



GEOsoft TECHNICAL SUPPORT, SINGAPORE

GEOSMART III

LEADING DIGITALISATION IN THE SOIL INVESTIGATION (SI) INDUSTRY



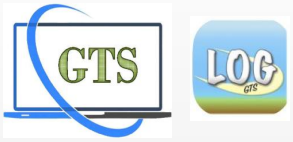
About us

Geotechnical specialist design and built geotechnical software follow BS standard and AGS format for Singapore and Malaysia Users.

GeoSmart Series of Software working and support our customers more than 20 year and set the industry standard of reporting works for Singapore SI contractors.

GeoSmart Software: GeoSmart II, GeoSmart III, GeoSmart Monitoring Tools, GeoSmart Lab, GeoSmart Digital Log App.

We carry other consultancy services on geotechnical field.



Content

- I. Overview Leading Digitalisation in the Soil Investigation (SI) Industry
- II. Workflow of SI using Geosmart (site → office → report & AGS)
- III. Borelog Application – Advantages, Key functions
- IV. Geosmart II vs Geosmart III – Key Updates
- V. Geosmart III
- VI. Geosmart Borelog Mobile Application



LEADING DIGITALISATION IN THE SOIL INVESTIGATION (SI) INDUSTRY

(I) OVERVIEW-LEADING DIGITALISATION IN THE SOIL INVESTIGATION (SI) INDUSTRY

Field application using Borelog App

Backend processing using imported data from the mobile app

Field Application (On-site)



Digital field logging using the Geosmart Borelog application

➤ fully integrates the latest geological framework by BCA (2021)

FIELD LOG FOR SITE INVESTIGATION													
Borehole log								Borehole No. : JLD/037					
Client / Consultant : LTA								Date : 25/10/2022					
Project : SI work for DE-155(LTA)								Borehole shifted due to underlying obstruction : Yes / No. If yes, distance from original position : 0.0 m					
Location : Tuas South Ave 3													
Description of Soil Strata	O.T		S.T		Depth in m, Other Remarks	SPT N - Value							
	No.	Legend	No.	Legend		Total N Value	1 st 75mm	2 nd 75mm	3 rd 75mm	4 th 75mm	5 th 75mm	6 th 75mm	
Firm, Reddish Brown and Brown, Fine Sandy SILT (MADE GROUND)					Trial pit (0.7 - 1.00 - 1.50) m 22.10.2022								
	1												
	2				Hand Auger (1.50-3.00)m 22.10.2022								
	3				3 - 3.6m Recovery: 50/60cm								
	4				3.6 - 4.05m 2/150; 4/300mm	4	1	1	1	1	1		
Soft, Dark Brown, Organic CLAY with Decomposed wood (E) (Kallang Group, Kranj) Formation]													
	5												
	6				6 - 6.9m Recovery: 80/90cm								
	7				6.9 - 7.35m 1/150; 3/300mm	3	0	1	0	1	1		
	8												
	9				9 - 9.9m Recovery: 80/90cm								
	10				9.9 - 10.35m 0/150; 2/300mm	2	0	0	0	1	0		
Very soft, Dark Grey and Black, Slightly fine Sandy Organic CLAY (E) (Kallang Group, Kranj) Formation]													
Ground Water Observation During Operation						Time	Borehole Depth	Casing Depth	Water Depth	Time	Borehole Depth	Casing Depth	Water Depth
						08:00	0	0.0	1.5	18:00	14	9.0	1.4
STANDARD TESTS & SYMBOLS (S.T)						OTHER TESTS & SYMBOLS (O.T)							
☒ - Undisturbed Sample (UD) / (TW) / (MZ) ☐ - TW Sample No Recovery ☐ - Piston Sample (PS) ☐ - Standard Penetration Test (P) ☐ - Cone Run (CR)						☒ - Disturbed Sample (D) ☒ - Vane Shear Test (VST) ☐ - Pressuremeter Test (PMT) ☐ - Permeability Test (PBT) ☐ - Packer Test (PK)							
SPT HSN: -						Rig No. / Drilling method J43 / RCG							
SPT ER: -						Dia / depth of casing 100.0mm / 9.0m							
						Dia / Depth of Borehole 100.0mm / 14m							
						Cone Diameter <mm							
						Log By / Supervisor /							
						Site Geologist							
						Signature							
						Driller							
						Labours							
						Miah Md Sagar							

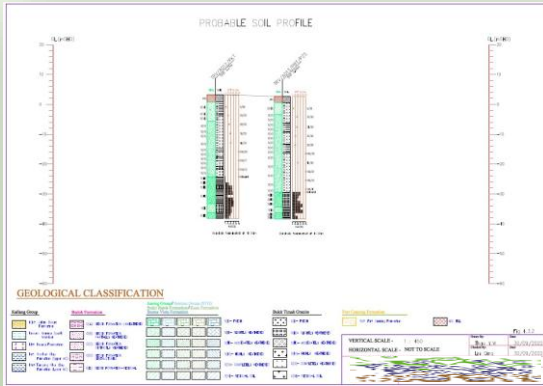
Auto-generates digital field logs (PDF) with high readability



LEADING DIGITALISATION IN THE SOIL INVESTIGATION (SI) INDUSTRY

Backend Processing (Office)

Data Entry – imported directly from .json files sent via email

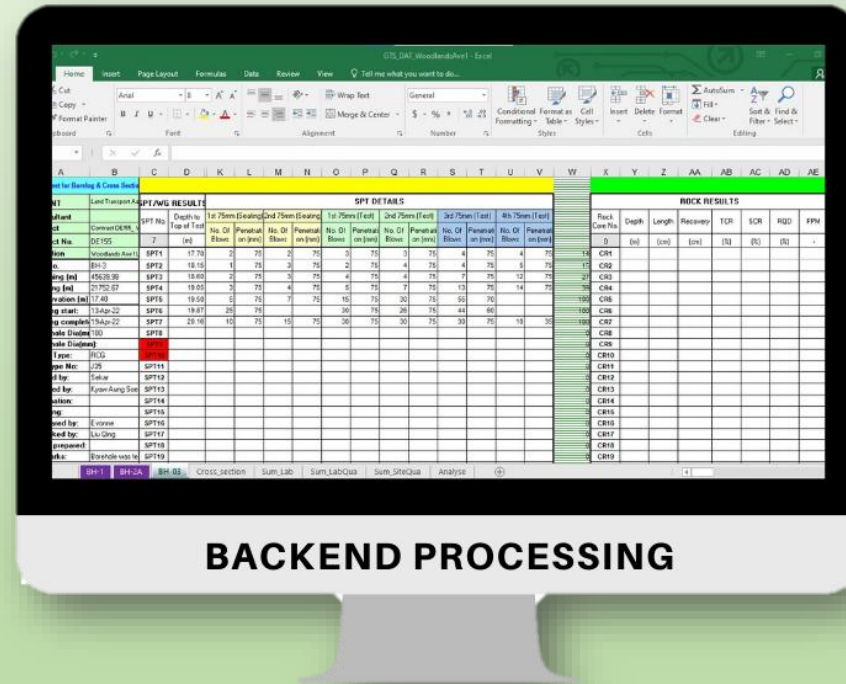


Geological Cross-Sections

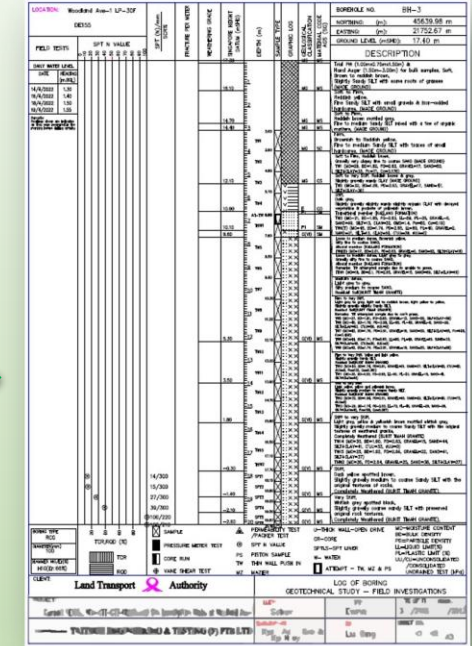
TABLE 1 SUMMARY OF BOREHOLE DRILLING, FIELD SAMPLING, FIELD TESTING & INSTRUMENT INSTALLATION																			
Project No. :		Project : Soil Investigation For Proposed Project																	
BH No.	SOL	Borehole Depth (m)	Termination (m)	Field Sampling				Field Testing				Instrument Installation							
				SPT	PT	PT	PT	SPT	PT	PT	PT	SPT	PT	PT	PT	SPT	PT	PT	PT
BH1	31.34	0.00	31.34	-	-	-	-	14	-	-	-	-	-	-	-	-	-	-	-
BH2	36.72	0.00	36.72	-	-	-	-	18	-	-	-	-	-	-	-	-	-	-	-
BH3	37.35	0.00	37.35	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-
BH4	12.04	9.45	21.50	-	-	-	-	9	1	1	3	-	-	-	-	-	-	-	-
BH5	10.00	0.00	10.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH6	9.50	0.00	9.50	-	-	-	-	3	1	-	-	-	-	-	-	-	-	-	-

