



Alberta
NAD83(CSRS)v7
E2010/CGVD2013
ASCM data



Environment and Parks, Government of Alberta
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Alberta NAD83(CSRS)v7E2010 / CGVD2013 ASCM Data
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Land Surveys Section, Lands Policy and Programs Branch, Lands Division

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Alberta NAD83(CSRS)v7 E2010 / CGVD2013 ASCM Data

Preamble

This document describes the contents of an excel spreadsheet that comprises Alberta Survey Control Markers (ASCMs) with published geographic coordinates referenced to the NAD83(CSRS)v7 E2010 geometric reference frame and elevations referenced to the CGVD2013 vertical datum.

For technical assistance and/or additional information on the spreadsheet and its contents, please contact:

Geoff Banham, P.Eng.
Geodetic Control
Lands Policy and Programs Branch
Lands Division
Alberta Environment and Parks
15th floor, Oxbridge Place
9820 - 106 Street
Edmonton, Alberta T5K 2J6

phone: (780) 422-1291
e-mail: Geoff.Banham@gov.ab.ca

This documents contains links to data available for download from the Government of Alberta Open Data archive. If the links are no longer active, the documents may be searched for through commonly used search engines.

1. Introduction

This document describes the contents of an excel format spreadsheet for 32,971 published ASCMs. The coordinate and elevation information for these ASCMs are based on the NAD83V7.0.0.AB.1 provincial readjustment of the Alberta Survey Control network. As a result, the geographic coordinate data is referenced to the North American Datum of 1983 Canadian Spatial Reference System version 7 geometric reference frame at Epoch 2010 (i.e., NAD83(CSRS)v7 E2010). The elevation data is referenced to the Canadian Geodetic Vertical Datum of 2013 (CGVD2013). This spreadsheet is current to November 6, 2020.

This listing comprises most published ASCMs within Alberta. The data provided here is the same as is available on the ASCM Identification Cards (ID cards) from the Spatial Information (SPIN) System (Alberta Land Titles) barring this data is referenced to NAD83(CSRS)v7 E2010 and CGVD2013 where as the ASCM data available on SPIN is referenced to NAD83(Original) and CGVD28. Information not included in the spreadsheet includes marker location information, adjacent marker information, and various update dates, etc. To get this information, users are

directed to SPIN (<https://alta.registries.gov.ab.ca/spinii/logon.aspx>) to get the appropriate ASCM ID card(s). See Section 2.1 of this document for information on content of the spreadsheet.

The nominal spacing of ASCMs is 300 m to 800 m in urban cadastral areas (formerly Municipal Integrated Surveying and Mapping – MISAM areas) and 10 km to 20 km spacing in non-urban areas (rural). The ASCMs were established and are maintained using various conventional and Global Navigation Satellite System (GNSS) surveying methods to derive 3-dimensional coordinates (i.e., Latitude, Longitude, and elevation). Methods include triangulation and trilateration observations, Global Positioning System (GPS) observations, spirit levelling, non-simultaneous and simultaneous trigonometric observations, inertial survey system observations, etc. Further information can be obtained by referring to the ALBERTA SURVEY CONTROL PRODUCTS MANUAL at <https://open.alberta.ca/publications/0773212981> or by contacting Geodetic Control as noted in the preamble above.

This listing will be updated time to time when new ASCMs are added to the survey control network. Users are cautioned to check the Government of Alberta open data site to confirm they have the most current version of the listing.

2. NAD83(CSRS)v7 E2010 and CGVD2013 Alberta Survey Control Marker Data

This spreadsheet consists of 14 columns of data for the ASCMs listed. The content of each of the columns is briefly outlined below. The listing is currently sorted by ASCM number, but may be sorted in numerous ways to meet end user needs. The spreadsheet is available at https://open.alberta.ca/publications/nad83-csrs-v7_e2010_cgvd2013_data-xlsx.

2.1 ASCM Data Spreadsheet Content

For each ASCM listed, the following information (data types) is given:

- ASCM-NO
- Tablet Marking
- Mapsheet Name
 - Map Name for ASCMs within the former MISAM areas.
 - 1:250,000 NTS Map Name for all former non-MISAM areas.
- Mapsheet Number
 - 1:5,000 3TM Map Number for ASCMs within the former MISAM areas.
 - 1:250,000 NTS Map Number for all non-MISAM areas.
- Marker Condition*

- Horizontal Classification - gives the horizontal Integration Status and the Order.
 - Horizontal Integration Status
 - Integrated
 - Not Integrated
 - Provisional
 - Not Classified
 - Approximate
 - Consult Agency
 - Order
 - 1 – First Order
 - 2 – Second Order
 - 3 – Third Order
 - 4 – Fourth Order
 - U – Unclassified
- Horizontal Datum – NAD83(CSRs)v7E2010
- Geographic Coordinates (degrees minutes seconds) - gives the Latitude and Longitude.
- Orthometric Height (metres)
 - Vertical Datum = CGVD2013
- Vertical Integration - gives the vertical Integration Status and the vertical Integration Method by which each ASCM was integrated into the geometric reference frame.
 - Vertical Integration Status
 - Integrated
 - Not Integrated
 - Provisional
 - Not Classified
 - Approximate
 - Consult Agency
 - Vertical Integration Method
 - SPIRIT LEVELS
 - GPS SAT. POS.
 - SPIRIT/GPS
 - CONSULT AGENCY
- 3-Degree Transverse Mercator Coordinates (metres)
 - Gives the 3TM coordinates as well as the associated Reference Meridian (degrees), Station Ellipsoid Factor, Station Combined Factor, and Meridian Coverage (degrees minutes seconds).
- Universal Transverse Mercator Coordinates (metres)

- Gives the UTM coordinates as well as the associated Reference Meridian (degrees), Station Ellipsoid Factor, Station Combined Factor, and Meridian Convergence (degrees minutes seconds).
- Geoidal Undulation** (metres)
- Meridian Deflection** (arc-seconds)
- Prime Vertical Deflection** (arc-seconds)

* Reflects the known condition of the ASCM at the time of creation or update of the spreadsheet.

**The geoid information given in the listing is based on the CCG2013a geoid model.