

Explanation of Component Lithology

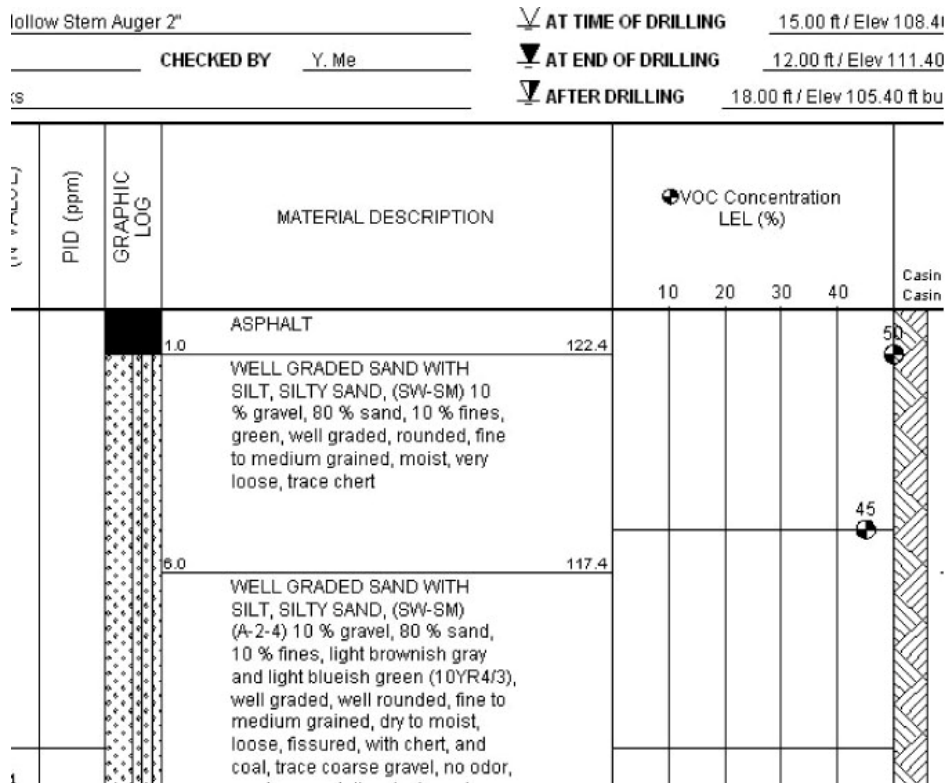
Usually each soil or rock description is typed into the database in gINT as a single sentence or paragraph. The Component Description Model allows you separate the soil and rock descriptions into a series of dropdown lists. The user selects from these dropdown lists at input, as shown, and types any additional description information necessary.

INPUT OUTPUT DATA DESIGN REPORT DESIGN SYMBOL DESIGN DRAWINGS UTILITIES									
Main Group Site Map Material Descriptions CPT									
Lithology Soil Components Rock Components									
[Material Descriptions group]									
Depth (ft)	USCS Group Name	Secondary Major Constituent	Primary Major Constituent	USCS	AASHTO	Percent Gravel	Percent Sand	Percent Fines	Color Shade 1
0			Asphalt						
1	Well graded sand with silt	silty	sand	SW-SM		10	80	10	
6	Well graded sand with silt	silty	sand	SW-SM	A-2-4	10	80	10	light
12	Silty gravel with sand	GM	sand	SW-SM	A-2-4	10	80	10	
18	Silty sand	SM	clay	CL	A-6	10	25	65	
24	Silty sand with gravel	SM	clay	CH					
27	Well graded gravel with clay	GW-GC	clay	CH		5	25	70	
35	Well graded gravel with clay and sand	GW-GC							
	Well graded gravel with sand	GW							
	Well graded gravel with silt	GW-GM							
	Well graded gravel with silt and sand	GW-GM							
	Well graded sand	SW							
	Well graded sand with clay	SW-SC							
	Well graded sand with clay and gravel	SW-SC							
	Well graded sand with gravel	SW							
	Well graded sand with silt	SW-SM							
	Well graded sand with silt and gravel	SW-SM							

Then gINT automatically outputs this data into a sentence/paragraph structure with user-defined punctuation, order, formatting, and color, creating a description such as the following:

CLAYEY GRAVEL WITH SAND, GRAVELLY CLAY, (CL-ML) (A-2-4) 20 % gravel, 50 % sand, 30 % fines, dark brownish green to pale brownish gray (10B 3/1), poorly graded, angular, fine grained, wet to moist, loose to soft, desiccated, medium plasticity, rapid dilatancy, high toughness, very high dry strength, and chert, trace coarse gravel, and cobbles, hydrocarbon odor, weak cementation, iron oxide staining, Additional soil description Lithology additional description.

A typical use for these automatically generated lithology descriptions is in the Materials Description column on a log report. Using a "text-vs.-depth" entity, the material description corresponding to each level is printed on the report, as shown:



Benefits of Component Lithology

Some benefits of component lithology include:

- Consistency: Sentence structure and word choice on your logs will be the same no matter who enters the data.
- Validation: Dropdown lists avoid spelling errors
- Ability to Query: Boreholes can be queried based on any component field.
- Avoidance of Redundancy: If you need to set up a report (a fence report for example) which only outputs only abbreviated descriptions, this could be done without the need to retype all the descriptions. Reports can be automated to access and print whichever components are needed.

What to Do Next

If you desire this option, please download the Component Lithology Ordering Materials. This includes instructions, and a spreadsheet and Word document for you to modify. These enable you to specify the list of fields, the contents of each one's drop-down list at input, and the order and formatting for output. Edit and return the spreadsheet and Word document to gINT software.