LEGEND:
SPT - Standard Penetration Test
PT - Field View Shear Test
PT - Undisturbed Sample (Thin Wall)
PT - Undisturbed Sample (Thick Wall)
PT - Piston Sample
PT - Moisture Sample
PT - Density Sample
PT - Water Sample
SPT - Standard Penetration Test
PT - Field View Shear Test
PT - Undisturbed Sample (Thin Wall)
PT - Undisturbed Sample (Thick Wall)
PT - Piston Sample
PT - Moisture Sample
PT - Density Sample
PT - Water Sample
SPT - Standard Penetration Test
PT - Field View Shear Test
PT - Undisturbed Sample (Thin Wall)
PT - Undisturbed Sample (Thick Wall)
PT - Piston Sample
PT - Moisture Sample
PT - Density Sample
PT - Water Sample

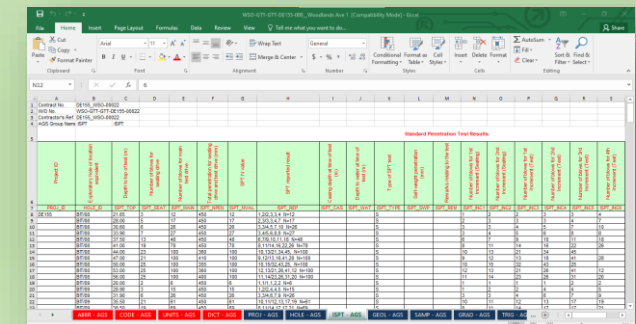
Summary of Works



- ✓ Improves efficiency and speed
- ✓ Reduces human error due to minimal manual key-in
- ✓ Improves data security (reduces loss of hard copy records)
- ✓ Able to meet deadlines easily



Sample of Borelogs



Auto-generated AGS file



(II) WORKFLOW USING GEOSMART IN SI INDUSTRY

From site → office → report & AGS

Types of data file formats supported across Geosmart & Borelog app



LEADING DIGITALISATION IN THE SOIL INVESTIGATION (SI) INDUSTRY

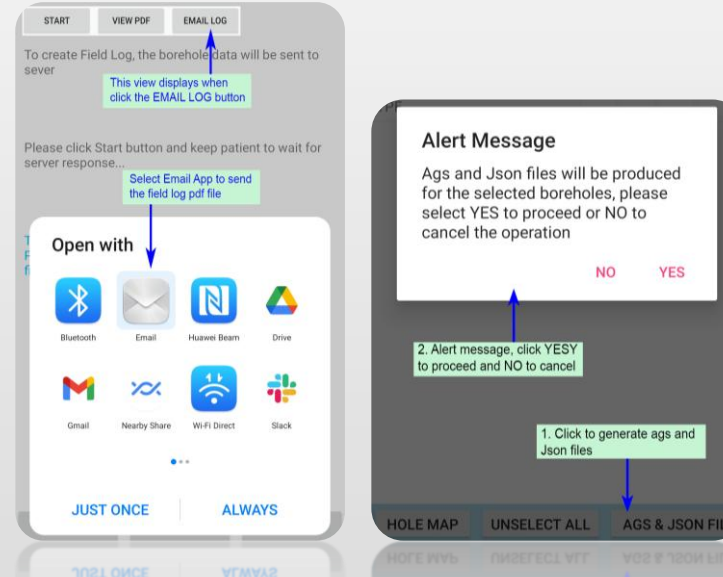
WORKFLOW OF SI USING GEOSMART

Field Application (On-site)



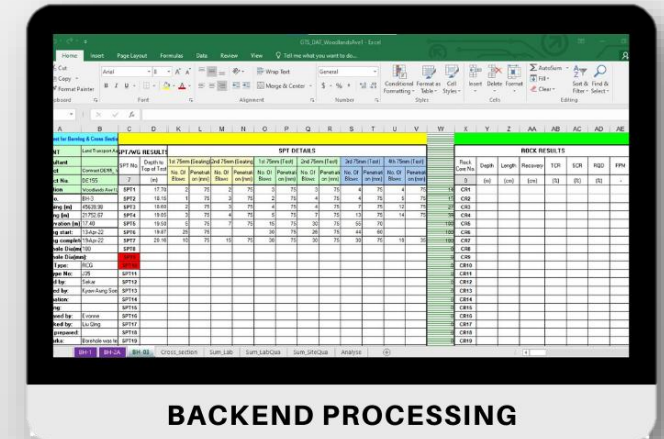
Site geologist logs ground information via the **fully digital Geosmart borelog app** in his tablet.

Generation of Transferrable Data File Formats (.pdf, .ags, .json)



- ✓ Auto-generates PDF field log
- ✓ Auto-generates AGS & Json files
- ✓ Email all files to office directly
- ✓ All can be done within minutes at the click of a button

Backend Processing (Office)



BACKEND PROCESSING

- ✓ Project files are saved into company server via email
- ✓ Import the files directly into Geosmart Excel to check/edit data
- ✓ Export as digital logs, cross-section, AGS files etc

Backend Processing using Geosmart (Office)

.JSON (APP) → .XLSM (COMPUTER)



BACKEND PROCESSING

- Raw data file (.json) received via email from site geologist
- Can be imported into Geosmart Excel file format directly

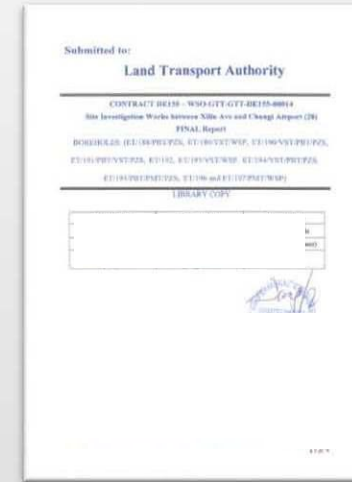
PROCESSING

Review & include lab test results

Cross-check soil descriptions based on lab test & discussion with geologist

Cross check with site photos

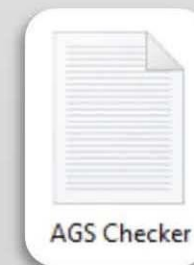
Consolidate all borelogs for each Work Order for final review



Factual SI report is produced



AGS File is generated



AGS Checker



GTS_AGS(WSO14)



WSO-GTT-GTT-D
E155-00014.AGS

- From Geosmart Excel → AGS file generated
- AGS Checker tool → eliminates errors
- **Final AGS file is produced**



