



LEADING DIGITALISATION IN THE SOIL INVESTIGATION (SI) INDUSTRY

GEOSOAMRT MOBILE BORELOG APPLICATION

Geosmart Mobile App Key Functions



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.

Field Application (On-site)

Photo-taking function



Seamless data records for ease of checking while greatly reducing human error



Auto-backup to cloud

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			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	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	1	
	8											
	9			9 - 9.9m Recovery: 80/90cm								
	10			9.9 - 10.35m 0/150; 2/300mm	2	0	0	0	1	0	1	
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)					Rig No. / Drilling method J43 / RCG		
☒ - 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)					Dia / depth of casing 100.0mm / 9.0m Dia / Depth of Borehole 100.0mm / 14m Core Diameter -mm Log By / Supervisor / Site Geologist Signature SPT HSN: - Total Depth Drilled : 14 m. Driller: Sekar SPT ER: - To be continued from: 14 m. Labourers: Miah Md Sagar		

Digital field logging using the Geosmart Borelog application

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

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

GeoSmart Mobile Log App

- GeoSmart Log App is design for using mobile device input soil investigation data at site, manage the data, generate borehole log in PDF format, view the works progress, share the data between users via json file.
- Send borehole data to GeoSmart III via Jason File for geotechnical reporting avoid repeat works of data entry for site investigation.



LEADING DIGITALISATION IN THE SOIL INVESTIGATION (SI) INDUSTRY

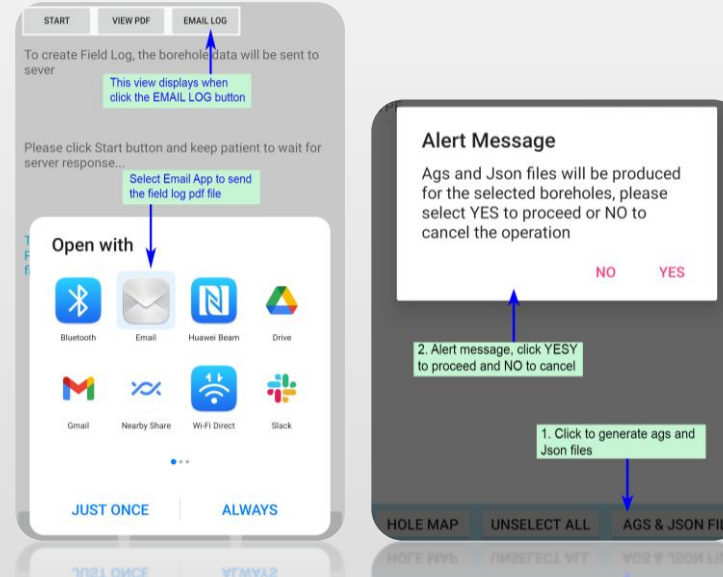
WORKFLOW OF SI USING GEOSMART

Field Application (On-site)



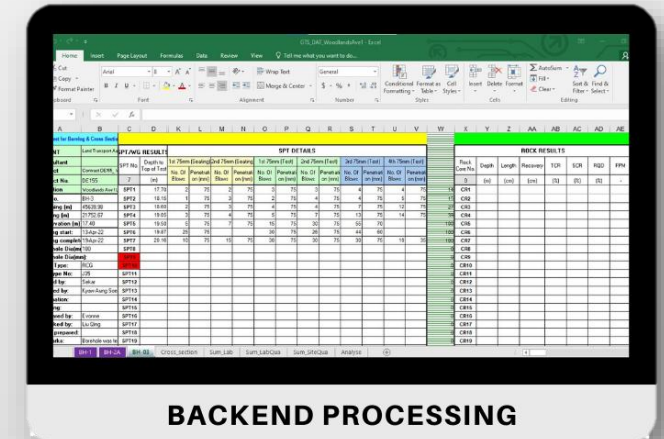
Site geologist logs ground information via the **fully digital Geosmart borelog app** in his tablet.

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)



