

APPENDIX D. 1950s TO 1980s MIDDLE SUSITNA RIVER SEGMENT CHANNEL CHANGE OVERLAY

**Susitna-Watana Hydroelectric Project
(FERC No. 14241)**

Geomorphology Study (6.5)

**Mapping of Geomorphic Features and Turnover
within the Middle and Lower Susitna River Segments
from 1950s, 1980s, and Current Aerials
Technical Memorandum**

Prepared for

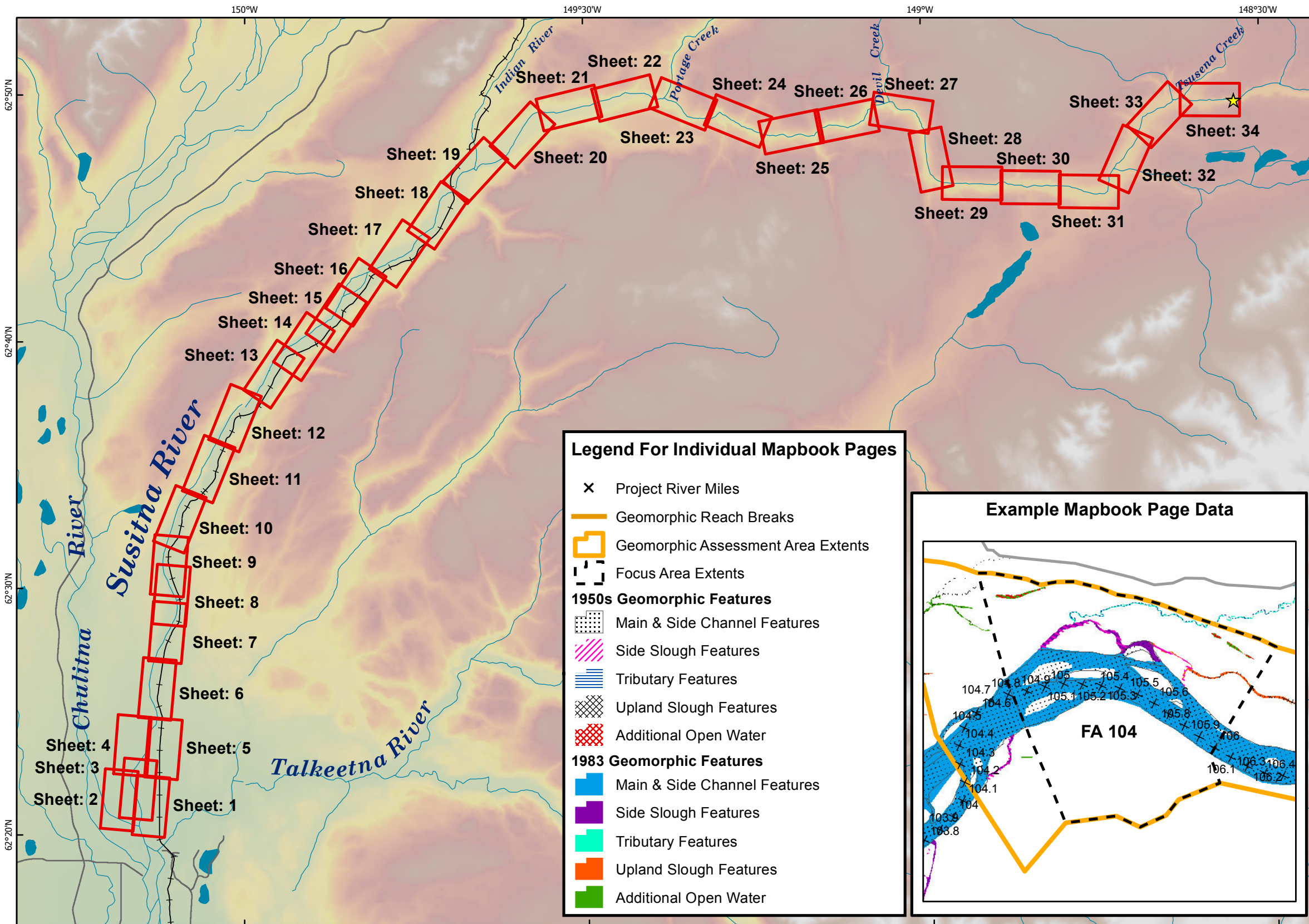
Alaska Energy Authority



Prepared by

Tetra Tech Inc.

September 2014



MIDDLE SUSITNA RIVER SEGMENT CHANNEL CHANGE OVERLAY 1950s - 1983

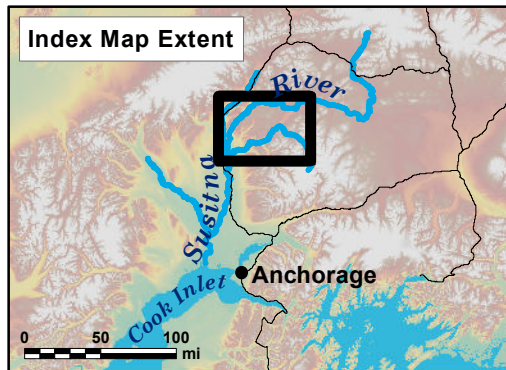
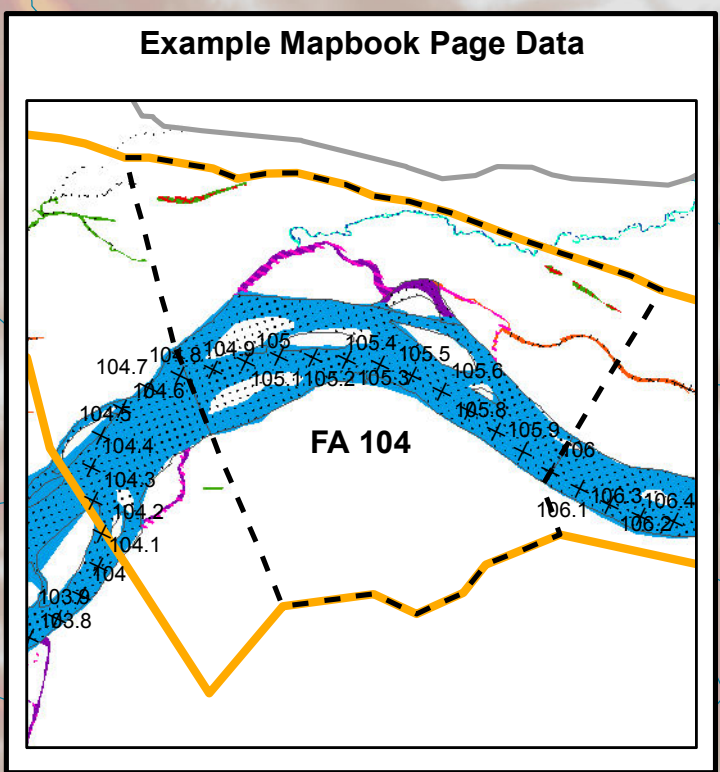
Legend

- ★ Proposed Watana Dam Site
- Sheet Extents
- Roads
- Railroads
- Rivers and Streams
- Waterbodies

Data Sources: See Map References

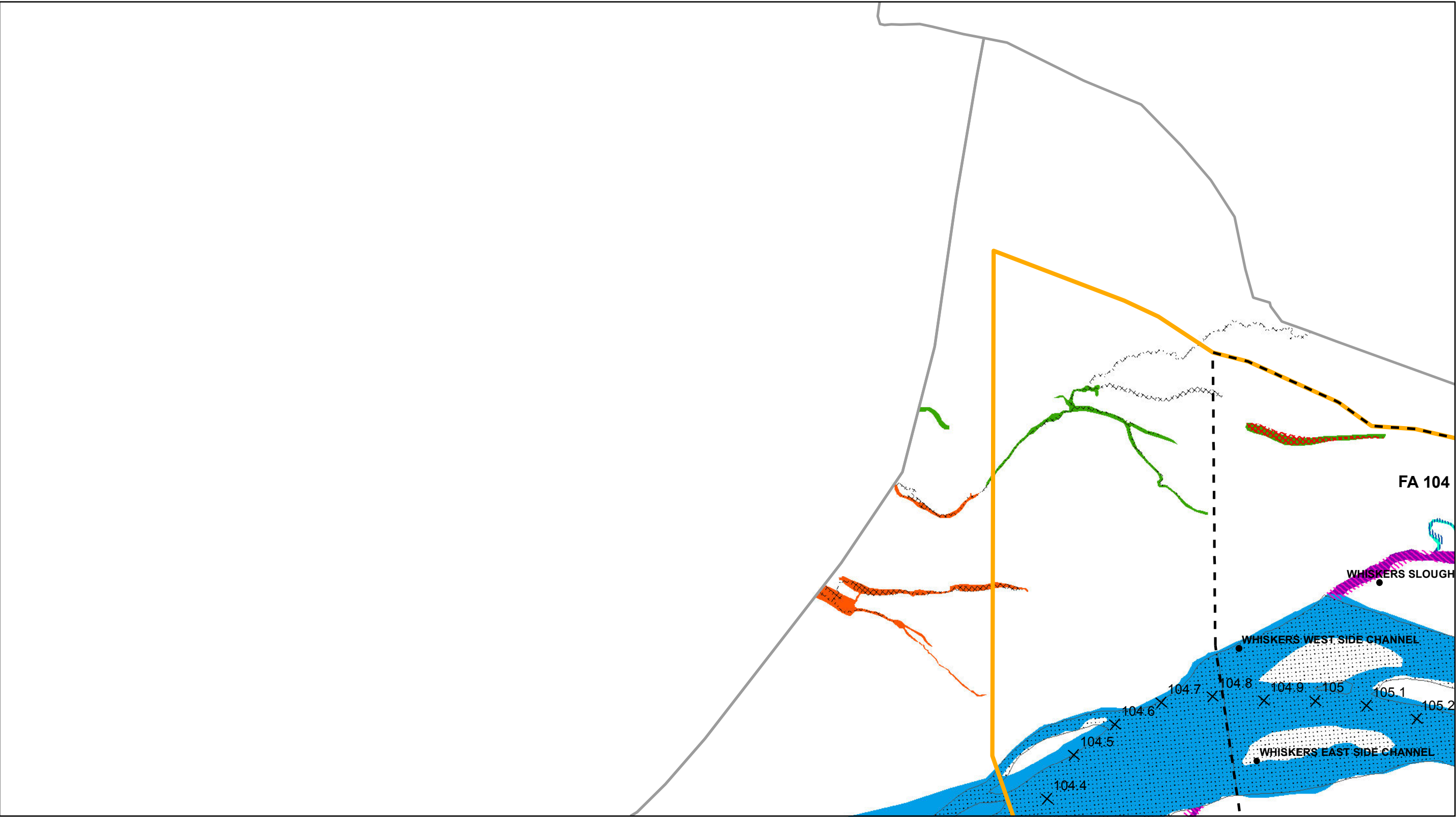
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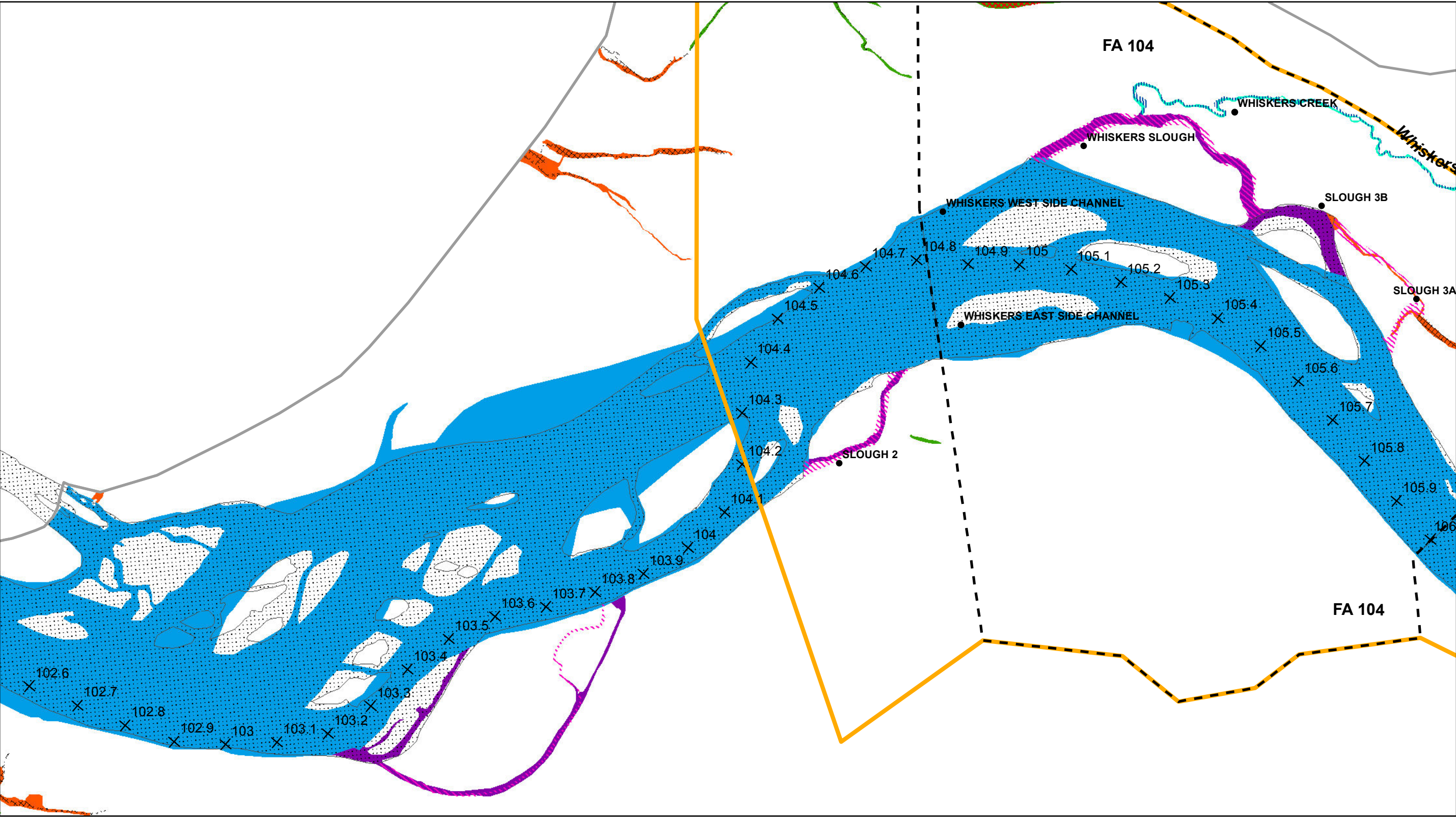
- × Project River Miles
- Geomorphic Reach Breaks
- Geomorphic Assessment Area Extents
- Focus Area Extents
- 1950s Geomorphic Features**
 - Main & Side Channel Features
 - Side Slough Features
 - Tributary Features
 - Upland Slough Features
 - Additional Open Water
- 1983 Geomorphic Features**
 - Main & Side Channel Features
 - Side Slough Features
 - Tributary Features
 - Upland Slough Features
 - Additional Open Water

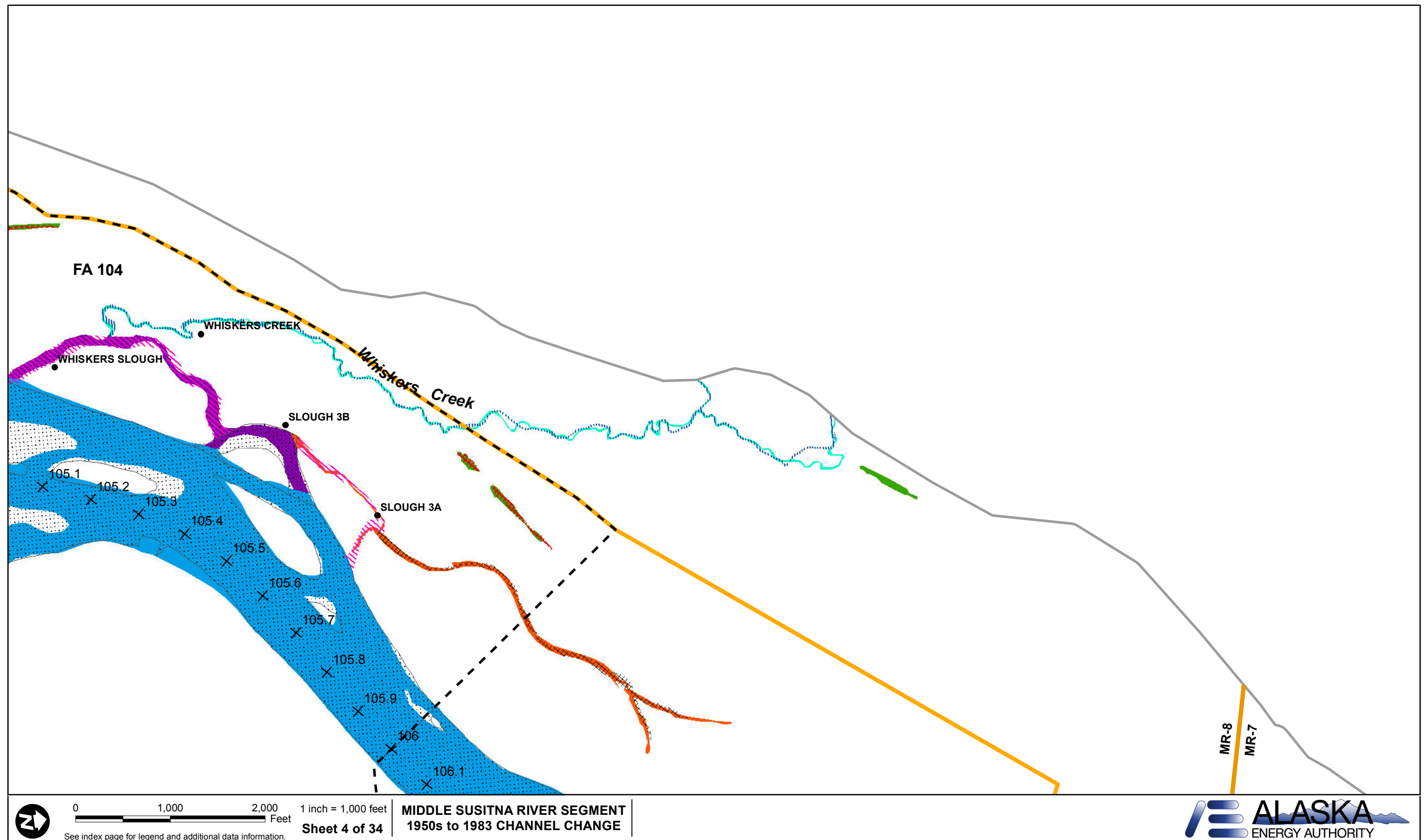


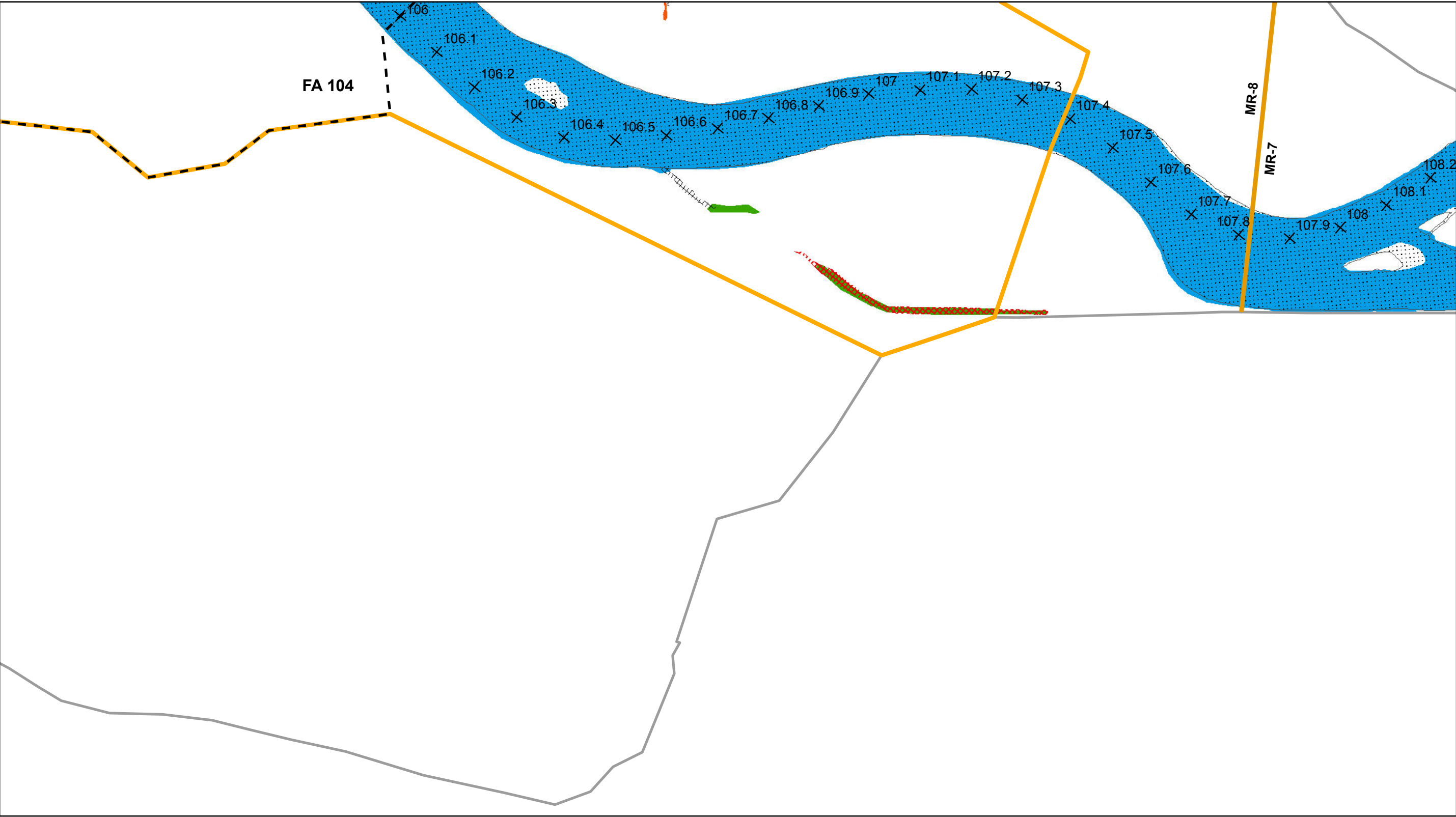
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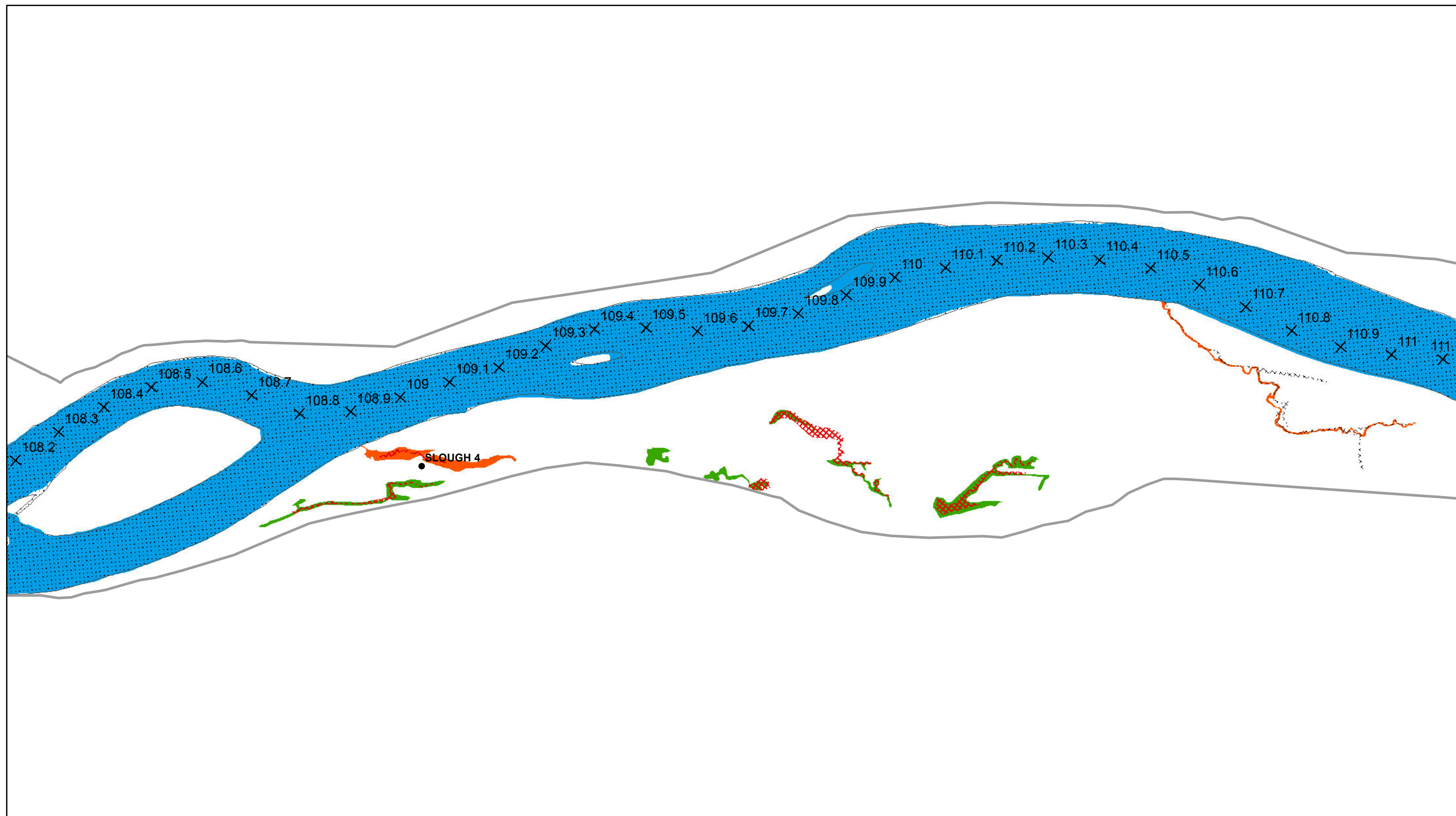
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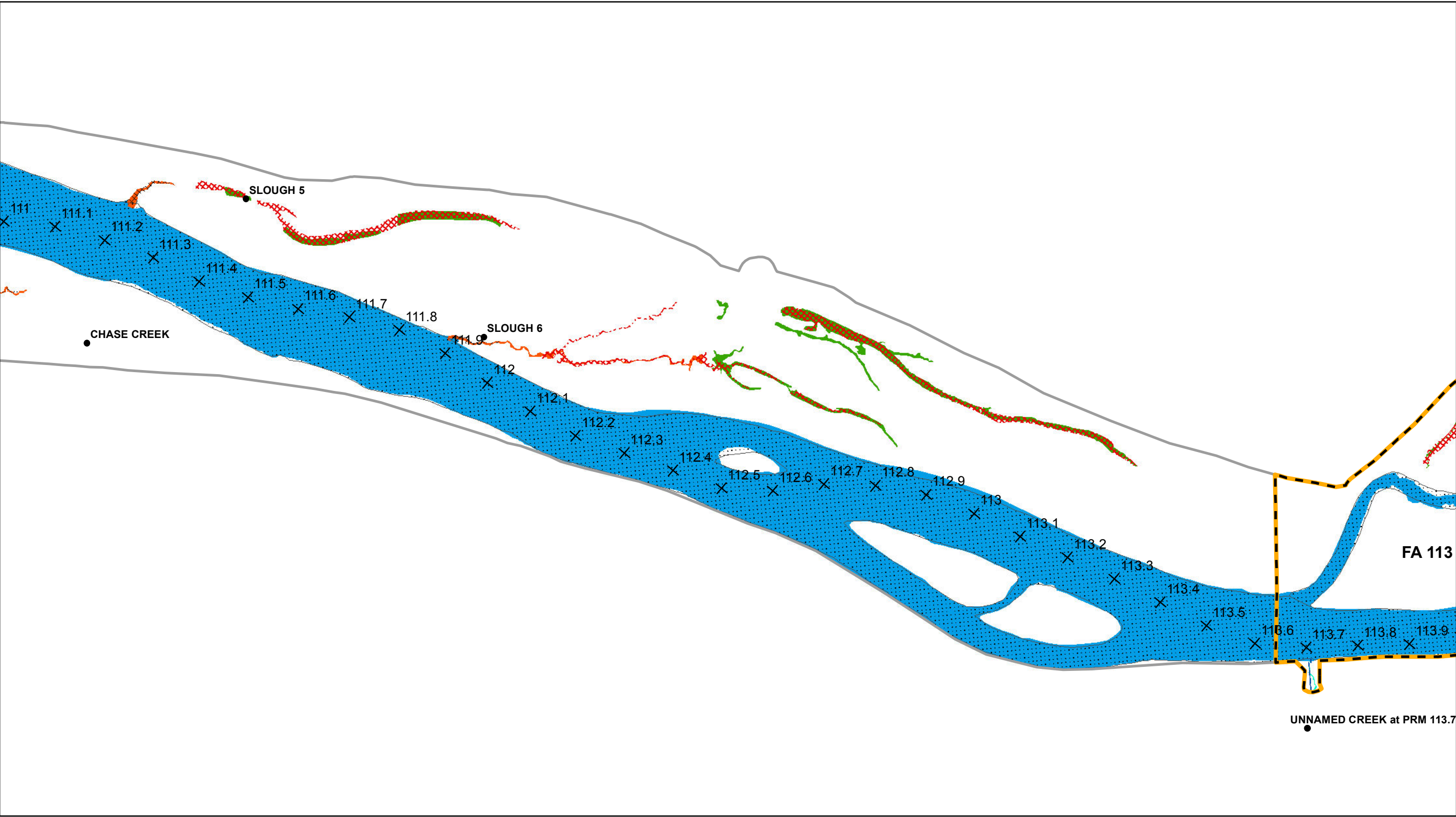


