

Ministry of Environment PEM Quality Control Documentation (Checklist)

PEM Project Name: [Revelstoke Predictive Ecosystem Mapping](#) BAPID#: [4316](#)
 Date: [27/03/2006](#)
 PEM Practitioner: [Colleen Jones, RPBio, TEM/PEM Specialist, Ministry of Environment & Kevin Stehle, BSc, Silvatech Consulting Ltd](#)
 QC Ecologist: [Colleen Jones, RPBio, TEM/PEM Specialist, Ministry of Environment](#)
 QC Bioterrain Specialist: [n/a](#)
 QC GIS Specialist: [Kevin Stehle, BSc, Silvatech Consulting Ltd](#)

Use a “✓” to indicate if the file is present, missing or not completed according to the Standards.
 If not provided, or in partial compliance, explain at the end of the respective section.

File Name:	Description:	Data Format:	Required Structure	Provided?	Not Provided?	Partial Compliance
PEM_4316_pro	Project Summary – written descriptions	.pdf	Yes	✓		
PEM_4316_meta	Metadata report	.pdf	Yes	✓		
Input Data Files:						
PEM_4316_tbgc	1:20,000 BEC spatial linework completed by MoF with embedded Info database and metadata (not required as separated mdb or dbf databases)	.e00	Yes		✓ n/a	
PEM_4316_cbgc	1:100,000 Legacy BEC spatial linework completed by MoF with embedded Info database and metadata	.e00	Yes	✓		
PEM_4316_tfc1	Forest Cover fc1 spatial layer with embedded Info database and metadata	.e00	Yes		✓ n/a	
PEM_4316_tvri	Vegetation Resource Inventory spatial layer with embedded Info database and metadata	.e00	Yes	✓		
PEM_4316_ttrim	TRIM spatial layer with embedded Info database and metadata	.e00 – Return to Client	Yes		✓	Returned to Client in format received
PEM_4316_tbio	Bioterrain spatial layer with embedded Info database and metadata	.e00	Yes		✓ n/a	
PEM_4316_ttrn	Terrain spatial layer with embedded Info database and metadata	.e00	Yes		✓ n/a	
PEM_4316_tters	Terrain Stability spatial layer with embedded Info database and metadata	.e00	Yes		✓ n/a	
Non-standard Input Layers:						
PEM_4316_tfbio	Focussed Bioterrain spatial layer with embedded Info database and metadata	.e00	Partial		✓ n/a	
PEM_4316_tsat	Satellite Imagery spatial layer with embedded Info database and metadata	.e00	No	✓		
PEM_4316_cgeo	Bedrock Geology spatial layer (1:100,000) with embedded Info database and metadata	.e00	No	✓		
PEM_4316_tsmoi	Soil Moisture Model spatial layer with embedded Info database and metadata	.e00	No		✓ n/a	

		(If necessary, use other file names such as "tspm", "tsmr", "tsnr", "tfac", etc. and explain what the file is)				
Internal Structure Standards:				Yes?	No?	Partial Compliance?
Was the PEM produced at the 1:20,000 scale?				✓		
Was the projection in BC Albers?				✓		
Was the datum NAD 83?				✓		
Was TRIM used as the base map?				✓		
If a revised BEC layer was produced for this PEM, was the linework approved by the MoF Regional Ecologist?					✓ n/a	
Were the file-naming conventions followed for each file?				✓		
Were Eco-cat keywords listed?				✓		
Were the spatial check tables provided? And spatial reconciliation completed if necessary?				✓		
Was a QA completed on each non-standard inventory input?				✓		
Was the GIS AML documentation provided and sufficiently explained for another qualified Practitioner to understand, evaluate and re-utilize?				✓		
Was the KB documentation provided and sufficiently explained for another qualified Practitioner to understand, evaluate and re-utilize?				✓		
Was the Structural Stage documentation provided and sufficiently explained for another qualified Practitioner to understand, evaluate and re-utilize? (for each polygon or component of a complex label)?				✓		
Was the Seral Stage documentation provided and sufficiently explained for another qualified Practitioner to understand, evaluate and re-utilize? (for each polygon or component of a complex label)?				✓		
Were the Spatial Data Capture Standards followed during the creation of the spatial coverages (Appendix 1)?				✓		
Were FCodes assigned to each polygon, line and point feature in all spatial layers?				✓		
Comments (Why files were not provided or were not completed according to the Standards):						
Output Data Files:			Required Structure:	Provided?	Not Provided?	Partial Compliance?
PEM_4316_ibdy	Interim Boundary of the PEM project area (for provincial PEM index map) with embedded Info database	.e00	Yes		✓	
PEM_4316_ebp	PEM polygon or raster spatial layer with embedded Info database and metadata – may need to assign "_1" and "_2" if this coverage is divided due to the size of the project area	.e00	Partial	✓		
PEM_4316_ebp_A1	<i>Optional</i> – polygon coverage for Block Area 1 of the PEM with embedded Info database and metadata – 2-character labelling for the rest of the Areas or Landscape Units	.e00	Partial	✓		
PEM_4316_mtx	Matrix/Resultant database (can be divided into Landscape Units) i.e. PEM_4316_mtx_A1	.mdb or .dbf linked to ecp or ecp_LU	No	✓		