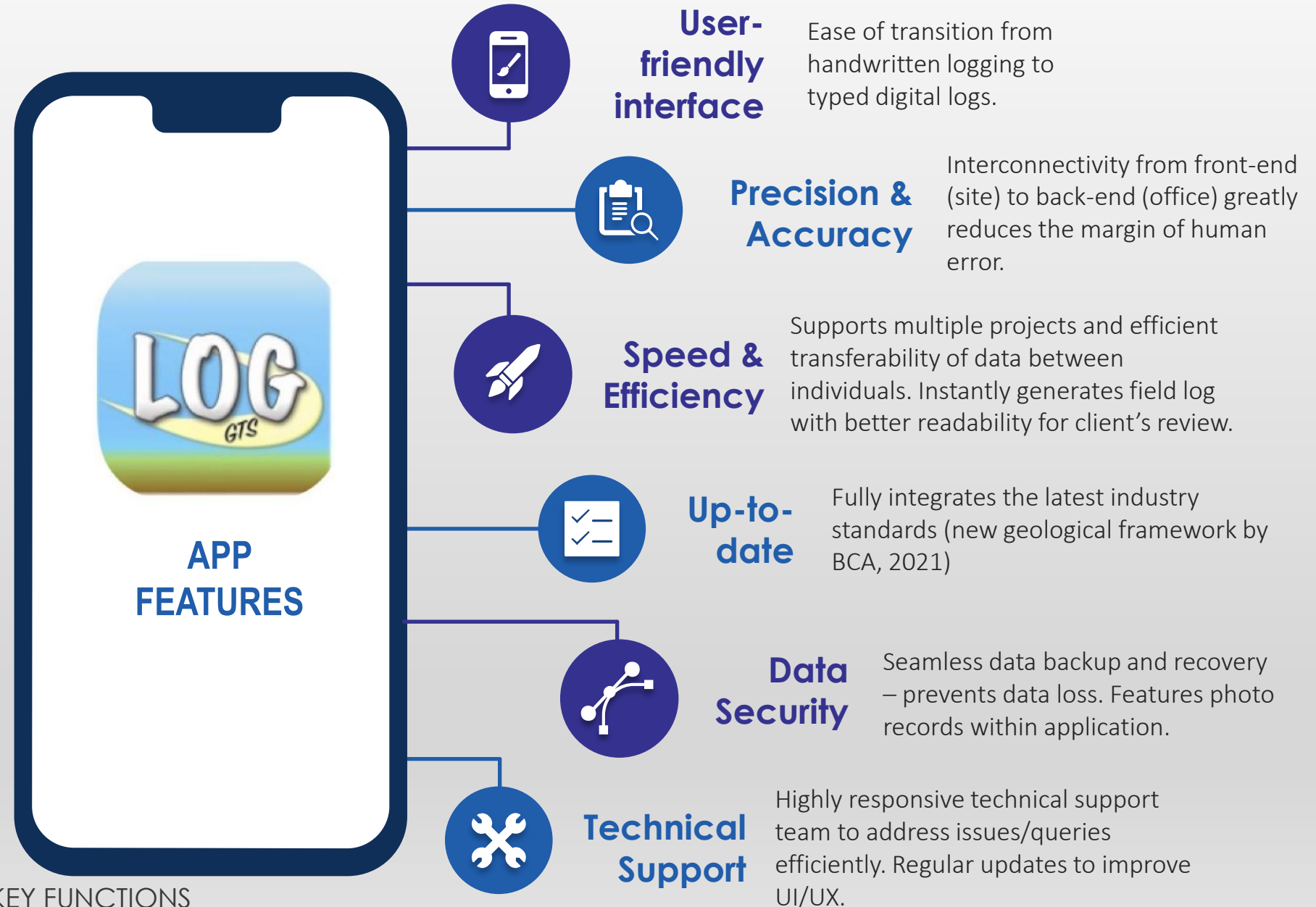
- ✓ Project files are saved into company server via email
- ✓ Import the files directly into Geosmart Excel to check/edit data
- ✓ Export as digital logs, cross-section, AGS files etc



LEADING DIGITALISATION IN THE SOIL INVESTIGATION (SI) INDUSTRY

GEOSMART BORELOG APP

Company will train their site supervisors to be well-equipped with the latest technological trends by adopting the use of **digital logging in the soil investigation industry** (BORELOG APP).





GEOSMART BORELOG APP - Key Functions

Add/Edit
Project Data

Add/Edit
Borehole Data

Add/Edit
Stratum Data

Add/Edit SPT
Data

Add/Edit Core
Data

Add/Edit
Sample Data

Add/Edit In-
Situ Test

Add/Edit Hole
Progress

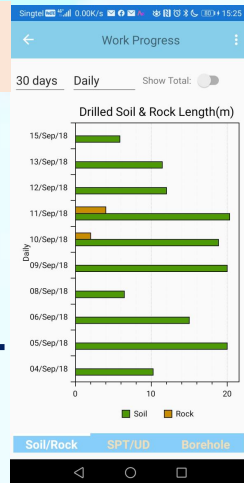
View
Boreholes in
Google Maps

Backup &
Restore
Function

Generates PDF
Field Logs

Interface Log App (Key Views)

Work Progress and Summary



Soil/Rock Description

Soil/Rock Description screen showing details for GEOL - BH03. The screen displays depth ranges and descriptions for various soil and rock types.

Depth(m)	Description
0.00 - 2.00	Brown mix Yellow, Sandy SILT with gravel. (BACKFILL - FILL)
2.00 - 7.00	Very Stiff to hard, Yellowish Brown, Slightly Sandy SILT.
7.00 - 10.50	Hard, Reddish Brown spotted White, Sandy SILT.
10.50 - 14.30	Hard, Reddish Brown, Sandy SILT with rock fragments.
14.30 - 16.00	Medium strong, Grey striped brown, SANDSTONE.
16.00 - 19.30	Strong, Light Greenish Grey, CONGLOMERATIC SANDSTONE.

SPT Test Data

SPT Test Data screen showing details for SPT - BH03. The screen displays SPT test results for various depths.