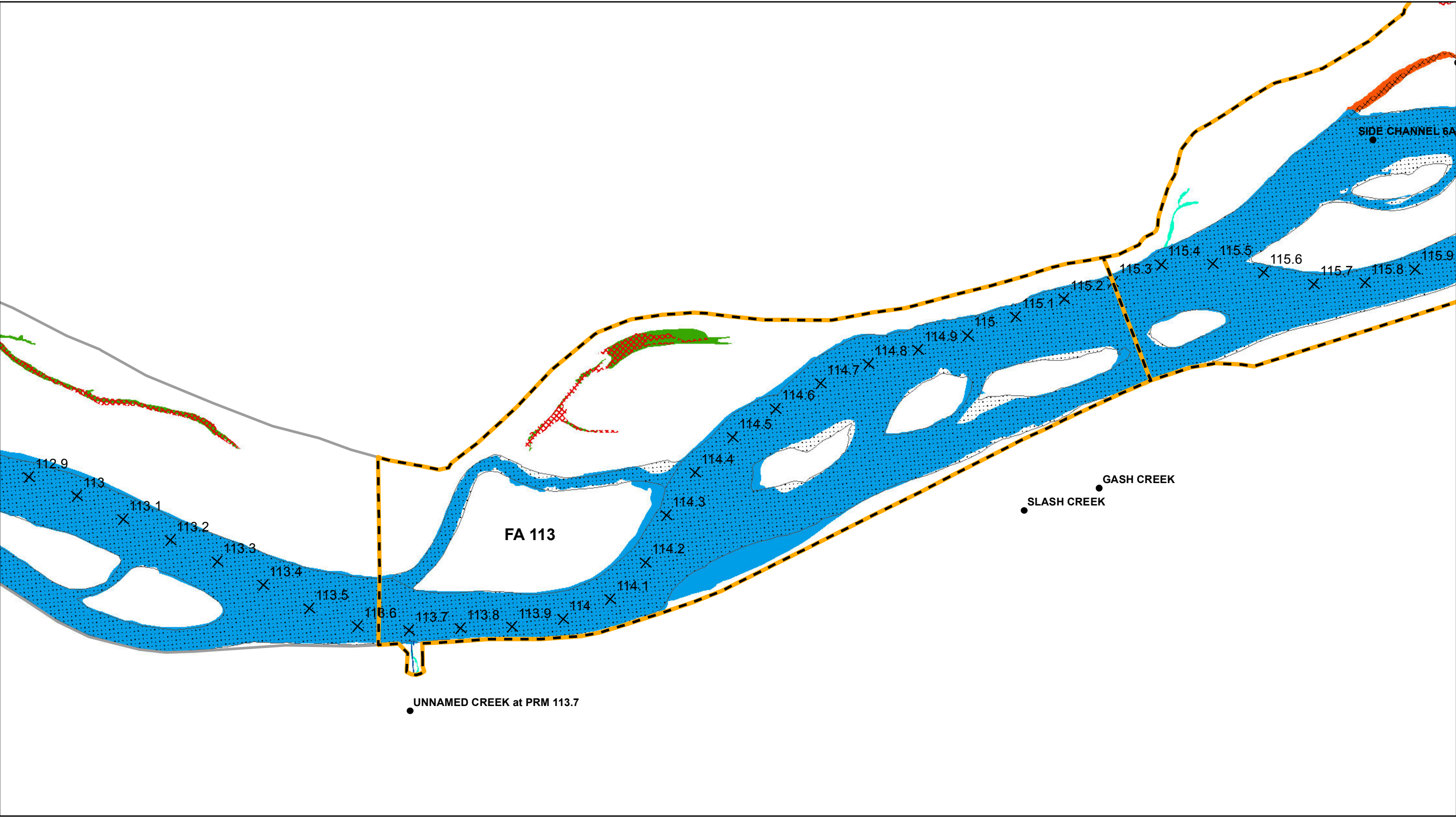
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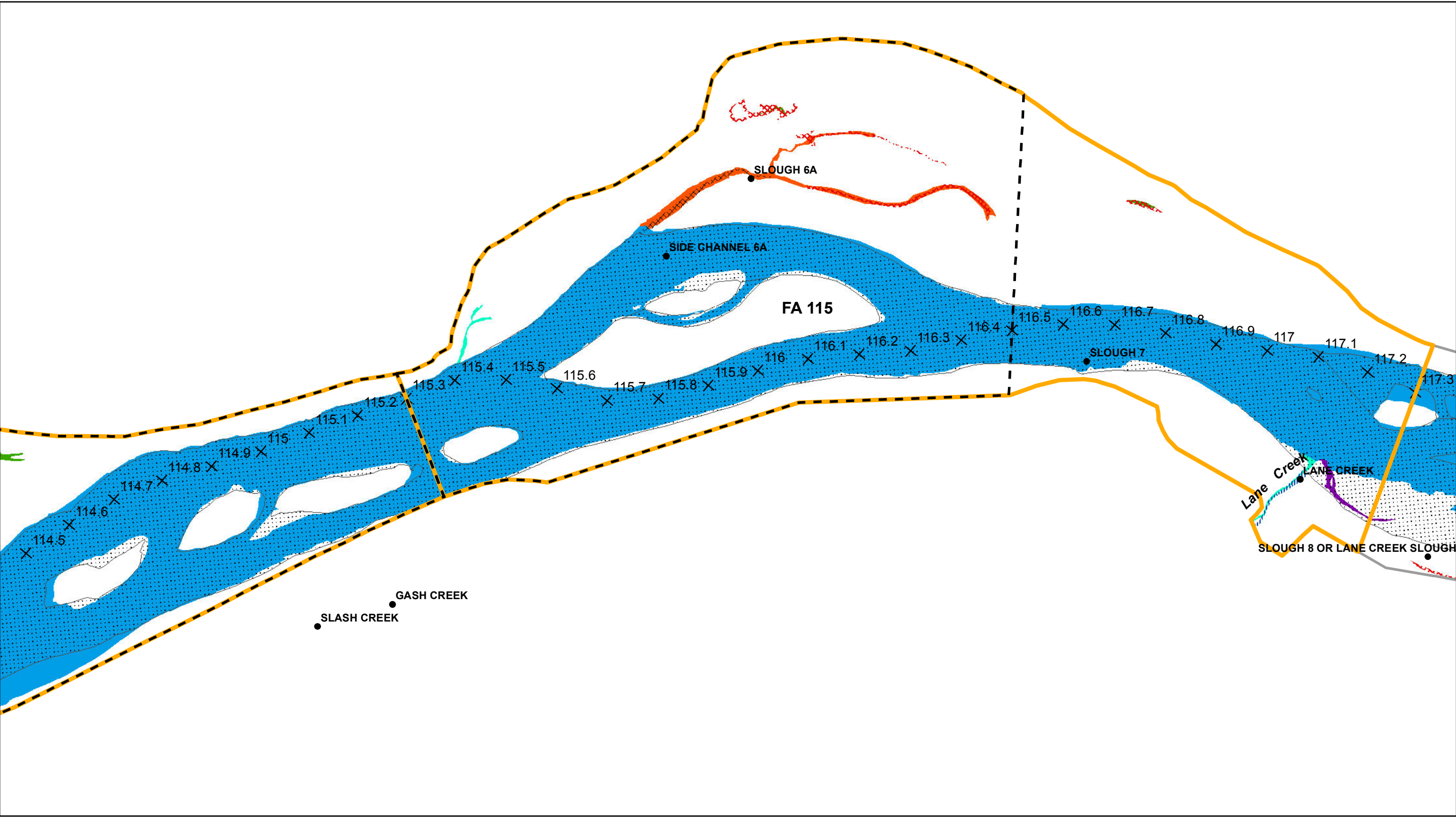
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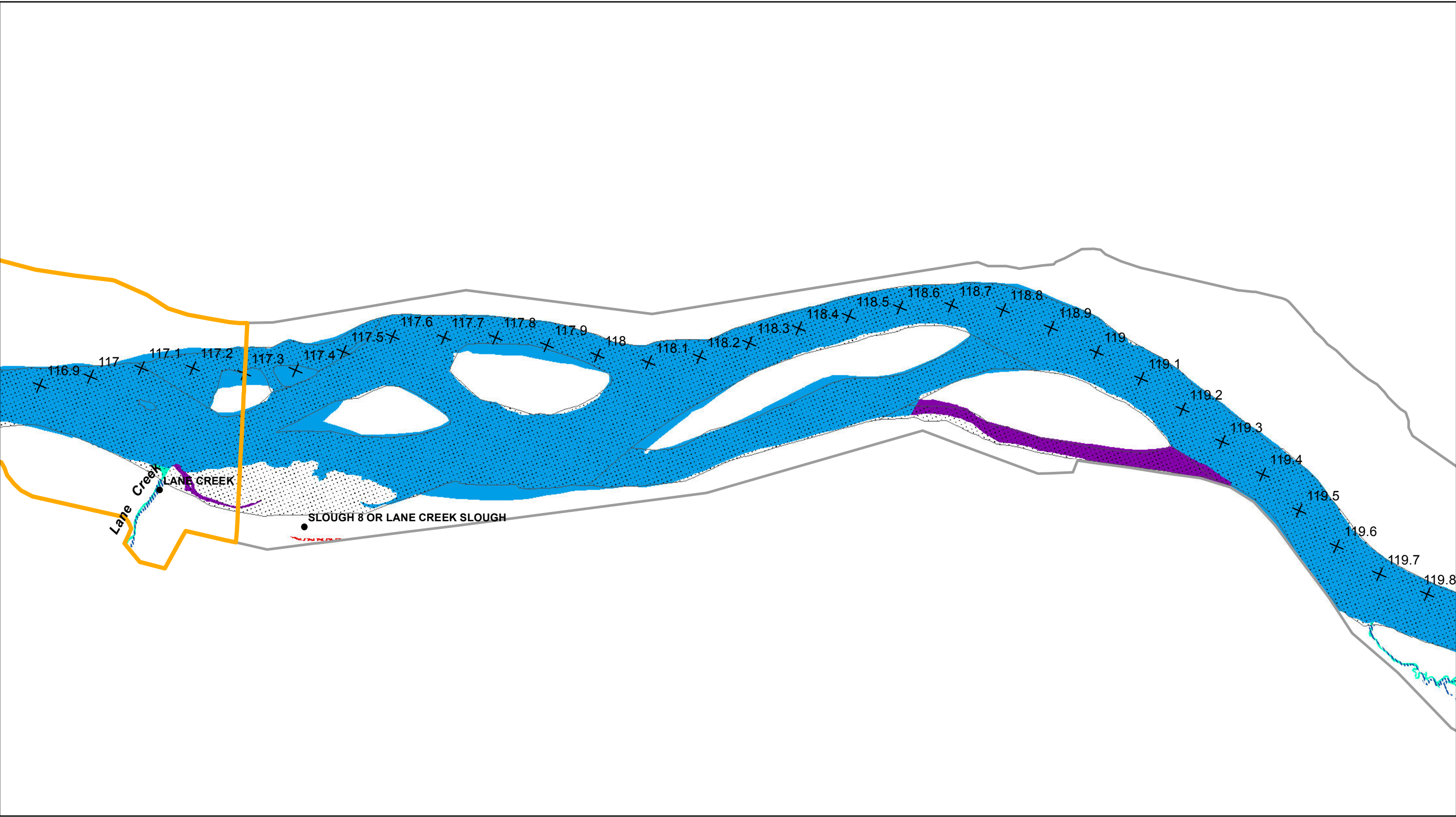
MIDDLE SUSITNA RIVER SEGMENT
1950s to 1983 CHANNEL CHANGE