(IV) GEOSOAMRT II VS. GEOSMART III

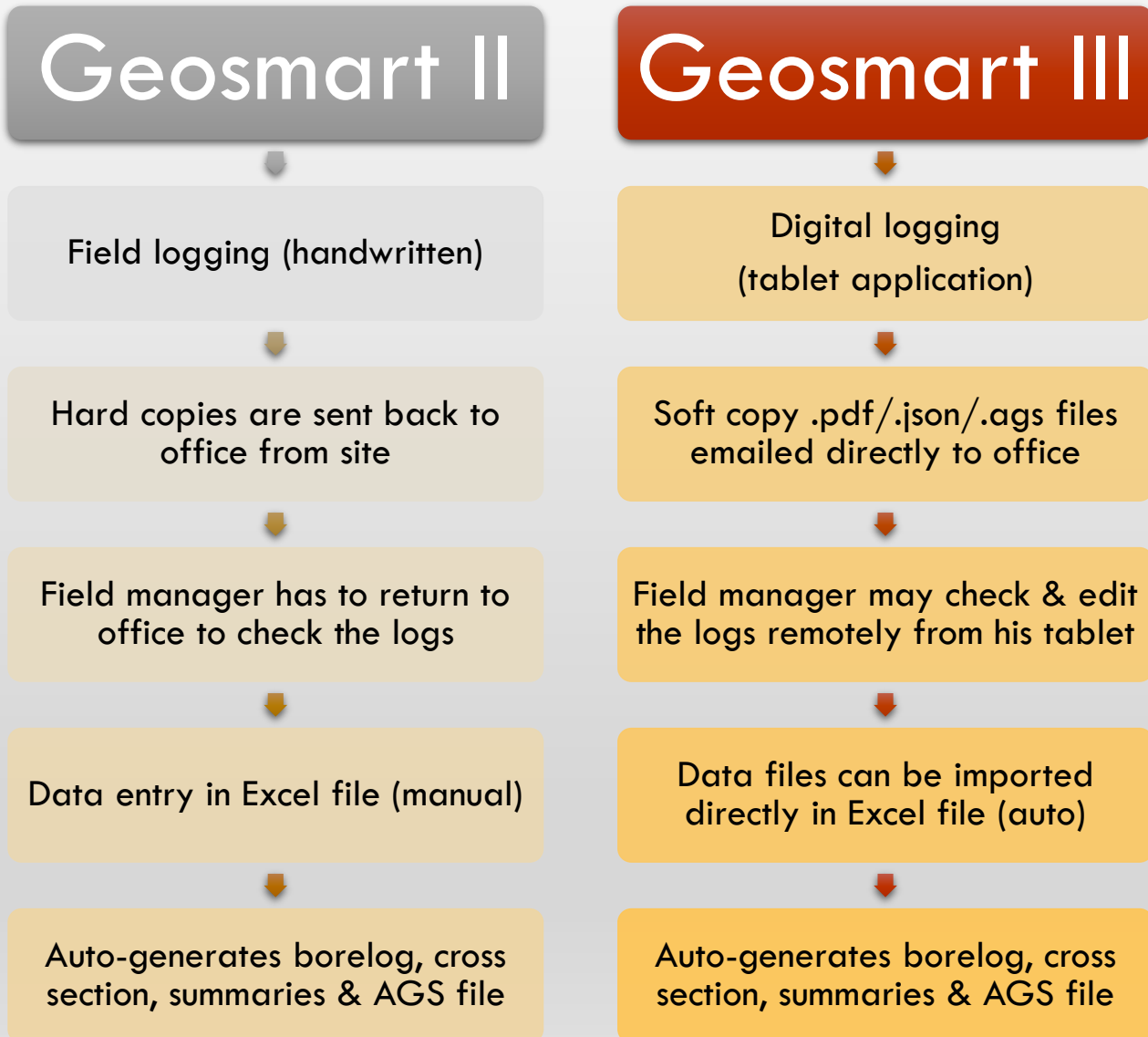
What is the key difference?

GEOSMART II VS. GEOSMART III

Key Difference

The key difference that sets Geosmart II apart from Geosmart III is that the latter has been upgraded **to support & integrate the functions of Geosmart Borelog app** into the workflow of SI logging, reporting & data processing.

To put simply, Geosmart III is a powerful tool driving the digitalization of the SI workflow to greatly improve its efficiency and error-reduction in data processing.





LEADING DIGITALISATION IN THE SOIL INVESTIGATION (SI) INDUSTRY

(V) GEOSOAMRT III

Geosmart III Key Functions

Introduction GeoSmart III

New version of Geotechnical software with similar functions with our popular software product GeoSmart II, including Geotechnical reporting, AGS Tools, communicating with Mobile App and new BCA Geology GEO3 Codes.

The software is compatible with Excel 2016 to latest version Excel, and operation system from Windows 7 to Windows 10. The software has function to generate bore log and cross section in AutoCAD 2015 to latest version and ZWCAD 2022 to latest version.

The work flow:

1. Site investigation data are recorded and maintenance in Excel file, one excel file is for one project, and in the excel file, one sheet is for one borehole. In the excel borehole excel sheet, all project information, borehole information and also all investigation data for the borehole are recorded in the borehole sheet including SPT, Coring, Stratum description, laboratory test results, field test results and also key data for the instrument such as Water Standpipe, Casagrande Piezometer, Vibration Wire Piezometer and Inclinator.
2. Gesomart will generate the borehole log, cross section, summary of field data, summary of laboratory test data, AGS excel and Text format file, and also conduct data analysis based on the user input all data.

Data Entry GeoSmart III

Excel window showing the GeoSmart III data entry form for borehole BH2. The form is organized into several sections:

- Data Sheet for Borelog & Cross Section:** Includes fields for Client, Consultant, Project, Project No., Location, BH No., Northing (m), Easting (m), G Elevation (m), Drilling start, Drilling completed, Borehole Dia(mm), Corehole Dia(mm), Hole Type, Rig type No., Drilled by, Log by, Inclination, Bearing, Prepared by, Checked by, Date prepared, Remarks, AutoCAD File Ref, Drilling Depth (m), Water Level, Hammer No, Hammer Er (%), Report N60, Project Manager, and Supervisor.
- Consolidation Test:** Includes fields for Oedometer, Pc, Cc, and (kN/m²).
- Site Tests:** Includes fields for Type, No, Depth to Top, Depth to Base, Result 1, Result 2, Result 3, Result 4, Date, Time, Borehole Depth, Casing Depth, and Water Level.
- Ground Water Level (Depth measured from ground level):** Includes fields for Date, Time, Borehole Depth, Casing Depth, and Water Level.
- Instrument Installation Depth (m) for Information & Sketch Only:** Includes fields for WSP, CP, PZ, and INC.
- Core Loss Records:** Includes fields for Start Depth, End Depth, and Geological Classification.
- SOIL SAMPLES:** Includes fields for Sample Type, Type No, Ref. No, Depth, k · CH, k · FH, k · Tsl, and k · Tsl.

- GeoSmart III Data File is an Excel file. One sheet for one borehole.
- The Program Menu is attached at the Excel Menu.
- One project one Excel file.
- Include summary sheet for the project.

Functions of GeoSmart III

The screenshot displays the GeoSmart III Excel application interface. The main menu is open, showing various functions. The data tables are visible in the background.

Main Menu Commands:

- Start Program
- Auto Consistency
- Bore Log
- Instrument BoreLog
- Cross Section
- Report Summary
- Soil Legend Converter
- Export Data to AGS Format File
- Import Data from AGS Format File
- Transfer Data between GeoSmart and AGS_Sheets File
- Data Transfer With Databases
- About the program...
- Close Menu

Data Tables:

Type	No	Depth to Top
2		(m)
V 1		
V 2		

Date	Time	Borehole Depth	Casing Depth	Water Level
6		(m)	(m)	(m)
3-Oct-03	18:00	18.45	10	2.3
4-Oct-03	8:45	18.45	10	1.9
4-Oct-03	16:00	37.8	37	2.7
6-Oct-03	8:30	37.8	37	2.9
7-Oct-03	8:30	37.8	37	3
7-Oct-03	16:00	42.145	42	2.9

G Elevation (m)	103.580
Drilling start:	03-Oct-03
Drilling completed:	08-Oct-03
Borehole Dia(mm):	100
Corehole Dia(mm):	50
Hole Type:	W
Rig type No:	
Drilled by:	Yong
Log by:	LILI
Inclination:	
Bearing:	
Prepared by:	Hnin
Checked by:	MIMI
Date prepared:	11-Nov-03
Remarks:	End of borehole a
AutoCAD File Ref:	
Drilling Depth (m):	42.145
Water Level:	
Hammer No	H10
Hammer Er (%)	70

Main Menu Commands:

Start Program
Auto Consistency
Bore Log
Cross Section
Report Summary
Soil Legend Converter
Export Data to AGS Format File
Import Data from AGS Format File
Transfer Data between GeoSmart and AGS_Sheet File
Data Transfer with Database
About the program ...
Close Menu

Pattern for Geological Code

GEOLOGICAL CLASSIFICATION

 MG: FILL

FORT CANNING FORMATION

 FCBB: FORT CANNING BOULDER BED

KALLANG GROUP

 F1 : FLUVIAL SAND

 F2 : FLUVIAL CLAY

 E : PEAT/ORGANIC CLAY

 M : MARINE CLAY

 Kr : REEF MEMBER

 B : BEACH (LITTORAL)

BEDOK FORMATION

 O(A)  O(D)

 O(B)  O(E)

 O(C)

JURONG GROUP/SENTOSA GROUP (STG)
/BUKIT BATOK FORMATION
/KUSU FORMATION/BUONA VISTA FORMATION

					S(I)
					S(II)
					S(III)
					S(IV)
					S(V)
					S(VI)

BUKIT TIMAH GRANITE

		G(I)	G(IV)
		G(II)	G(V)
		G(III)	G(VI)

ENGINEERING CLASSIFICATION

 AS : ASPHALT, TAR

 BF : BACKFILL

 BE : BEDROCK

 BR : BRICK

 BO : BOULDER

 C : CLAY / MARINE CLAY

 CM : SILTY CLAY

 CO : ORGANIC CLAY

 MU : MUDSTONE

 MS : SANDY SILT

 MC : CLAYEY SILT

 MO : ORGANIC SILT

 Pt : PEAT

 PtS : SANDY PEAT

 PtG : GRAVELLY PEAT

 PtM : SILTY PEAT

 CS : SANDY CLAY

 CG : GRAVELY CLAY

 Cpt : PEATY CLAY

 CNG : CONGLOMERATE

 CON : CONCRETE

 GM : SILTY GRAVEL

 G : GRAVEL

 GS : SANDY GRAVEL

 PtC : CLAYEY PEAT

 S : SAND

 SG : GRAVELLY SAND

 SO : ORGANIC SAND

 SM : SILTY SAND

 SC : CLAYEY SAND

 SPt : PEATY SAND

 SA : SANDSTONE

 GPt : PEATY GRAVEL

 GC : CLAYEY GRAVEL

 GR : GRANITE

 GO : ORGANIC GRAVEL

 LI : LIMESTONE

 M : SILT

 MPt : PEATY SILT

 MG : GRAVELLY SILT

 SI : SILTSTONE

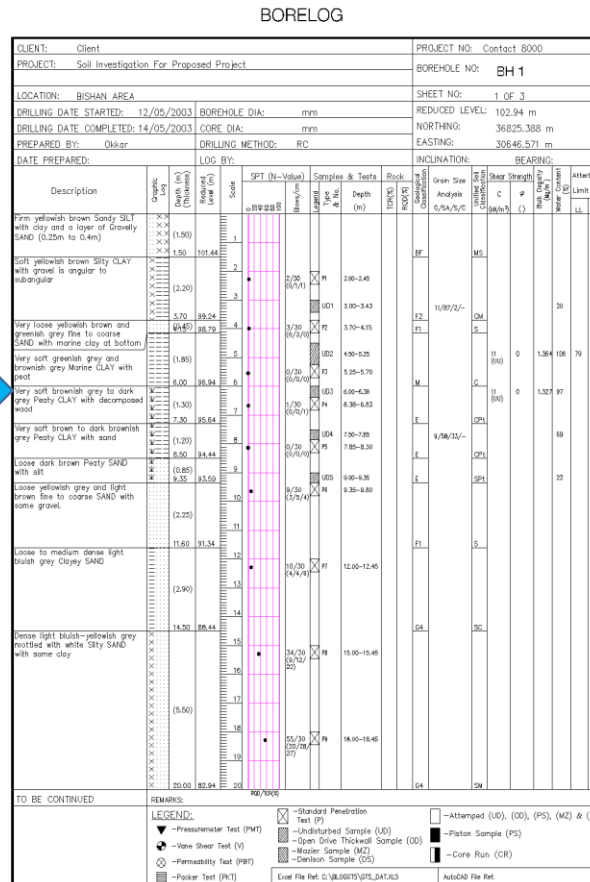
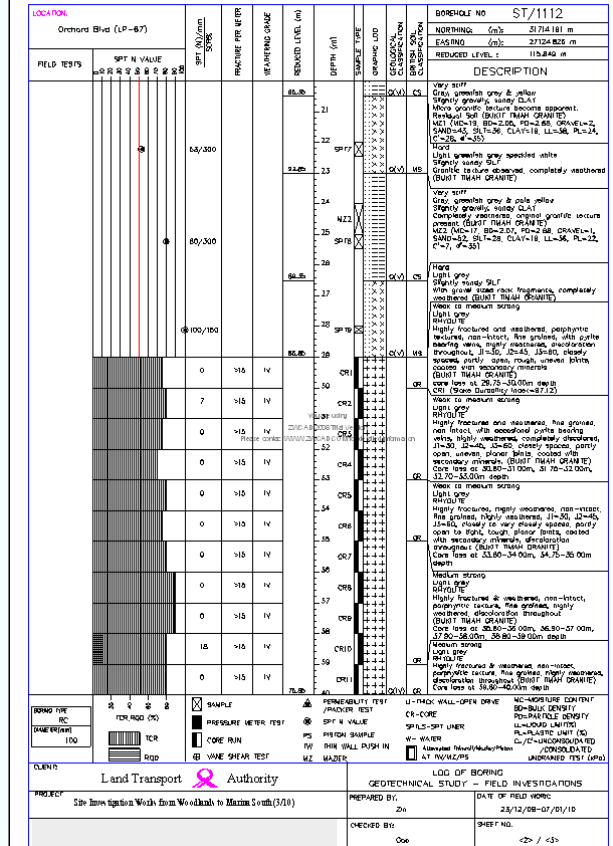
 SH : SHALE

 SCH : SCHIST

 TB : TIMBER

Borehole data to generate borehole log in AutoCAD/ZwCAD file.

Microsoft Excel - GTS_DAT													
File Edit View Insert Format Tools Data GeoSmart 2.0 Window Help													
Arial 8 B I U [font settings icons] 100%													
J6 = BF													
	A	B	C	D	J	K	L	M	N	O	P	Q	R
1	Data Sheet for Borelog & Cross Section												
2	CLIENT	Land Transport Au	SPT/WG RESULTS				SPT DETAILS						
3	Project	SOIL INVESTIGAT	SPT No.	Depth to Top of Test	Weathering Grade (WG)	1st 75mm (Seating)		2nd 75mm (Seating)		1st 75mm (Test)		2nd 75mm (Test)	
4	Project No.	LTA Contact 8232				No. Of Blows	Penetrati on (mm)	No. Of Blows	Penetrati on (mm)	No. Of Blows	Penetrati on (mm)	No. Of Blows	Penetrati on (mm)
5	Location	BISHAN SMART DE		(m)	-								
6	BH No.	BH 1#1	P1	2	BF	0	75	0	75	0	75	1	75
7	Northing (m)	36825.388	P2	3.7	BF	2	75	4	75	2	75	1	75
8	Easting (m)	30646.571	P3	5.25	BF	0	75	0	75	0	75	0	
9	G Elevation (m)	102.940	P4	6.38	BF	0	75	0	75	0	75	0	
10			P5	7.85	BF	0	75	0	75	0	75	0	75
11	Drilling start:	12-May-03	P6	9.35	BF	1	75	2	75	2	75	3	75
12	Drilling completed:	14/05/2003	P7	12	BF	2	75	2	75	2	75	2	75
13	Borehole Dia(mm):		P8	15	BF	4	75	5	75	6	75	6	75
14	Corehole Dia(mm):		P9	18	BF	9	75	11	75	15	75	13	75
15	Hole Type:	RC	P10	21	BF	10	75	15	75	17	75	18	75
16	Rig type No:		P11	23	BF	20	75	5	15	24	75	17	75
17	Drilled by:		P12	25	BF	8	75	11	75	15	75	18	75
18	Inclination:		P13	28	BF	13	75	12	75	18	75	20	75
19	Bearing:		P14	31	BF	10	75	15	75	17	75	21	75
20	Prepared by:	Okkar	P15	34	BF	15	75	10	45	22	75	22	75
21	Checked by:		P16	36	BF	15	75	10	55	23	75	25	75
22	Date prepared:		P17	38	BF	18	75	7	45	29	75	35	75
< < > > 1 / 2 / 3 / BH / Cross_section /													
Ready													
CAPS NUM													
<div> <div>Start</div> <div>AutoCAD LT - [...]</div> <div>Userguide</div> <div>Microsoft Exc...</div> <div>UserguideEcon ...</div> <div>10:42 AM</div> </div>													