Depth(m)	SPT N	Penetration (mm)
03.90	15	300
06.00	37	300
10.00	100	140
13.00	100	68
14.30	100	0

Rock Core

Rock Core screen showing details for CORE - BH03. The screen displays core run data for various depths.

Depth(m)	Core Run	TCR	SCR	RQD	FI
14.30 - 15.30	100.0%	100.0%	25.0%	0.0%	0
15.30 - 16.30	100.0%	100.0%	75.0%	0.0%	0
16.30 - 17.30	100.0%	100.0%	100.0%	0.0%	0
17.30 - 18.30	100.0%	100.0%	97.0%	0.0%	0
18.30 - 19.30	100.0%	100.0%	99.0%	0.0%	0

Sampling

Sampling screen showing details for SAMP - BH03. The screen displays sampling data for various depths.

Depth(m)	Sampling Data
3.00-3.90 No: TW1 Reco (cm): 0	
9.00-10.00 No: M1 Reco (cm): 0	
9.00-10.00 No: M2 Reco (cm): 0	
12.00-13.00 No: M2 Reco (cm): 0	
12.00-13.00 No: M22 Reco (cm): 0	

Field Test

Field Test screen showing details for Edit Field Test - BH02. The screen displays field test results and descriptions.

Field Test Type	Field Test Depth (m)	Field Test Date (dd/MM/yyyy)
Select Test Type	Enter Field Test Depth (m)	././.

Day Work

Day Work screen showing details for PTIM - BH02. The screen displays daily work logs and remarks.

Date	Time	Work Log
05/Sep/2018	08:00	Casing/Water Depth: Casing 0 / Water 0(m)
05/Sep/2018	18:00	Casing/Water Depth: Casing 4 / Water 2.1(m)
06/Sep/2018	08:00	Casing/Water Depth: Casing 9 / Water 1.2(m)
06/Sep/2018	18:00	Casing/Water Depth: Casing 18 / Water 2.0(m)

Project Info

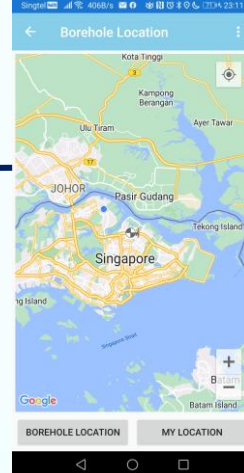
Project Info screen showing details for GeoSmart Log - Projects. The screen displays project ID and description.

Proj ID: P666
S.I. works for widening of road

Boreholes - P666 screen showing details for Boreholes - P666. The screen displays borehole data and a map view.

Borehole	Location
BH: BH01	Near TPE
BH: BH02	Near TPE
BH: BH03	Near TPE

Map



Create Log

Create Log screen showing details for Create Field Log for - BH01. The screen displays a form for creating a field log.

To create Field Log, the borehole data will be sent to sever.

Please click Start button and keep patient to wait for server response...

Field Log

Field Log screen showing details for P666_BH01_11A... The screen displays a field log form.