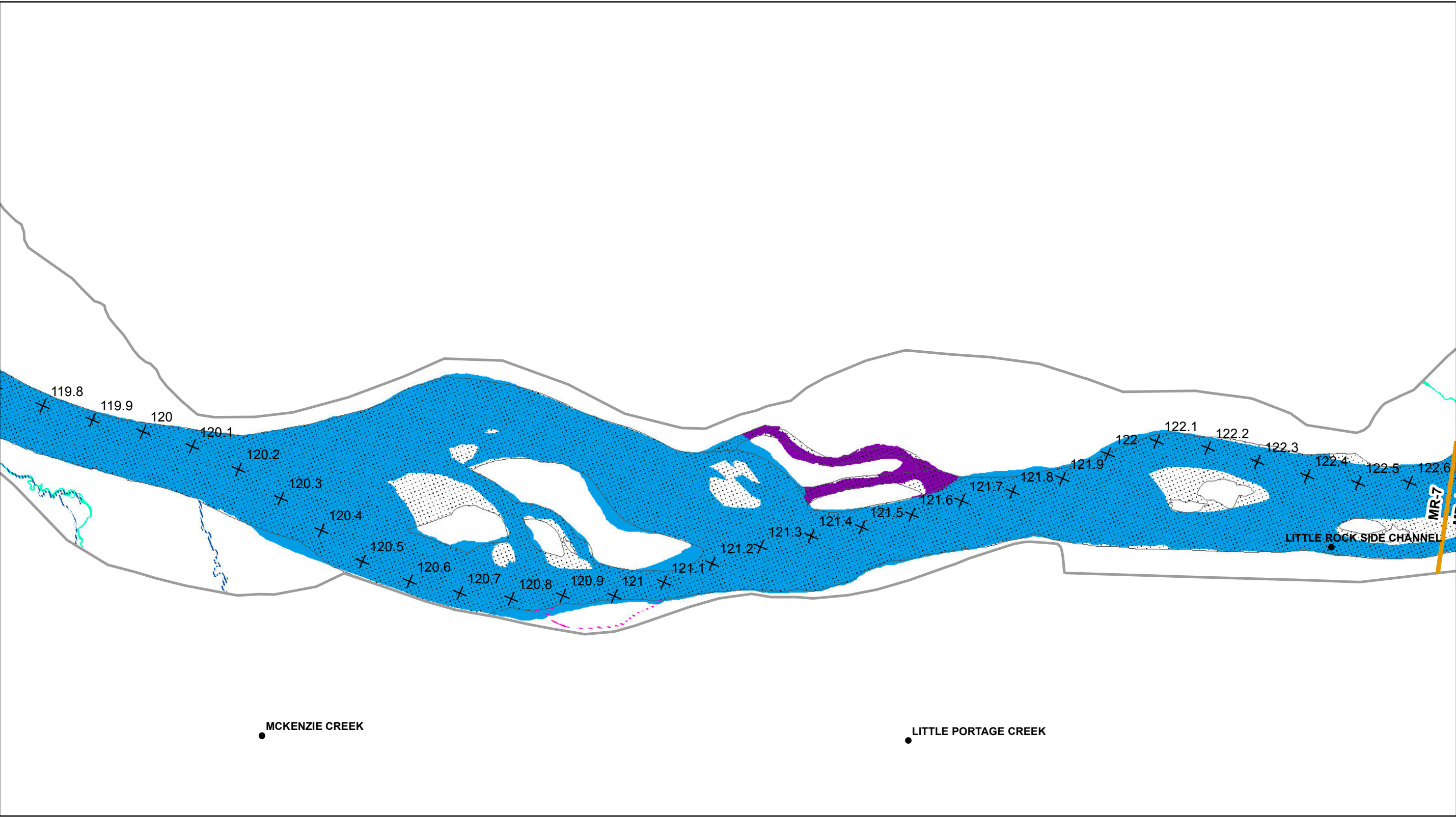


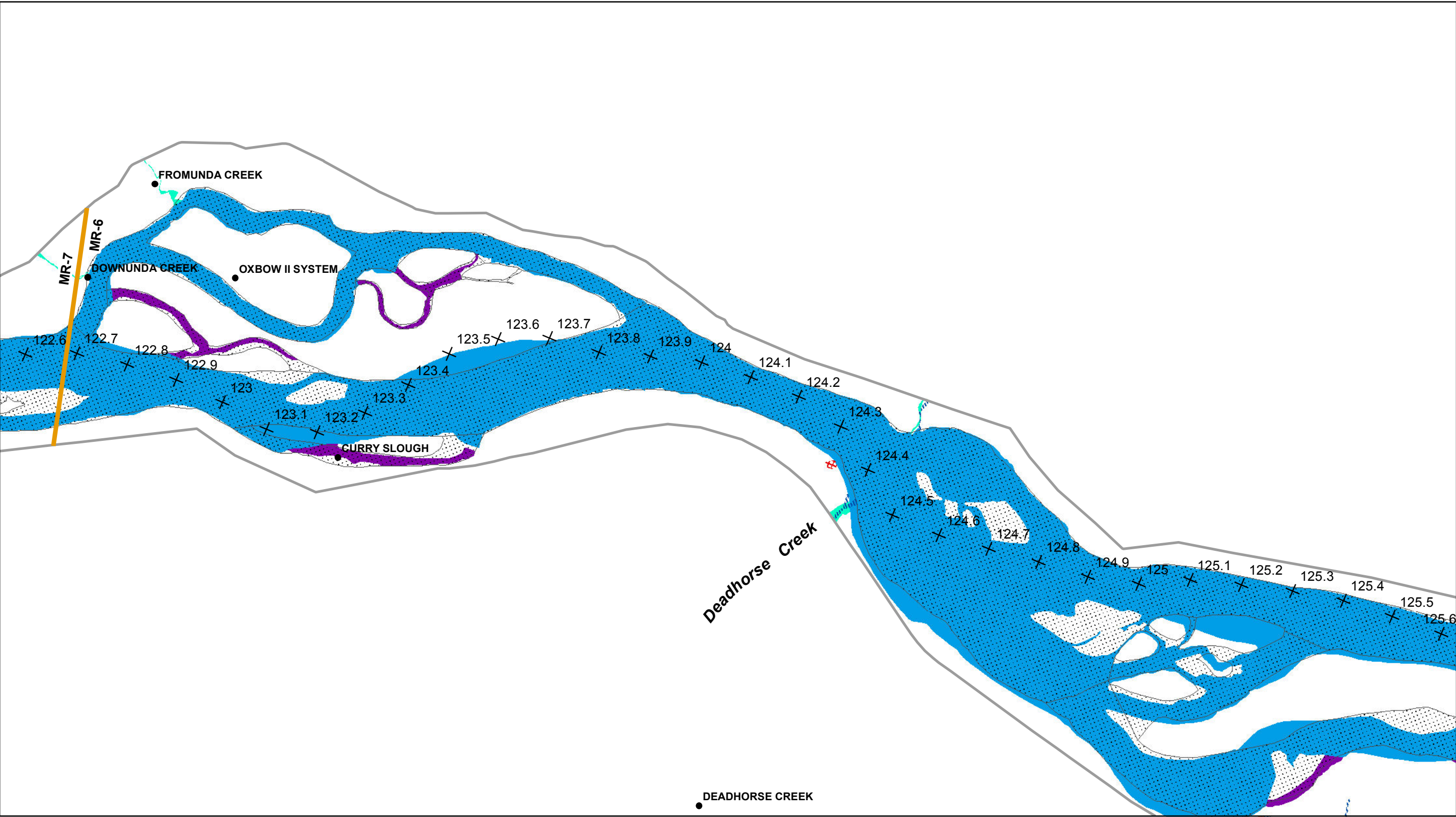


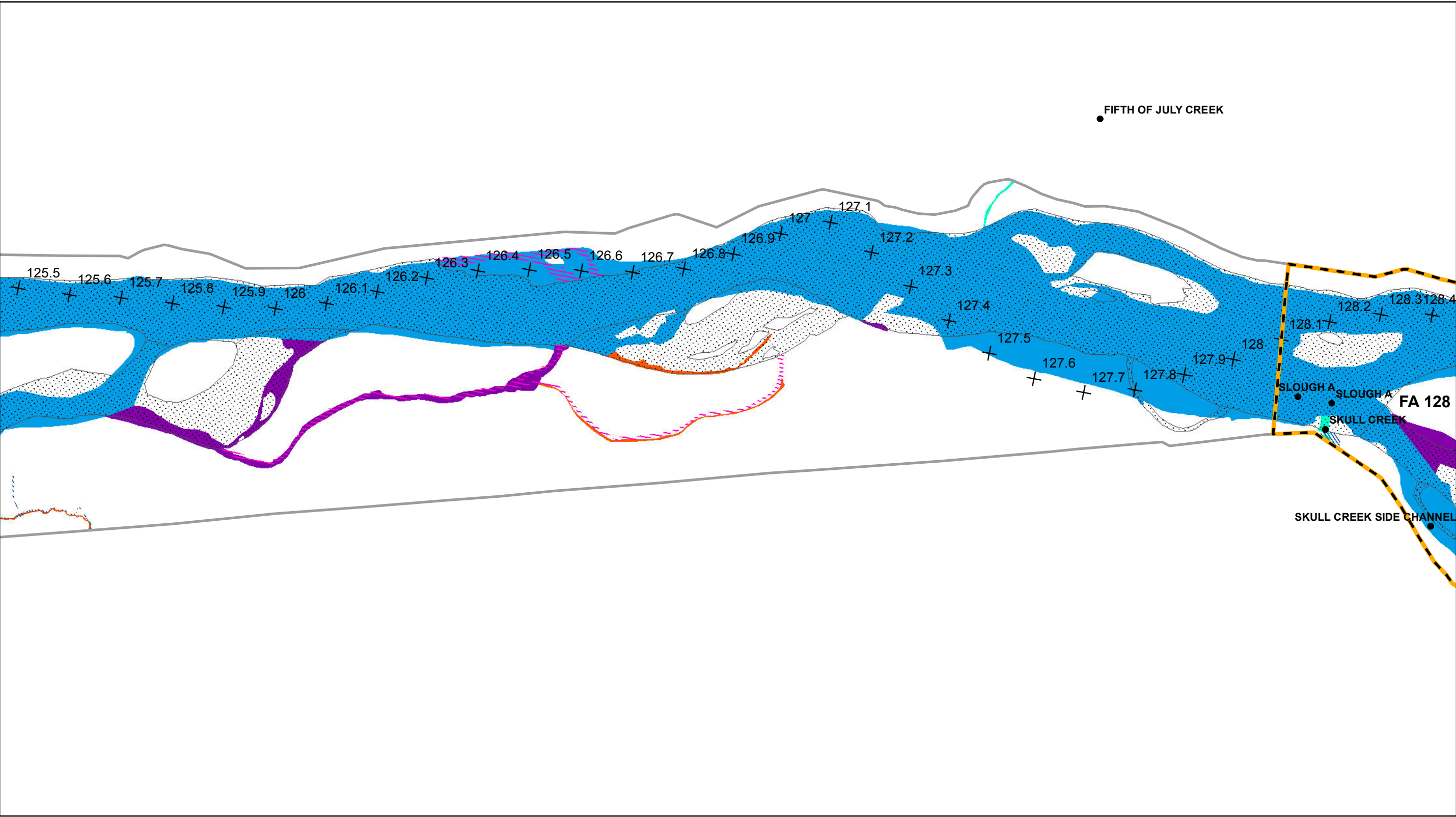


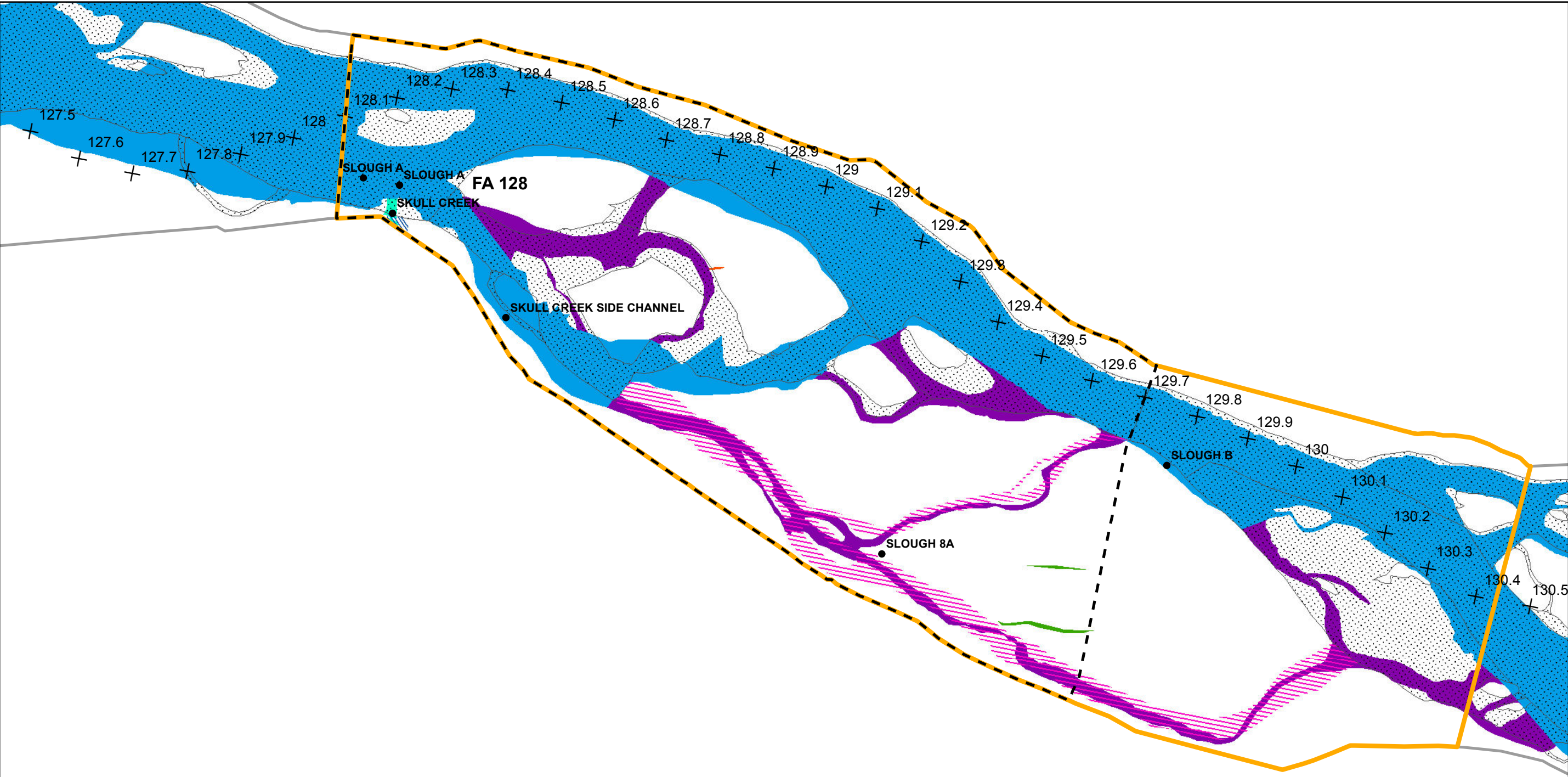


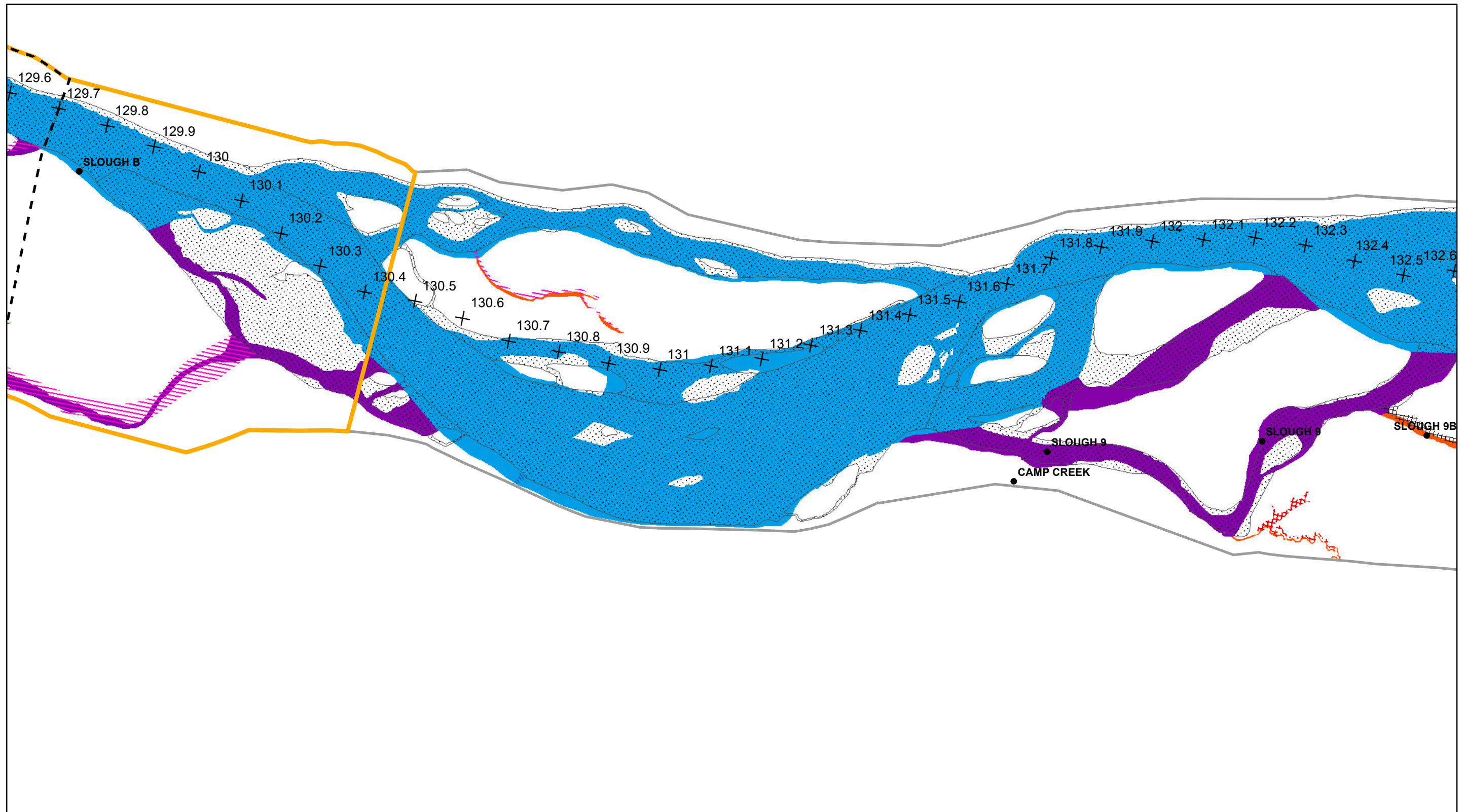










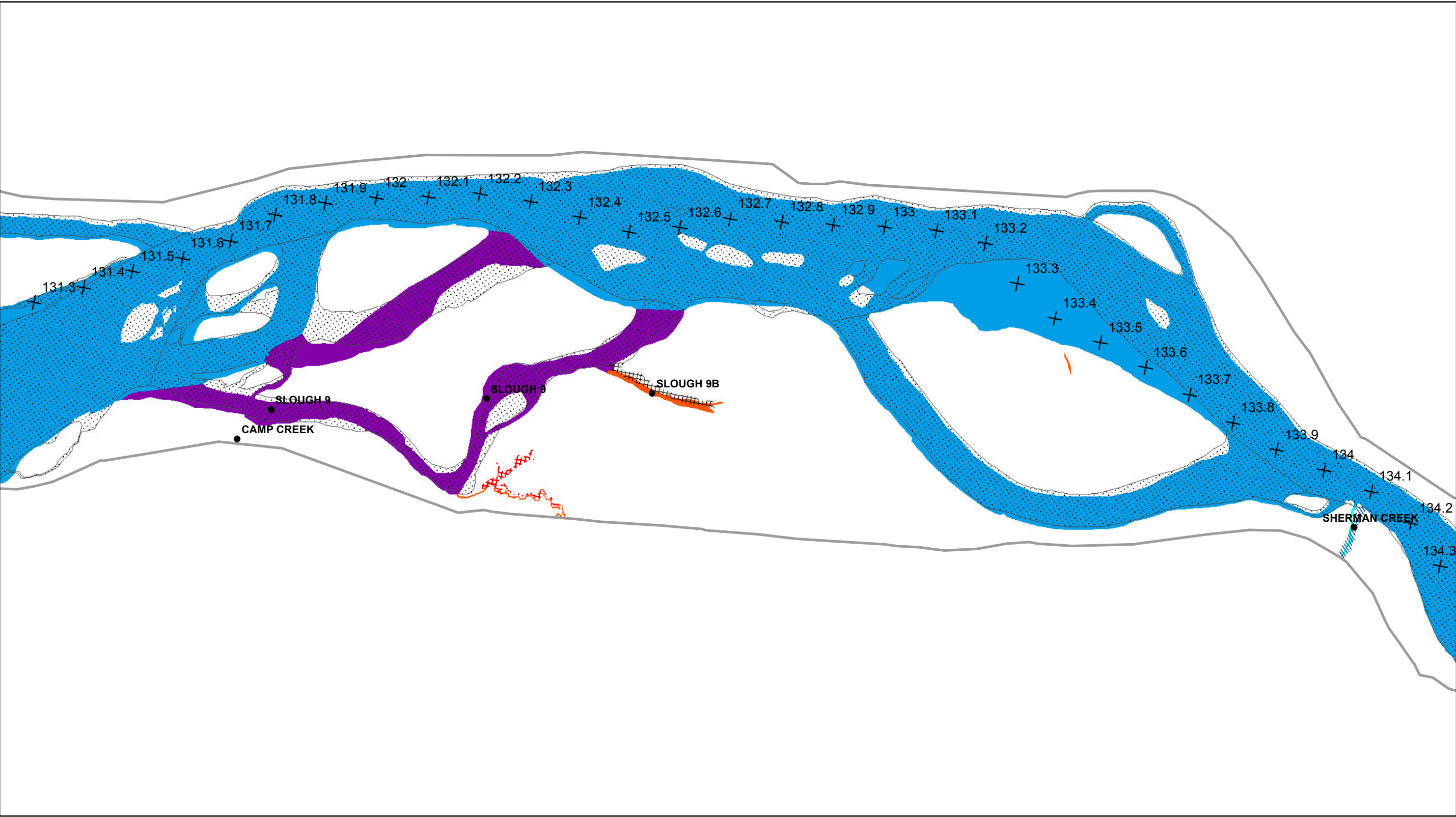


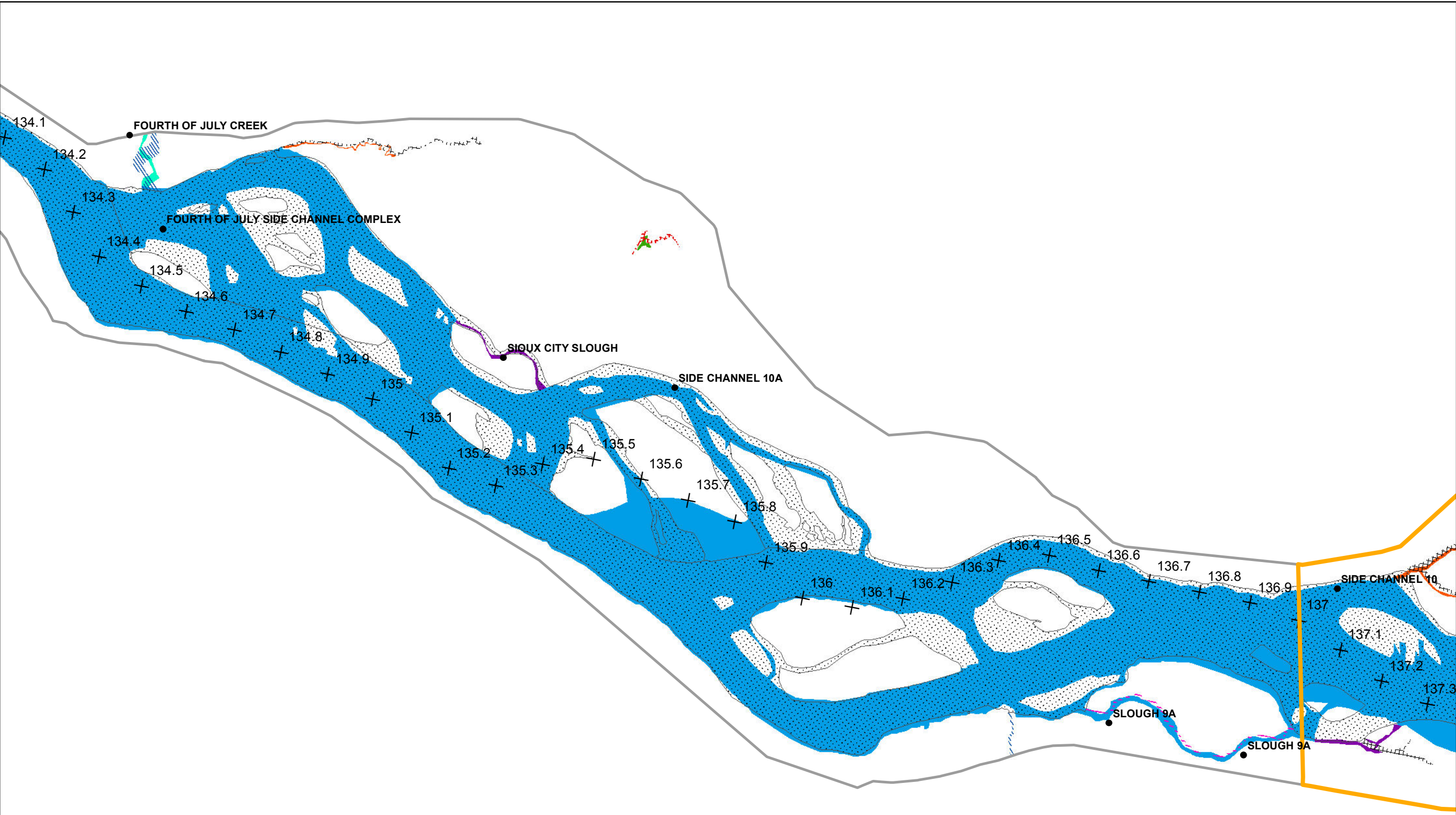
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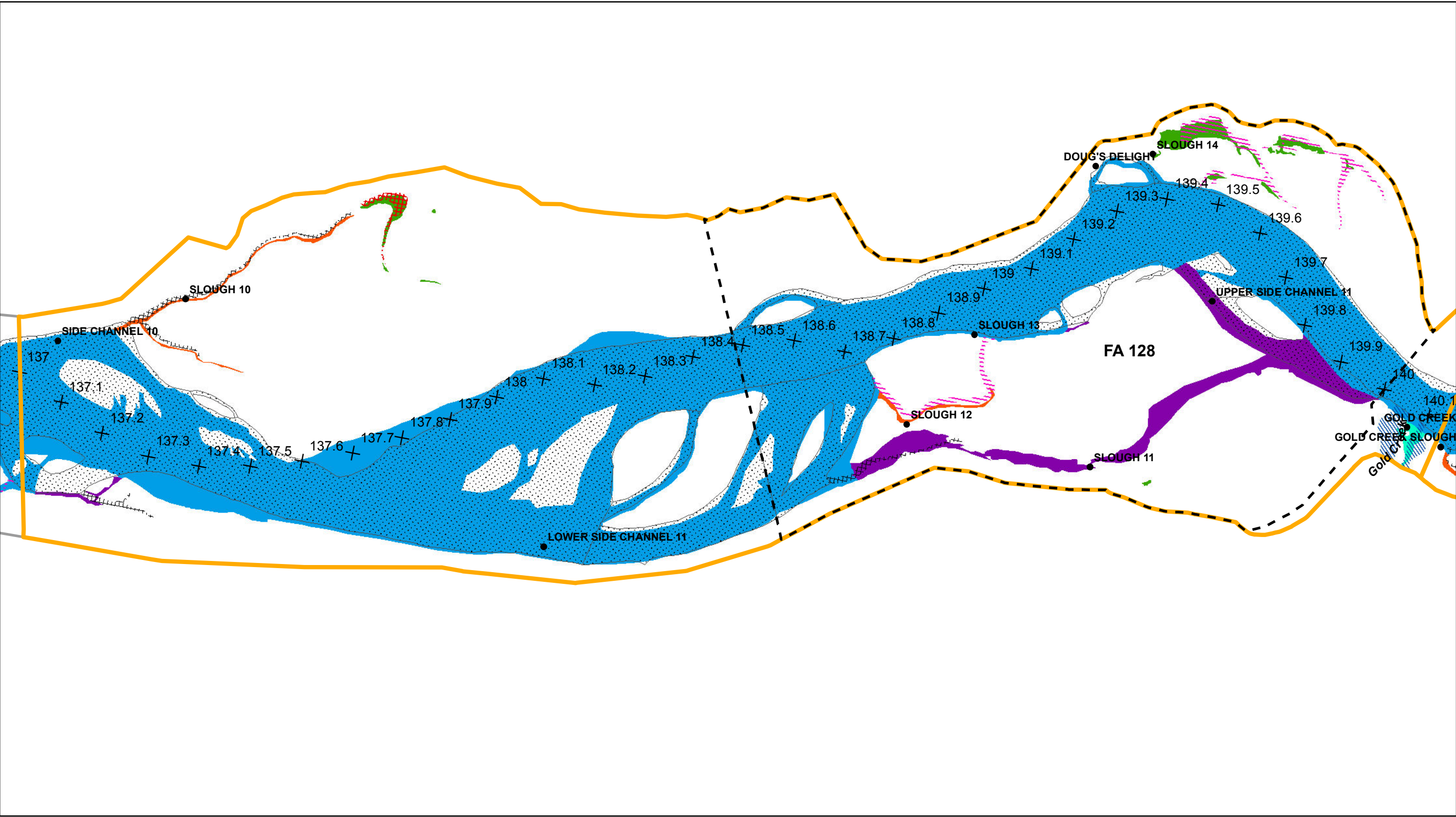
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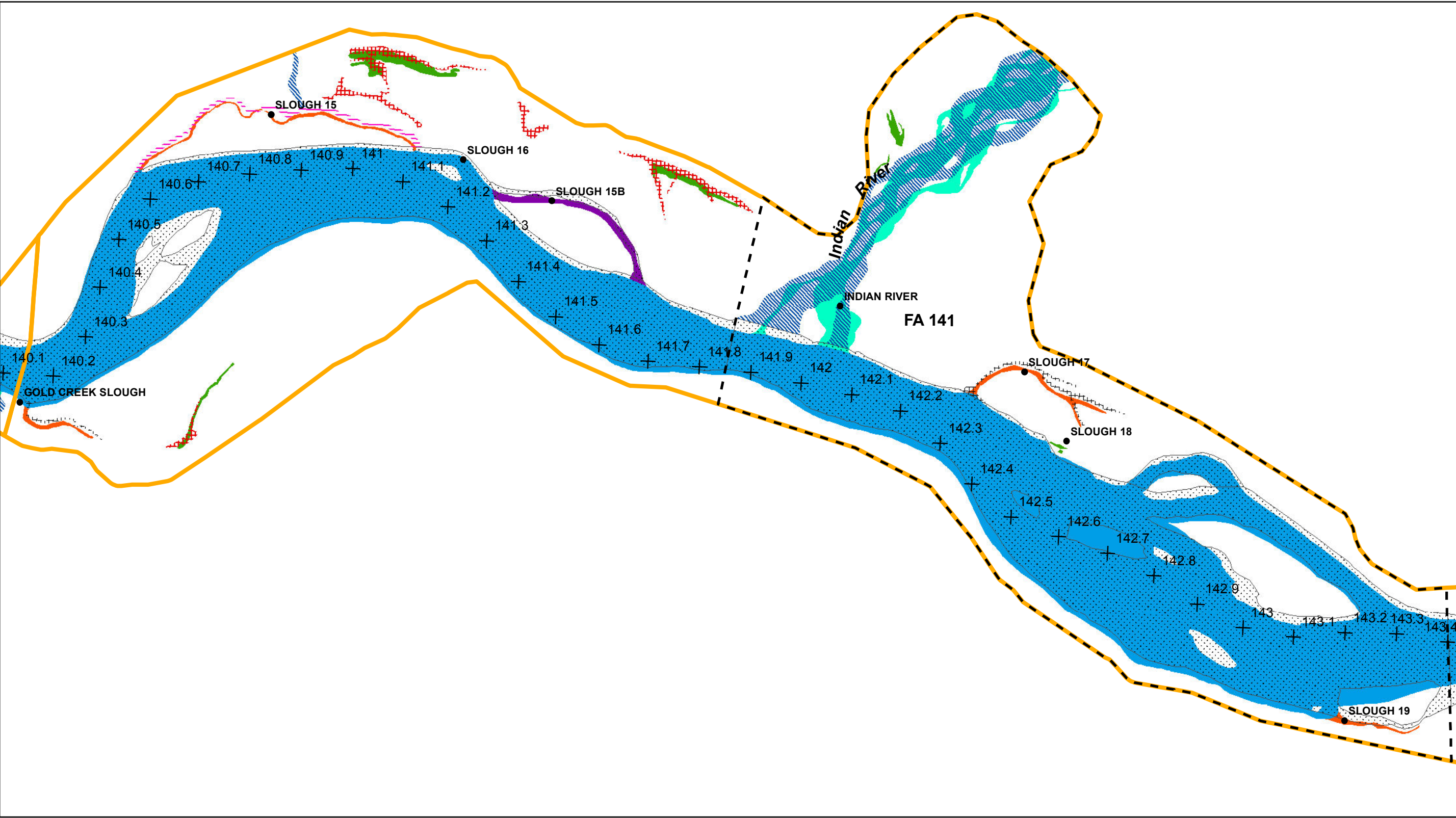
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1950s to 1983 CHANNEL CHANGE

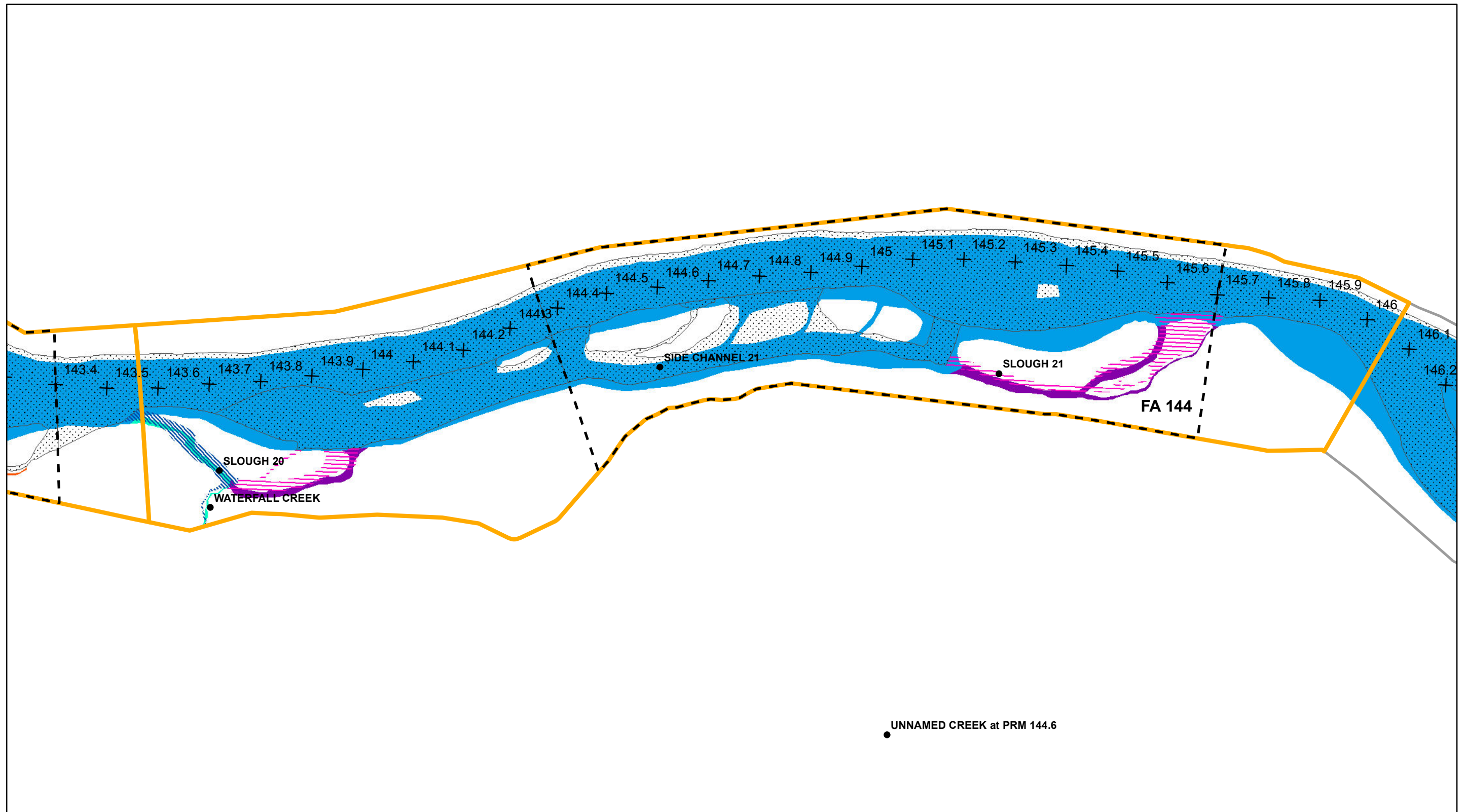










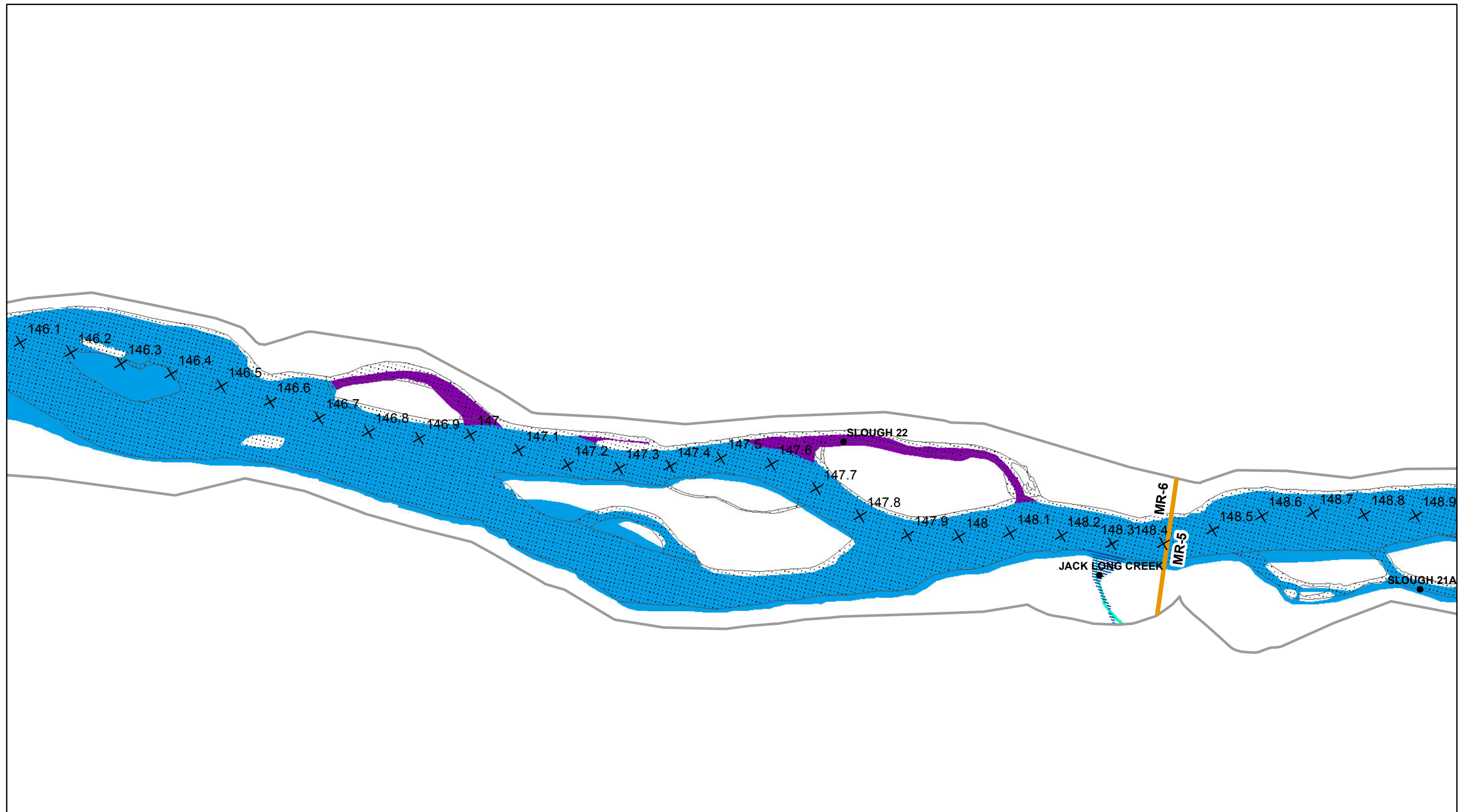


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MIDDLE SUSITNA RIVER SEGMENT
1950s to 1983 CHANNEL CHANGE



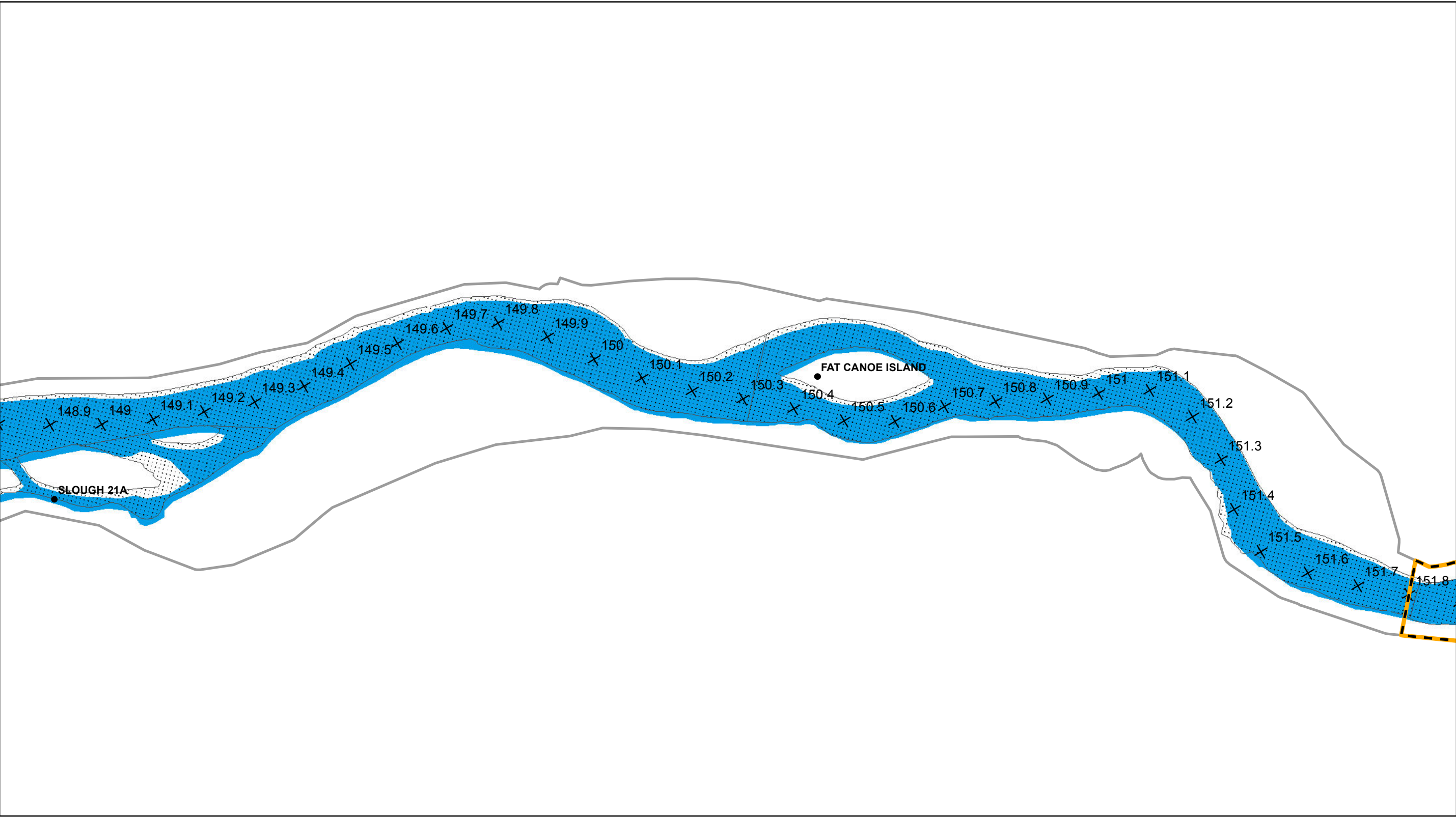


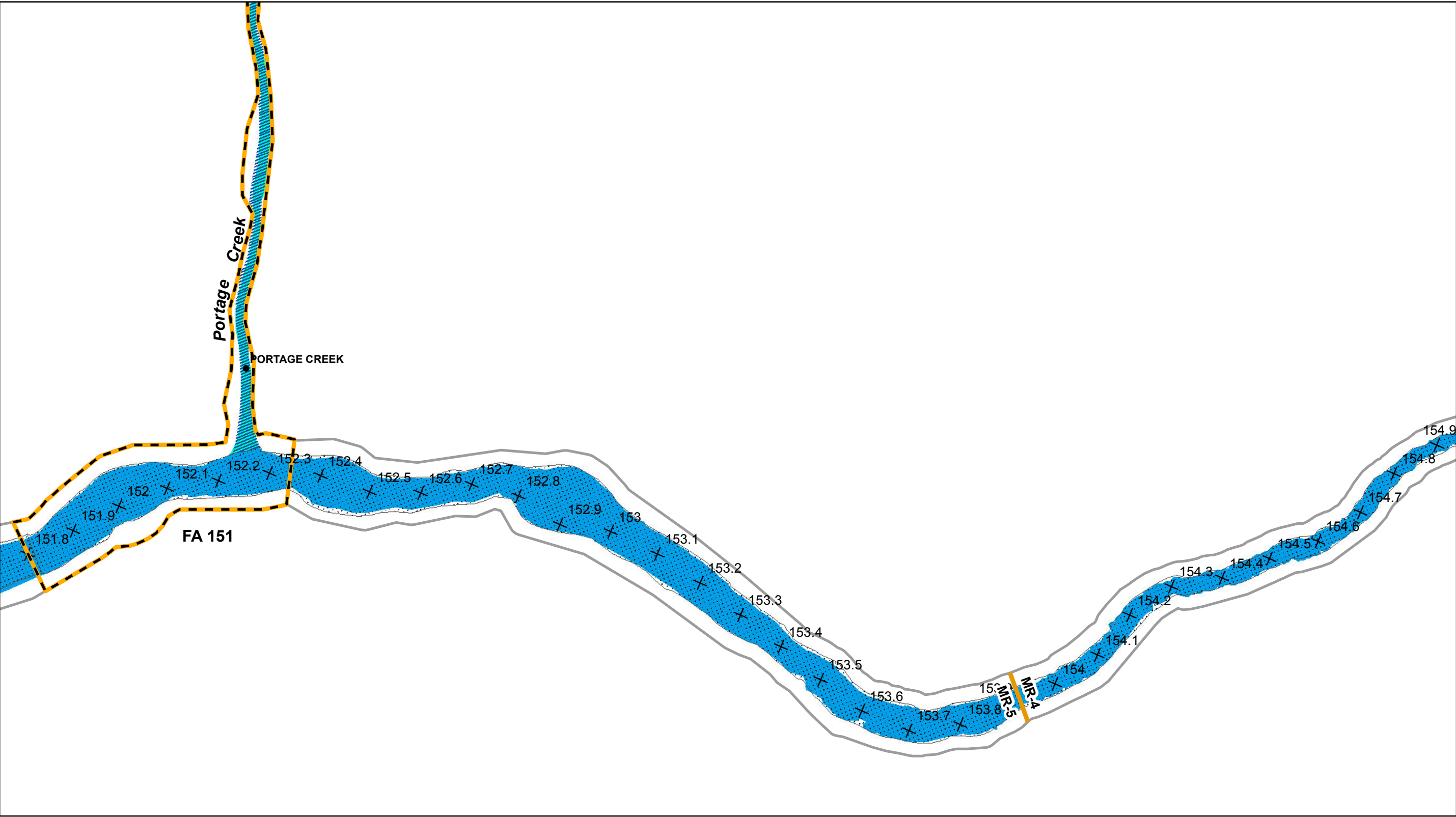
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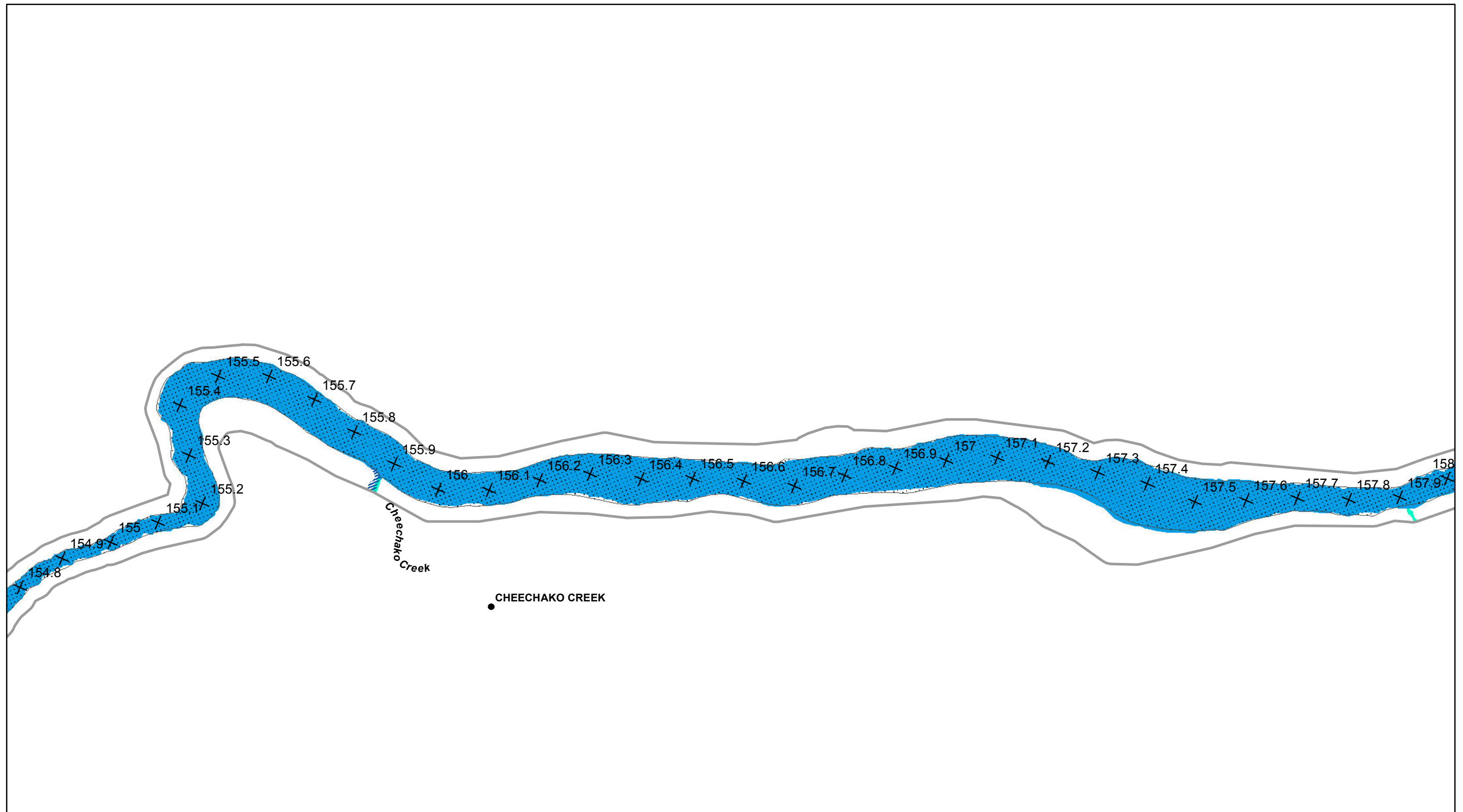
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MIDDLE SUSITNA RIVER SEGMENT
1950s to 1983 CHANNEL CHANGE





