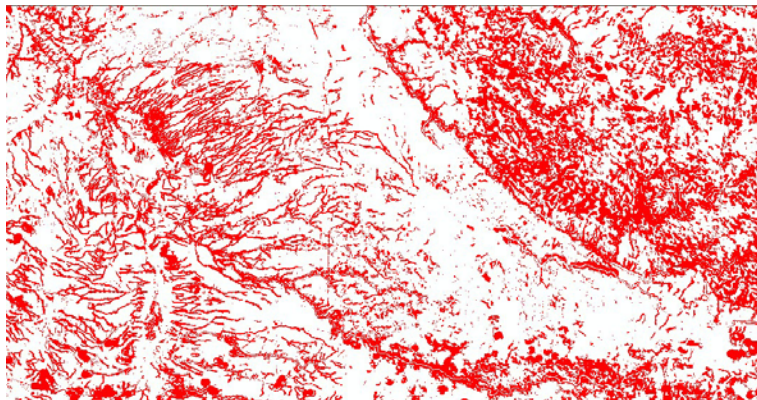# Northeast Archaeological Potential Model Interpretation for Industry

Prepared for
The Oil and Gas Commission
Ft St John, BC

October 8, 2004

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Model Interpretation – Industry Version: Binary Model

The Millennia Research archaeological predictive model was completed for much of the NE oilpatch for the Oil & Gas Commission. Details regarding the Archaeological Overview of which the model is a part are available online at http://millennia-research.com/reports.htm . Other directions on fulfilling archaeological requirements can be found on the "Archaeological Definitions and Guidelines" and "Flowchart" produced by the OGC. This guide is limited to interpreting the map itself.

The map provided to industry has two levels of potential: low and high. The 'cutpoint' between these values has been set so that about 85% of known archaeological sites fall in the 'high' zone. The zone rating is one of the key steps in following the "Flowchart". Generally, if a proponent's development includes "high" then the services of an archaeological consultant must be obtained for further Overview level work to determine if fieldwork is necessary. If the development is all in "Low", then other factors must be evaluated to determine if further assessment by an archaeologist is necessary, but the services of an archaeological consultant are not necessarily required to make this decision (Table 1).

Table 1. Basic Map Interpretation

LOW	Consider other factors to determine if further archaeological assessment is necessary
HIGH	Obtain services of archaeological consultant to determine if fieldwork is necessary.

In a few situations, however, the model may clearly misrepresent archaeological potential, and proponents can override the model in these specific cases. These situations occur along or adjacent to some joins of TRIM 1:20,000 scale mapsheets. They are the result in errors in the TRIM DEM in mapsheet overlap areas (the DEM for each mapsheet extends for several hundred metres onto the adjacent mapsheet). The following give some examples of how these errors will appear on your system. Figure 1 shows a join error viewed at 1:150,000 scale. Note: you should see the virtually identical view on your system: ensure that "1 to 20K" shapefile is turned on and the "1 to 50K" and "Borden" shapefiles are turned off. The error is seen as a white strip going due east-west beside the mapsheet boundary.
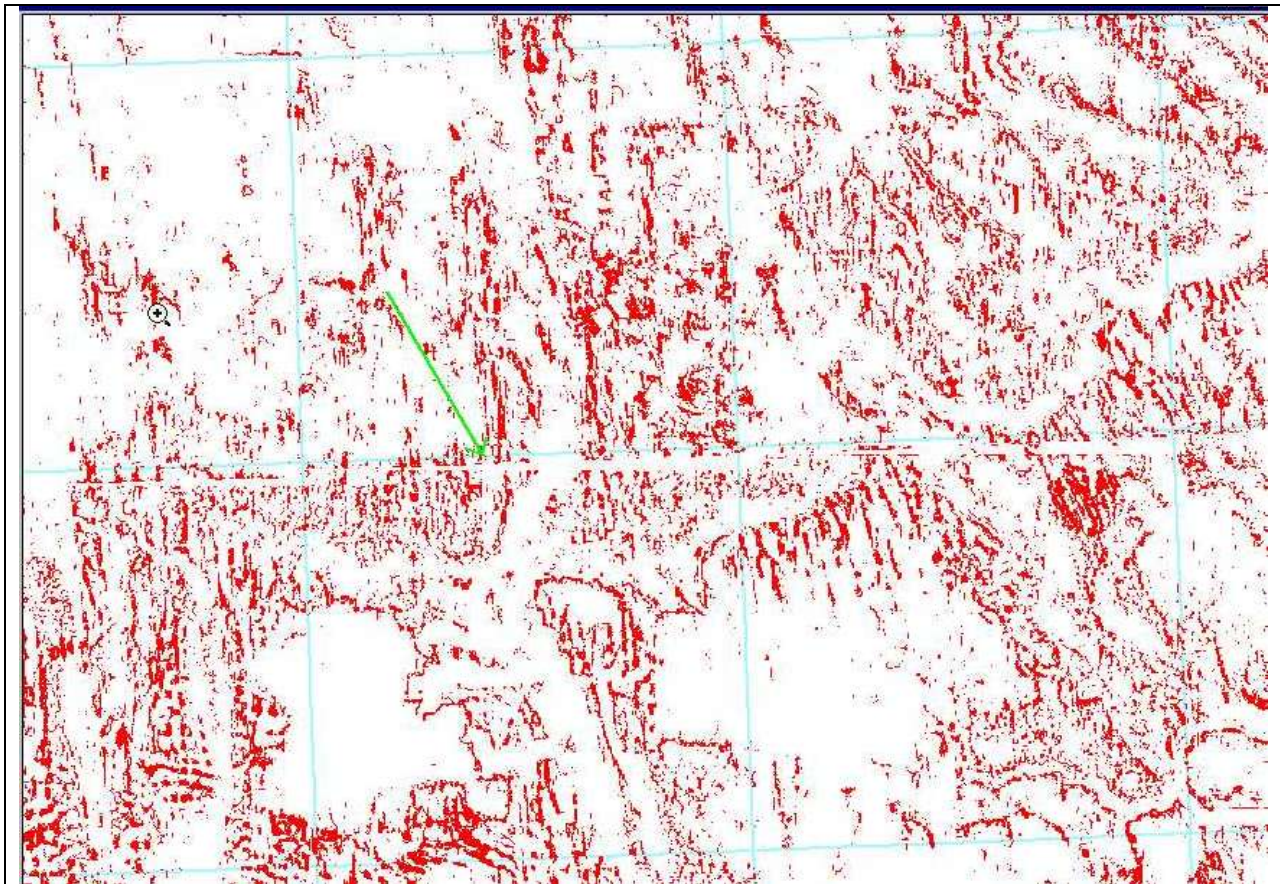
Figure 1. Example of mapsheet join error, visible as a horizontal white strip (green arrow indicates location). Scale about 1:50,000.