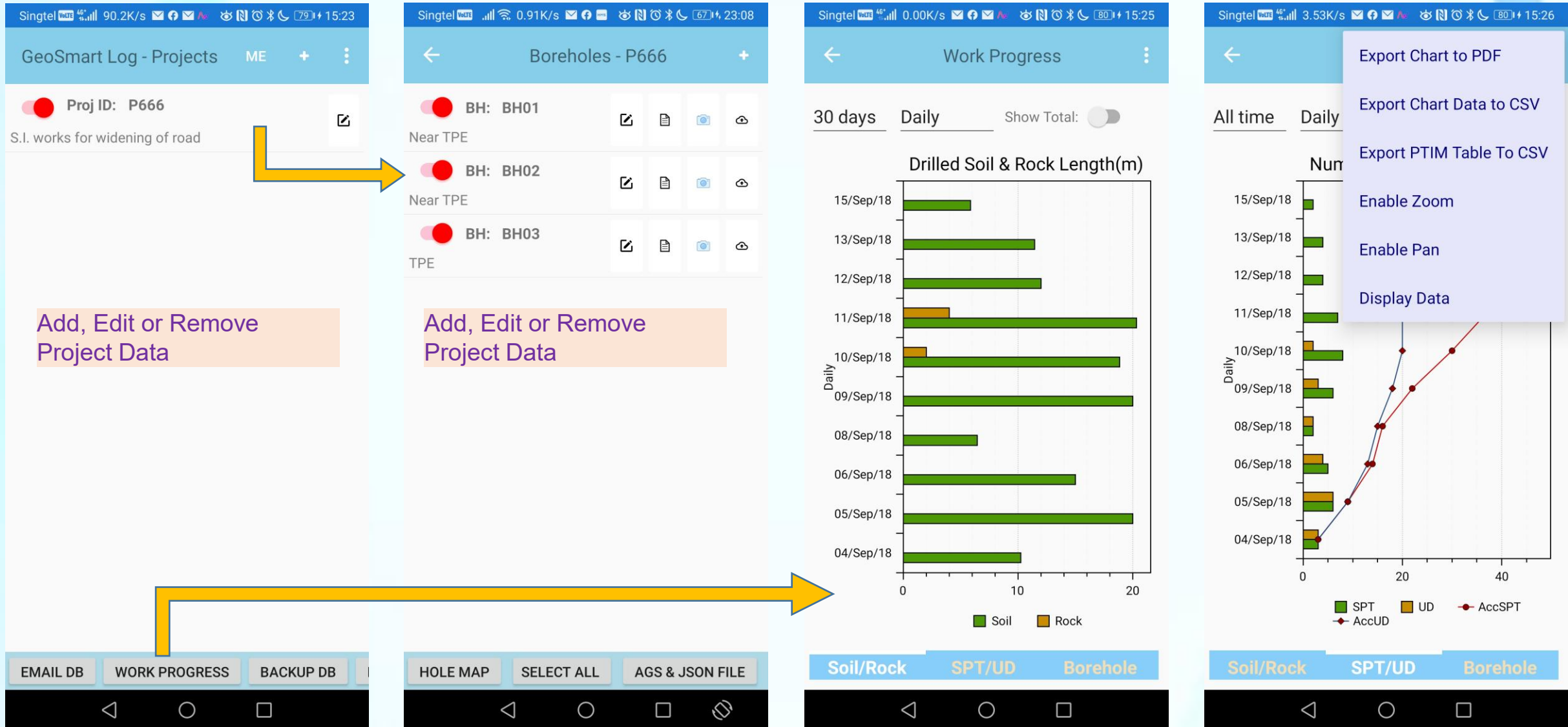
Ags/Json File

Ags/Json File screen showing details for Boreholes - P666. The screen displays a message box for uploading files.

The ags and json files (/data/user/0/com.geosoft.app.geosoft_bhd/files/P666.ags) are generated, please send these files via Email

App provide the add, edit, remove function for all record, and also provide function to upload photo for borehole, SPT, Core

Interface Log App – Project Information



Interface Log App – Borehole Data

Boreholes - P666

BH: BH01
Near TPE

BH: BH02
Near TPE

BH: BH03
TPE

Borehole Information

GEOL - BH03

Depth(m): 0.00 - 2.00
Brown mix Yellow, Sandy SILT with gravel. (BACKFILL - FILL)

Depth(m): 2.00 - 7.00
Very Stiff to hard, Yellowish Brown, Slightly Sandy SILT.

Depth(m): 7.00 - 10.50
Hard, Reddish Brown spotted White, Sandy SILT

Depth(m): 10.50 - 14.30
Hard, Reddish Brown, Sandy SILT with rock fragments.

Depth(m): 14.30 - 16.00
Medium strong, Grey striped brown, SANDSTONE

Depth(m): 16.00 - 19.30
Strong, Light Greenish Grey, CONGLOMERATIC SANDSTONE

Borehole Data

Borehole Location and information

BH01/J11
Rig No: J11
Start Date: 04/Sep/2018
Complete Date: 08/Sep/2018
Location: Near TPE

Borehole Location

P666_BH01_11A...

FIELD LOG FOR SITE INVESTIGATION

Borehole log
Client / Consultant : Client
Project : S.I. works for widening of road
Location : along TPE

Borehole No. : BH01
Date : 04/09/2018
Borehole shifted due to underlying obstruction : Yes / No, If yes, distance from original position : 5.0 m

Description of Soil Strata	No.	S.T.	Depth in m, Other Remarks	SPT N-Value									
				Total	1"	2"	3"	4"	5"	6"	8"		
Grey, yellowish brown, slightly gravelly Sandy SILT with fragment (F#)	1		0 - 3.9m Recovery: 950cm										
Grey, yellowish brown Sandy SILT with clay (F#) last	2		3.9 - 4.35m 1150, 1300mm	1	0	0	1	0	0	0			
Very soft, dark grey slightly Sandy Heavy CLAY (KALLANG FORMATION) test	4		4.35 - 6.8m Recovery: 950cm										
Firm, light greenish grey, grey slightly Sandy SILT (OLD ALLUVIUM E)	7		6.8 - 7.25m 950, 9300mm	0	5	1	1	1	1	1	2		
Light greenish grey, reddish brown slightly Sandy CLAY (OLD ALLUVIUM E)	8		7.25 - 9.9m Recovery: 950cm	0	6	1	1	1	1	1	2		
Firm, light grey, Sandy SILT (OLD ALLUVIUM E)	9		9.9 - 10.25m 950, 9300mm	0	6	1	1	1	1	1	2		
	10		10.25 - 11.1m 950, 9300mm	0	6	1	1	1	1	1	2		

Generated Field Log

Interface Log App–Soil/Rock Description and Test Data

Singtel 1.84K/s 11:42

← GEOL - BH03 +

Depth(m): 0.00 - 2.00
Brown mix Yellow, Sandy SILT with gravel.
(BACKFILL - FILL) 

Depth(m): 2.00 - 7.00
Very Stiff to hard, Yellowish Brown, Slightly Sandy SILT. 

Depth(m): 7.00 - 10.50
Hard, Reddish Brown spotted White, Sandy SILT 

Depth(m): 10.50 - 14.30
Hard, Reddish Brown, Sandy SILT with rock fragments. 

