



GAEA Technologies

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Borehole Validation Report

Project ID:	Validation QA and QC Examples
Project Name:	Validation QA and QC Examples
Borehole	BH-05 TRANS-QAQC
X Coordinate:	568420.5
Y Coordinate:	4812435.8
End Depth:	12.00
Date Drilled:	August 14, 2026
Validated By:	Admin
Validation Date:	August 16, 2026
WinLoG Version:	6.10
Validation Engine:	2.0.0

Overall Validation Status

Validation:	Failed
Completeness:	72%
Quality:	Poor
Confidence Score:	54%

Validation Summary

Warnings:	2
Errors:	2

Validation Errors

Message:	Sample ID is required
Data Type:	Sample
Depth:	6.30
Explanation:	A sample identifier is required for traceability, laboratory linkage, chain of custody, and defensible QA/QC.
Potential Cause:	The sample identifier may not have been entered, imported, or mapped from the source record.
Potential Resolution:	Review the field and laboratory records, enter the verified sample identifier, and confirm that linked results reference the same identifier.
Message:	Duplicate sample ID detected
Data Type:	Sample



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Depth:	4.80
Actual Value:	BH05-SS-02
Expected Value:	Unique sample ID
Explanation:	Duplicate identifiers can associate results with the wrong sample and compromise traceability.
Potential Cause:	The identifier may have been copied to another sample, reused during import, or assigned before the final sample sequence was known.
Potential Resolution:	Compare the affected samples with field sheets and chain-of-custody records, assign the correct unique identifiers, and update all linked laboratory data.

Validation Warnings

Message:	Subgrade moisture content exceeds optimum moisture by the permitted tolerance
Data Type:	Moisture Content
Depth:	2.20
Actual Value:	22.6% (5.1 percentage points above optimum)
Expected Value:	$\leq 19.5\%$ (OMC 17.5% + tolerance 2%)
Explanation:	Subgrade moisture materially above optimum can reduce achievable compaction and pavement support.
Potential Cause:	Natural moisture, optimum moisture, depth linkage, material role, test method, or configure tolerance may be incorrect or the subgrade may be excessively wet.
Potential Resolution:	Verify the paired moisture values and test method at the same depth, confirm the agency tolerance, and assess drying, aeration, stabilization, or undercut requirements.
Message:	Subgrade CBR is below the applicable design criterion
Data Type:	California Bearing Ratio
Depth:	2.20
Actual Value:	3%
Expected Value:	$\geq 5\%$
Explanation:	Subgrade CBR below the design criterion may indicate inadequate pavement support and requires engineering review.
Potential Cause:	The CBR result, soaked or unsoaked condition, sample depth, subgrade designation, or selected agency criterion may be incorrect, or the subgrade may be weak.
Potential Resolution:	Verify the test result and method, sample linkage and applicable criterion, then assess stabilization, replacement, undercut, drainage, or pavement redesign.

This report summarizes automated validation checks performed by WinLoG Professional. It is not a formal QA/QC certificate and does not constitute approval of the borehole record.