In many of these areas, clear patterns are present on both sides of the errors, and interpolations are safe to make. In Figure 2, the map is being viewed at about 1:40,000 scale. The low potential (white) areas labelled "1" in the green boxes are safe to interpret as "low", but those labelled as "2" are uncertain, and should be considered "high", since the patterns to the north and south are either high or mixed high and low and therefore uncertain. The risk of making interpretation errors that adversely impact protected archaeological remains is relatively low, provided that subsequent steps are followed as shown in the flow charts for the evaluation of "Low" potential (examination of other data sources).
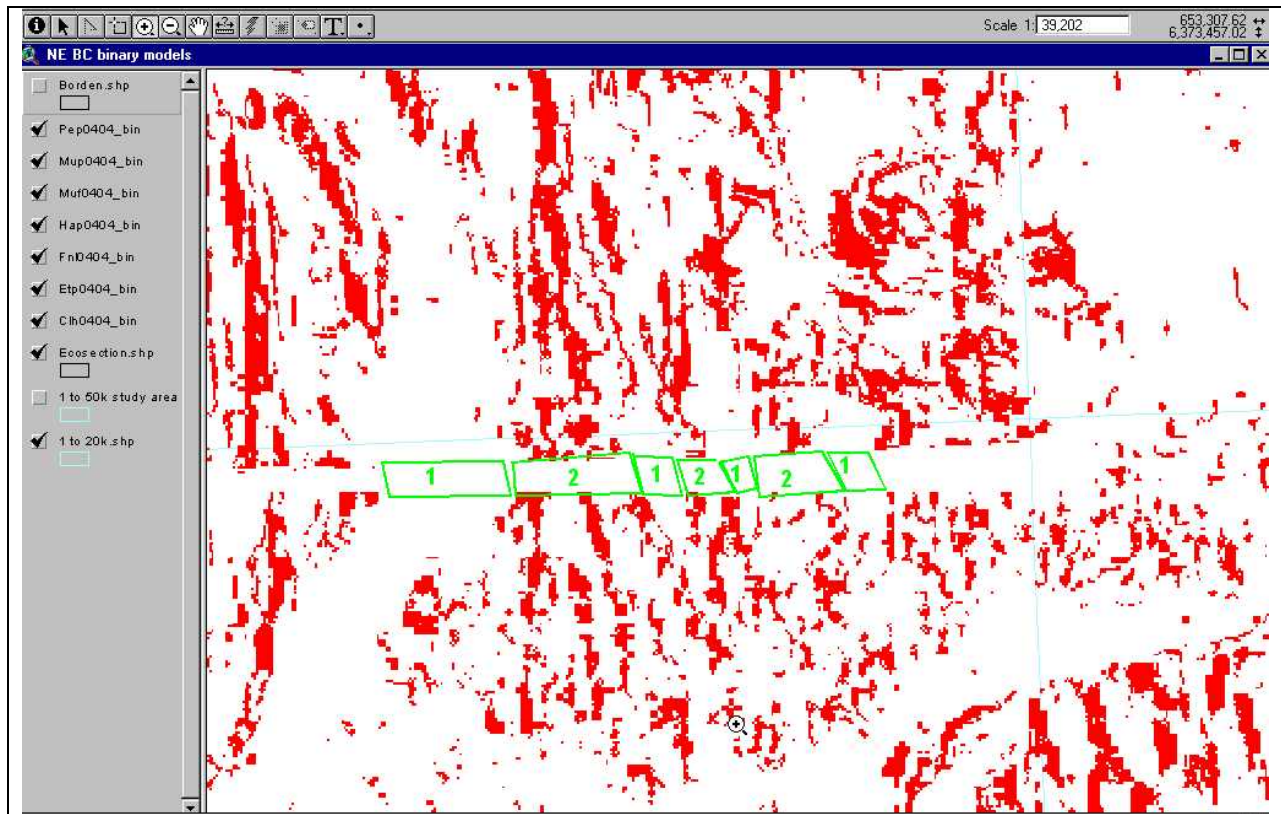
Figure 2. Error correction.
In boxes labelled "1", a clear pattern of low potential is found on both sides of the error strip. In these cases, interpolation as 'low' is justified. In the boxes labelled "2", potential is high or mixed high and low with no clear pattern. In these cases, a "high" potential rating should be assumed.