Depth(m): 14.30 - 16.00
Medium strong, Grey striped brown, SANDSTONE 

Depth(m): 16.00 - 19.30
Strong, Light Greenish Grey, CONGLOMERATIC SANDSTONE 

Input / Edit the soil/rock Description

GEOL SPT CORE SAMP More

Singtel 1.93K/s 11:46

← SPT - BH03 +

Depth(m): 03.90 SPT N:15 PEN:300
SPT: 1/1/3/3/4/5 PEN: 75/75/75/75/75/75  

Depth(m): 06.00 SPT N:37 PEN:300
SPT: 3/6/7/8/10/12 PEN: 75/75/75/75/75/75  

Depth(m): 10.00 SPT N:100 PEN:140
SPT: 17/8/55/45/0/0 PEN: 75/45/75/65/0/0  

Depth(m): 13.00 SPT N:100 PEN:68
SPT: 23/2/100/0/0/0 PEN: 75/5/68/0/0/0  

Depth(m): 14.30 SPT N:100 PEN:0
SPT: 25/0/100/0/0/0 PEN: 0/0/0/0/0/0  

Input / Edit the SPT Test Data

GEOL SPT CORE SAMP More

Singtel 269B/s 11:47

← CORE - BH03 +

Depth(m): 14.30 - 15.30
Core Run: TCR = 100.0% SCR = 25.0% RQD = 0.0% FI = 0  

Depth(m): 15.30 - 16.30
Core Run: TCR = 100.0% SCR = 75.0% RQD = 69.0% FI = 0  

Depth(m): 16.30 - 17.30
Core Run: TCR = 100.0% SCR = 100.0% RQD = 100.0% FI = 0  

Depth(m): 17.30 - 18.30
Core Run: TCR = 100.0% SCR = 97.0% RQD = 97.0% FI = 0  

Depth(m): 18.30 - 19.30
Core Run: TCR = 100.0% SCR = 99.0% RQD = 99.0% FI = 0  

Input / Edit the Rock Core Data

GEOL SPT CORE SAMP More

Singtel 494B/s 11:48

← SAMP - BH03 +

Depth(m): 3.00-3.90 No: TW1 Reco (cm): 0
DESC: 

Depth(m): 9.00-10.00 No: M1 Reco (cm): 0
DESC: 

Depth(m): 9.00-10.00 No: MZ1 Reco (cm): 0
DESC: 

Depth(m): 12.00-13.00 No: M2 Reco (cm): 0
DESC: 

Depth(m): 12.00-13.00 No: MZ2 Reco (cm): 0
DESC: 

Input / Edit the Sampling (UD/PS/MZ etc)

GEOL SPT CORE SAMP More

Interface Log App–Soil/Rock Description and Test Data

Singtel 141B/s 15:17

← ISTS - BH01 +

Test Type: PRT_OYO at 17.00m depth
Note:  

Test Type: PRT_OYO at 26.50m depth
Note:  

Input / Edit Field Test Data
(Permeability Packer / Pressure meter Test)

Singtel 36.8K/s 11:51

← PTIM - BH02 +

Date: 05/Sep/2018 Time: 08:00
Hole Depth: 0m
Casing/Water Depth: Casing:0 / Water:0(m)
Drilled Soil/Rock Length: Soil:0 / Rock:0(m) 
Nos of SPT/UDs: SPT:0 / UD:0
Remark

Date: 05/Sep/2018 Time: 18:00
Hole Depth: 11m
Casing/Water Depth: Casing:4 / Water:2.1(m)
Drilled Soil/Rock Length: Soil:11 / Rock:0(m) 
Nos of SPT/UDs: SPT:3 / UD:3
Remark

Date: 06/Sep/2018 Time: 08:00
Hole Depth: 11m
Casing/Water Depth: Casing:9 / Water:1.2(m)
Drilled Soil/Rock Length: Soil:0 / Rock:0(m) 
Nos of SPT/UDs: SPT:0 / UD:0
Remark

Date: 06/Sep/2018 Time: 18:00
Hole Depth: 20m
Casing/Water Depth: Casing:18 / Water:2(m)
Drilled Soil/Rock Length: Soil:9 / Rock:0(m) 
Nos of SPT/UDs: SPT:3 / UD:2
Remark

Input / Edit Field Work Progress

GEOL SPT CORE SAMP More

Singtel 326B/s 11:51

← Edit Hole Progress by Time - BH02 SAVE CANCEL

Date (dd/MMM/yyyy): 05/Sep/2018

Time (HH:mm): 18:00

Hole depth at time(m): 11

Depth of casing at time(m): 4

Depth to water at time(m): 2.1

Remark:include term of terminated at borehole end depth

Enter remark

GET PREVIOUS RECORDS

Supervisor: SU THANT AUNG

Log by: SU THANT AUNG

Driller: Aung **Data Input Form**

Labourer: ANDANA

GET WORK DONE

Singtel 1.49K/s 11:52

← Edit Hole Progress by Time - BH02 SAVE CANCEL

Remark:include term of terminated at borehole end depth

Enter remark

GET PREVIOUS RECORDS

Supervisor: SU THANT AUNG

Log by: SU THANT AUNG

Driller: Aung **Data Input Form**

Labourer: ANDANA

GET WORK DONE

Drilled soil length within day(m): 11

Rock cored length within day(m): 0

Nos of SPT testing: 3

Nos of UD Samples within day: 3

Interface Log App–Soil/Rock Description and Test Data

Singtel1.84K/s11:42

←GEOL - BH03+

Depth(m): 0.00 - 2.00

Brown mix Yellow, Sandy SILT with gravel.
(BACKFILL - FILL)

Depth(m): 2.00 - 7.00

Very Stiff to hard, Yellowish Brown, Slightly Sandy SILT.