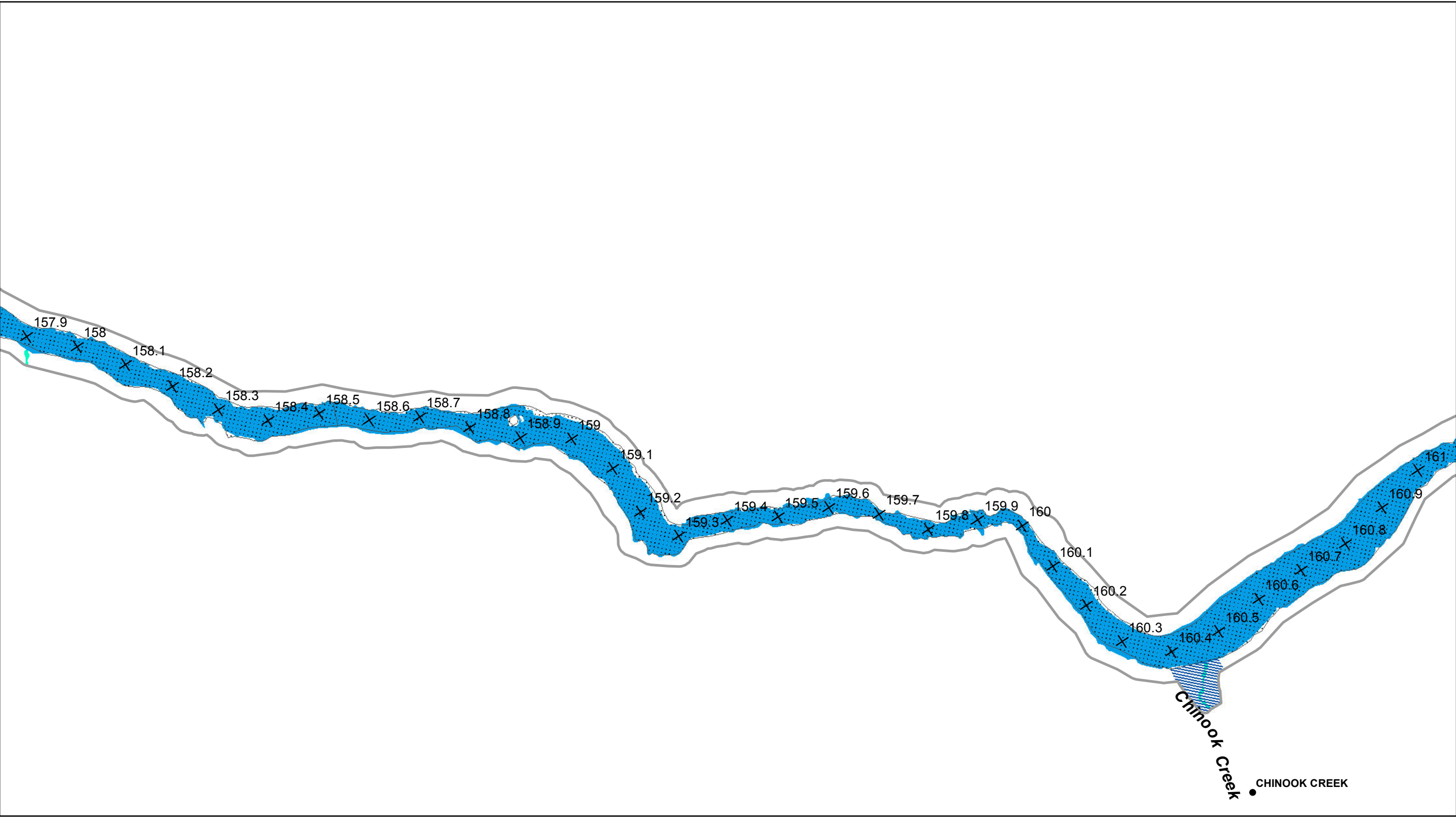


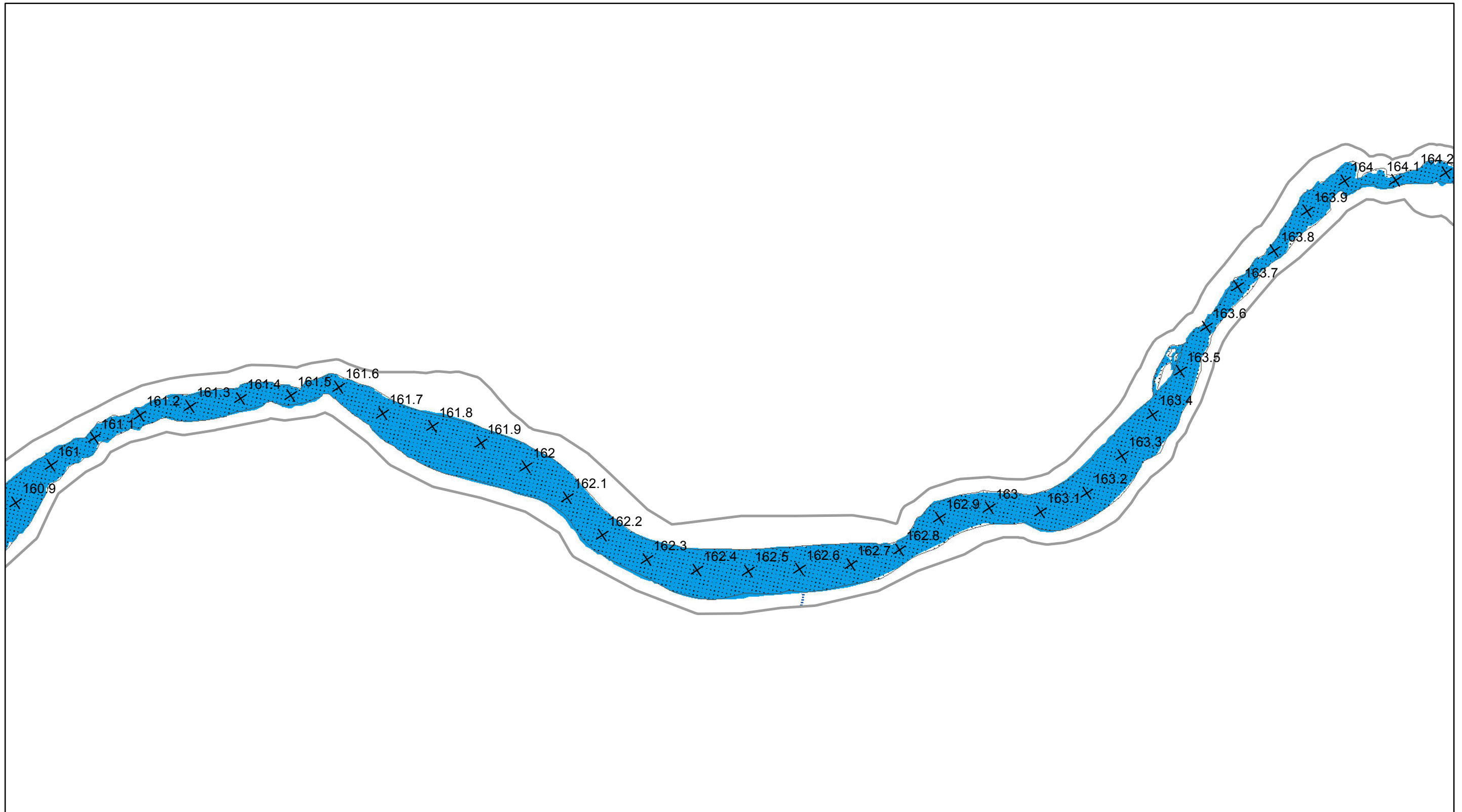


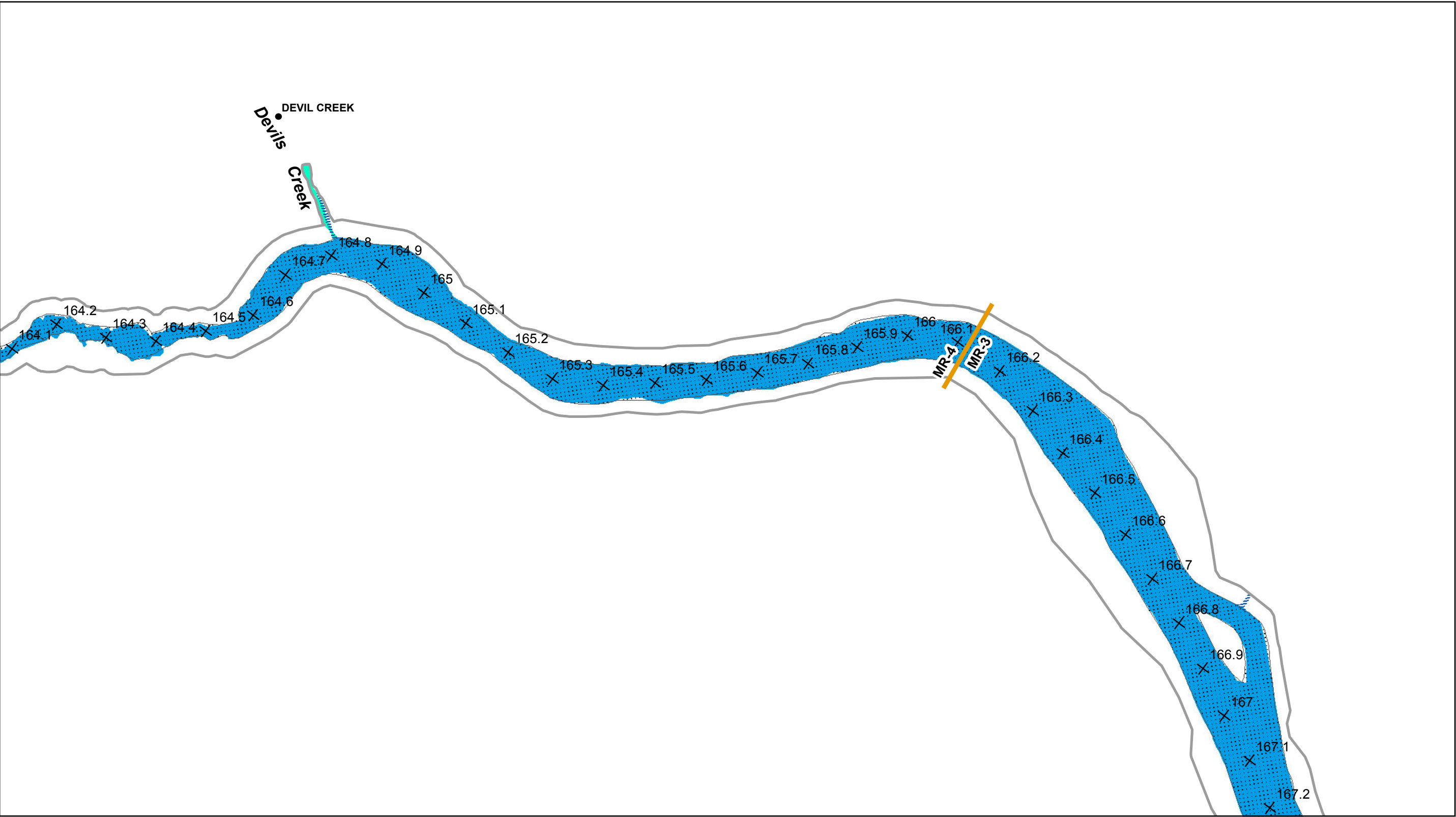
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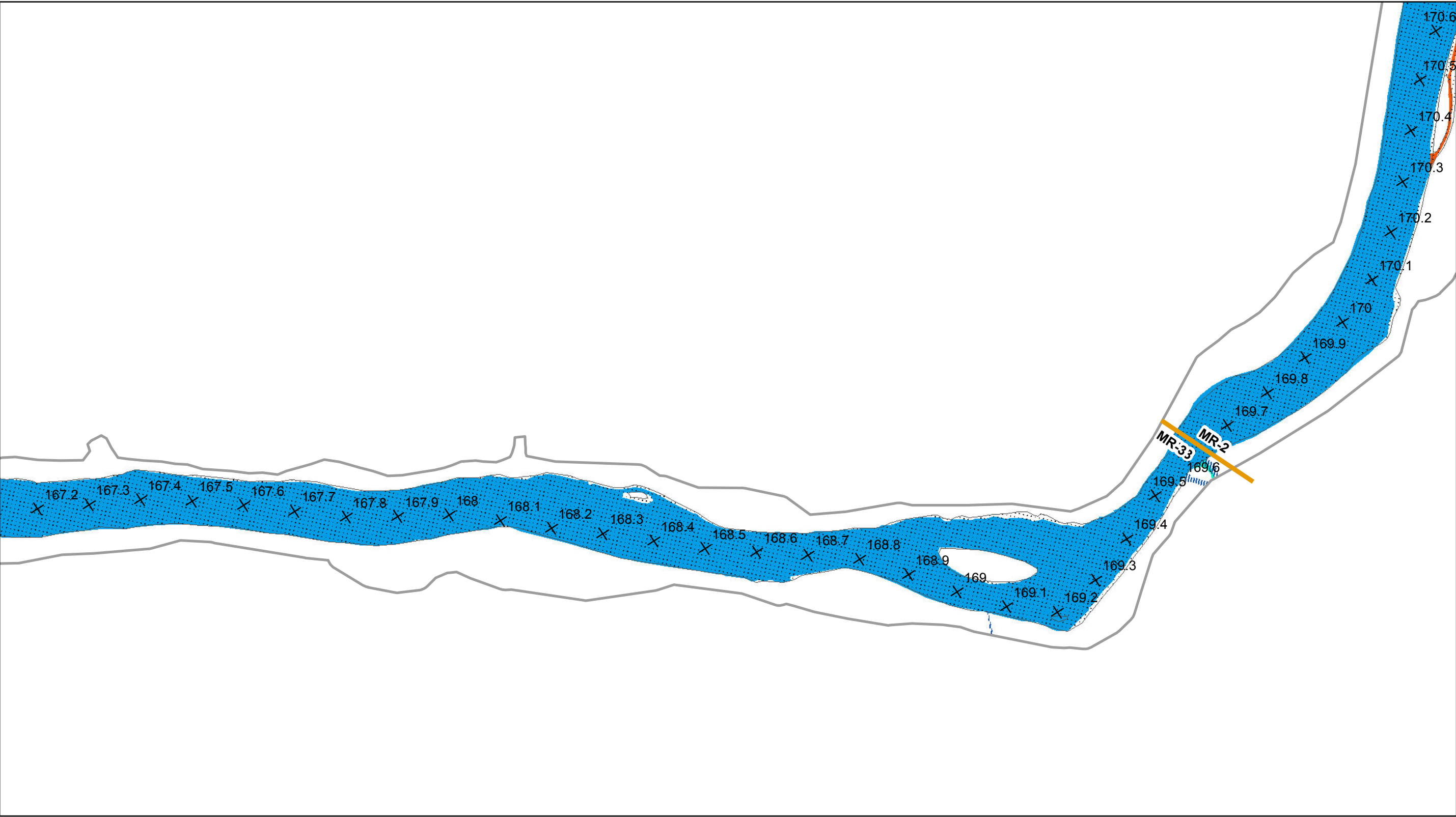
MIDDLE SUSITNA RIVER SEGMENT
1950s to 1983 CHANNEL CHANGE
Sheet 24 of 34

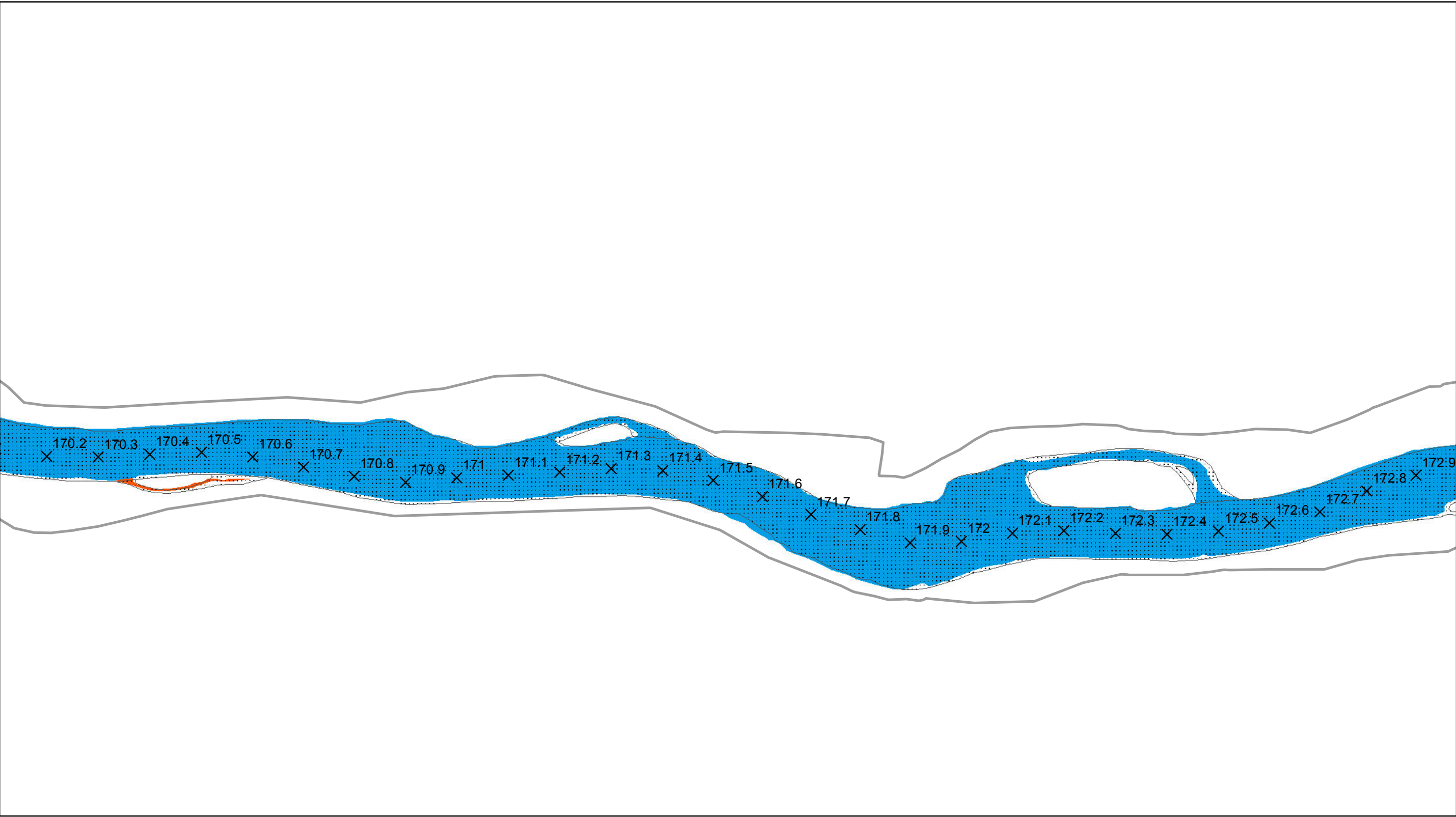


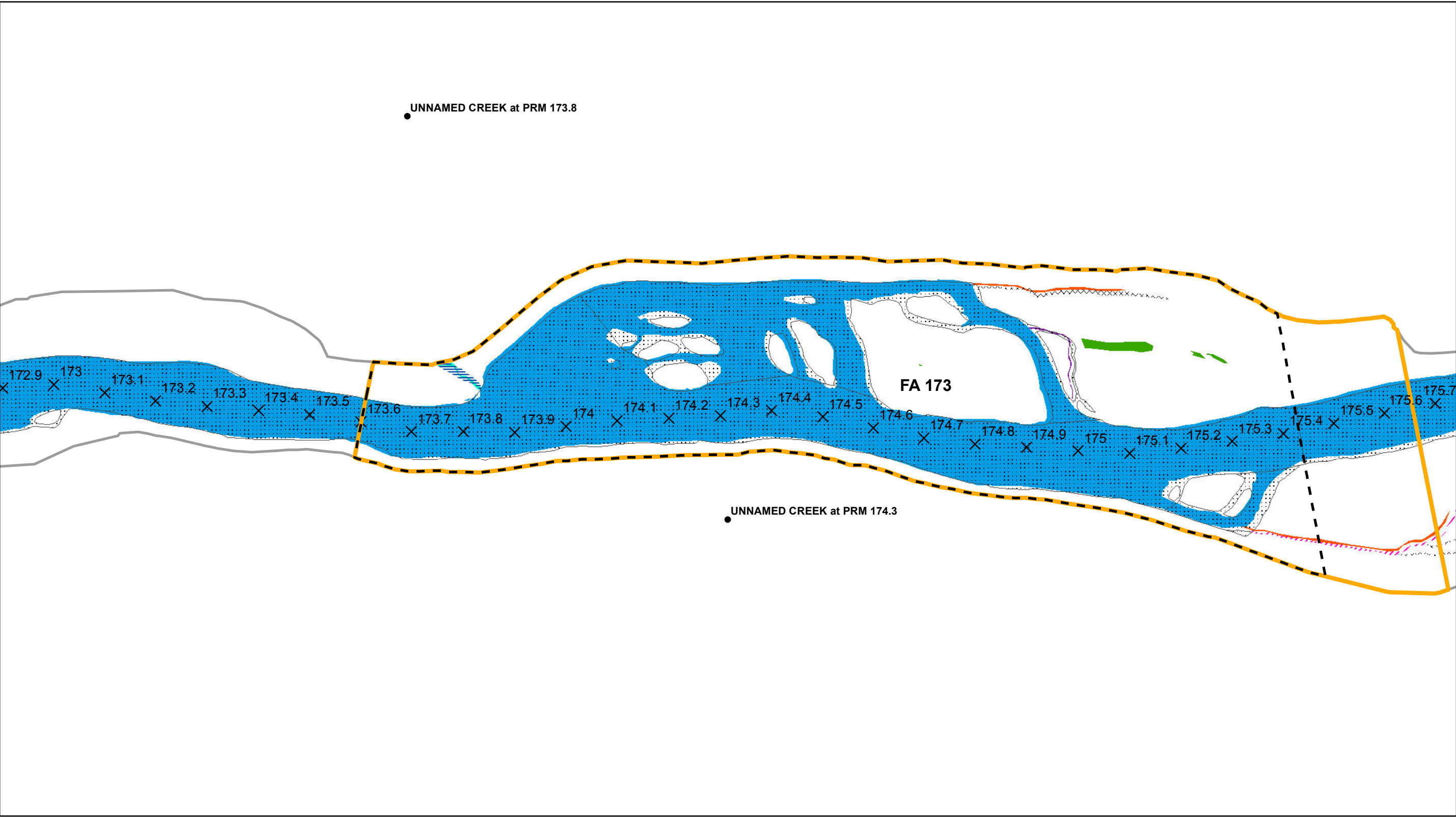


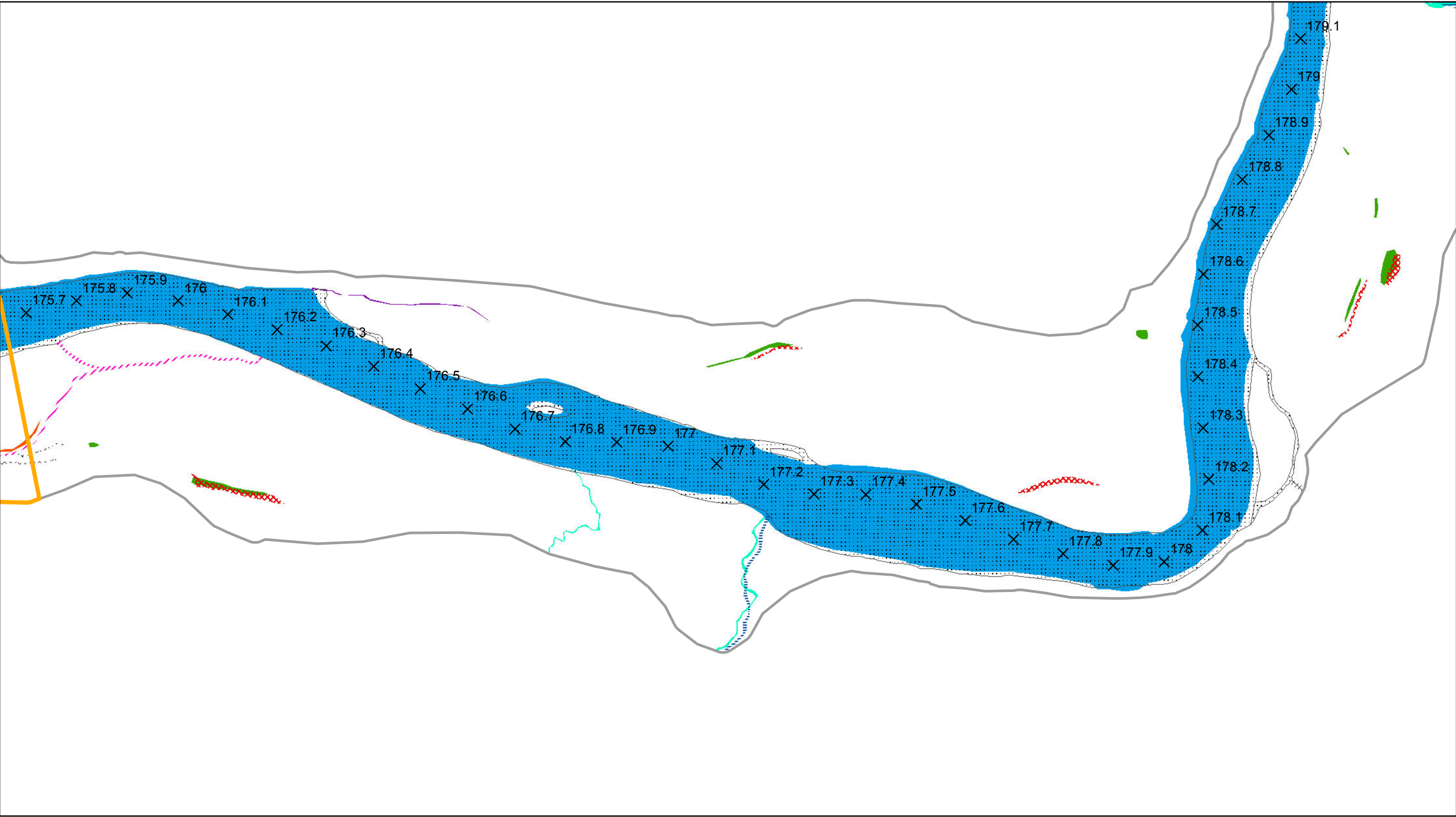


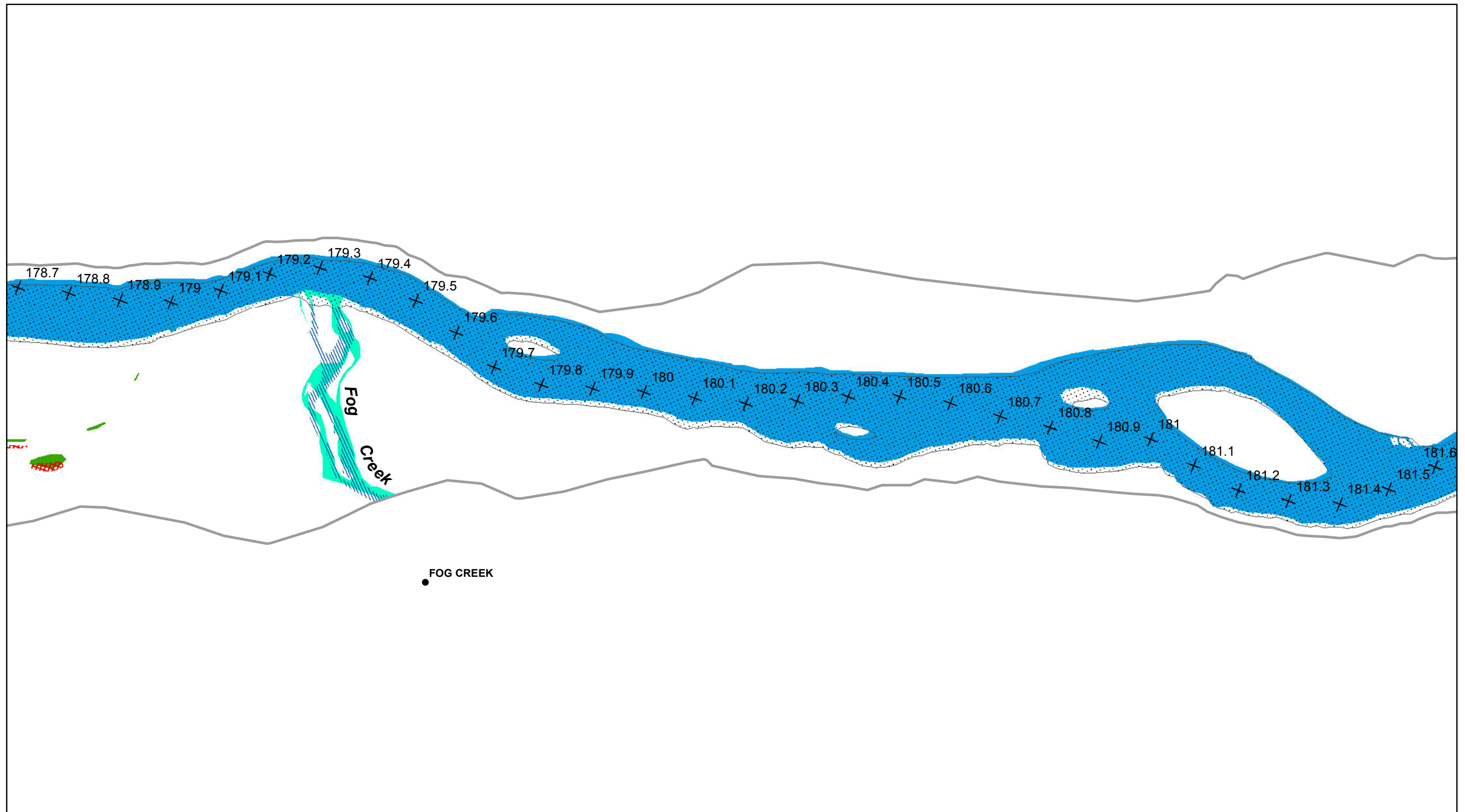












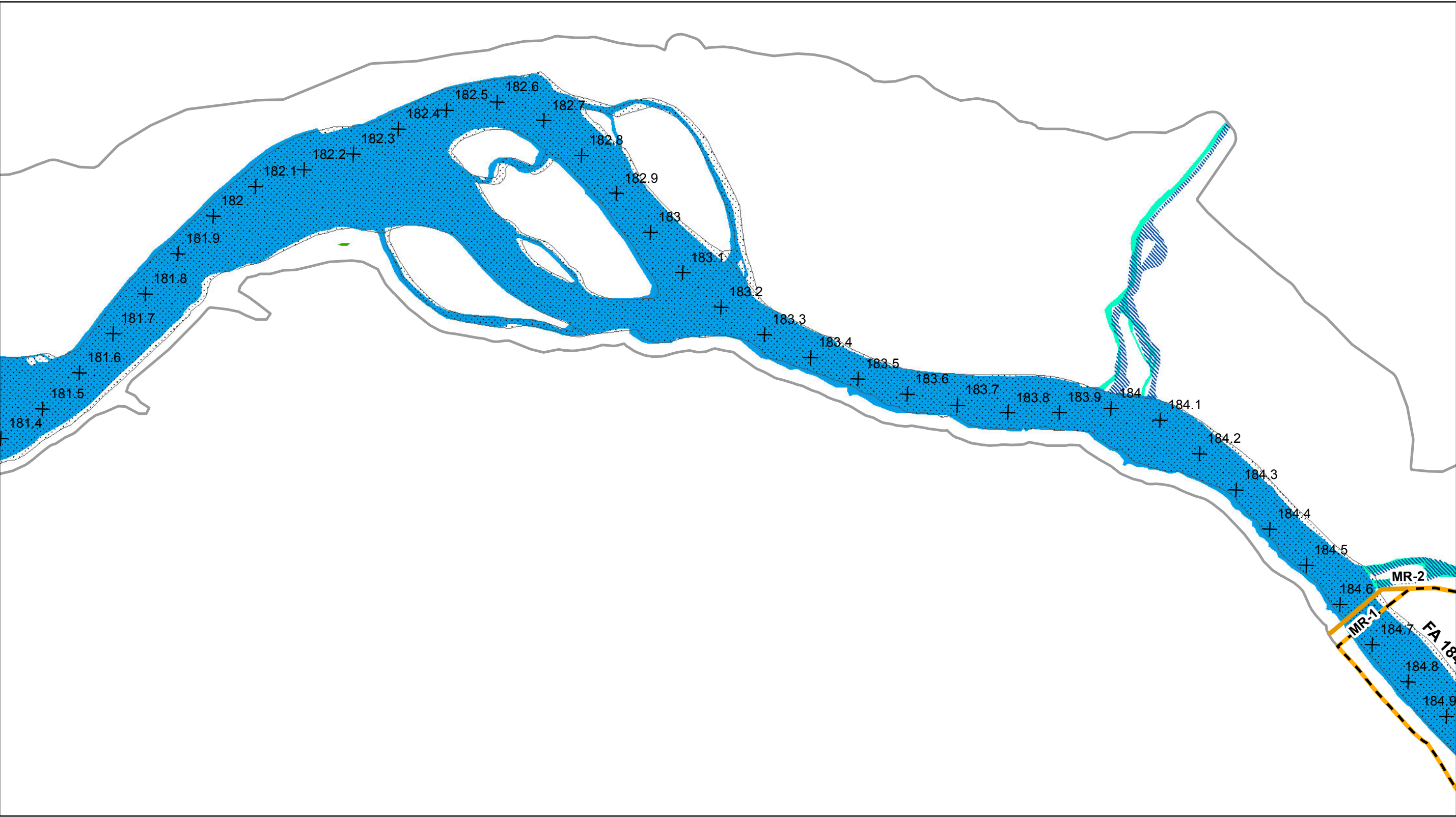
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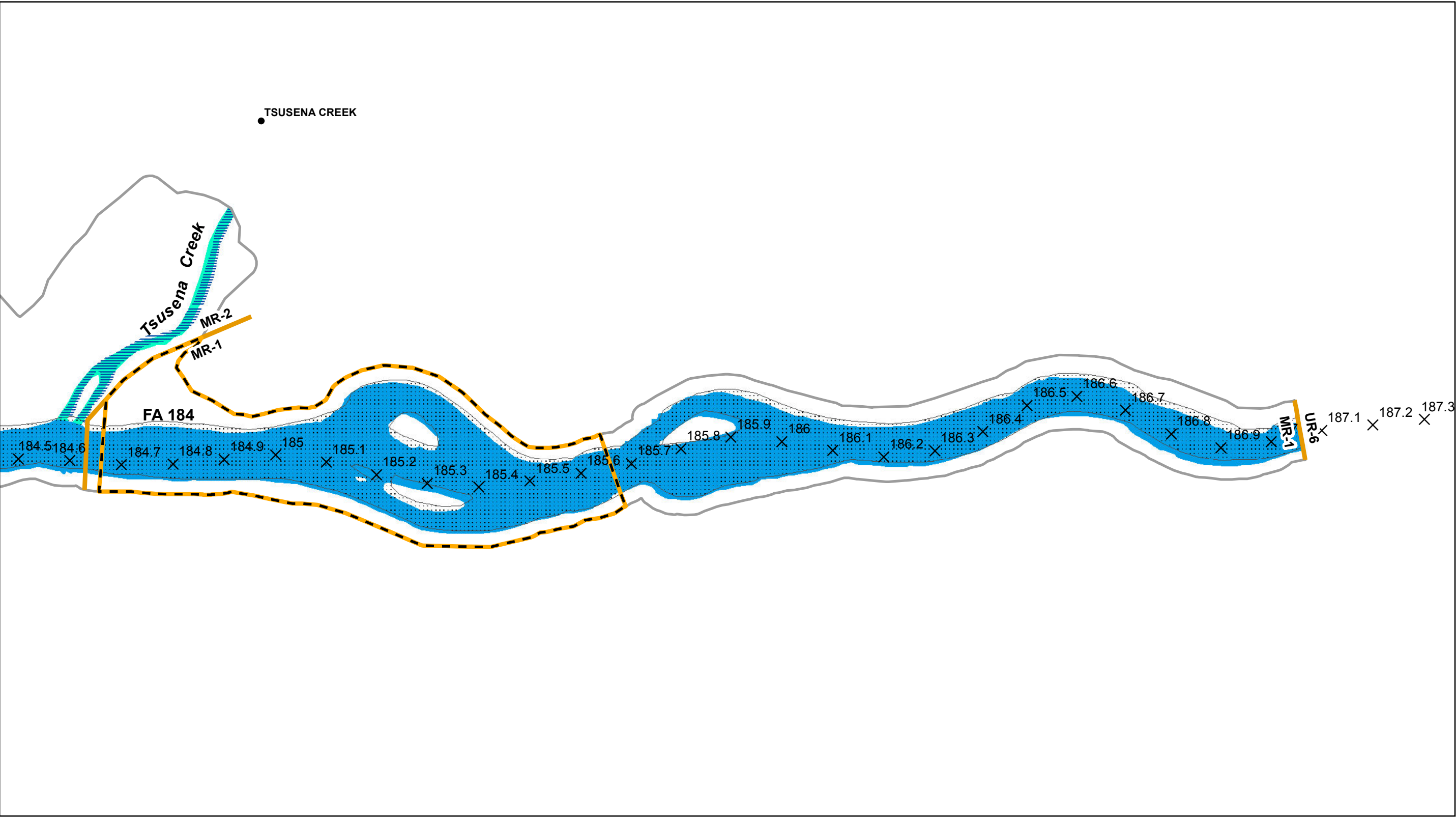
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MIDDLE SUSITNA RIVER SEGMENT
1950s to 1983 CHANNEL CHANGE







APPENDIX E. 1980s TO 2012 MIDDLE SUSITNA RIVER SEGMENT CHANNEL CHANGE OVERLAY

**Susitna-Watana Hydroelectric Project
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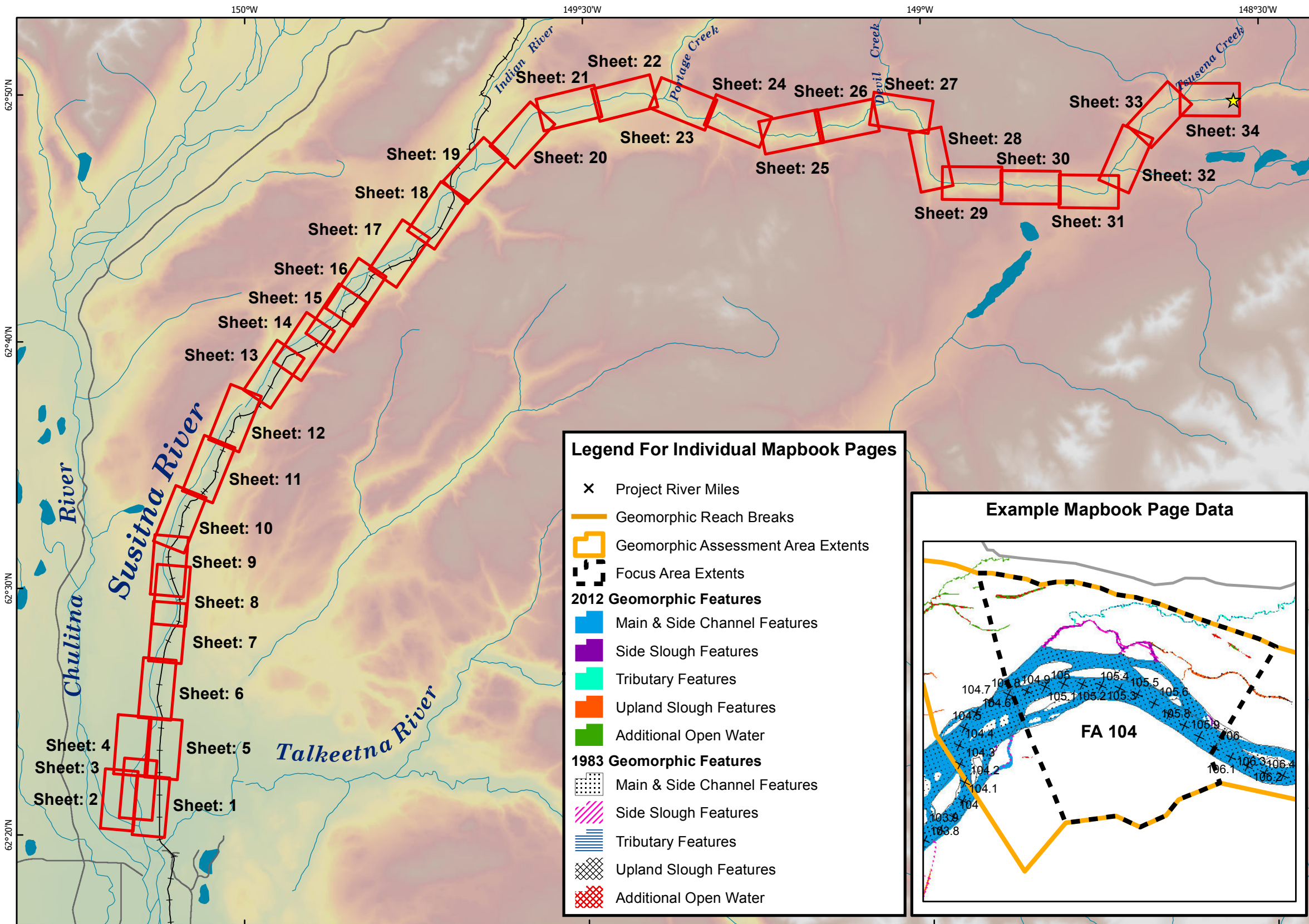
Alaska Energy Authority



Prepared by

Tetra Tech Inc.