Cross section function: Select boreholes to create soil profile

File Edit View Insert Format Tools Data GeoSmart II Window Help

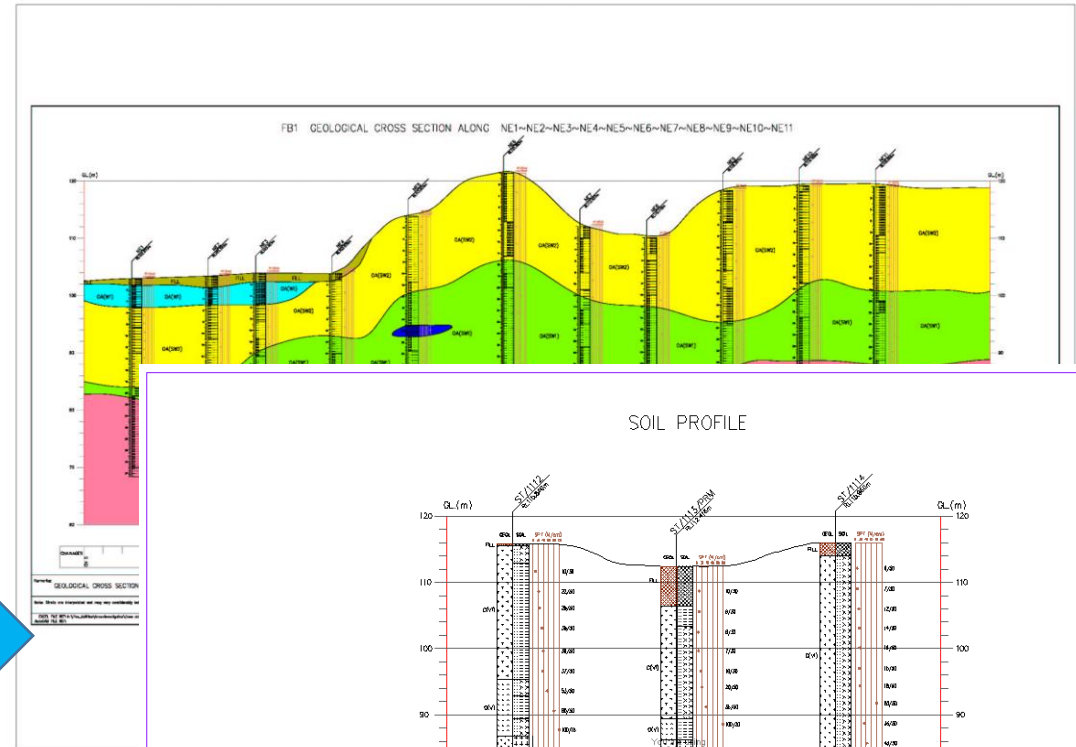
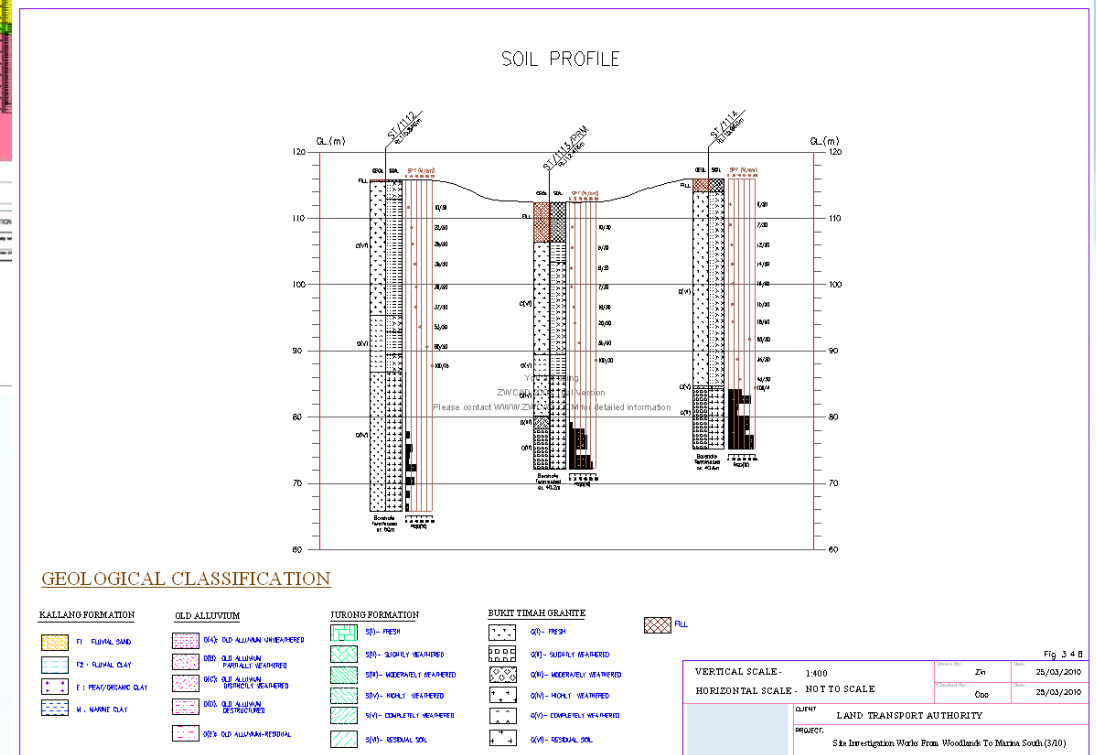
Arial 10 B I U L

Draw AutoShapes SnagIt Window

D15

DATA SHEET FOR MAKING THE CROSS SECTION							
Folder of the program:		C:\BlogGTS		H:WINNT		H:WINNTSYSTEM	
Num Boreholes for Cross Section:		4		LOG Width:		8	
Lower & Left Point of Chainage Box		50		DSC/SPT W		20	
Section vertical & horizontal scale:		350		1500		CPT Width:	
						28	
				Drawn by		Distance	
No.	Sheet Name	Select (Y)	Chainage (m)	Distance (m)	Bore Hole	Maximum Depth (m)	
1	BH1	Y	1190	90	BH 1	31.55	
2	BH2	Y	1310	120	BH 2	30.05	
3	BH3	Y	1430	120	BH3	34.6	
4	CPT1	Y	1550	120	CPT1	38.94	
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

