","","dd/mm/yyyy","","",""

"F15828","Package 33 - Old Oak Common Depot","Crossrail Ltd","Soil Engineering","Capita Symonds Ltd","m ATD","27/10/2010","3.1","2","Soil Engineering","Capita Symonds Ltd"
Support software -
http://www.ags.org.uk/site/datatransfer/software.cfm

- Geotechnical data management
- Geotechnical laboratory
- Field data collection
- In situ testing and instrumentation
- Borehole log production
- Geoenvironmental data systems
- Mapping and GIS
- Data validation
AGS compatible Software
Electronic Transfer of Geotechnical and Geoenvironmental Data

AGS4

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AGS Association of Geotechnical & Geoenvironmental Specialists
How easy is it to use? Data quality

• Depends on the quality of the files received.
• Technically, all files should:
  - Follow AGS rules
  - Validated before ‘publishing’ (Software available)
• Many problems with older files – Format not properly understood, incomplete validation
• Generally better now although files are not always fully validated.
How easy is it to use?
Specific problems adding to Database

• 1st step Loading into schema (SQL script and Java program)
  • Text in numerical fields
  • Duplicate records in tables
  • Missing key fields

• 2nd step AGS schema to database
  • Dictionaries come with AGS data but not standardized.
    Code fields need to be converted to BGS dictionaries before loading
What are the barriers?

• Depends on the quality/validation of the data

• Cannot be used if
  Completely corrupted files
  Missing mandatory data, e.g. grid references

• Most files can be used but some may take time to sort out.

Use of local not National Grid and datum
What are the benefits?

• Time saving
  • Large SI reports (several volumes many boreholes). All AGS data added 1 to 2 hours From Paper records – a week or more

• Completeness
  No data need be excluded due to time constraints

• No transcription errors as from paper recorded

• AGS format used by better consultants knowledgeable clients (Highways Agency, Cross-rail, CTRL)
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Thank you