Depth(m): 7.00 - 10.50

Hard, Reddish Brown spotted White, Sandy SILT

Depth(m): 10.50 - 14.30

Hard, Reddish Brown, Sandy SILT with rock fragments.

Depth(m): 14.30 - 16.00

Medium strong, Grey striped brown, SANDSTONE

Depth(m): 16.00 - 19.30

Strong, Light Greenish Grey, CONGLOMERATIC SANDSTONE

Input / Edit Stratum Description

GEOL

SPT

CORE

SAMP

More

Singtel1.17K/s11:42

←Edit Geol Data - BH03SAVECANCEL

Depth at Top (m):

Enter Layer Depth at Top (m)

Depth at Bottom (m):

Enter Layer Depth at Bottom

Layer Pattern Code:

Enter HereSelect Legend Code

Layer Geological Code:

Enter HereSelect Geological Code

Soil/Rock Description:

+

COMBINE DESCRIPTION

X

Enter Soil/Rock Description

Logging Date (dd/MMM/yyyy, update by PTIM):

/././

Data Input Form

Singtel254B/s11:43

←Edit Geol Data - BH03SAVECANCEL

Soil/Rock Description:

-

Select Strength/Relative Density

X

Enter Strength/Relative Density

Select (lightness/chroma/hue)

X

Enter color

Data Input Form

Select soil/rock name

X

Enter soil/rock name

Select weathering grade

X

Enter wethering description

Select geological unit (GE03)

X

Enter geological units (GE03)

COMBINE DESCRIPTION

X

Singtel358B/s11:43

←Edit Geol Data - BH03SAVECANCEL

Select (lightness/chroma/hue)

X

Enter color

Select soil/rock name

X

Enter soil/rock name

Select weathering grade

X

Enter wethering description

Select geological unit (GE03)

X

Enter geological units (GE03)