CPT1 / BH1 / BH2 / BH3 / BH4 / BH5 / Cross_section / Sum_Drill / Sum_Qua /



Create and Load an AGS File

Microsoft Excel - GIS DAT											
File Edit View Insert Format Tools Data GeoSmart 2.0 Window Help											
Aral											
J6 BF 100%											
A B C D E F G H I J K L M N O P Q R											
1	Data Sheet for Boring & Cross Section										
2	CLIENT		SPT/WG RESULTS				SPT DETAILS				
3	Project	SOIL INVESTIGAT	SPT No	Depth to Top of Test (m)	Weathering Grade (WG)	1st 75mm (Seating)	2nd 75mm (Seating)	1st 75mm (Test)	2nd 75mm (Test)		
4	Project No.	LTA Contact 8232				No Of Blows	Penetrate on (mm)	No Of Blows	Penetrate on (mm)	No Of Blows	Penetrate on (mm)
5	Location	BISHAN SMRT DE	P1	(m)		No Of Blows	Penetrate on (mm)	No Of Blows	Penetrate on (mm)	No Of Blows	Penetrate on (mm)
6	BH No.	BH1141	P2	2 BF		0	75	0	75	1	75
7	Nothing (m)	36825.508	P2	3.7 BF		2	75	4	75	2	75
8	Existing (m)	36846.571	P3	5.25 BF		0	75	0	75	0	75
9	Cl Elevation (m)	182.440	P4	6.30 BF		0	75	0	75	0	75
10			P5	7.95 BF		0	75	0	75	0	75
11	Drilling start:	12-May-03	P6	9.35 BF		1	75	2	75	2	75
12	Drilling completed:	14/05/2003	P7	12 BF		2	75	2	75	2	75
13	Borehole Dia(mm)		P8	15 BF		4	75	5	75	6	75
14	Corehole Dia(mm)		P9	18 BF		9	75	11	75	15	75
15	Hole Type	PC	P10	21 BF		15	75	16	75	19	75
16	Flag Type No		P11	23 BF		20	75	5	15	24	75
17	Drilled by:		P12	25 BF		8	75	11	75	15	75
18	Inclination:		P13	26 BF		13	75	12	75	18	75
19	Bearing:		P14	31 BF		15	75	15	75	21	75
20	Prepared by:	Okkar	P15	34 BF		15	75	10	45	22	75
21	Checked by:		P16	36 BF		15	75	10	55	23	75
22	Date prepared:		P17	38 BF		16	75	7	45	20	75

GeoSmart III data file.

Microsoft Excel - AGS_AGS

文件(F) 编辑(E) 视图(V) 插入(I) 格式(O) 工具(T) 数据(D) 窗口(W) GeoSmart II 帮助(H)

全部重绘 项目(P) 格式刷

10 Arial 10 B I U

C13 = User Defined Groups and Headings

AGS FORMAT GROUP SELECT

Note: <1> #.....Don't change the sheet structure. <2> Modify/Add other sheets, must follow the rules of AGS format. <3> Don't change the number of Headings except you are confident.

Note	Sr.No	Group Name/Description & Click the Cell to View/Edit Data in the Group Sheet	Sheet (Group) Name	Field Number for the Group	Y
	1	Project Group	PROJ	10	
	2	Abbreviations	ABBR	3	Y
#	3	Classification Tests	CLSS	21	Y
#	4	Contaminant and Chemical Testing	CNMT	19	Y
#	5	Consolidation Test - General	CONG	25	Y
	6	Consolidation Test	CONS	13	Y
#	7	Rotary Core Information	CORE	10	Y
#	8	Stratum Detail Descriptions	DETL	5	Y
#	9	User Defined Groups and Headings	DICT	7	Y
	10	Dynamic Probe Test	DPRB	7	Y
	11	Dynamic Probe Test - General	DPRG	11	Y
	12	Associated Files	FILE	6	Y
#	13	Stratum Descriptions	GEOL	9	Y
#	14	Particle Size Distribution Analysis Data	GRAD	9	Y
#	15	Summary of Borehole Information	HOLE	30	Y
#	16	In Situ Permeability Test	IPRM	15	Y
#	17	Standard Penetration Test Results	ISPT	23	Y
#	18	In Situ Vane Test	IVAN	8	Y
	19	Piezometer Readings	POBS	7	Y
	20	Piezometer Installation Details	PREF	8	Y
	21	Pressuremeter Test Data	PRTD	18	Y
#	22	Pressuremeter Test Results, General	PRTG	33	Y
#	23	Pressuremeter Test Results, Individual Loops	PRTL	11	Y
#	24	Hole Progress by Time	PTIM	7	Y

单元格 23 批注者: G3S

开始 BLOGGTS GeoSmart: serie... GeoSmart: Soft... Microsoft Excel ...