September 2014



MIDDLE SUSITNA RIVER SEGMENT CHANNEL CHANGE OVERLAY 1983 - 2012

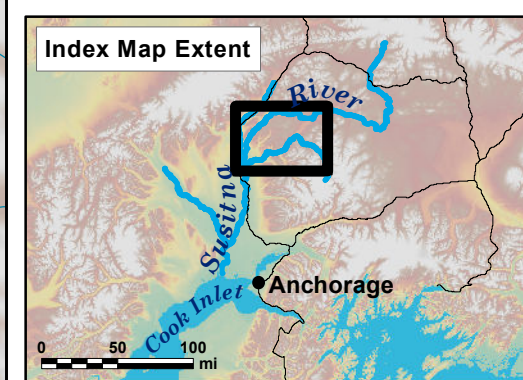
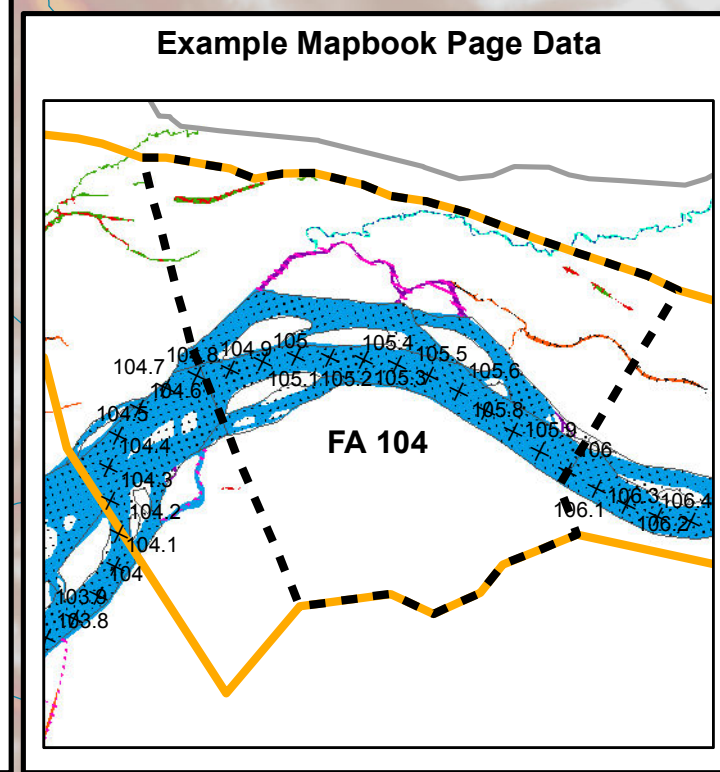
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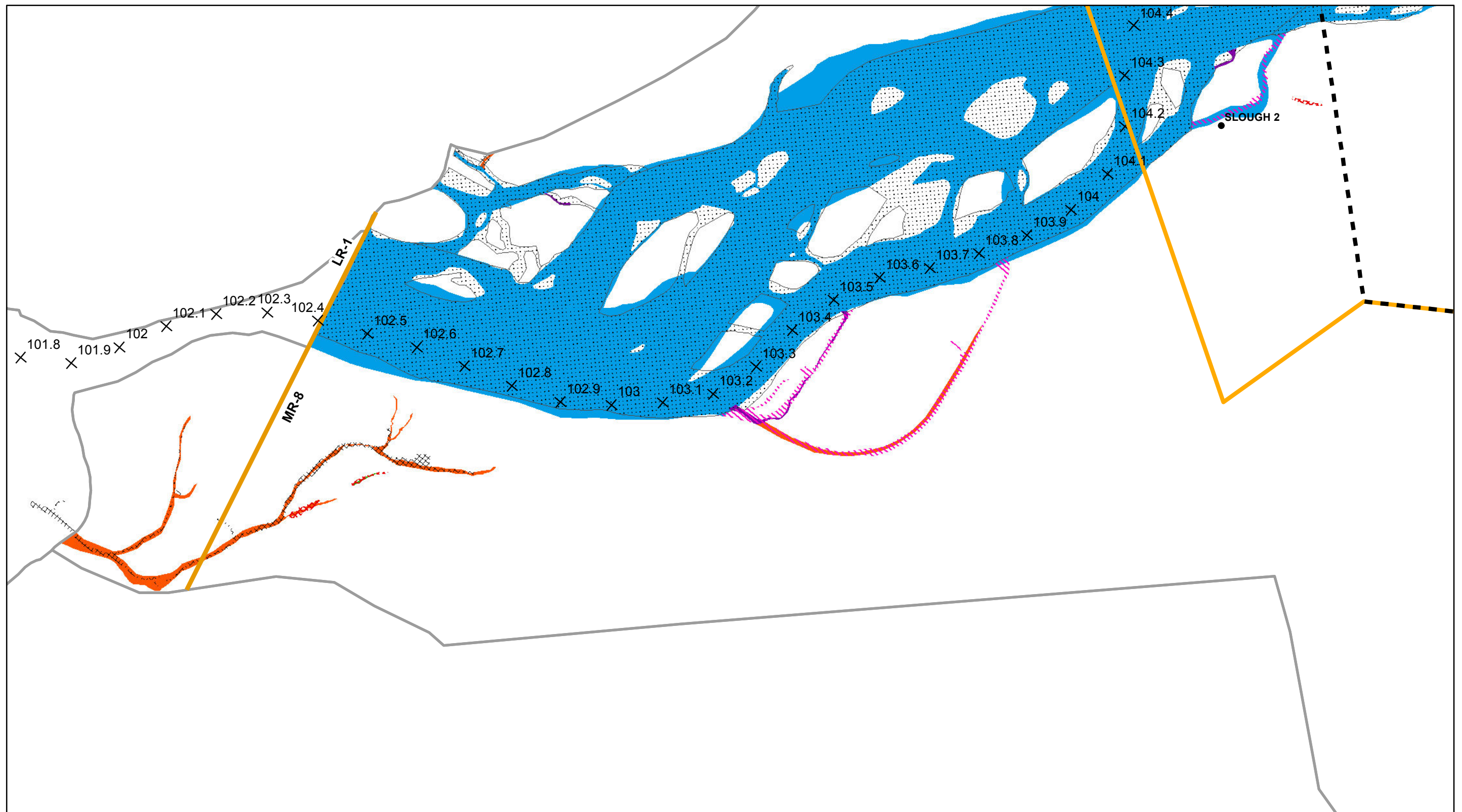
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0 5 10 mi

Projection: NAD83 State Plane Alaska 4 FIPS 5004 (ft)
Date Created: 8/21/2014
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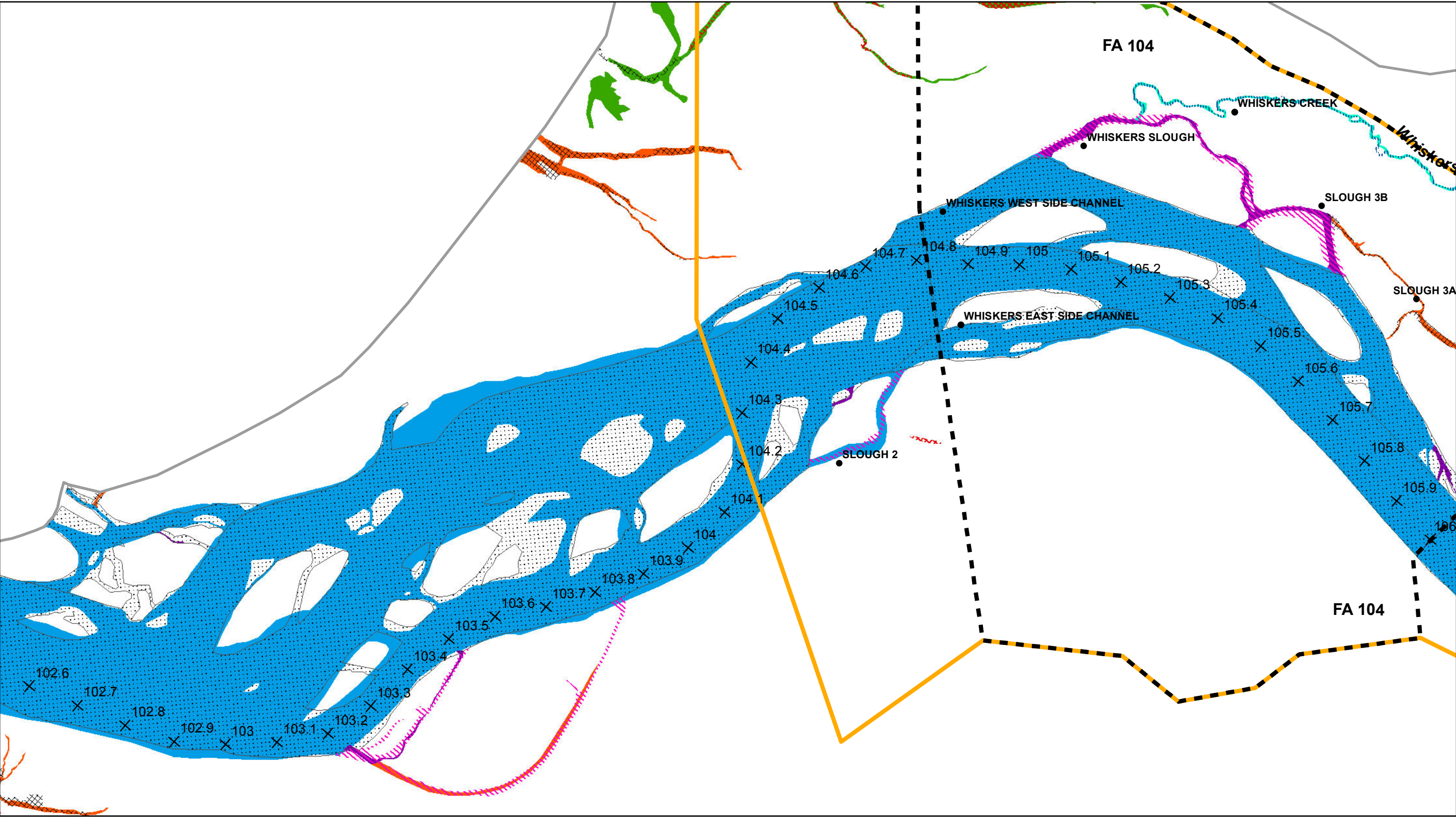
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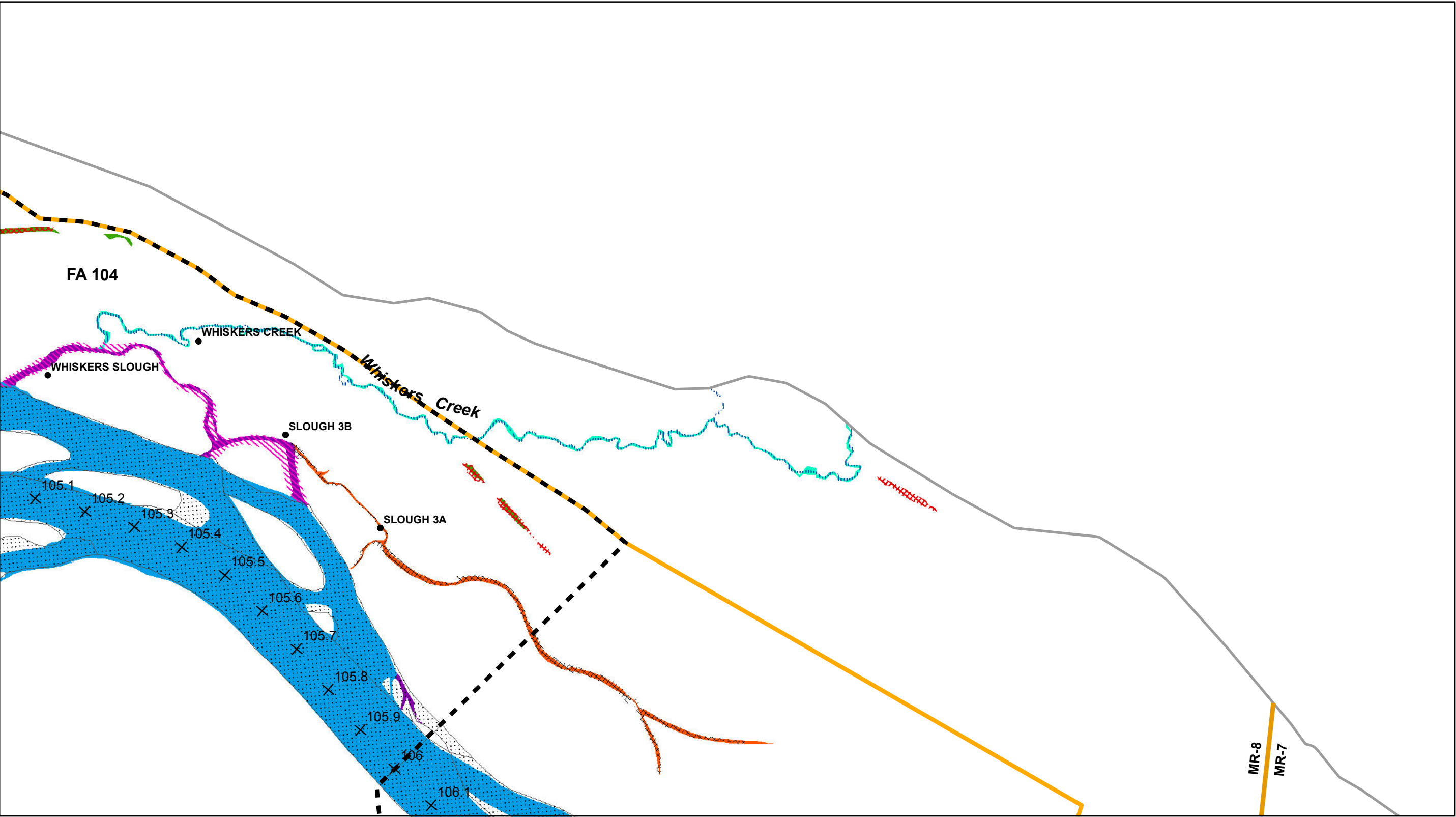
MIDDLE SUSITNA RIVER SEGMENT
1983 to 2012 CHANNEL CHANGE

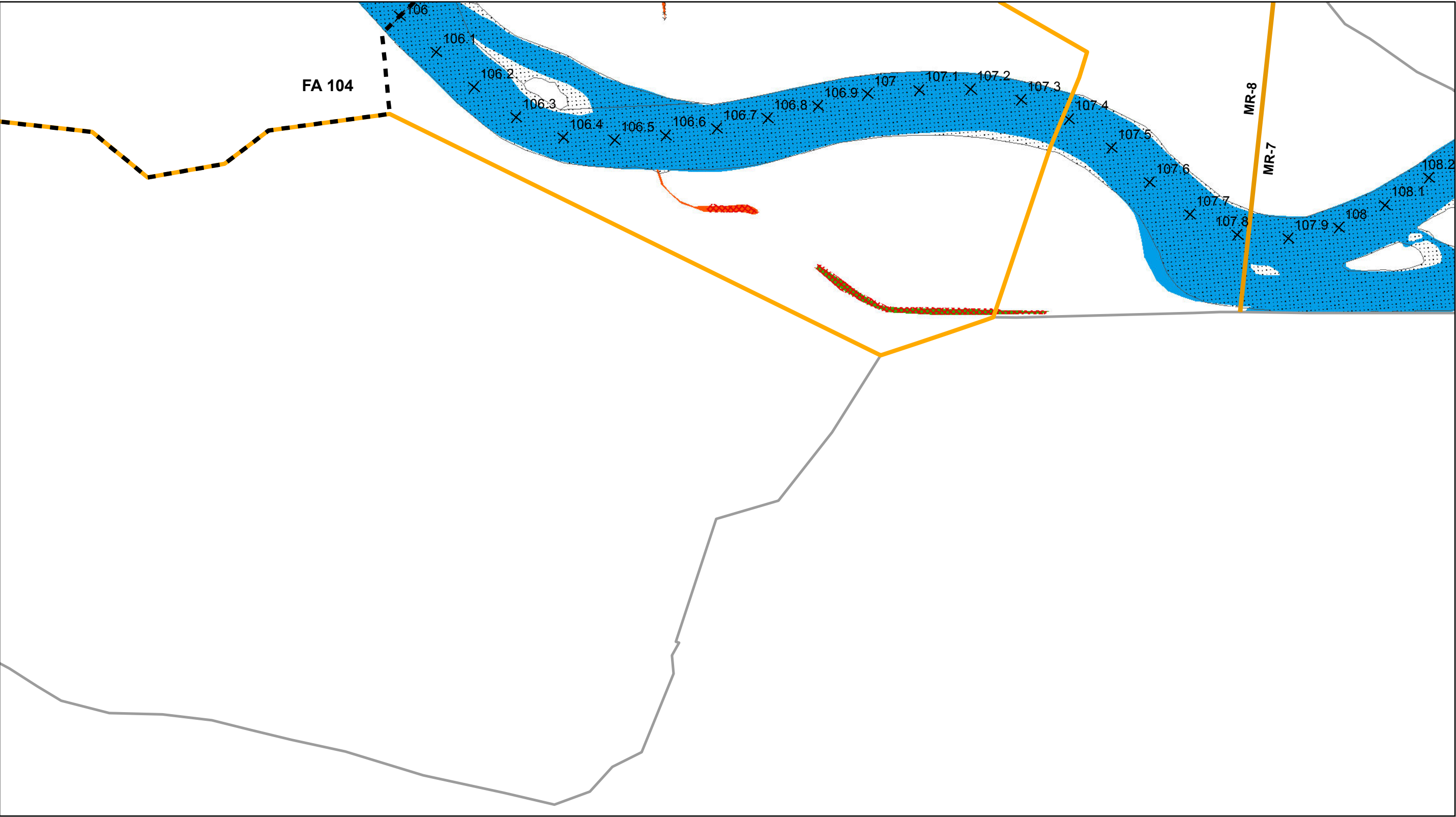


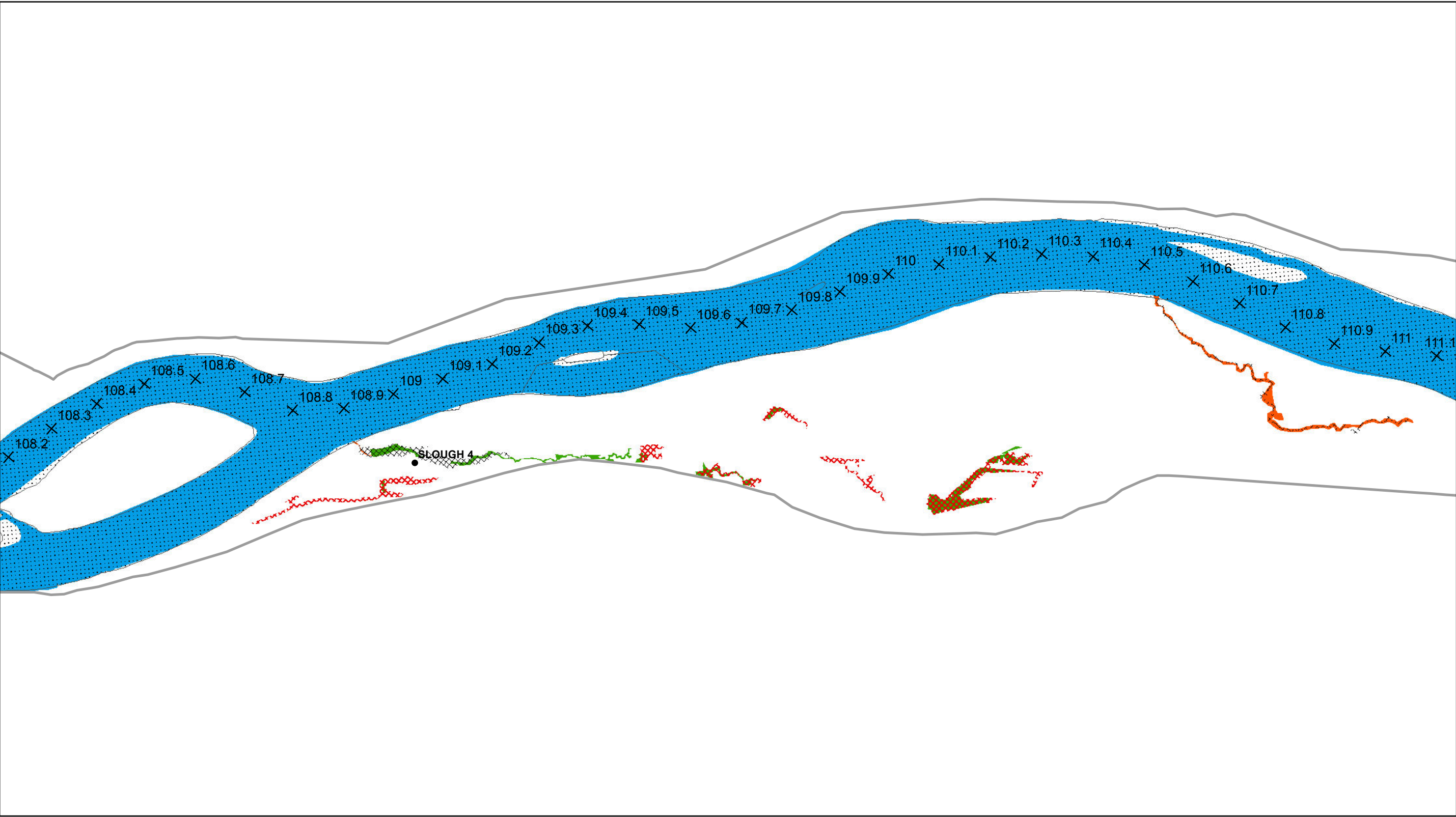


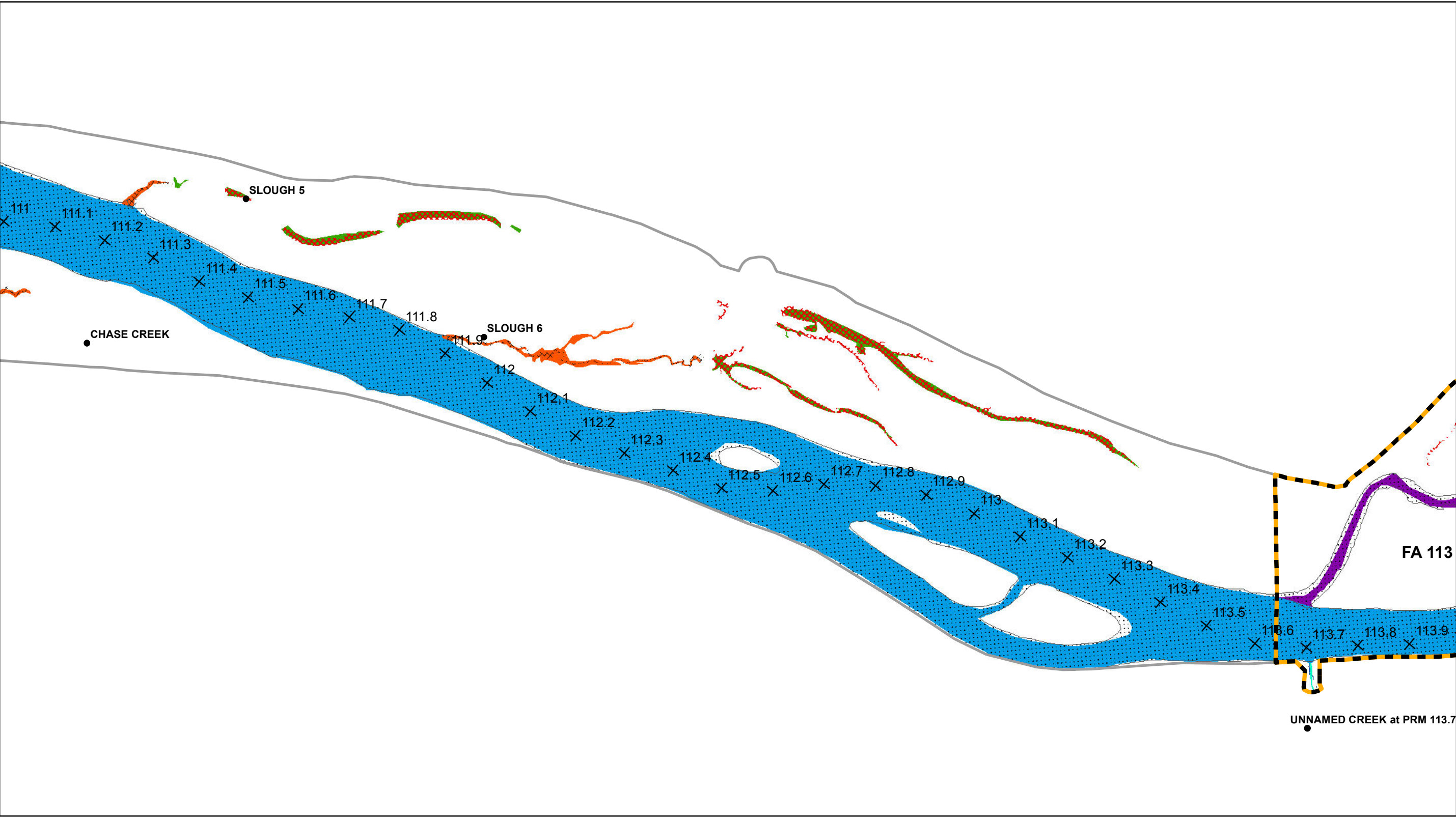


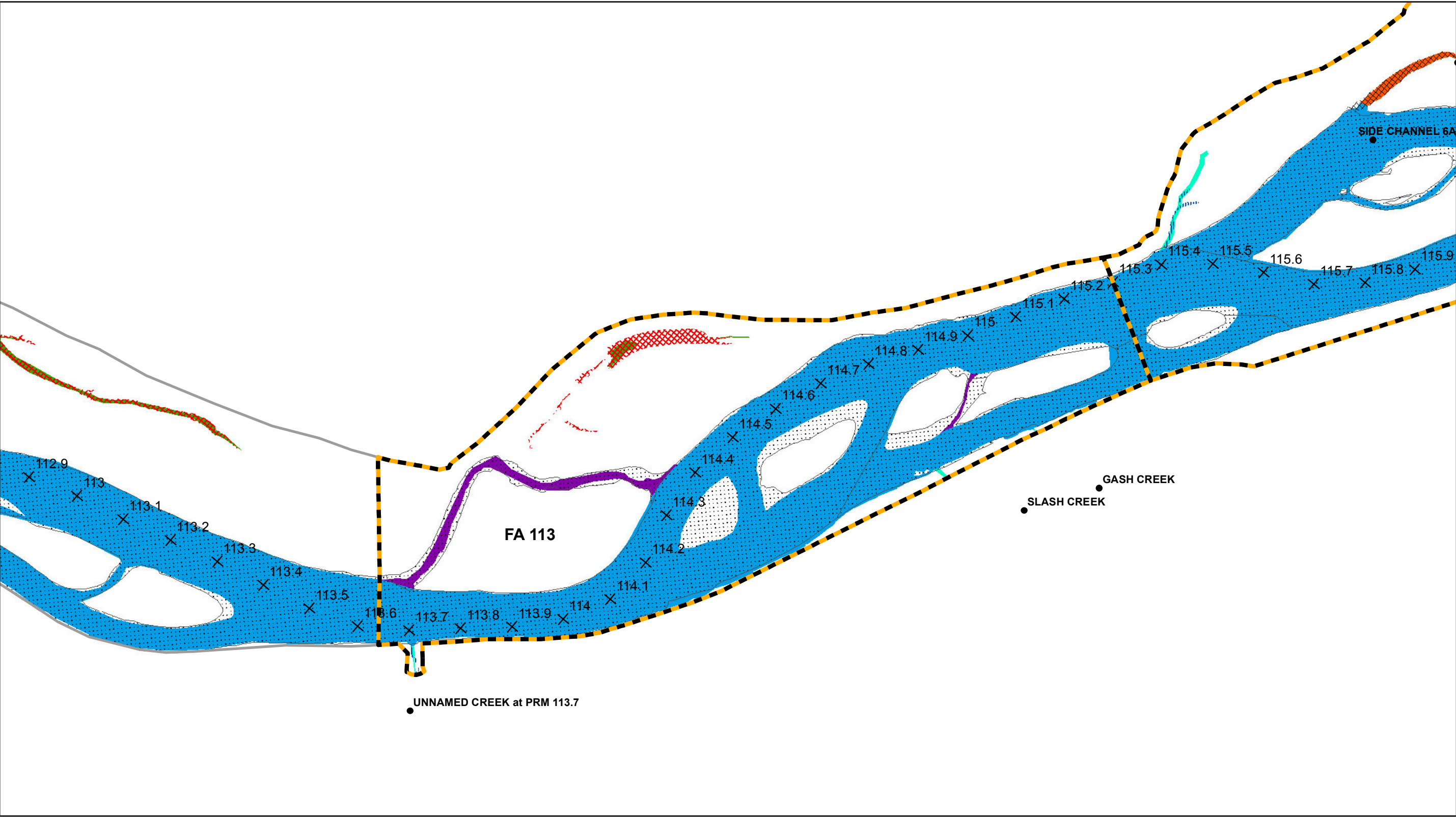
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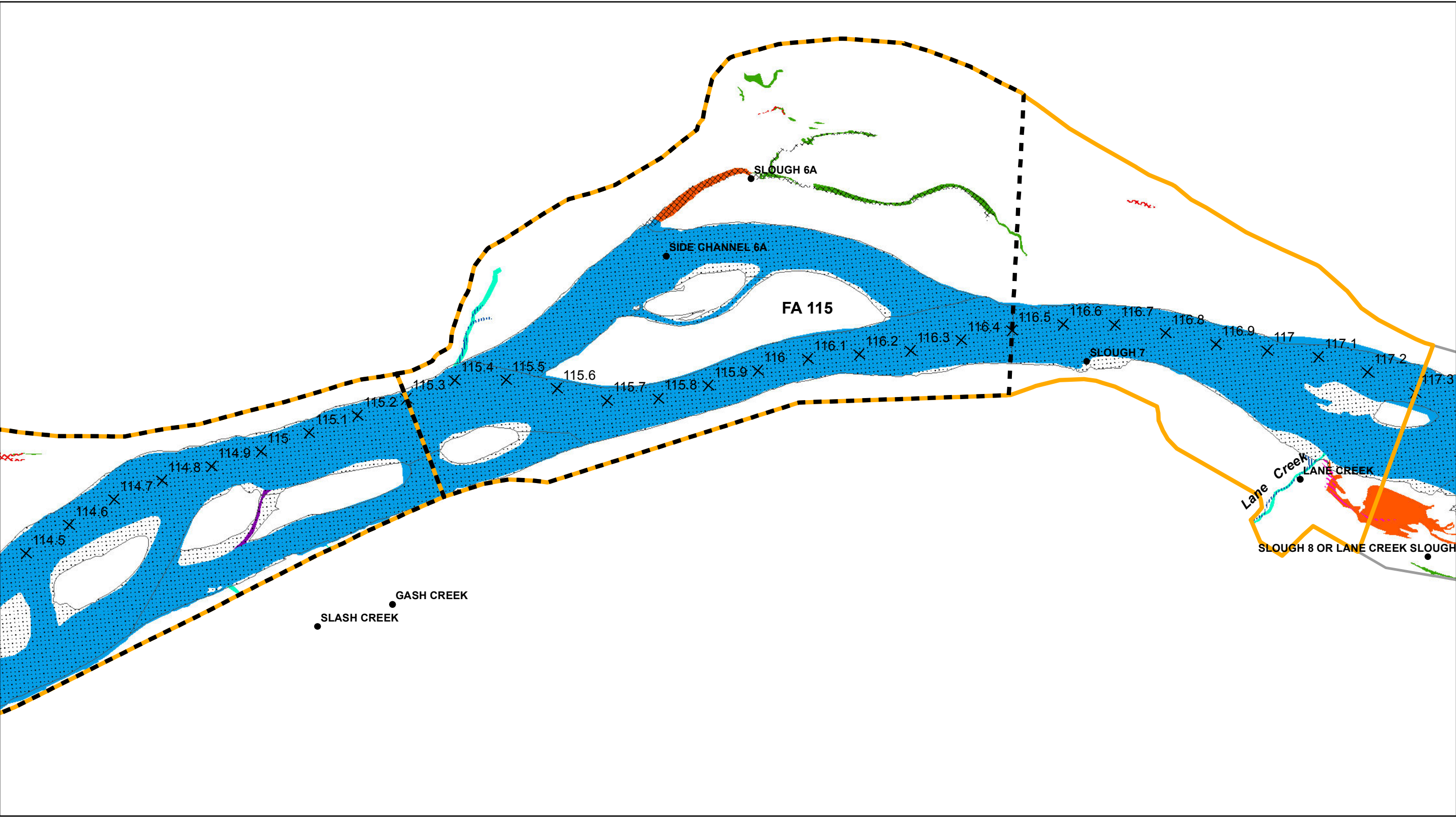


