



Natural Resources Conservation Service
Southern Rocky Mts. Regional Soil Survey Office
655 Parfet Street
Lakewood, CO 80215

MLRA OFFICE 6 TECHNICAL NOTE NO. 12

Date: June 24, 2010

SUBJECT: SOI – Spreadsheet to Calculate Field Calcimeter Data

Purpose: To transmit an electronic spreadsheet to automate the calculation of field calcimeter data.

Effective Date: This technical note is effective when received.

Background: The original procedure for running field calcimeter analyses required the use of several nomographs to determine the final result. These nomographs could add errors and inconsistencies to the procedure, depending on the circumstances and the skill of the individuals in using the nomographs. The spreadsheet removes a large part of the possible error and allows for more consistent results.

Filing Instructions: File after MLRA Office 6 Technical Note No. 11. Discard the previous tabulation sheet and insert the current tabulation sheet.

A handwritten signature in cursive script that reads "Steve Park".

STEVE PARK
MLRA Team Leader

Attachment

DIST: All MO6 Soil Scientists



**MLRA OFFICE 6 TECHNICAL NOTE SERIES
TABULATION SHEET**

TECH NOTE NO.	ISSUE DATE	TITLE	COMMENTS
1	22-May-97	Key to the Use of Cation-Exchange Activity Classes	
2	20-Apr-98	Identification and Description of Albic Horizons, Glossic Horizons,...	
3	2-Feb-99	Template for Taxonomic Unit Descriptions	Made obsolete by Feb 2004 Reissue
	3-Feb-04	NASIS Reports and Instructions for Generating Taxonomic Unit Descriptions	Reissue of Tech Note 3 dated Feb 1999
4	14-Jun-99	Metric-English Conversion Guides	
5	30-Mar-00	Macro to Format Map Unit Descriptions	
6	30-Mar-00	Report to Generate Map Unit Descriptions in NASIS	
7	24-Aug-04	Guidelines for Populating Slope Aspect in NASIS	
8	16-Sep-04	Suggested Order and Guidelines for Populating a New Map Unit in NASIS	Made obsolete by updated 2008 version.
	25-Jan-08	Suggested Order and Guidelines for Populating a New Map Unit in NASIS	Update 2008 version to account for NASIS changes.
9	18 Oct 05	Guidelines for Populating Surface Organic Layers in NASIS	Correction to previous guide (was not a Tech Note)
10	5 April 07	Guidelines for Estimating and Interpreting Carbonate Clay	
11	25-Jan-08	Guide for Populating Horizons with Stratified Textures	
12	24-Jun-10	Spreadsheet to Calculate Field Calcimeter Data	

MO6 TECH NOTE 12
SPREADSHEET TO CALCULATE FIELD CALCIMETER DATA

June 2010

The Ft. Collins, Colorado MLRA Soil Survey Office developed an Excel spreadsheet to automate the calculations used in the field calcimeter test. The spreadsheet calculates percent calcium carbonate equivalent using the equation published in the original work by Holmgren, 1973. Values for some variables used in this equation are calculated within the spreadsheet; other variables are visually determined using a table contained within the spreadsheet.

Use of this spreadsheet should reduce the errors inherent in using the nomographs. More consistent and reliable values of carbonate equivalent will result.

Procedure for calculating percent carbonates using the spreadsheet:

1. Follow instructions on the “Table 1” worksheet to determine a soil sample size and correction factor. Enter these values in the worksheets as indicated.
2. Follow instructions on the “Variables” worksheet and enter elevation (meters).
3. Enter horizon identification data and effervescence class on the “Sample Data” worksheet as appropriate.
4. Enter “Temp” (room temperature during procedure) and “CO₂ volume” (syringe reading) in the “Sample Data” worksheet after performing the syringe procedure.
5. Percent calcium carbonate equivalent will be displayed in the “% CaCO₃” column of the “Sample Data” worksheet.

Electronic attachments:

MO6 Tech Note 12 -Calcimeter_equation.xlsx

Holmgren SSSAP reference.pdf