下午 05:22

GTS AGS.xls

```

1  ***PROJ**CRIF
2  "*PROJ_ID","*PROJ_NAME","*PROJ_LOC","*PROJ_CLNT","*PROJ_CONT",
3  "<UNITS>","","","","","","dd/mm/yyyy",""CRIF
4  "P.741","SI-Works-for-DE155","Tuas-Sth-Blvd-(LP.275-to-LP.242)"
5  CRIF
6  ***HOLE**CRIF
7  "*HOLE_ID","*HOLE_TYPE","*HOLE_NATE","*HOLE_NATN","*HOLE_GL",""
8  "<UNITS>","","m","m","m","m","m","m","m","dd/mm/yyyy","dd/mm
9  "TRV-B039","RCG","","","","55","Trial.pit.0.5x0.8x1.50m.Hand.Au
10 "TRV-B040","RCG","","","","60","Trial.pit.0.5x0.8x1.50m.Hand.Au
11 "TRV-B042","RCG","","","","60","Trial.pit.0.5x0.6x1.5m.Hand.au
12 "TRV-B045","RCG","","","","60","Trial.pit.0-1.50m.1.50-3.00m.
13 "TRVB-062","RCG","","","","50.5","Trial.pit.0.6x0.7x1.5m.Hand.
14 "TRVB068","RCG","","","","50","Trial.pit.0.7x0.6x1.5m.1.50-3.00
15 CRIF
16 ***GEOL**CRIF
17 "*HOLE_ID","*GEOL_TOP","*GEOL_BASE","*GEOL_DESC","*GEOL_LEG",""
18 "<UNITS>","","m","m","","","","",""CRIF
19 "TRV-B039","0","6","Medium-dense,Reddish-brown,Silty-slightly
20 "TRV-B039","6","9.8","Stiff,Brown-mottled-grey,fine-Sandy.sli
21 "TRV-B039","9.8","12.5","Loose,Grey,fine-to-coarse-SAND-with-
22 "TRV-B039","12.5","24","Very-soft,Bluish-Grey,CLAY.(Marine-Cl
23 "TRV-B039","24","27","very-Stiff,dark-grey-stripped-red&yellow
24 "TRV-B039","27","46","Very-Stiff,Dark-Grey-stripped-light-grey
25 "TRV-B039","46","50","Weak,Dark-Grey,highly-weathered,very-cl
26 "<CONT>","","","","","","","","","","","","","derately-weathered,cl
27 "TRV-B039","50","55","Weak,Dark-Grey,highly-weathered,very-cl
28 "<CONT>","","","","","","","","","","","","","closely-to-closely-s
29 "TRV-B040","0","6","Firm,Yellowish-Brown,slightly-fine-tomed
30 "TRV-B040","6","15","Loose,Brown-to-brownish-grey,fine-to-coa
31 "TRV-B040","15","19.9","Medium-dense,Grey,Silty-fine-to-coars
32 "TRV-B040","19.9","27","Very-soft,Bluish-Grey,CLAY.(Marine-Cl
33 "TRV-B040","27","29.5","very-stiff,Dark-Grey-stripped-light-gr
34 "TRV-B040","29.5","32.5","Medium-strong,Dark-Grey-stripped-liq
35 "<CONT>","","","","","","","","","","","","ones,JIRONG-FORMATION.Co

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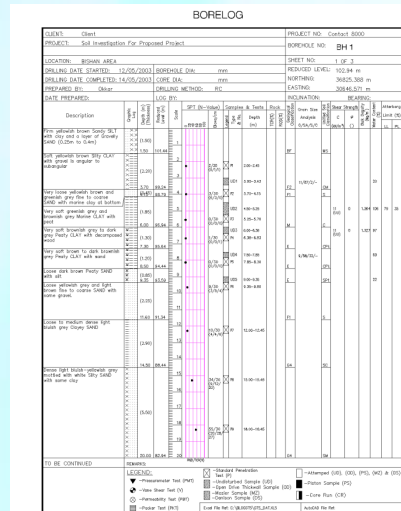
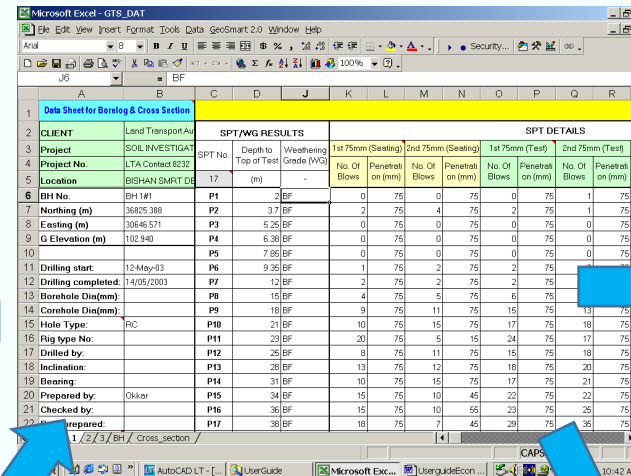
AGS file

Two ways transfer from GeoSmart III data file to AGS file.

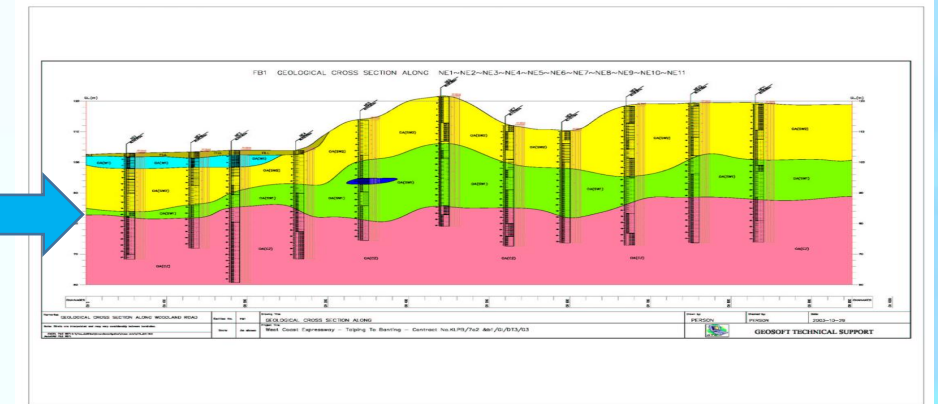
Summary of GeoSmart III functions

Data File

Borelog



Cross Section

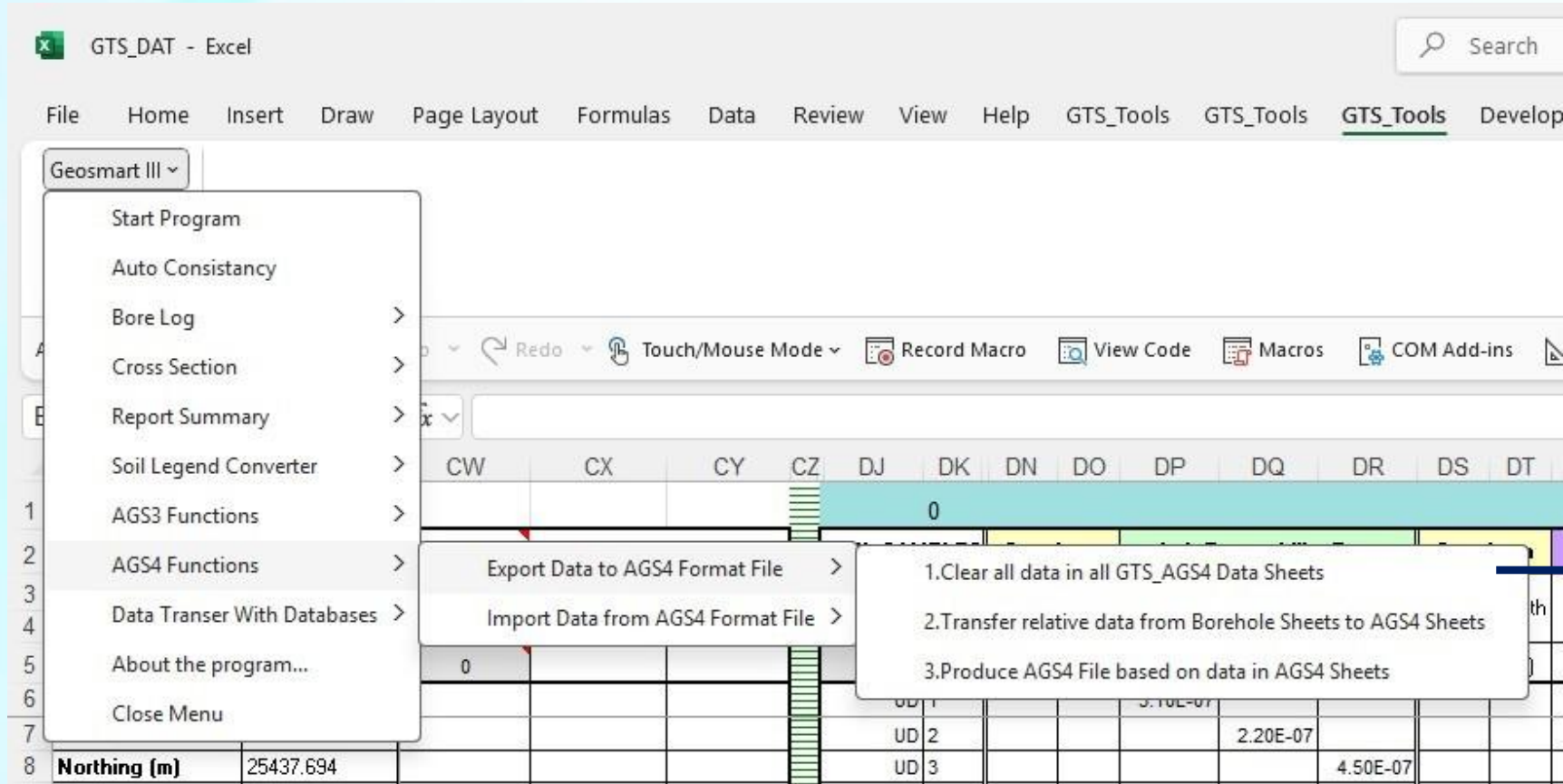


Two Ways to AGS file (Excel and Text Format)

[illegible][illegible]

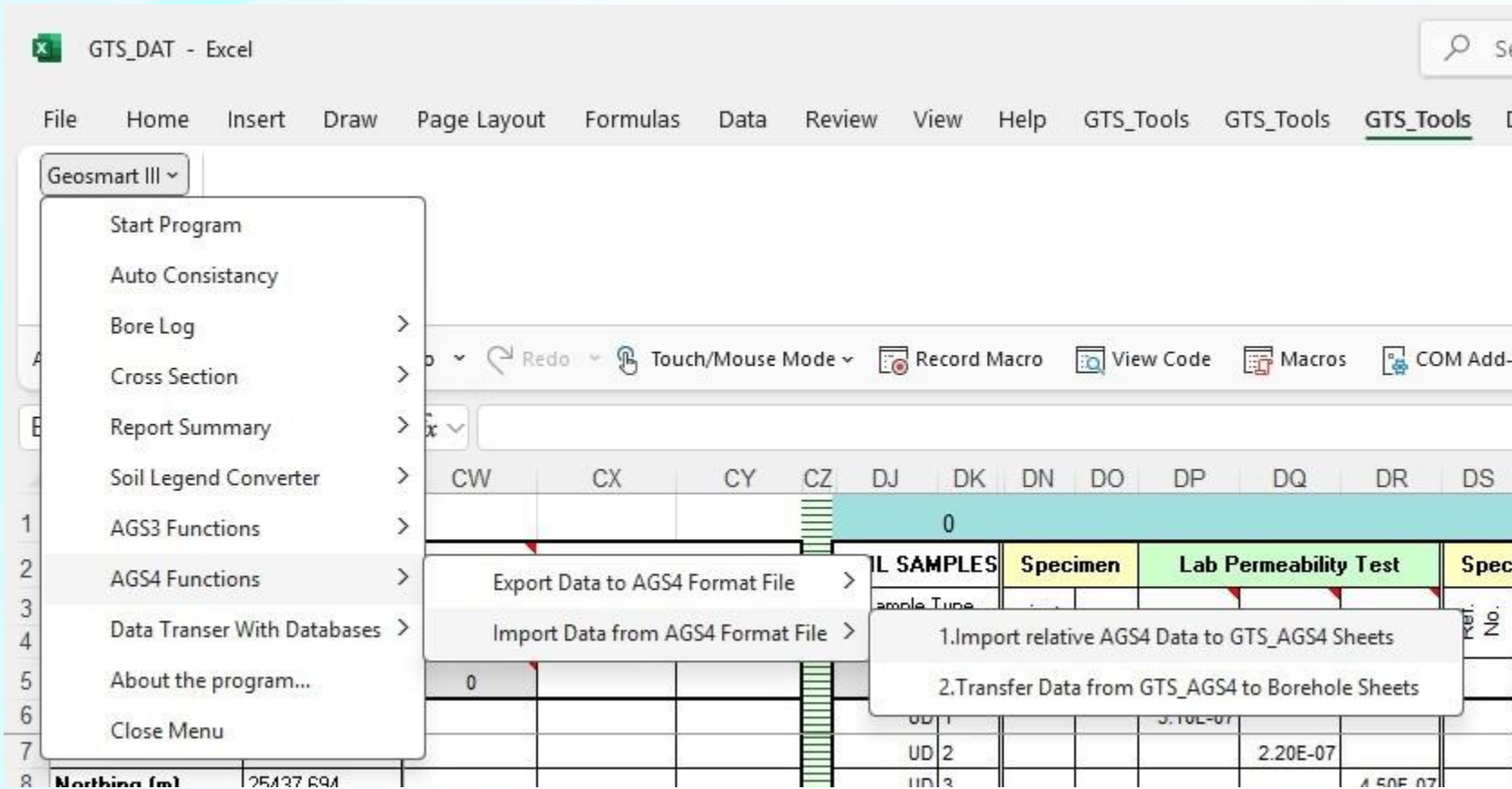
Report Summary:
Summary of Lab
Sum of Site Quantity
Summary of Lab Quantity
Analyse Result (Soil condition
Details and Statistical Results)

Functions of Updated GeoSmart III – AGS4



Clear AGS4 Excel Template
Transfer Data from GTS_DAT to
GTS_AGS4
Create AGS4 File

Functions of Updated GeoSmart III – AGS4



Import AGS4 file to GTS_AGS
Then
import GTS_AGS to GTS_DAT
file

Functions of Updated GeoSmart III – AGS4

	A	B	C	D	E	F	G	H	I	J	
1			AGS4 FORMAT GROUP SELECT								
2			Note: <1> #----Don't change the sheet structure. <2> Modify/Add other sheets, must follow the rules of AGS requirements.								
3	Note	Sr.No	Group Name/Description & Click the Cell to View/Edit Data in the Group Sheet	Sheet (Group) Name	Field Number for the Group	Y--For Produce AGS Data File	Notes	Parent Group	Num of Data		
5	#	1	Project Information	PROJ	8	Y	Required	-			
6	#	2	Abbreviation Definitions	ABBR	6	Y	Required	-			
7	#	3	User Defined Groups and Headings	DICT	11	Y	Required	-			
8	#	4	Associated Files	FILE	8	Y	Required	-			
9	#	5	Data File Transmission Information / Data Stat	TRAN	11	Y	Required	-			