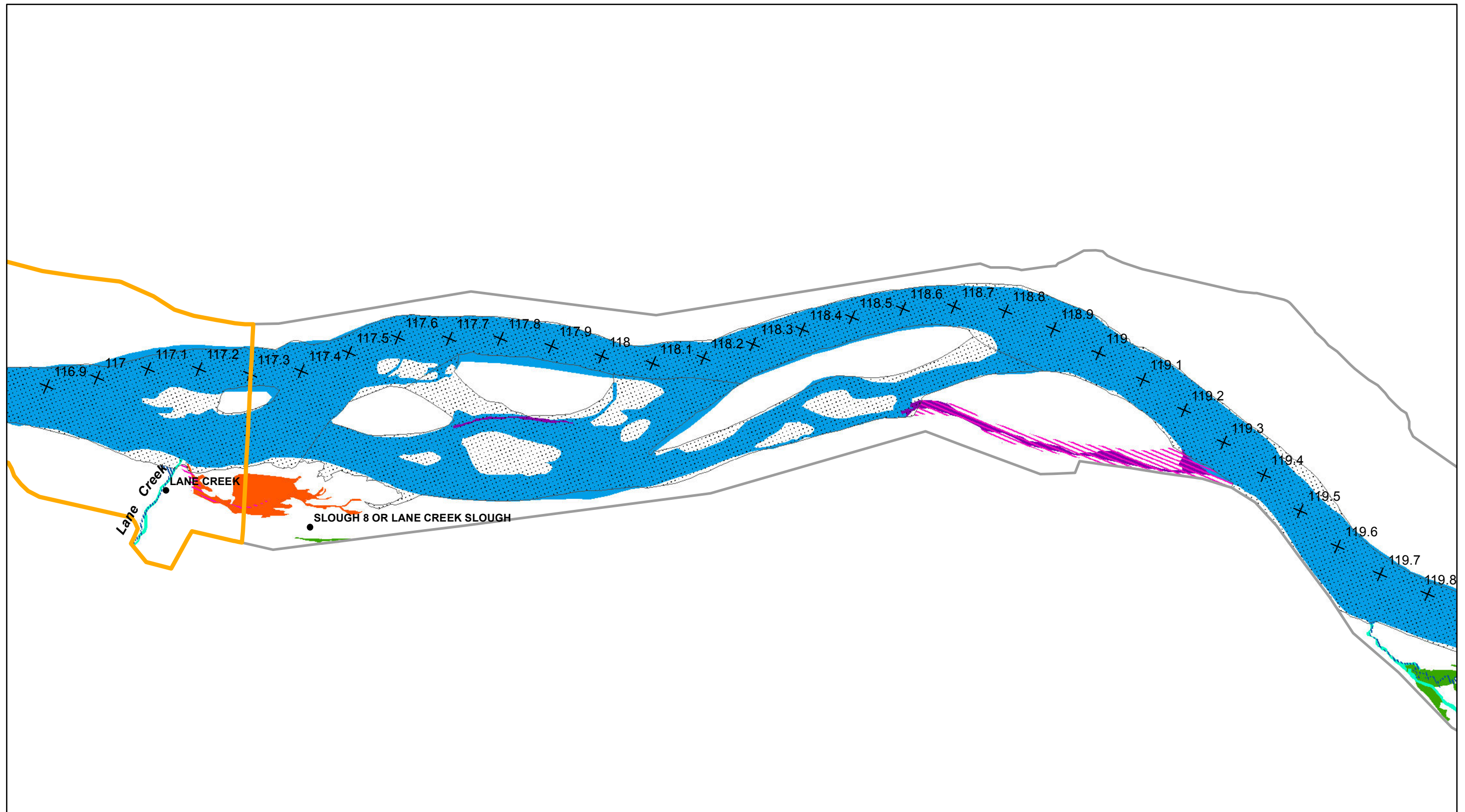












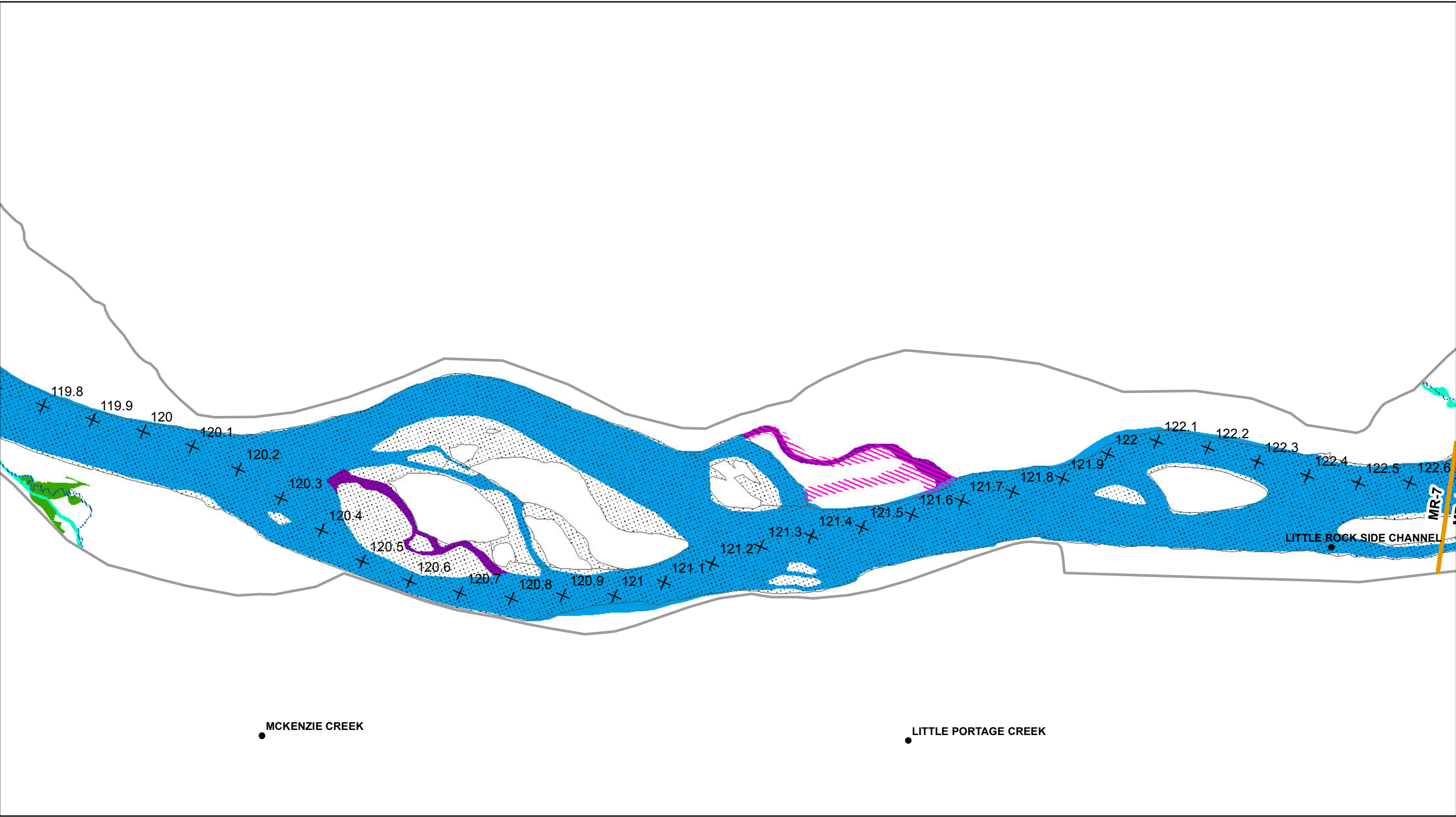
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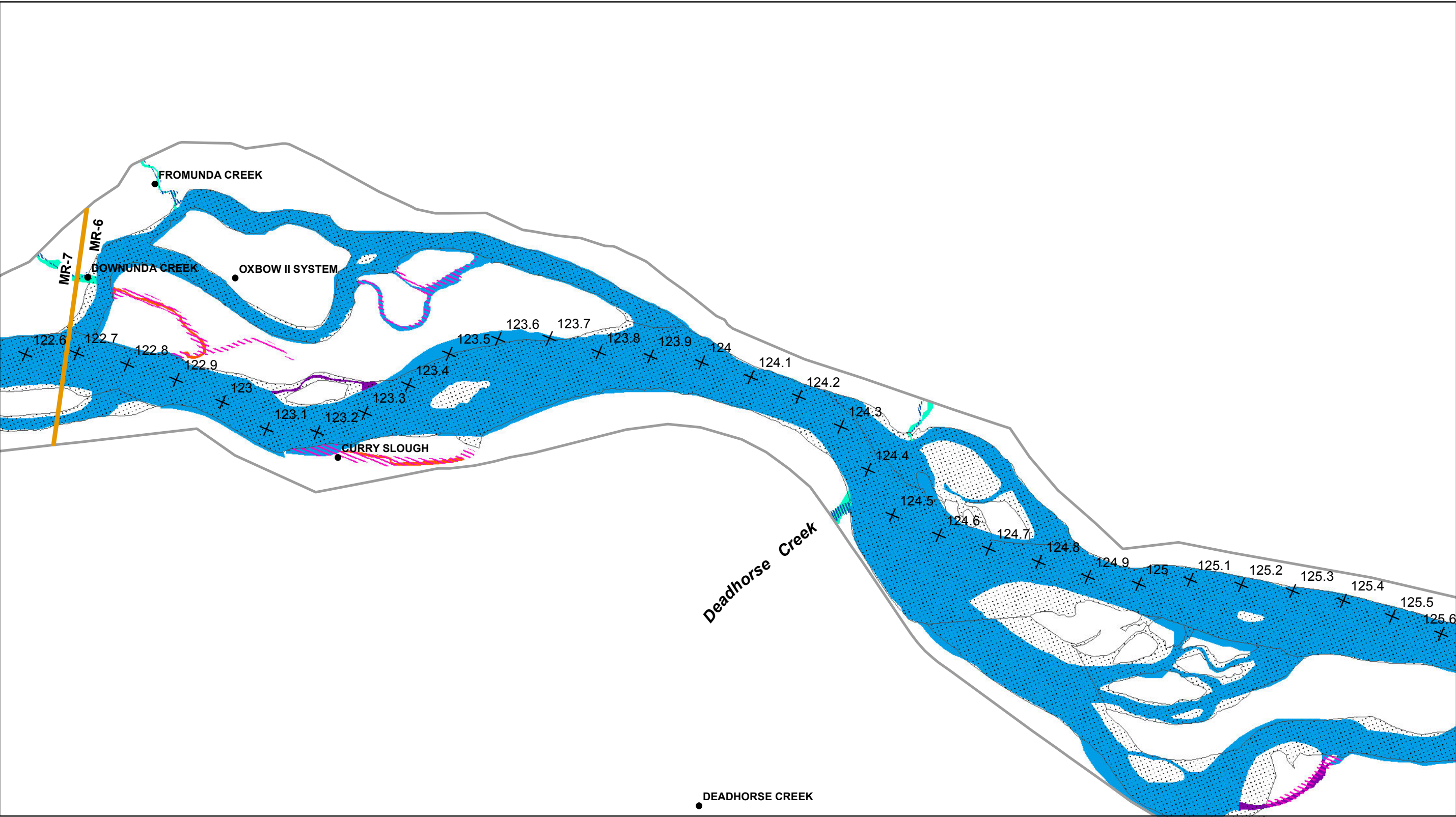
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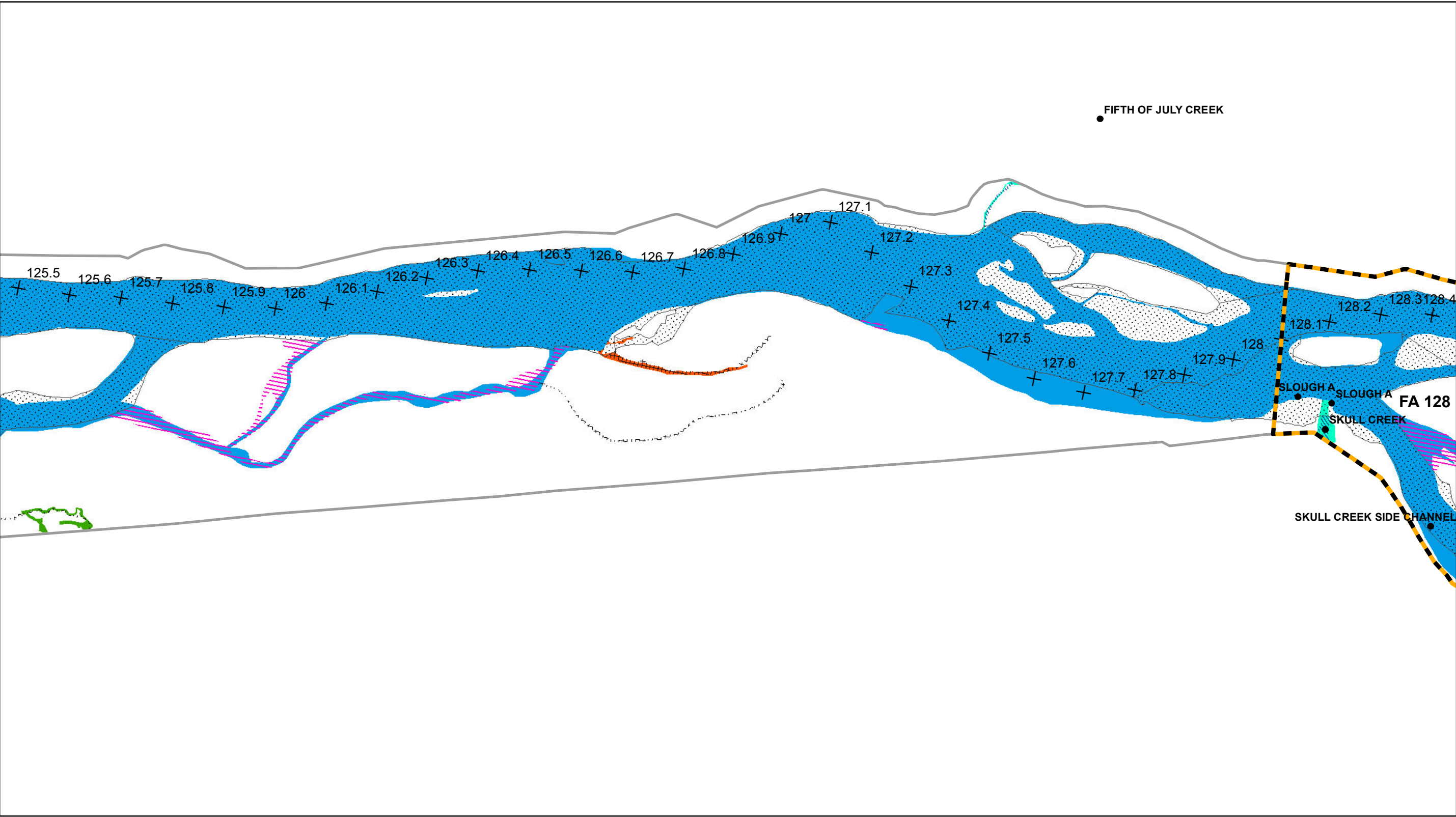
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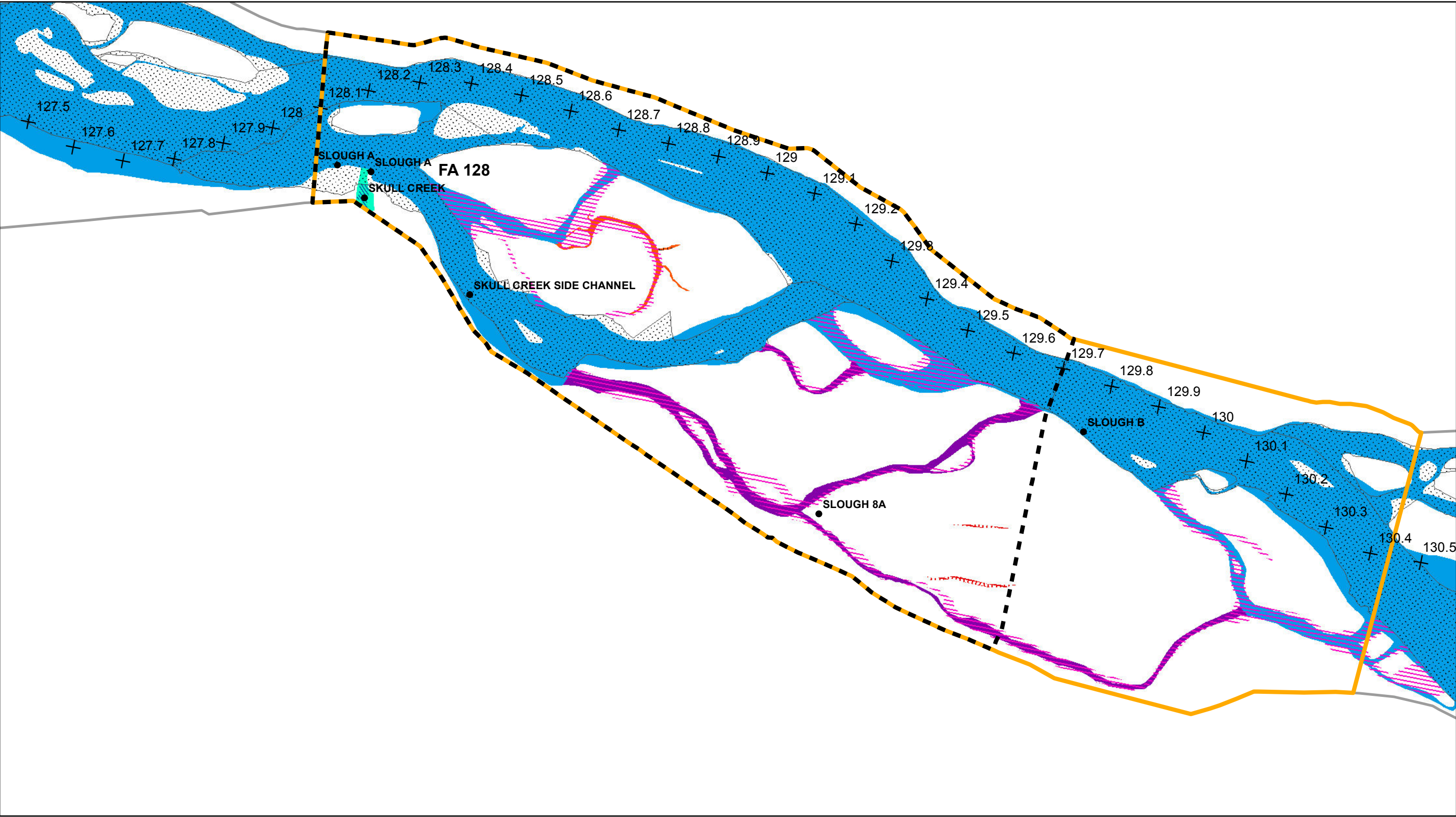
**MIDDLE SUSITNA RIVER SEGMENT
1983 to 2012 CHANNEL CHANGE**

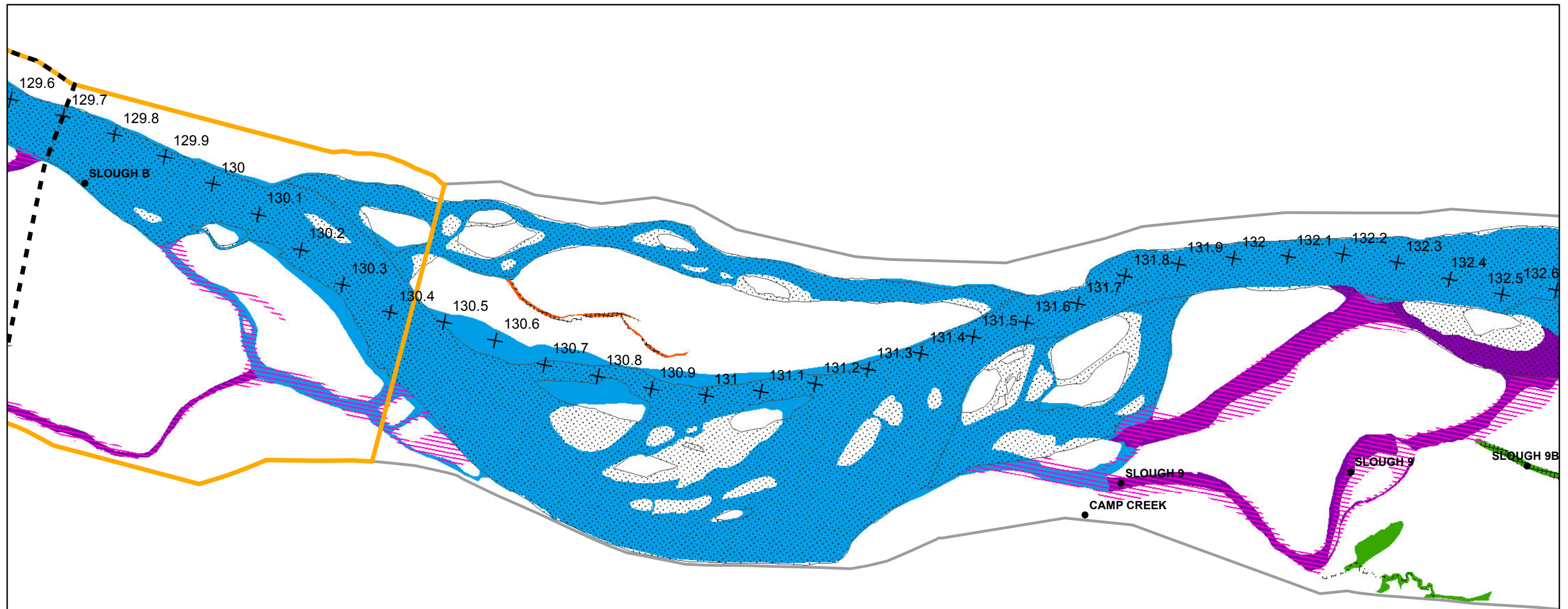












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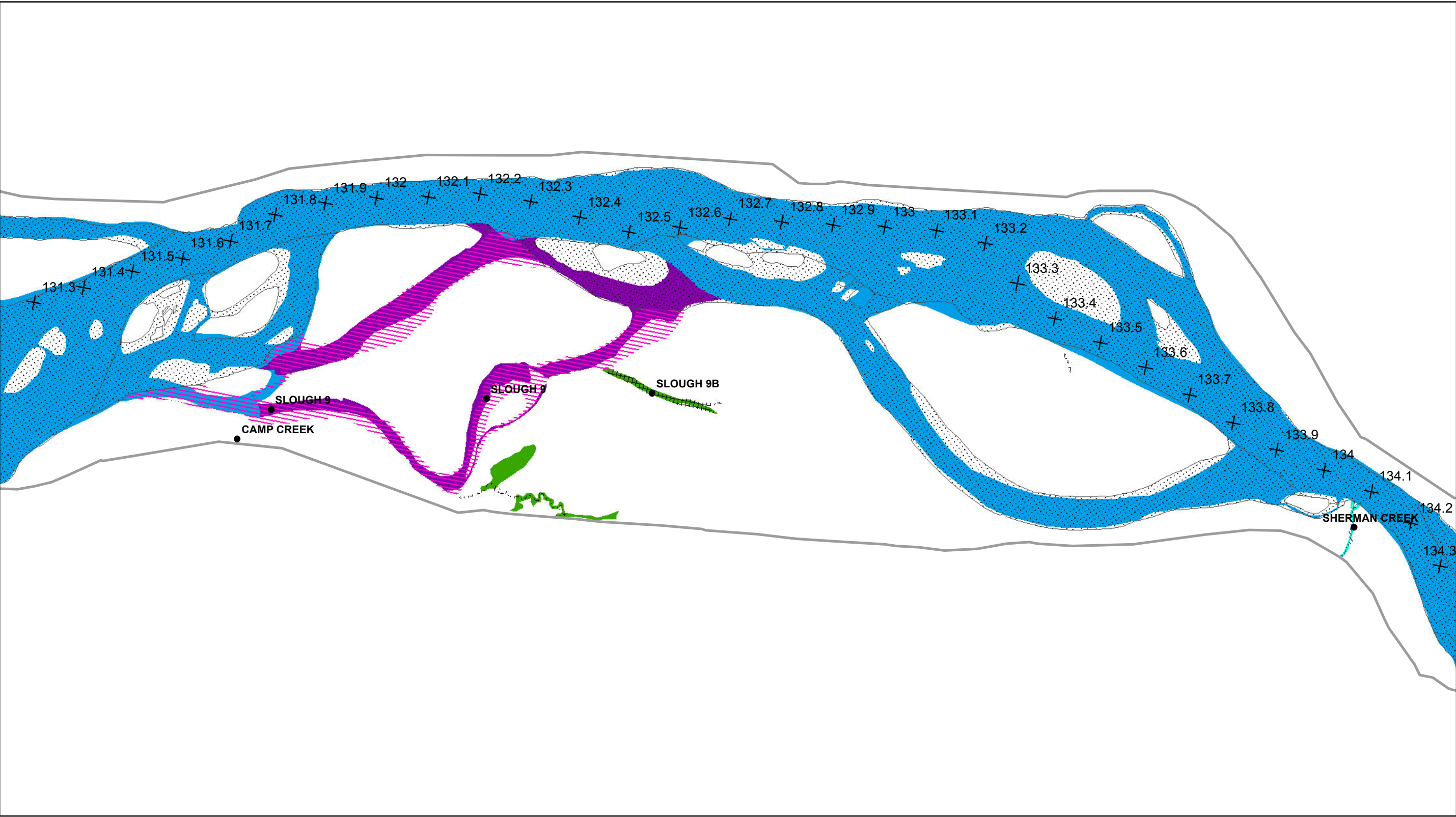
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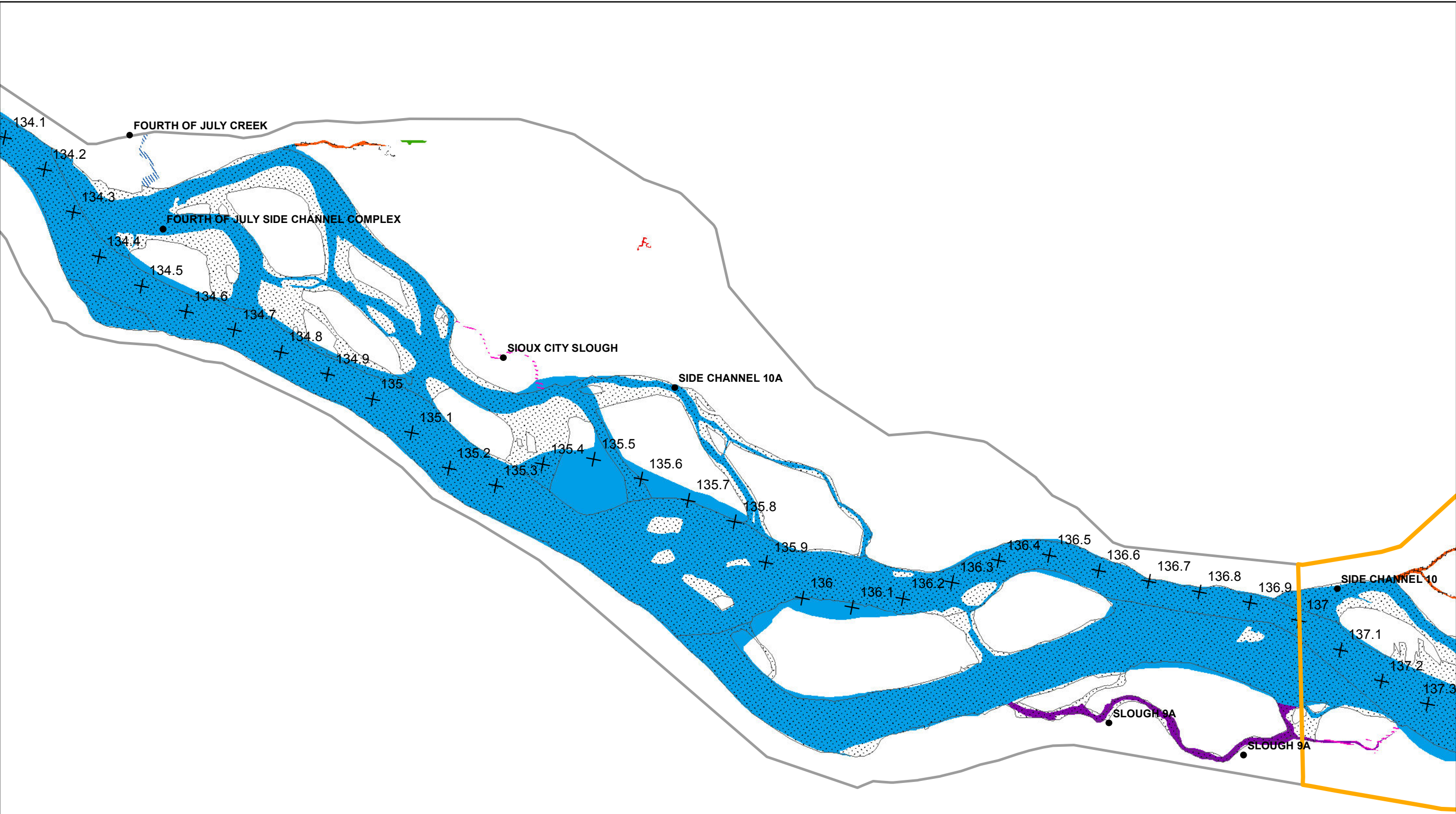
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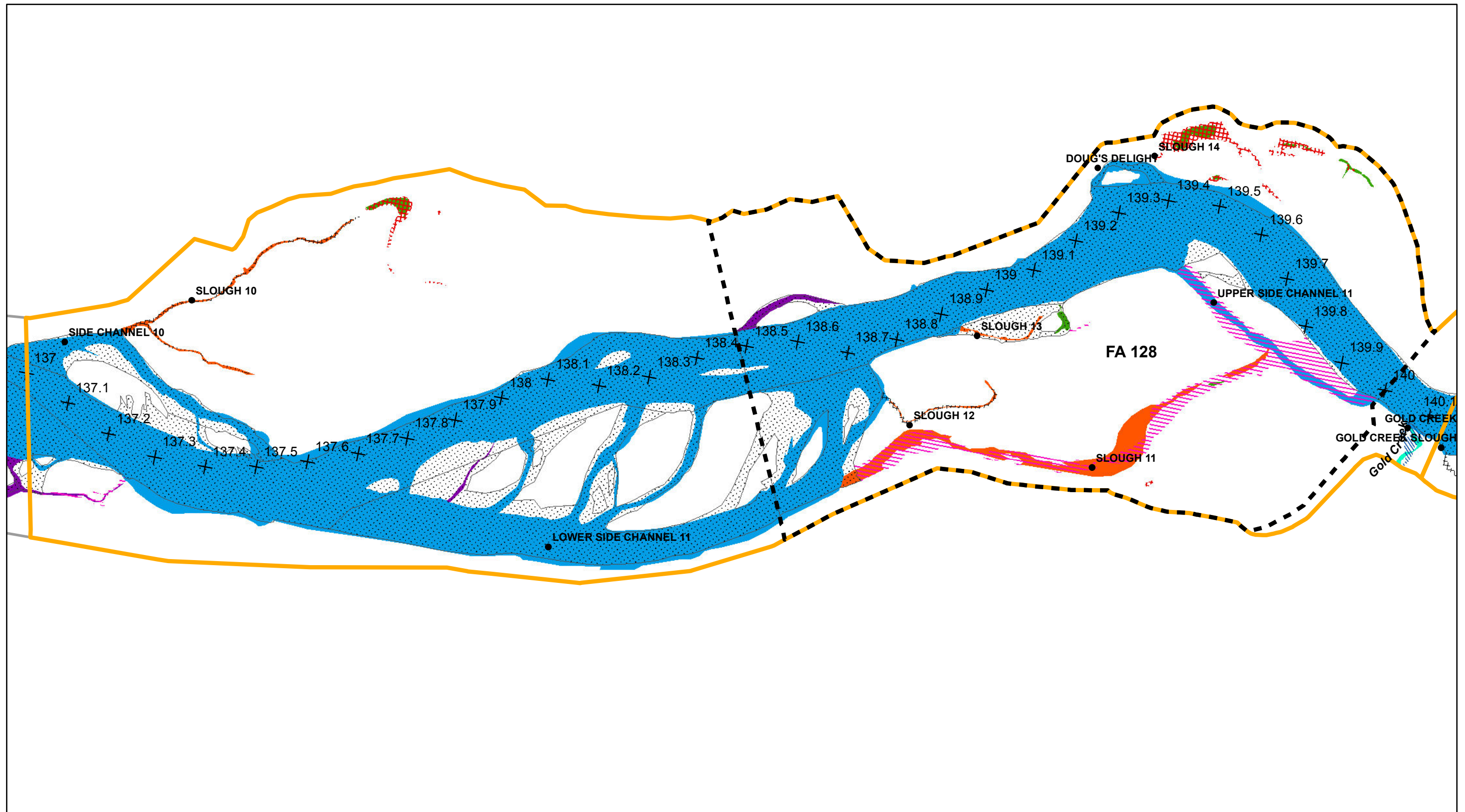
MIDDLE SUSITNA RIVER SEGMENT
1983 to 2012 CHANNEL CHANGE

See index page for legend and additional data information.









