



Tri-Energy Services Ltd. Soil Assessment Checklist



Project:		Location:		Date:	
Job Owner:		Supervisor(s):			
Contractor(s):					

This soil assessment is completed prior to any ground disturbance to determine soil type, stability, moisture content, and external factors that may influence excavation safety. The assessment ensures compliance with Alberta OHS Code Part 32 and supports selection of appropriate protective systems (sloping, shoring, shielding, engineered systems).

1. SITE CONDITIONS & GENERAL OBSERVATIONS

Condition	Description (circle that apply or N/A)
Weather Conditions	Sunny / Overcast / Rain / Snow / Freeze–Thaw / High Winds
Temperature	
Recent Precipitation	None / Light / Heavy (last 48 hrs)
Surface Conditions	Dry / Wet / Saturated / Frozen / Thawing / Cracked
Adjacent Loads	Spoil piles, equipment, structures, roadways, vibration sources
Groundwater Indicators	None / Seepage / Standing water / High water table
Vibration Sources	Traffic, pumps, heavy equipment, rail, industrial operations

2. SOIL IDENTIFICATION - Assess soil using visual/manual methods and field tests. Check all that apply

Condition	Description	Result
Hard & Compact (Type 1)	Very dense, difficult to penetrate, blocks hold shape, minimal fissures	☐
Crack & Crumble (Type 2)	Some cohesion, breaks into clumps, may have fissures, moderate stability	☐
Soft, Sandy, Loose (Type 3)	Granular, no cohesion, flows or collapses easily, high moisture sensitivity	☐
Frozen Soil	Hard when frozen, unstable when thawing	☐
Layered Soil	Mixed types; weakest layer governs classification	☐

3. FIELD TESTS CONDUCTED

Test	Result
Plasticity Test (roll into thread)	
Thumb Penetration Test	
Dry Strength Test	
Visual Fissure Inspection	
Moisture Content Check	

4. MOISTURE & WATER INFLUENCE

Test	Result - Circle all that apply
Moisture Level	Dry / Damp / Wet / Saturated
Water Seepage	None / Minor / Moderate / Heavy
Standing Water	Present / Not Present
Hydrostatic Pressure Risk	Low / Medium / High
Weather Impact on Stability	Freeze-thaw / Rain / Snowmelt / None

5. STABILITY & COLLAPSE RISK ASSESSMENT

Hazard	Present?		Notes
Sloughing / Raveling	Yes ☐	No ☐	
Fissures / Cracks	Yes ☐	No ☐	
Undercutting	Yes ☐	No ☐	
Bulging at Base	Yes ☐	No ☐	
Adjacent Load Pressure	Yes ☐	No ☐	
Vibration Impact	Yes ☐	No ☐	
Groundwater Influence	Yes ☐	No ☐	
Overall Stability Rating: ☐ Stable ☐ Moderately Stable ☐ Unstable ☐ Requires Engineered Assessment			

5. PROTECTIVE SYSTEM SELECTION

Item	Yes	No	N/A
Protective system selected based on soil type and depth	☐	☐	☐
System type: ☐ Sloping ☐ Benching ☐ Shoring ☐ Trench Box ☐ Engineered System			
Shoring/trench box installed by competent personnel	☐	☐	☐
Protective system inspected prior to worker entry	☐	☐	☐
Protective system remains in place until backfill	☐	☐	☐

7. ACCESS, EGRESS & SITE CONTROLS

Requirement	Status	
Ladders within 8 m of workers	☐ Installed	☐ N/A
Spoil piles $\geq$ 1.2 m from edge	☐ Yes	☐ No
Barricades / fencing installed	☐ Yes	☐ No
Traffic control in place	☐ Yes	☐ No
Equipment positioned safely	☐ Yes	☐ No
Atmospheric testing (if required)	☐ Completed	☐ N/A

8. FINAL SOIL ASSESSMENT SUMMARY

Soil Type:	
Stability Rating:	
Protective System Required:	
Additional Controls:	
Engineering Support Required:	☐ Yes ☐ No
Safe to Proceed with Ground Disturbance:	☐ Yes ☐ No Comments:

SIGN OFF

Job Owner Name:		Signature:		Date:	
Supervisor:		Signature:		Date:	
Contractor Rep:		Signature:		Date:	