

SOILS ANALYSIS CHECKLIST

This checklist must be completed when soil analysis is made to determine the soil type(s) present in the excavation. A separate analysis must be performed if the excavation (trench) is stretched over a distance where soil type changes.

Site Location:		
Date:	Time:	Competent Person:
Location where sample was taken:		
Type of protective system used:		

VISUAL TEST

Particle Type: Fine grained (cohesive) <input type="checkbox"/>				Granular (sand/sift or gravel) <input type="checkbox"/>	
Water Conditions: Wet <input type="checkbox"/> Dry <input type="checkbox"/> Seeping Water <input type="checkbox"/> Surface water present <input type="checkbox"/> Submerged <input type="checkbox"/>					
Previously disturbed soils: Yes <input type="checkbox"/> No <input type="checkbox"/>					
Underground utilities: Yes <input type="checkbox"/> No <input type="checkbox"/>					
If Yes, what type:					
Layered soils? (Note: The less stable layer controls soil type.) Yes <input type="checkbox"/> No <input type="checkbox"/>					
Layered soils dipping into excavation: Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/>					
Excavation exposed to vibration: Yes <input type="checkbox"/> No <input type="checkbox"/>					
If Yes, from what?					
Crack-like openings or spalling observed: Yes <input type="checkbox"/> No <input type="checkbox"/>					
Conditions that may create a hazardous atmosphere: Yes <input type="checkbox"/> No <input type="checkbox"/>					
If Yes, identify condition and source:					
Surface encumbrances: Yes <input type="checkbox"/> No <input type="checkbox"/> If Yes, what type?					
Work to be performed near public vehicular traffic: Yes <input type="checkbox"/> No <input type="checkbox"/>					
Possible confined space exposure: Yes <input type="checkbox"/> No <input type="checkbox"/>					

MANUAL TEST

Plasticity:	Cohesive <input type="checkbox"/>	Noncohesive <input type="checkbox"/>
Dry Strength:	Granular (crumbles easily) <input type="checkbox"/>	Cohesive (broken with difficulty) <input type="checkbox"/>
Wet Shake:	Water comes to surface (granular material) <input type="checkbox"/>	Surface remains dry (clay material) <input type="checkbox"/>

Note: The following unconfined compressive strength tests should be performed on undisturbed soils. **Thumb Test** used to estimate unconfined compressive strength of cohesive soil.

Test performed:	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/>	Type A – soil indented by thumb with very great effort.	
<input type="checkbox"/>	Type B – soil indented by thumb with some effort.	
<input type="checkbox"/>	Type C – soil easily penetrated several inches by thumb with little or no effort. (If soil is submerged, seeping water, subjected to surface water, runoff, exposed to wetting.)	

Penetrometer or Shearvane used to estimate unconfined compressive strength of cohesive soils.

Test performed:	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/>	Type A – soil unconfined compressive strength of 1.5 tsf or greater.	
<input type="checkbox"/>	Type B – soil with unconfined compressive strength greater than 0.5 tsf and less than 1.5 tsf.	
<input type="checkbox"/>	Type C – soil with unconfined compressive strength of 0.5 tsf or less. (If soil is submerged, seeping water, subjected to surface water, runoff, exposed to wetting.)	

Note: Type A – no soil is type A if soil is fissured, subject to vibration, previously disturbed, layered, dipping into excavation on a slope of 4H:1V.

SOIL CLASSIFICATION

Stable Rock <input type="checkbox"/>	Type A <input type="checkbox"/>	Type B <input type="checkbox"/>	Type C <input type="checkbox"/>
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SELECTION OF PROTECTIVE SYSTEM (Appendix F)

Protective System:	<input type="checkbox"/>	Sloping (Appendix B)	Specify angle:
	<input type="checkbox"/>	Timber shoring (Appendix C)	
	<input type="checkbox"/>	Aluminum hydraulic shoring (Appendix D)	
	<input type="checkbox"/>	Trench shield – maximum depth in this soil	

Note: Although OSHA will accept the above tests in most cases, some states will not. Check your state safety requirements for trenching regulations.