PEM_4316_dbleg	Matrix/Resultant database attribute legend	.rtf	No	✓			
PEM_4316_sts	Structural Stage spatial layer	.e00	Partial	✓			
PEM_4316_sts_knb	Structural Stage knowledge tables – if these were created	.xls	No	✓			
PEM_4316_ser	Seral Stage spatial layer	.e00	No	✓			
PEM_4316_ser_knb	<i>Optional:</i> Seral Stage knowledge tables – if these were created	.xls	No	✓			
PEM_4316_fbdy	Final Boundary of the PEM project area (for LRDW) with embedded Info database	.e00	Yes	✓			
PEM_4316_mleg	Map Legend	.pdf	Partial	✓			
PEM_4316_ent	PEM Entities	.pdf and .xls	Yes	✓			
PEM_4316_knb	Knowledge Tables – each BEC has its own worksheet within the file, or its own file.	.xls	No	✓			
Internal Structure Standards:					Yes?	No?	Partial Compliance?
ECP_TAG's follow the new label convention?				✓			
Output database (ECP) contains the required fields and written correctly?				✓			
Where fields are used in the databases, do these conform to the naming conventions listed in Appendix 1?				✓			
Did each spatial file have its database embedded or linked as required by these Standards?				✓			
Did each spatial file have its metadata embedded?				✓			
Was the color palette file embedded in each spatial layer, if the maps were color-themed?				✓			
Do the map codes comply with the provincial Mapcodes list?						✓ not registered	
Are non-forested ecosystem units mapped?				✓			
Do the non-forested ecosystem units conform to the mapcodes list or these Standards?							✓ used HM instead of ME
If lumped units were used, were these lumped according to vegetative similarities? If no, provide MAL written approval.				✓			
Has the Regional Ecologist approved of the lumped site series?						✓	
Are the lumped site series represented by primary site series with others listed in smaller script beneath? If no, provide MAL written approval.				✓			
Have the new site series been submitted to the MoF Regional Ecologist for review and acceptance?						✓ no new site series	
Has the Regional Ecologist approved of the new site series?						✓ no new site series	
Is the type of label (simple vs complex) appropriate for the average size of the polygons?				✓			
Does each site series in the label have its own decile?				✓			
Are complex labels written within the polygons, not color-themed?						✓ n/a	
Are simple labels color-themed or written within the polygons?				✓			
Are the simple labels restricted to a maximum of 3 ties?				✓			
Are the landscape parameters used to identify each site series recorded in the PEM Entities table?				✓			
Are the SIBEC correlation values included for new or revised site series?						✓ n/a	
Do the structural stage codes match the DEITF manual?				✓			

If the seral stage was mapped, do the codes match the DEITF manual?						✓
<p>Comments (Why files were not provided or were not completed according to the Standards):</p> <p>The Interim project boundary was not created for this project. This was an accidental omission. The final project boundary replaces the interim boundary for the LRDW.</p> <p>The HM codes was used to represent alpine herbaceous meadows by accident and it was too late to edit it to the correct ME code.</p> <p>The site series labels and codes used were provided by D. Lloyd – MoF Regional Ecologist, but these have not yet been entered onto the provincial MapCodes list.</p> <p>The seral stage classes were a combination of the Biodiversity Guidebook classes and Describing Ecosystems in the Field handbook.</p>						
Field Data Files:		Data Format:	Required Structure:	Provided?	Not Provided?	Partial Compliance?
PEM_4316_eci	Sample Points spatial layer with embedded Info database and metadata – if necessary add codes to describe multiple spatial files and their databases PEM_4316_eci_IDFdk1 PEM_4316_eci_IDFdk1_A1 PEM_4316_eci_transect	.e00	Partial	✓		
PEM_4316_val	Validation results – spreadsheet showing the statistical results using the calibration dataset which may be included as separate worksheet(s) within this file.	.xls or .mdb	No	✓		
PEM_4316_cal	<i>Optional:</i> Ground samples used in the calibration process –PEM polygon ID's, ground labels and corresponding PEM labels. Required if this dataset is not included in the Validation Results file.	.xls or .mdb	No		✓ already included in the "val" file	
PEM_4316_grdpts	<i>Optional:</i> Ground samples dataset – can be plot data not entered into Venus, etc.	.xls or .mdb	Yes		✓ n/a	
PEM_4316_venus	<i>Optional:</i> Ground plots entered into Venus, Graviti or VPro	Venus, Graviti or VPro	Yes		✓ n/a	
PEM_4316_phot	<i>Optional:</i> Ground plot photos – digitized; provide to Client only, not MAL	Do not provide to MAL	No		✓ n/a	
Internal Structure Standards:				Yes?	No?	Partial Compliance?
Has fieldwork been completed for this PEM?				✓		
Were the DEIF standards followed during the field data collection?				✓		
Has the purpose for the fieldwork been described?				✓		
Has the sampling design and sampling strategy for the fieldwork been described?				✓		
Has the procedure for recording the positional location of the sample points onto the field maps been documented?				✓		