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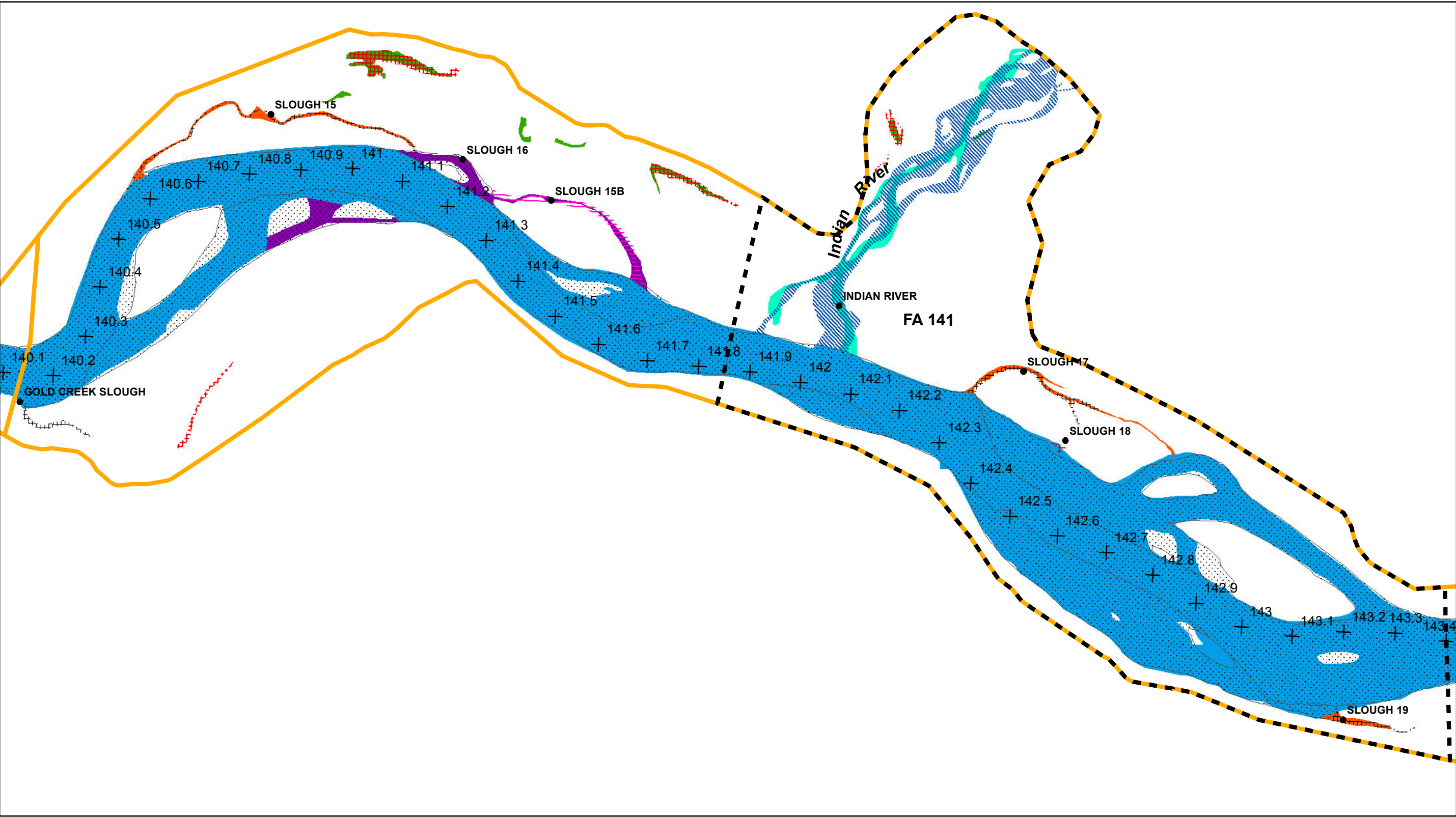
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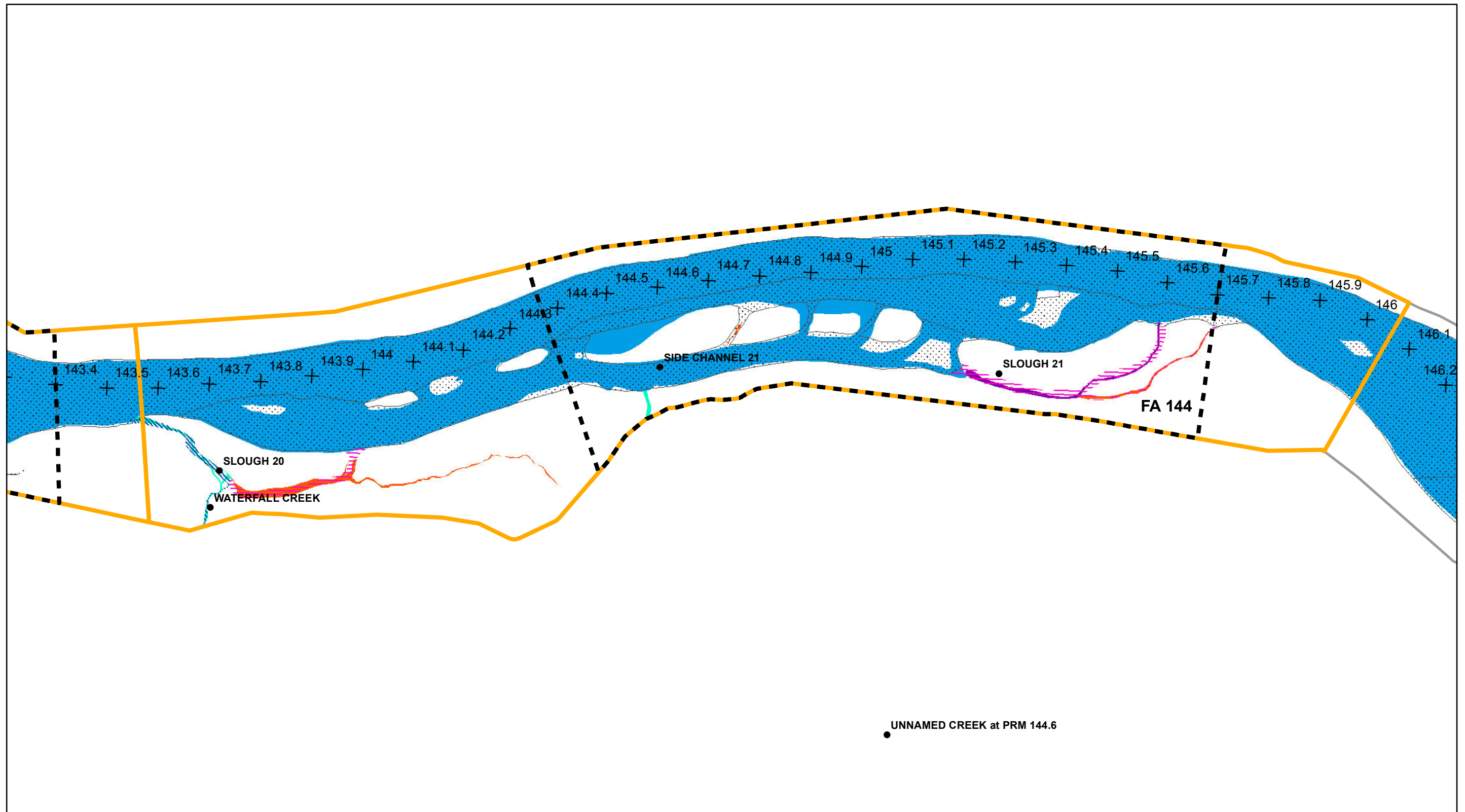
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**MIDDLE SUSITNA RIVER SEGMENT
1983 to 2012 CHANNEL CHANGE**

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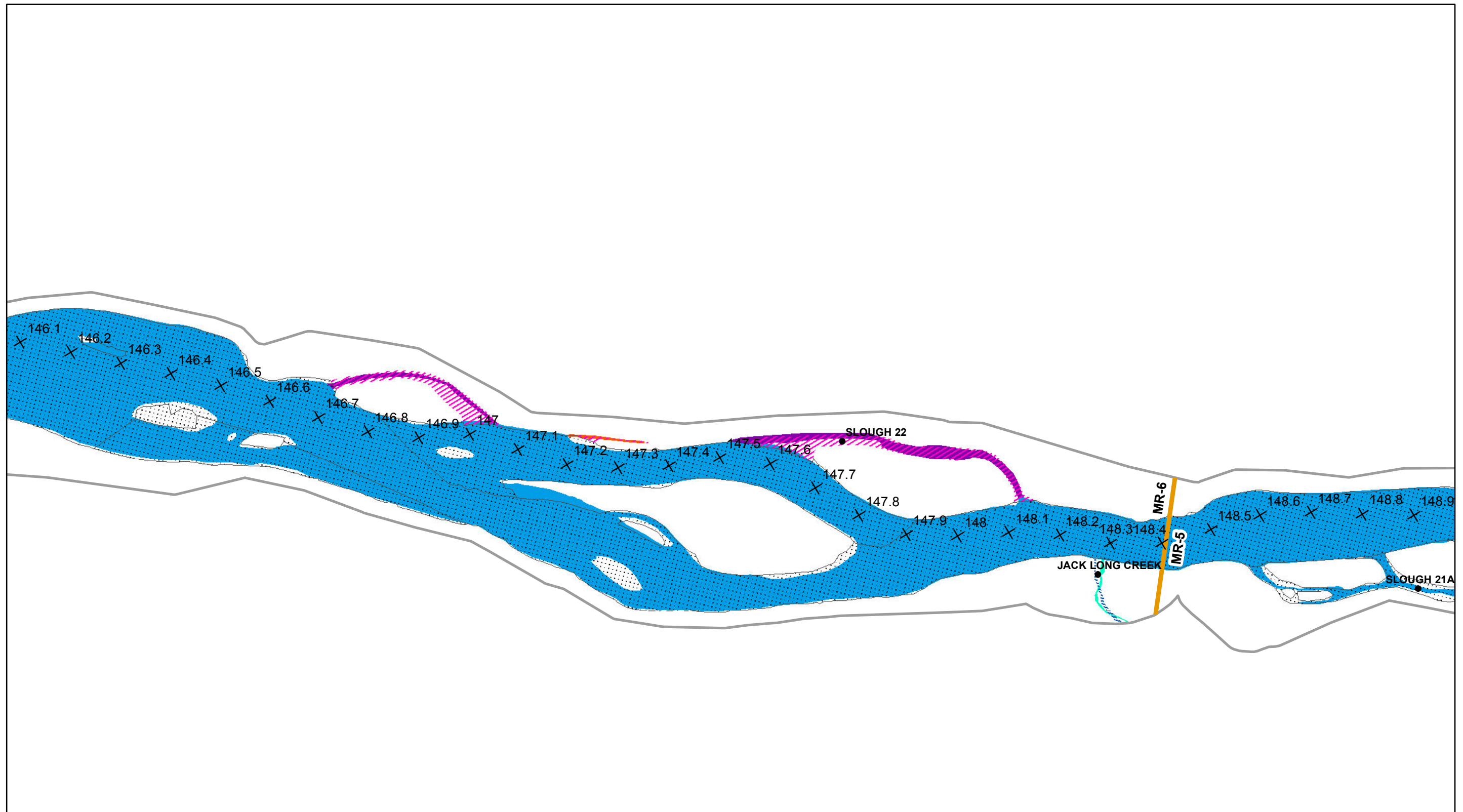




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MIDDLE SUSITNA RIVER SEGMENT
1983 to 2012 CHANNEL CHANGE
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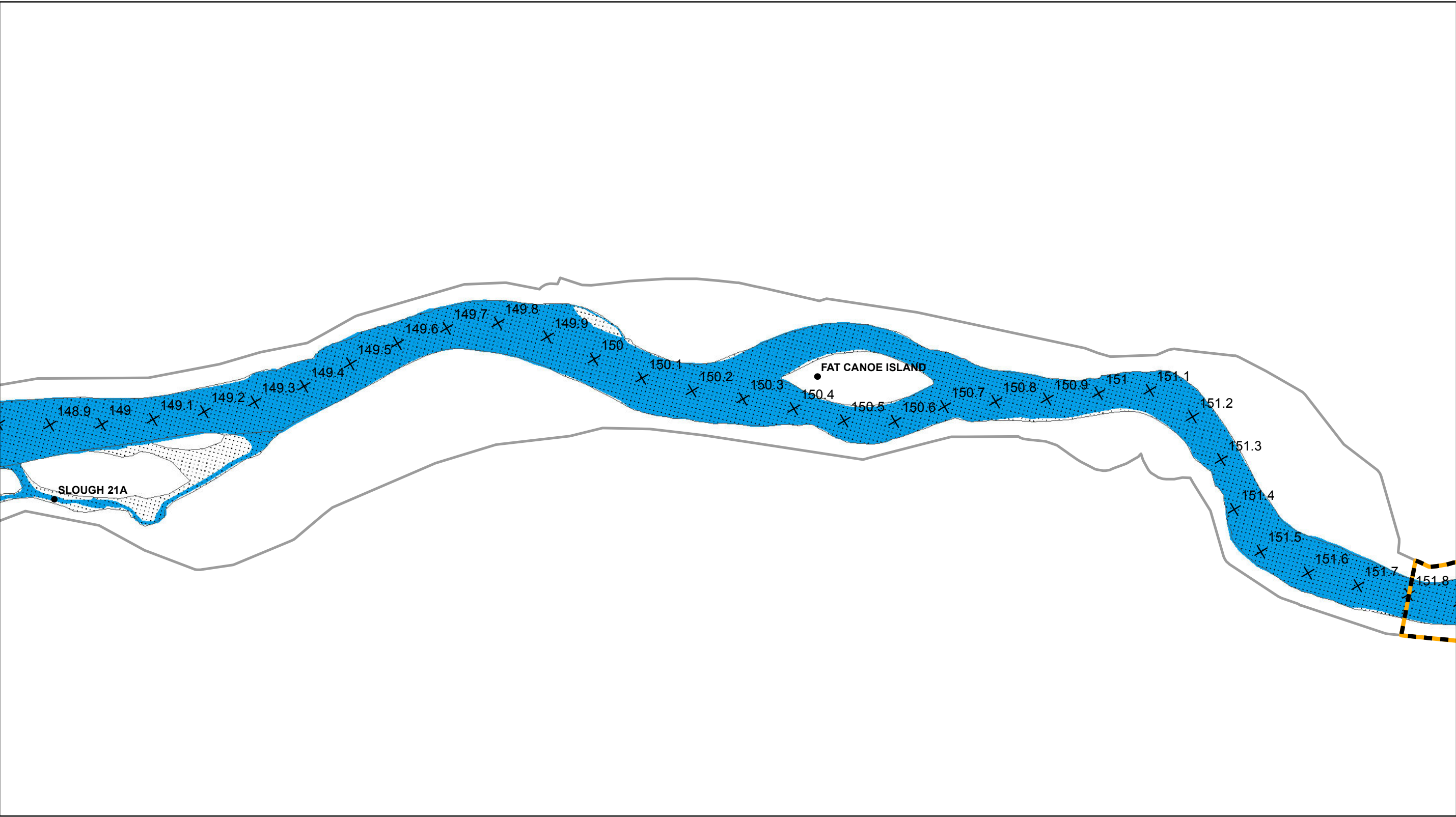
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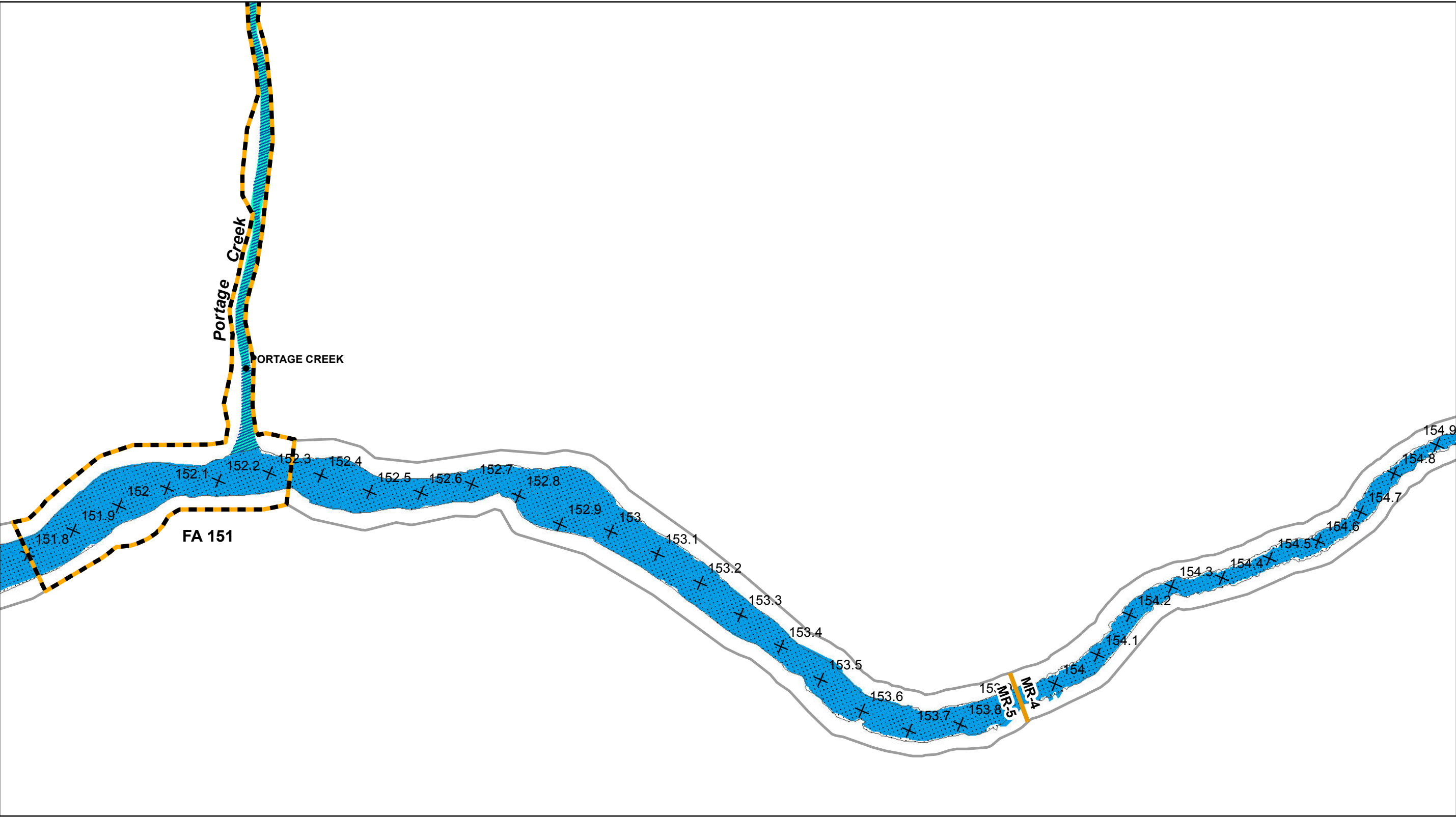
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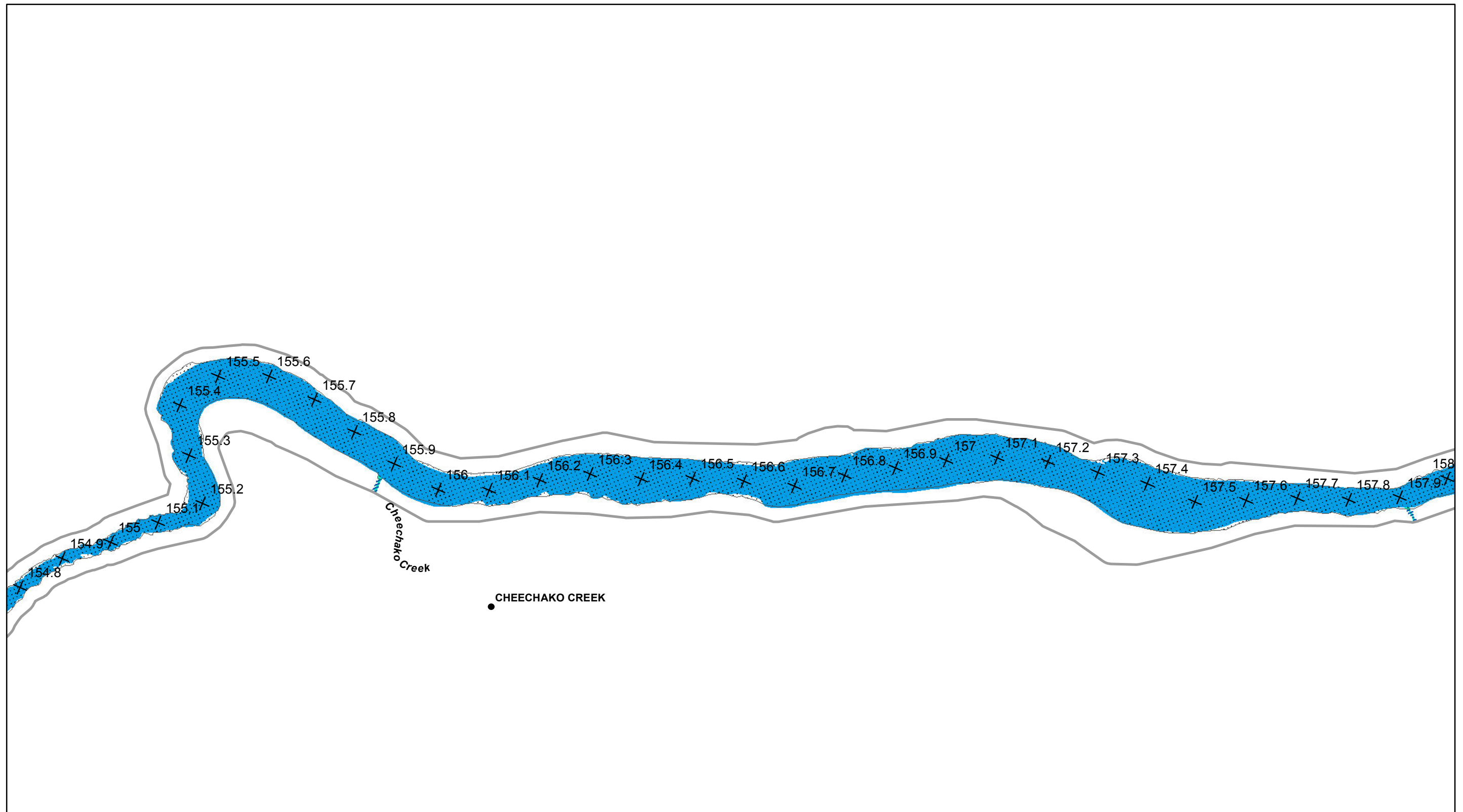
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MIDDLE SUSITNA RIVER SEGMENT
1983 to 2012 CHANNEL CHANGE









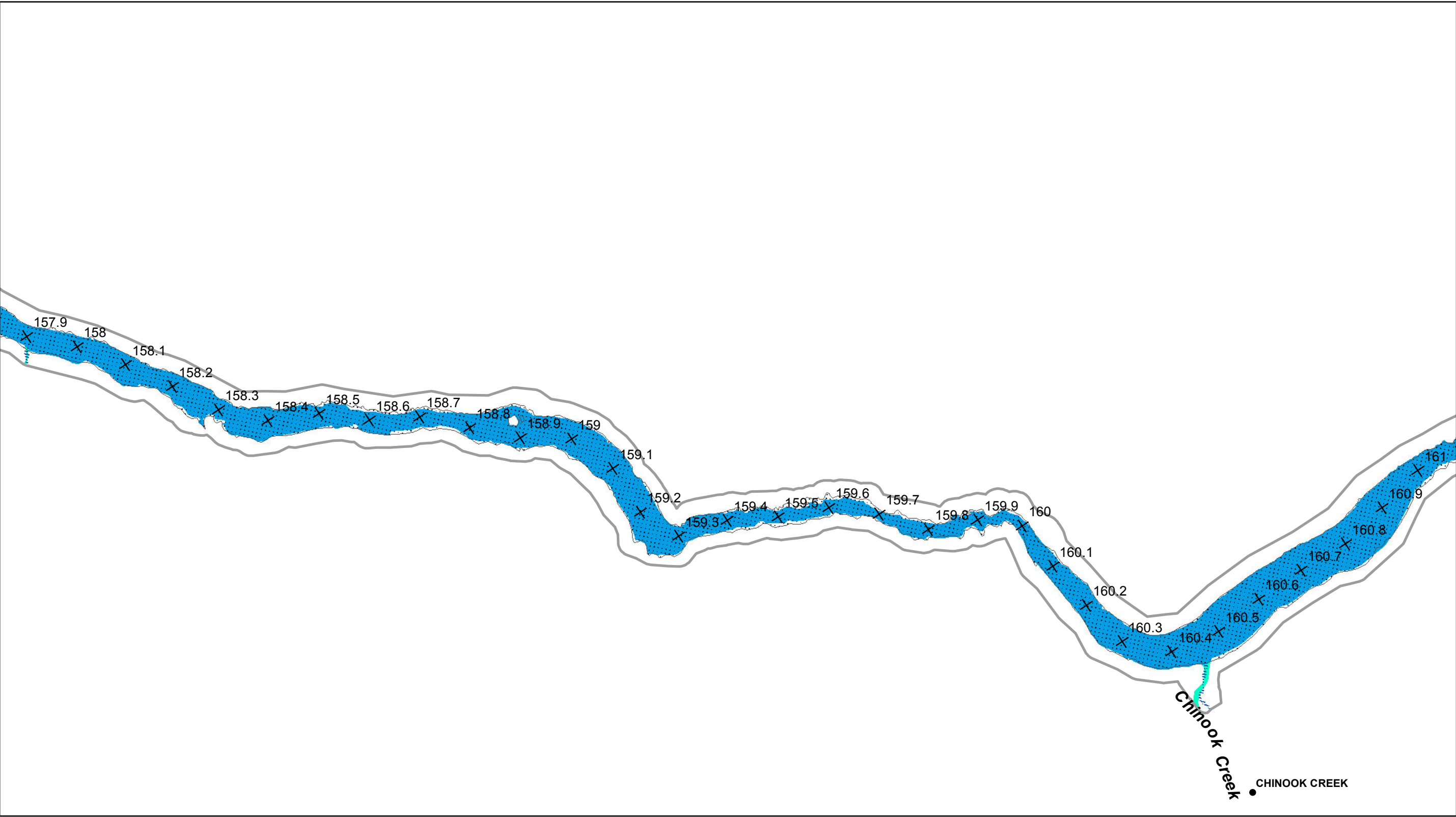
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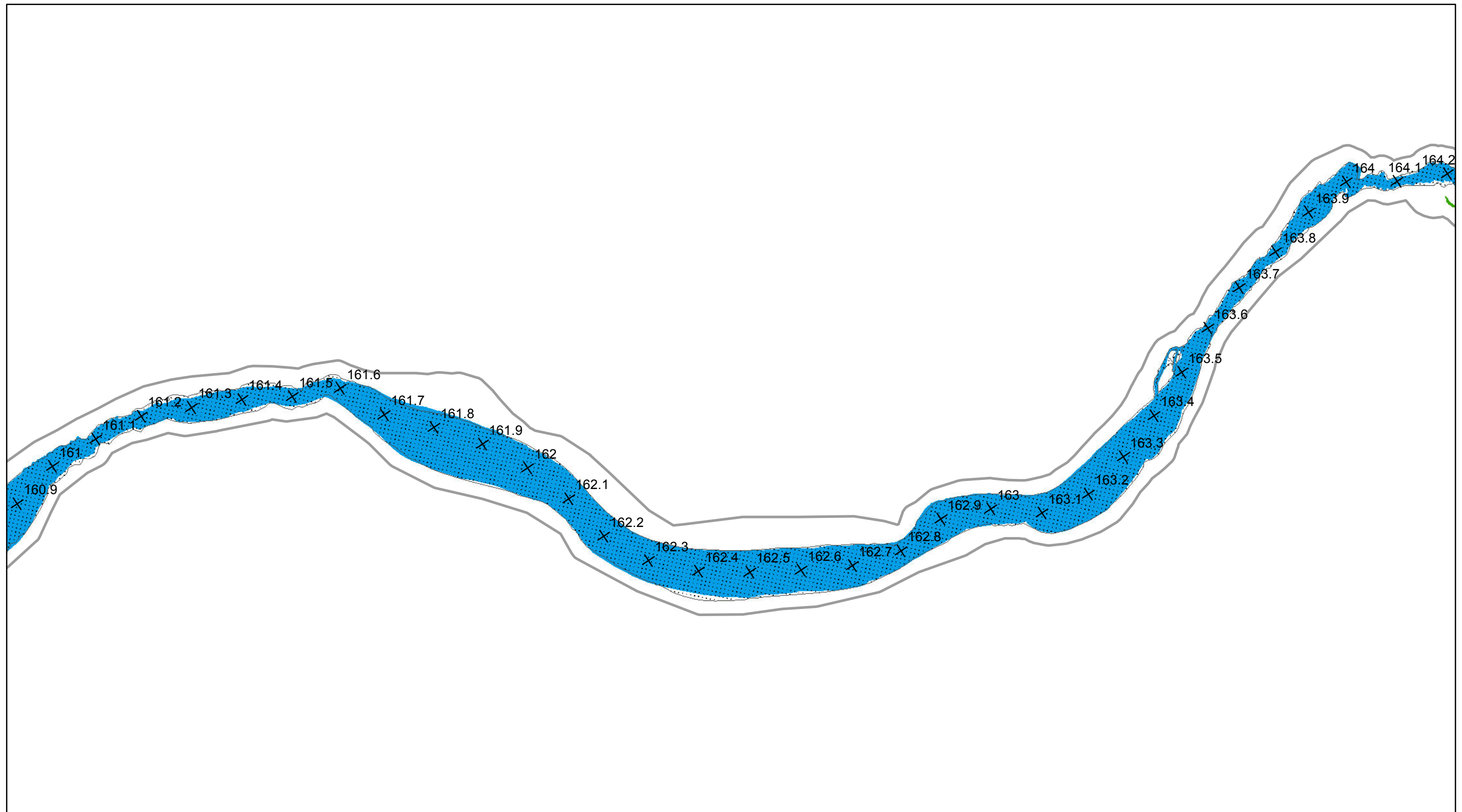
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MIDDLE SUSITNA RIVER SEGMENT
1983 to 2012 CHANNEL CHANGE