COMBINE DESCRIPTION

X

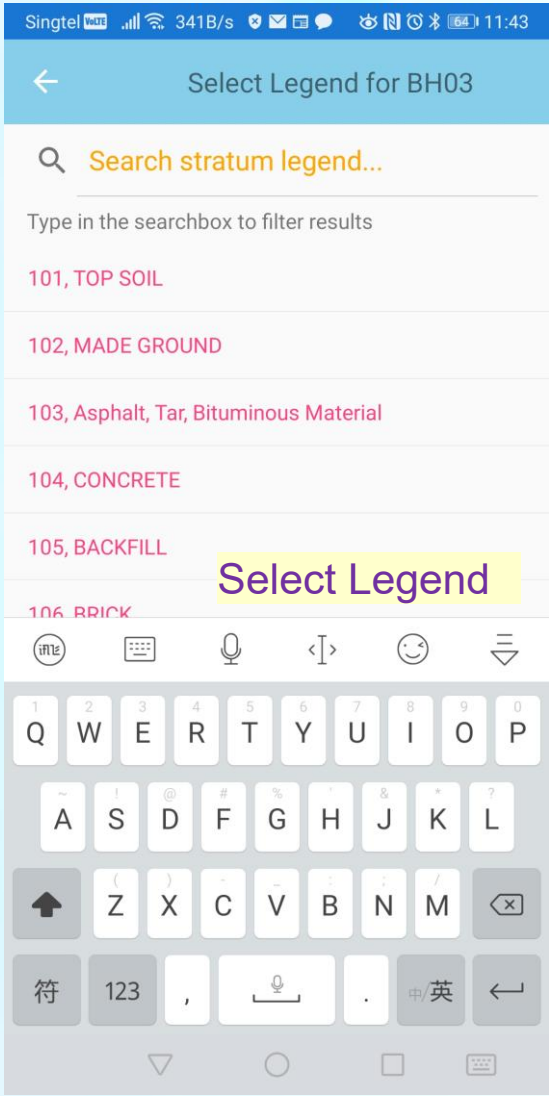
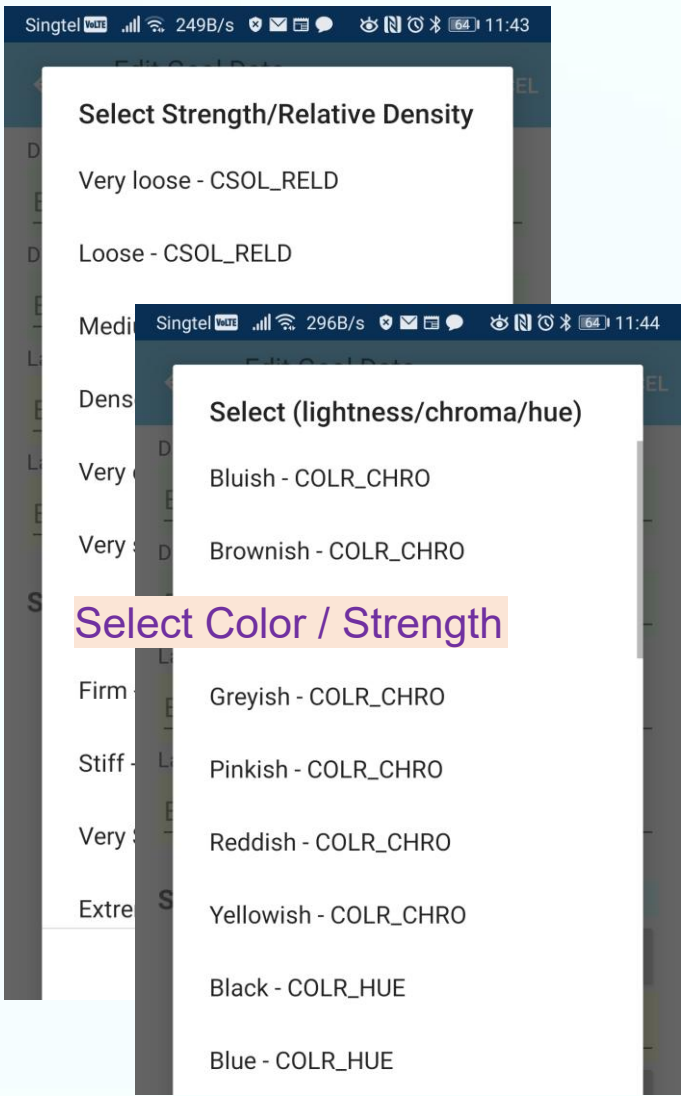
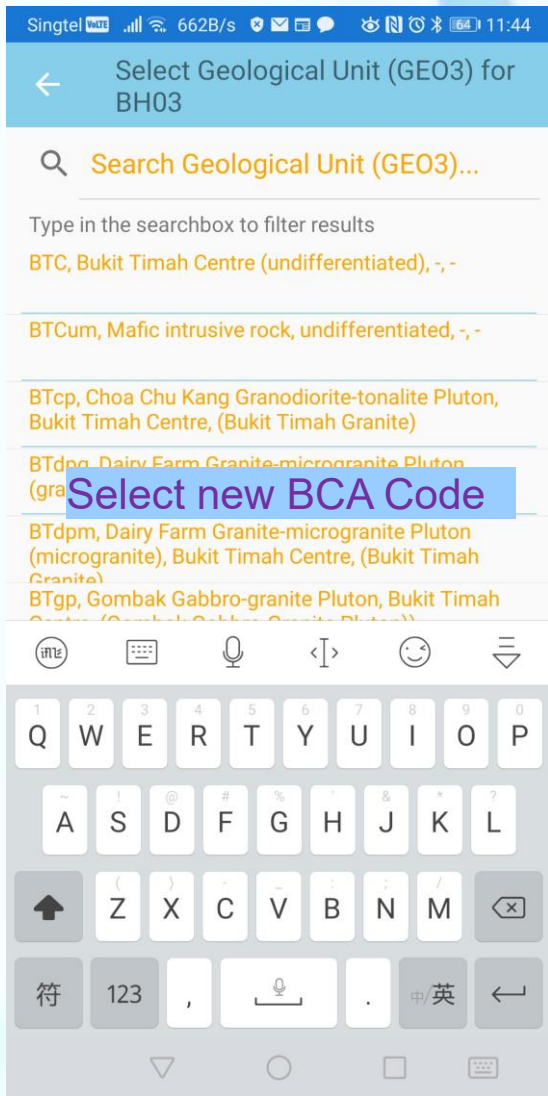
Enter Soil/Rock Description

Logging Date (dd/MMM/yyyy, update by PTIM):

