12_14 Criteria - Complex Chain vs. Complex String

Question:
What syntax should be used to locate a Geopak transition line for define dgn elements such as guardrail, vline, etc.? If you do a select by attributes it is called a complex string. If you run your mouse over one it is called a complex chain. I have tried entering complex string, complex_string, complex chain, and complex_chain but all of these give me a syntax error when I try to run the criteria.

DEFINE_DGN "GUARDRAIL LINE"\
DGN = R:\Roadway\proj\u2550b_rdy_dsn_det.dgn\
type = line,line_string,arc,curve\
lvname= Prop Guardrail

Answer:

This is a good question and what you have mentioned is accurate. Geopak **Transition Lines** are Microstation **Complex Chain** elements. When you use the Microstation Select by Attributes tool and as part of the Geopak Criteria Language, they are referred to as **Complex String** elements. They are "one of the same" element type.

Anything Microstation denote as "Complex" just means that the element is composed of several types of "sub-elements". When comparing string elements (series of connecting elements or "sub-elements"), the difference between **Line String** elements and **Complex Chain** or **Complex String** elements is that **Line String** can only be composed of connecting line elements. Whereas, **Complex Chain** or **Complex String** elements can be composed of Line, Line String, Arc, and Curve elements.
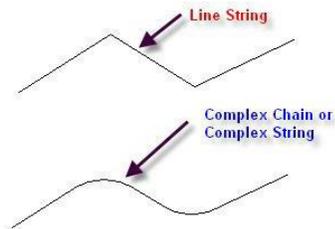
For the **Complex Chain** element Geopak draws as transition lines, they are actually a series of connecting Microstation Curve (COGO spirals) elements. If the Geopak **Transition Line** (complex chain) "Complex" status is dropped, then each Curve type element is recognized.
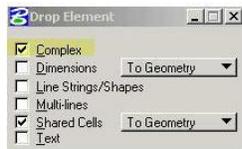
Geopak Standard Cross Section Criteria (not 3 Port Criteria or **3PC** extension) supports the following element types in the Define DGN statement.

- Arc
- Complex Shape
- Complex String
- Curve
- Line
- Line String

As an option, the above Define DGN statement can be defined as below.

```
DEFINE_DGN "GUARDRAIL LINE"\
    DGN = R:\Roadway\proj\u2550b_rdy_dsn_det.dgn\
    type = Arc, cmp_Shape, cmp_String, Curve, Line, Line_String\
    lvname= Prop Guardrail
```

Or just simply removing the the type search criteria (below) and Criteria will search for the proposed guardrail element, regardless of what type it is.

```
DEFINE_DGN "GUARDRAIL LINE"\
    DGN = R:\Roadway\proj\u2550b_rdy_dsn_det.dgn\
    lvname= Prop Guardrail
```

It is worth noting that in the past, Criteria sometimes will process elements that are **NOT** a Line type successfully and sometimes it will not. It is best to go ahead a draw in a Line type element in the areas where you can for Criteria. We can get consistent results with Line type elements with Criteria than with other element types.