If copies of the field maps have been provided to the Client, have the field map notations been described?			✓ n/a			
Has the quality control of the field data collection been documented?			✓ n/a			
Has the recommended minimum number of sample points been collected?		✓				
If full or GIF plots were collected, were the cards submitted to the Client?			✓ n/a			
If airphotos were used, were these returned to the Client?			✓ n/a			
If field samples were used to calibrate the KB's, was the calibration dataset provided?		✓				
If field samples were not used to calibrate the KB's, were the areas used to calibrate the KB's by memory recorded?			✓ n/a			
Were the validation statistics completed according to the AA Protocol (2003)?		✓				
Comments (Why files were not provided or were not completed according to the Standards):						
Final Report Files:		Data Format:	Required Structure:	Provided?	Not Provided?	Partial Compliance?
PEM_4316_rpt	Final report for the PEM project	.pdf	No	✓		
PEM_4316_app	Appendices for the final report	.pdf	No	✓		
Quality Assessment Files:		Data Format:	Required Structure:	Provided?	Not Provided?	Partial Compliance?
PEM_4316_iqa PEM_4316_3qa PEM_4316_aa	Internal QA, 3 rd -party QA or AA spreadsheet	.xls or .mdb	Yes	✓		
PEM_4316_iqa PEM_4316_3qa PEM_4316_aa	Internal QA, 3 rd -party QA or AA report	.pdf	No			✓
PEM_4316_iqa PEM_4316_3qa PEM_4316_aa	Internal QA sample point spatial layer	.e00	Partial			✓
PEM_4316_iqa PEM_4316_3qa PEM_4316_aa	Internal QA sample point database	.mdb linked to e00	Partial			✓
PEM_4316_iqc	Quality Control Sign-off Forms (MoE) – complete and digitally sign one copy for inclusion with these files; hardcopy with original signature included with the final report	word	Yes	✓		
Internal Structure Standards:				Yes?	No?	Partial Compliance?
Do the procedures for calculating the QA or AA comply with the Protocol for Accuracy Assessment of Ecosystem Maps (2003)?				✓		
Have the procedures for calculating the QA or AA been described?						✓
Have the Basic Project Statistics been included in the final report?				✓		
For large complex polygons, has a QA level 1 been completed?					✓ n/a	
For small simple polygons has a QA level 3 equivalent been completed?				✓		
Was the Internal QA completed using an independent dataset not used for the calibration of the KB's?				✓		

Comments (Why files were not provided or were not completed according to the Standards):

The internal QA report is included in the final report rather than separated out as its own file. The iQA datasets, however, have been saved as their own file.

The internal QA ground points are included in the “eci” spatial coverage, using the type code to distinguish the points from the calibration data points.



The procedures for completing the statistics have not been described in this report; reference has been made to the AA Protocol (2003). However, descriptions of the statistics and their meanings have been provided.

Terrain or Bioterrain Files:		Data Format:	Required Structure:	Provided?	Not Provided?	Partial Compliance?
PEM_4316_tbio	Bioterrain spatial layer with embedded Info database and metadata	.e00	Yes		✓ n/a	
PEM_4316_ttrn	Terrain spatial layer with embedded Info database and metadata	.e00	Yes		✓ n/a	
Terrain or Bioterrain Structure Standards:				Yes?	No?	Partial Compliance?
Was the mapping completed according to the RISC Terrain Mapping Standards?					✓ n/a	
Does the database structure comply with the RISC Terrain Mapping Standards? (field name, length, and order)					✓ n/a	
Are all the on-site symbols recorded and included in the database?					✓ n/a	
Was the terrain mapping project submitted as a whole project, separate from the PEM database?					✓ n/a	

Comments (Why files were not provided or were not completed according to the Standards):

No Bioterrain layer was created or used for the production of this PEM.

QC Sign Off:

Name of QC Contractors (Ecologist, GIS Analyst and Terrain Mapper):	Signature:	Acceptable:		Review Date:
		Yes	No	
Colleen Jones, RPBio, TEM/PEM Specialist, Ministry of Environment		Yes		March 27, 2006
Kevin Stehle, BSc, Silvatech Consulting Ltd.		Yes		March 27, 2006

Note, if a Terrain Mapper created an inventory for this PEM project, they are required to sign-off that they delivered their product in accordance with the Terrain Mapping RISC Standard