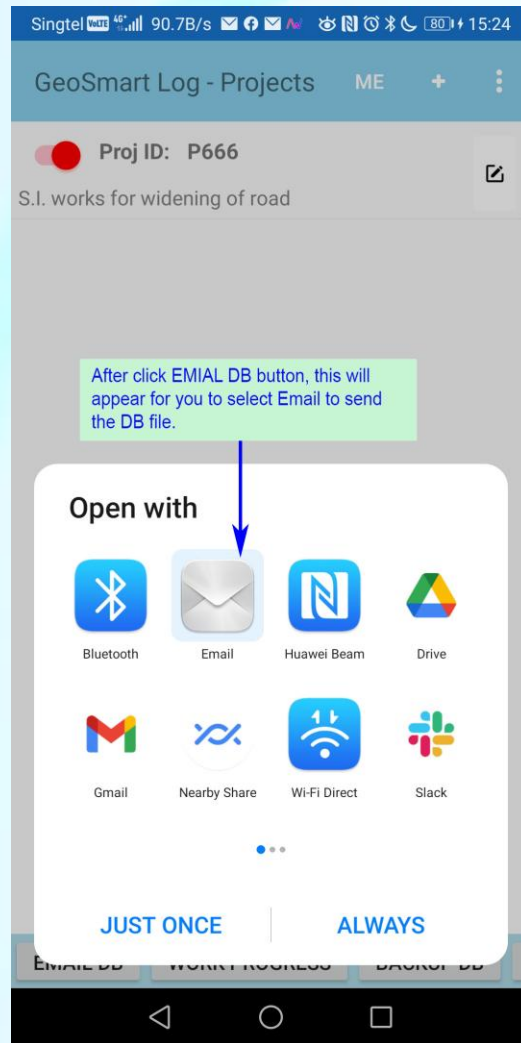
/././

Data Input Form

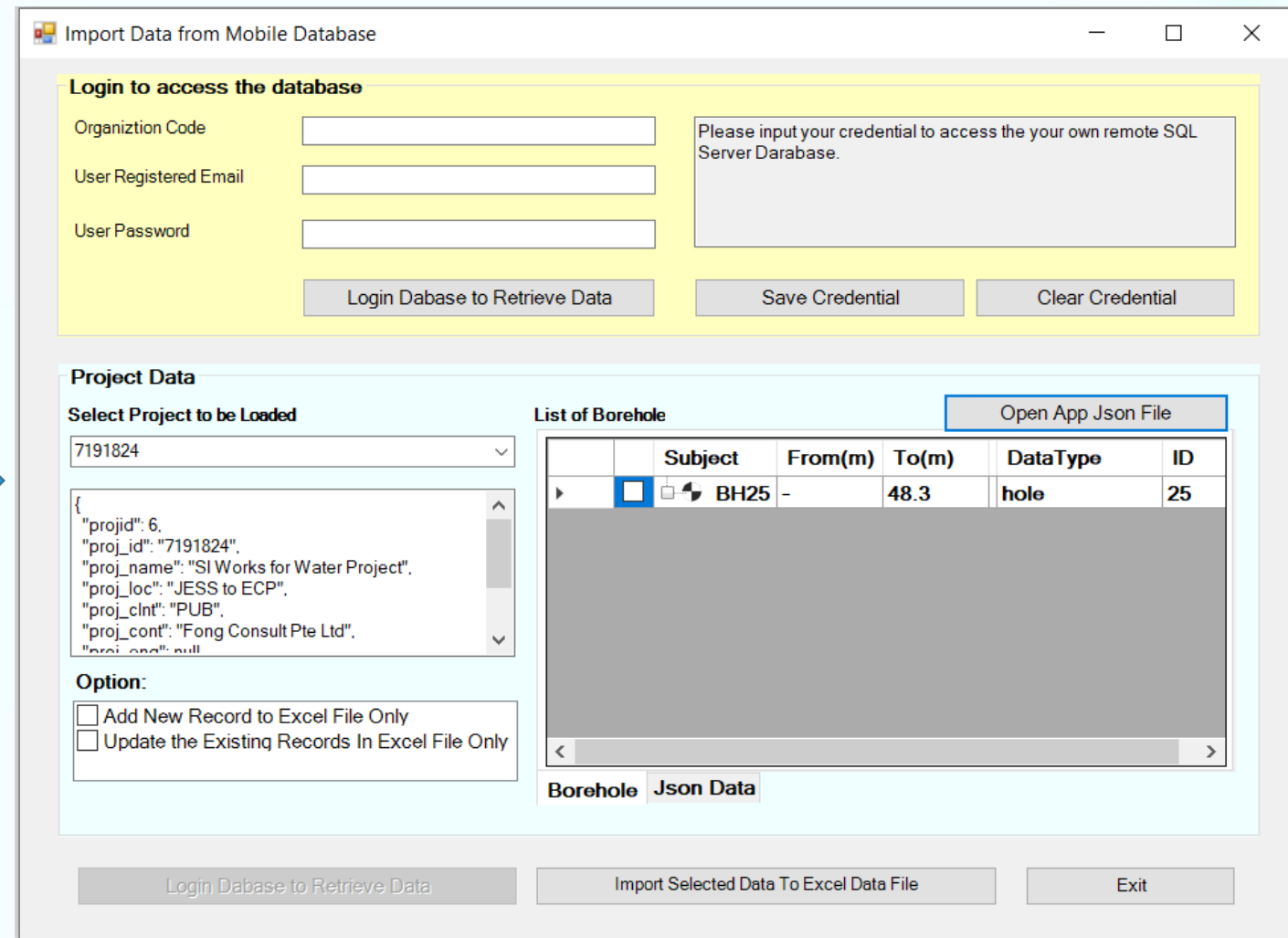
Interface Log App–Soil/Rock Description and Test Data



Send Project Data to GeoSmart III Database File



APP SEND PROJECT DATA



SELECT BOREHOLE DATA ADD OR UPDATE GTS_DAT FILE
Geosmart III and Mobile Log App