10	#	6	Definition of Data Types	TYPE	3	Y	Required	-			
11	#	7	Definition of Units	UNIT	4	Y	Required	-			
12	#	8	Aggregate Abrasion Tests	AAVT	18	Y		SAMP			
13	#	9	Aggregate Crushing Value Tests	ACVT	19	Y		SAMP			
14	#	10	Aggregate Elongation Index Tests	AELO	18	Y		SAMP			
15	#	11	Aggregate Flakiness Tests	AFLK	19	Y		SAMP			
16	#	12	Aggregate Impact Value Tests	AIVT	22	Y		SAMP			
17	#	13	Los Angeles Abrasion Tests	ALOS	22	Y		SAMP			
18	#	14	Aggregate Polished Stone Tests	APSV	18	Y		SAMP			
19	#	15	Aggregate Determination of the Resistance to	ARTW	24	Y		SAMP			
20	#	16	Slake Durability Index Tests	ASDI	22	Y		SAMP			
21	#	17	Aggregate Soundness Tests	ASNS	19	Y		SAMP			
22	#	18	Aggregate Water Absorption Tests	AWAD	18	Y		SAMP			
23	#	19	Exploratory Hole Backfill Details	BKFL	8	Y		LOCA			
24	#	20	California Bearing Ratio Tests - General	CBRG	22	Y		SAMP			
25	#	21	California Bearing Ratio Tests - Data	CBRT	20	Y		CBRG			
26	#	22	Casing Diameter by Depth	CDIA	5	Y		LOCA			
27	#	23	Chiselling Details	CHIS	8	Y		LOCA			
28	#	24	Chain of Custody Information	CHOC	13	Y		SAMP			
29	#	25	Compaction Tests - General	CMPG	27	Y		SAMP			
30	#	26	Compaction Tests - Data	CMPT	13	Y		CMPG			
31	#	27	Consolidation Tests - General	CONG	34	Y		SAMP			
32	#	28	Consolidation Tests - Data	CONS	18	Y		CONG			
33	#	29	Coring Information	CORE	10	Y		LOCA			
34	#	30	Cyclic Triaxial Tests - Consolidation	CTRC	42	Y		CTRG			
35	#	31	Cyclic Triaxial Tests - Data	CTRD	37	Y		CTRP			

Ready

AGS_GROUP

DATA

This is GTS_AGS4 excel template file

	A	B	C	D	E
1	ISPT	Standard Penetration Test Results			
2	Num of Data	96	96	96	96
3	Example	327-16A	13.5	14	35
4	Description	Location identifier	Depth to top of test	Number of blows for seating	Number of blows for main test
5	Status	*	*		
6	HEADING	LOCA_ID	ISPT_TOP	ISPT_SEAT	ISPT_MAIN
7	UNIT		m		
8	TYPE	ID	2DP	ODP	ODP
9	DATA	BH 2	1.5	0	
10	DATA	BH 2	4.5	0	

Functions of Updated GeoSmart III – AGS4

GTS_AGS4 - Compatibility Mode

Search

FileHomeInsertDrawPage LayoutFormulasDataReviewViewHelpGTS_ToolsGTS_ToolsGTS_ToolsDeveloper

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This is Sample of AGS4 data in GTS_AGS4 Excel Sheet

Functions of Updated GeoSmart III – AGS4

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GTSProj_AGS4_Sample_Data.AGS
1  "GROUP","PROJ"
2  "HEADING","PROJ_ID","PROJ_NAME","PROJ_LOC","PROJ_CLNT","PROJ_CONT"
3  "UNIT","","","",""
4  "TYPE","ID","X","X","X","X"
5  "DATA","SD/3150/2003","West Coast Expressway - Taiping To Banting - Contract No.KLPB/7a2 &b1/GI/
6
7  "GROUP","ABBR"
8  "HEADING","ABBR_HDNG","ABBR_CODE","ABBR_DESC"
9  "UNIT","","",""
10 "TYPE","X","X","X"
11 "DATA","ELRG_CODE","AS","Arsenic"
12 "DATA","DICT_TYPE","HEADING","Flag to indicate definition is a HEADING"
13 "DATA","SAMP_TYPE","C","Core sample"
14 "DATA","SAMP_TYPE","U","Undisturbed sample - open drive"
15 "DATA","ELRG_MATX","SOLID","Solid"
16 "DATA","FGHG_TYPE","PBT","Permeability Test"
17 "DATA","FGHG_TYPE","PKT","Packer Test"
18 "DATA","GCHM_CODE","PH","Acidity/alkalinity (pH to nearest 0.1)"
19 "DATA","GCHM_CODE","OGM","Organic matter content (as %)"
20 "DATA","GCHM_CODE","SO3","Sulphate as SO3"
21 "DATA","GCHM_TTYP","SOLID_TOTAL","Solid (Total)"
22 "DATA","GCHM_CODE","CHL","Chloride"
23 "DATA","GEOL_GEOL","FILL","BACKFILL"
24 "DATA","GEOL_GEOL","E","Estuarine(Transitional)"
25 "DATA","GEOL_GEOL","M","Marine Clay"
26 "DATA","GEOL_GEOL","O(D)","Old Alluvium (Deconstructed)"
27 "DATA","GEOL_GEOL","O(C)","Old Alluvium (Distinctly weathered)"
28 "DATA","GEOL_GEOL","O(B)","Old Alluvium (Partially weathered)"
```

This is Sample of AGS4 text data file