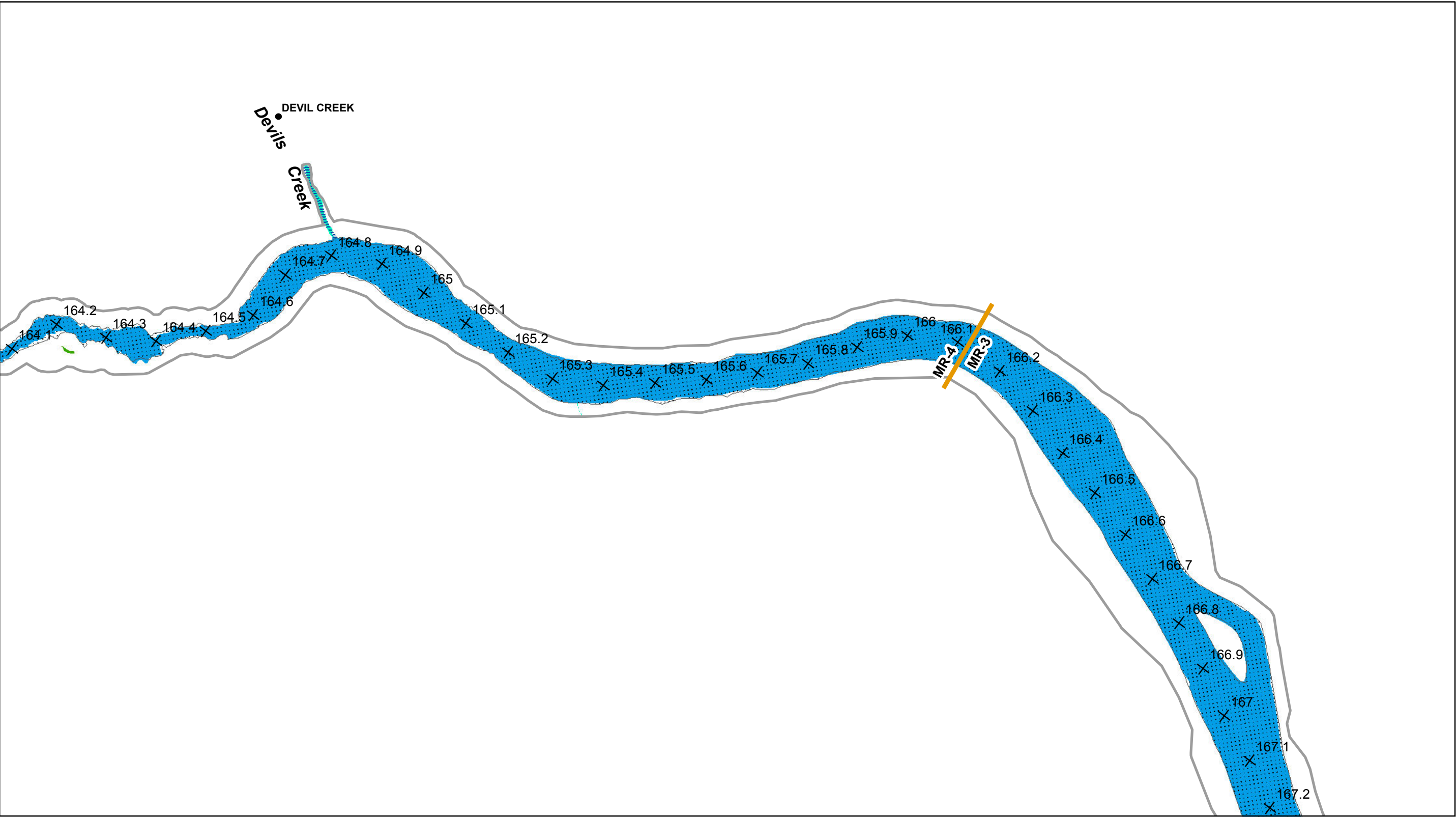


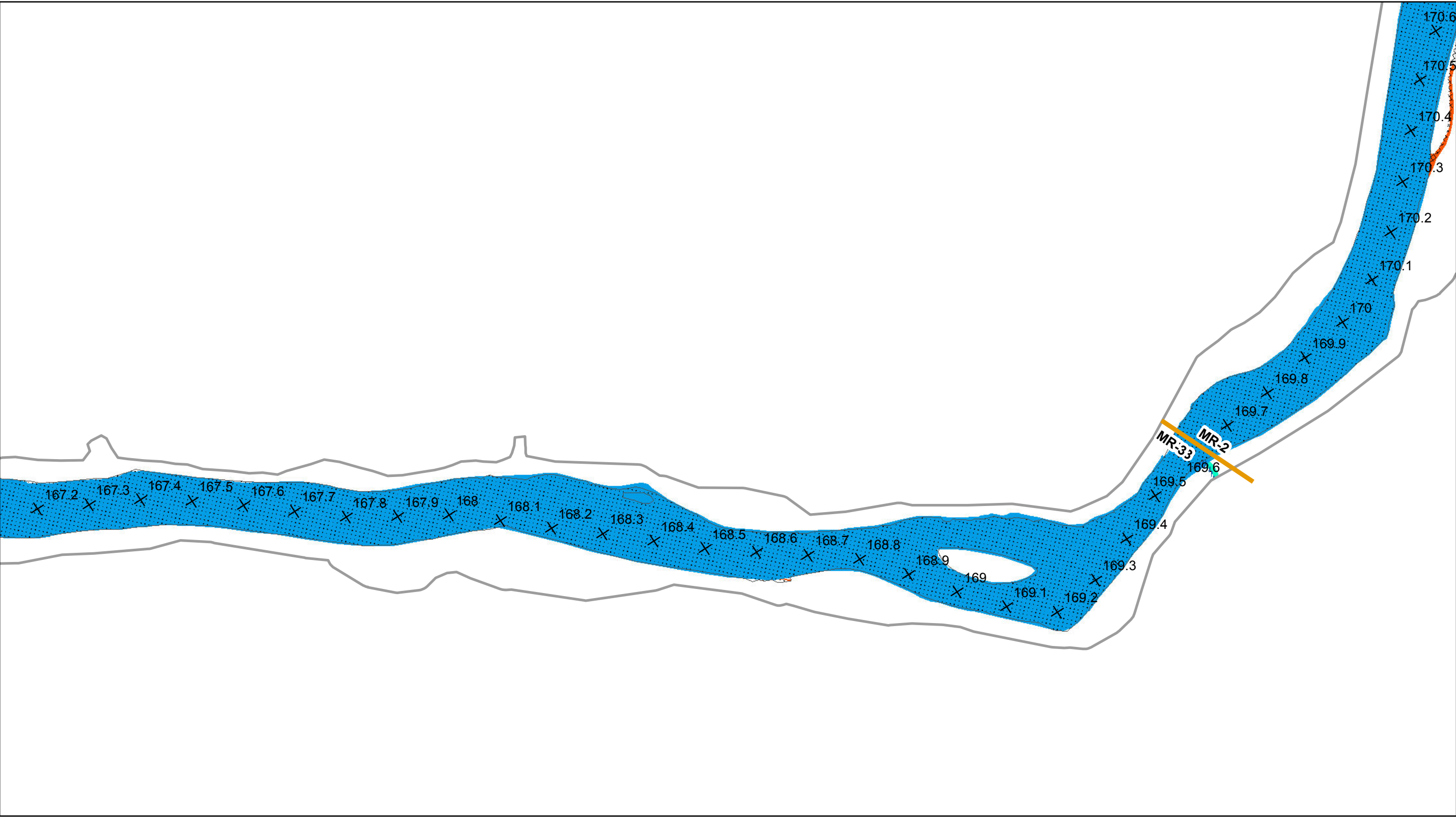
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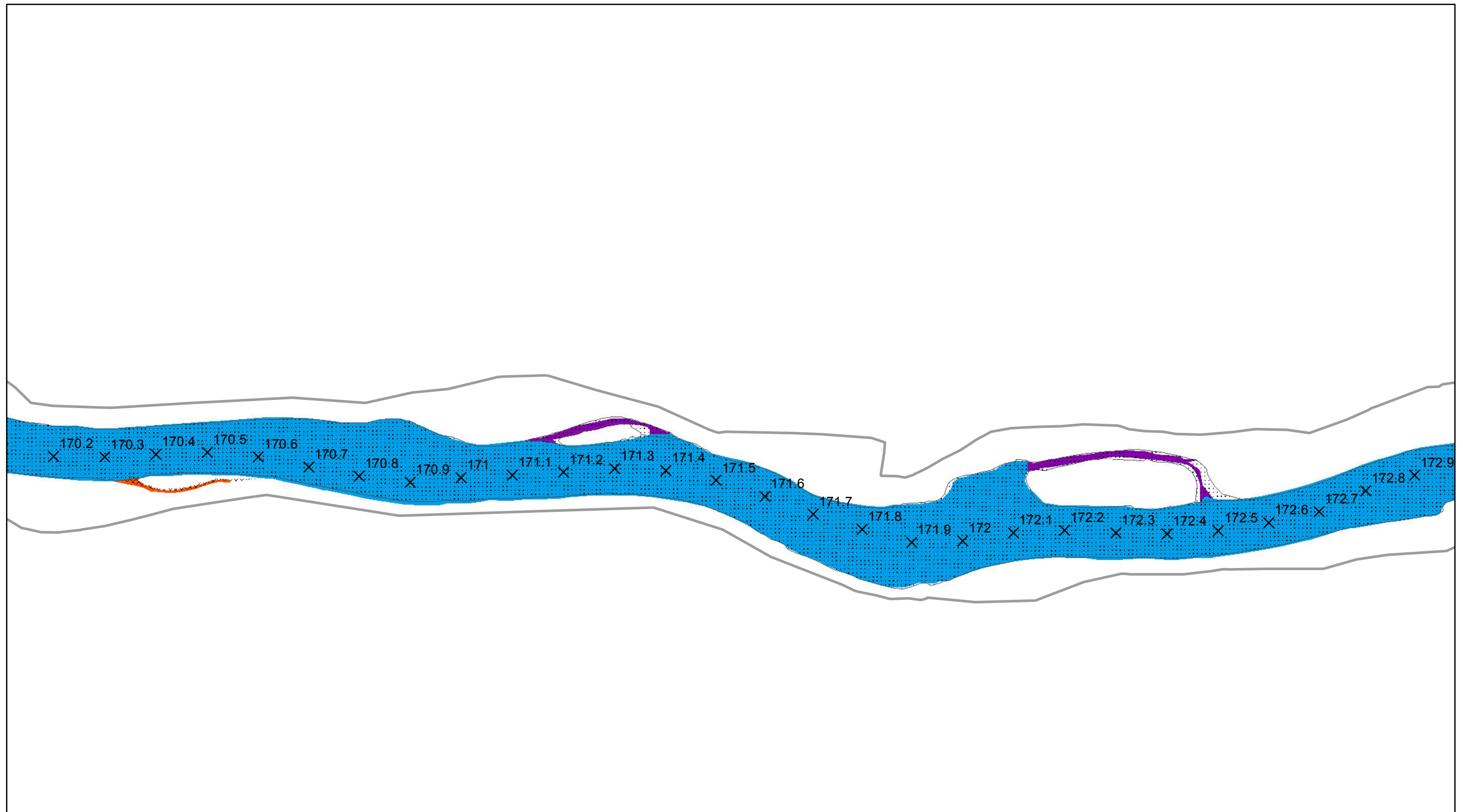
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MIDDLE SUSITNA RIVER SEGMENT
1983 to 2012 CHANNEL CHANGE









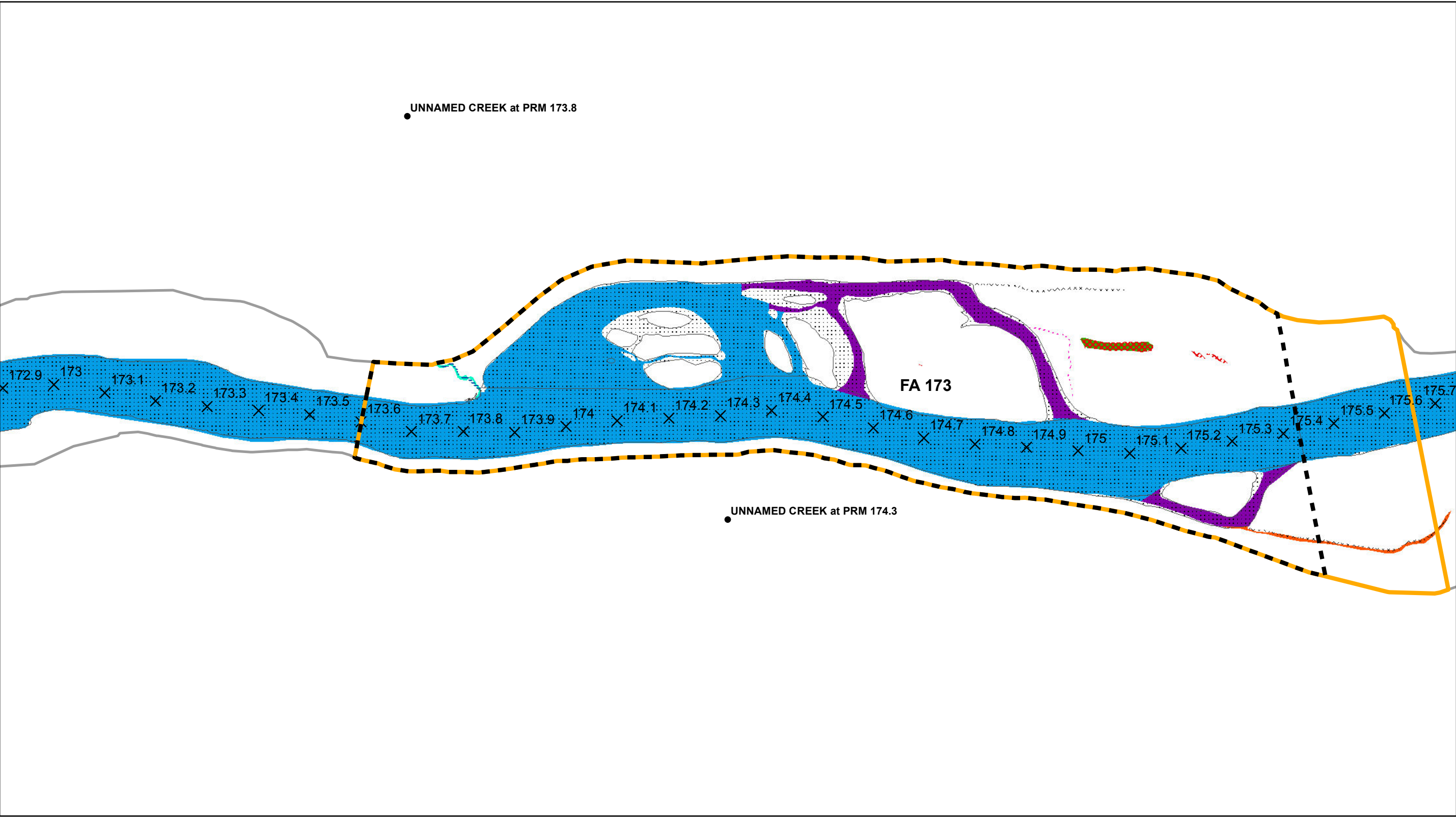
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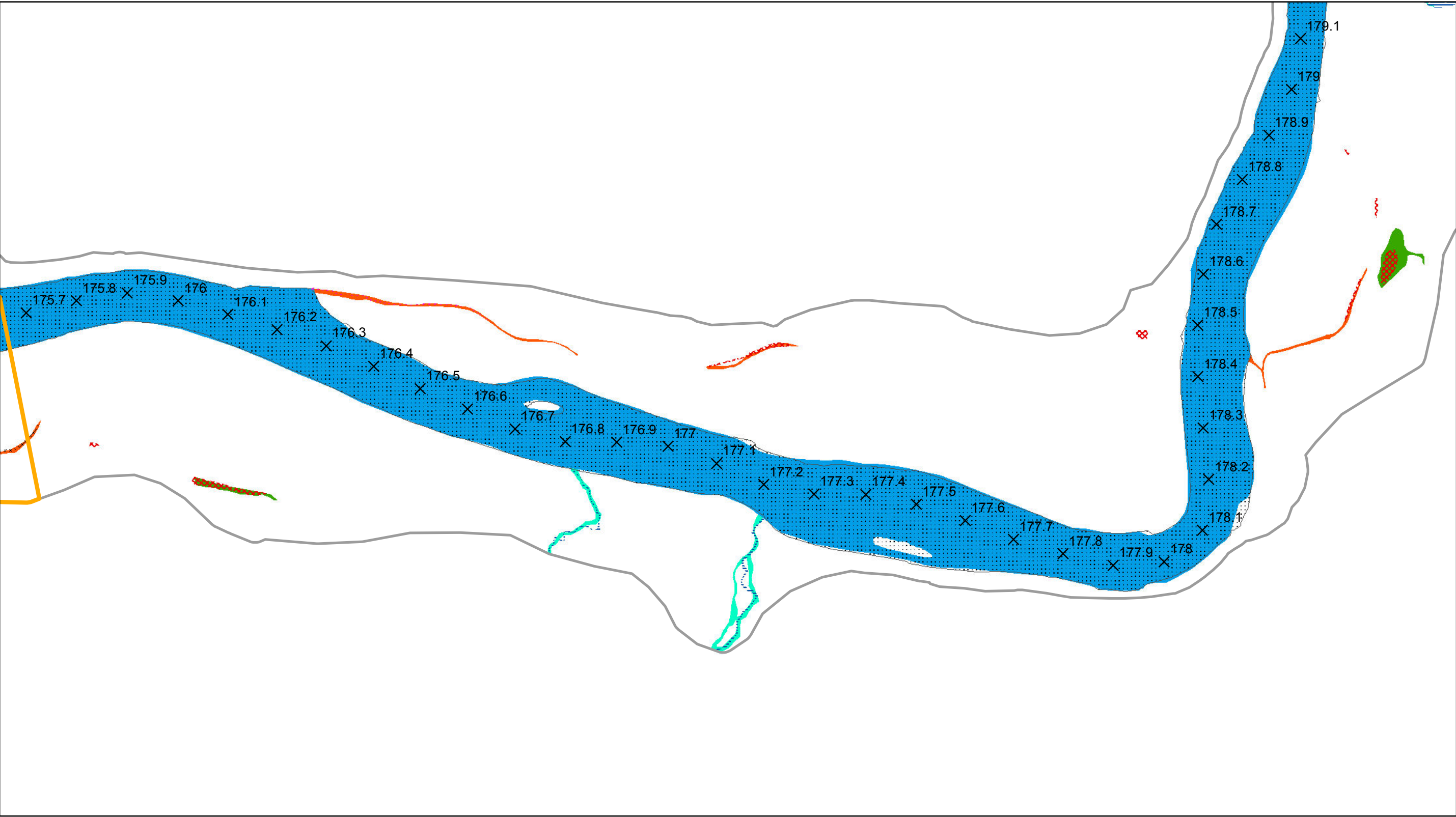
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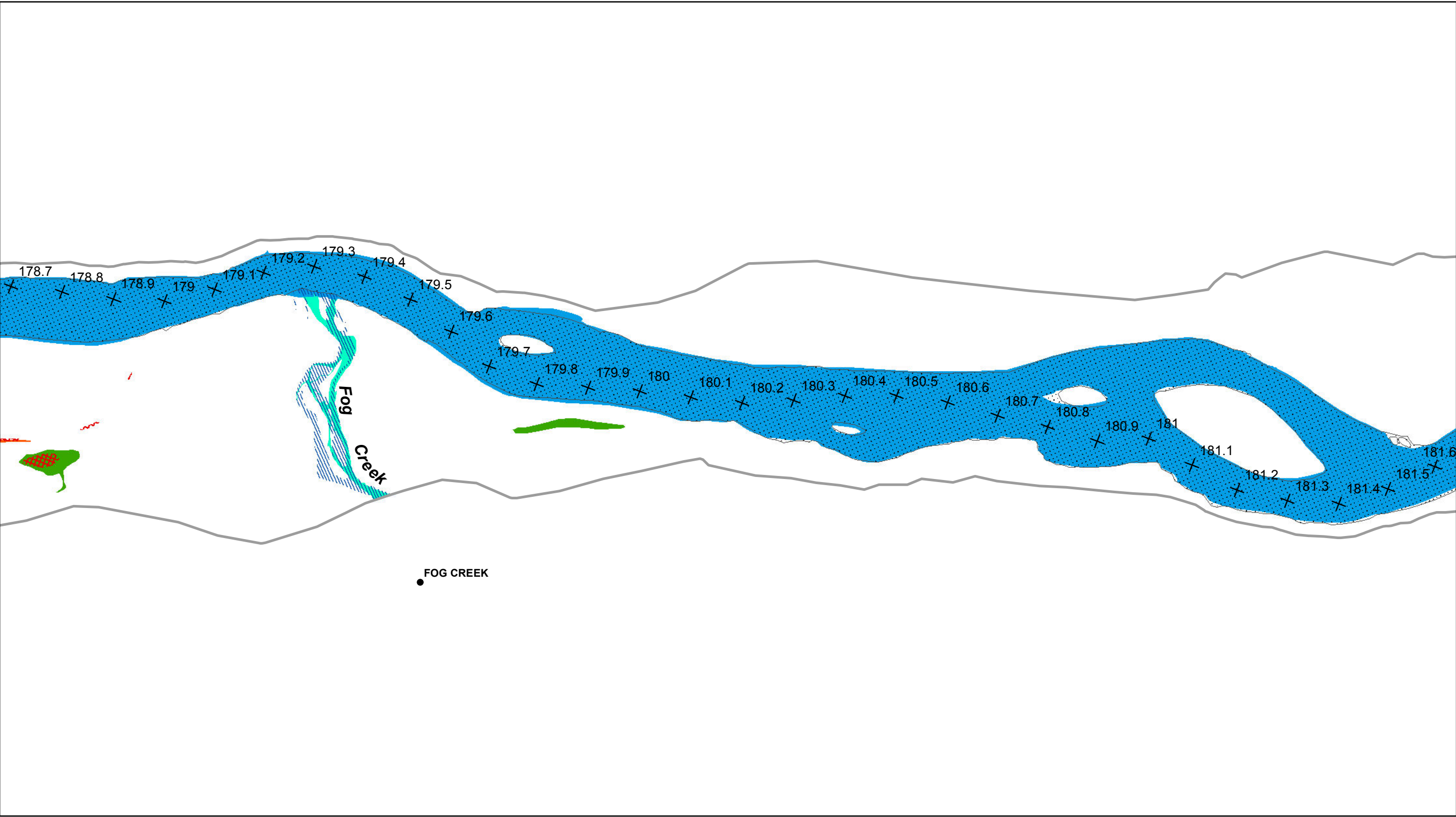
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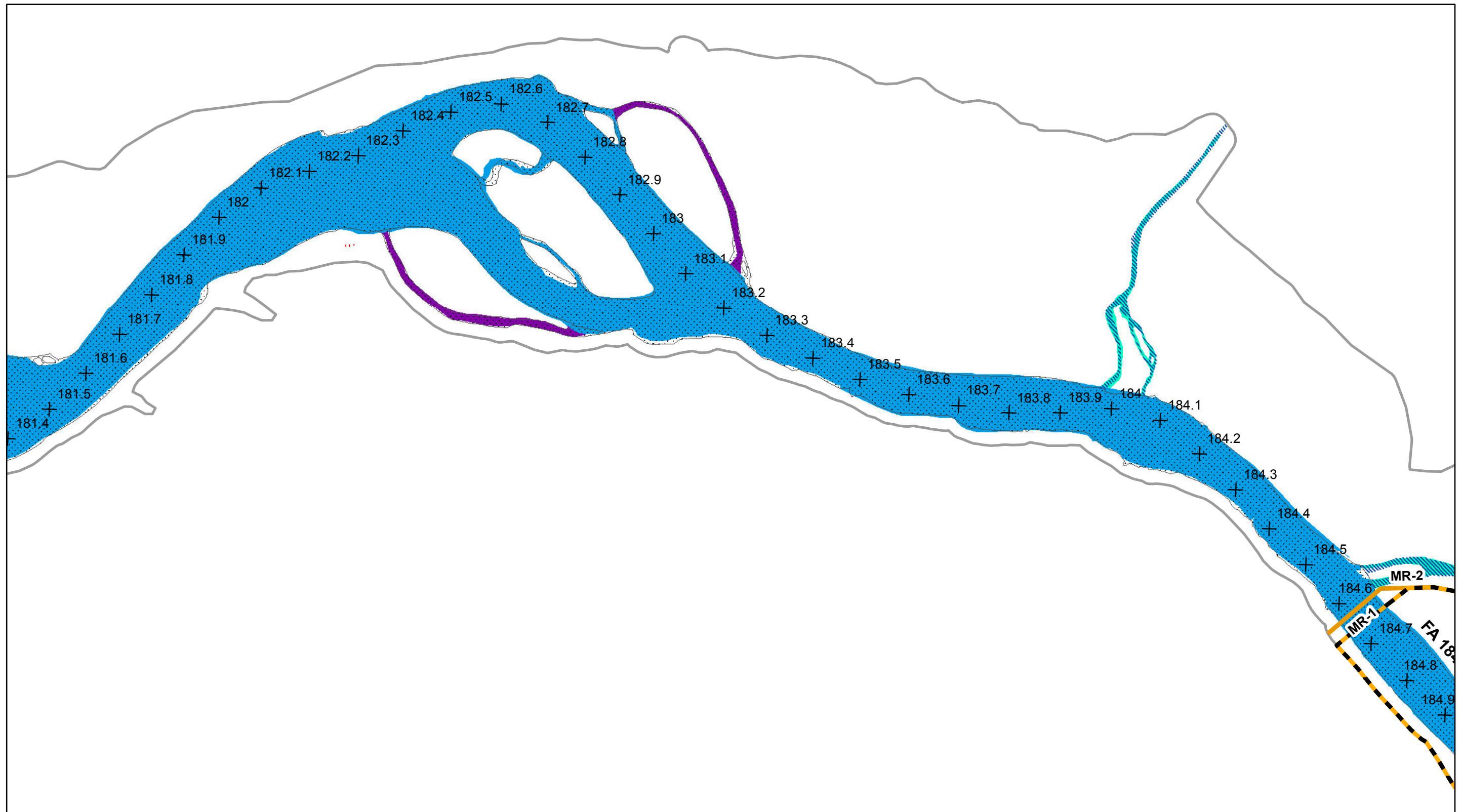
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1983 to 2012 CHANNEL CHANGE







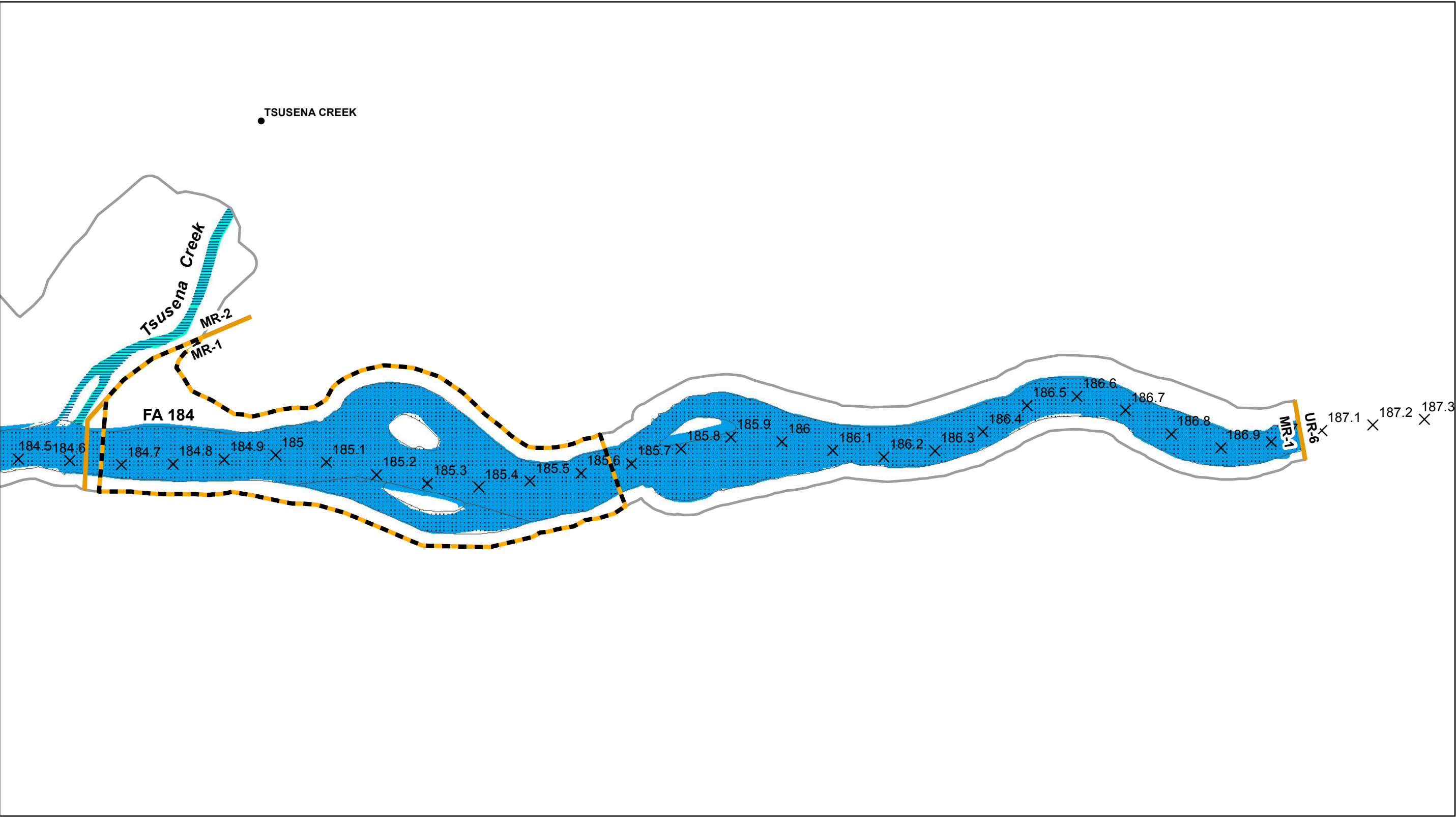




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MIDDLE SUSITNA RIVER SEGMENT
1983 to 2012 CHANNEL CHANGE
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TSUSENA CREEK

Tsusena Creek

MR-2

MR-1

FA 184

MR-4

UR-6

APPENDIX F. 1950s LOWER SUSITNA RIVER SEGMENT GEOMORPHIC FEATURES

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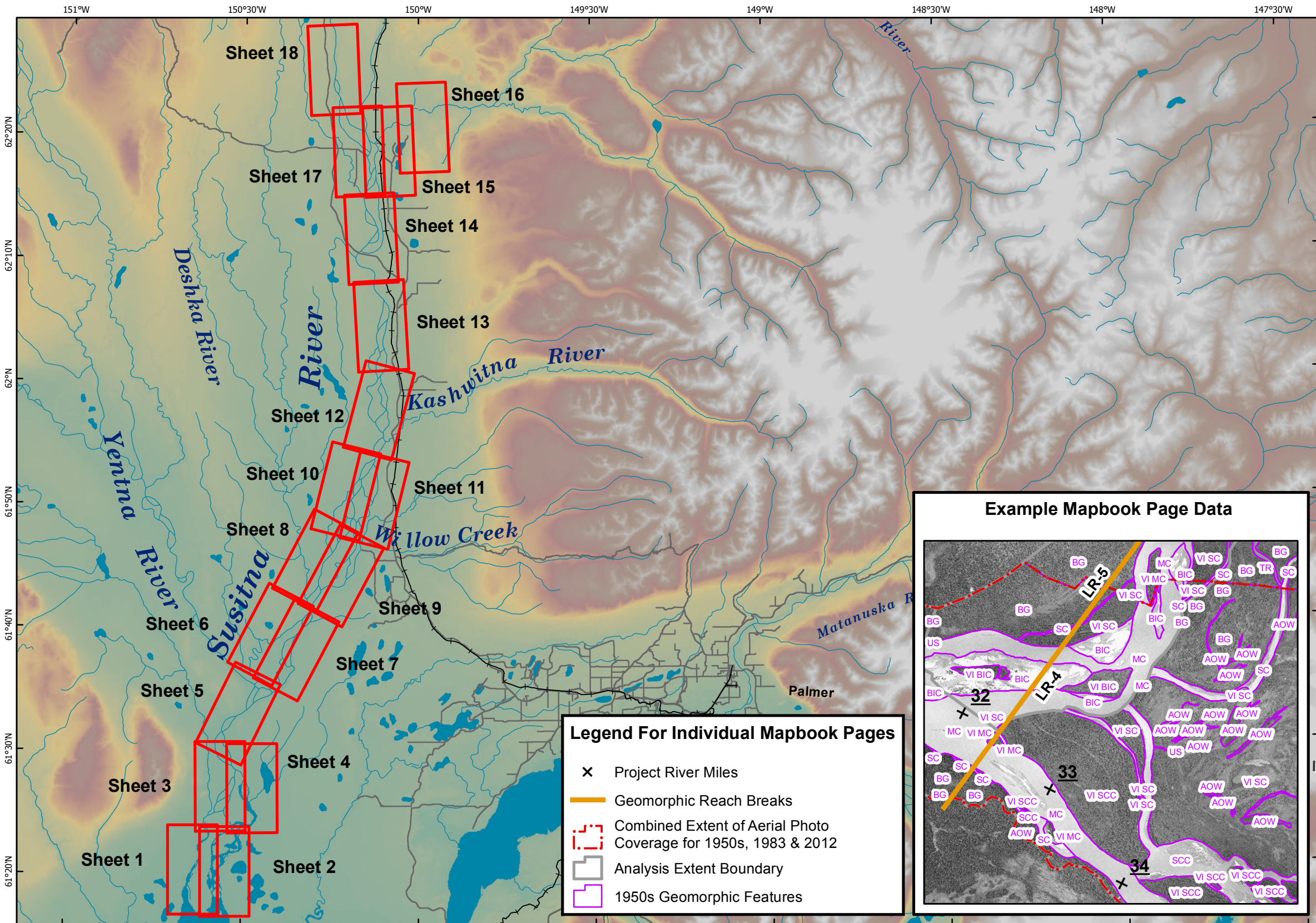
Alaska Energy Authority



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September 2014



LOWER SUSITNA RIVER SEGMENT 1950s GEOMORPHIC FEATURES

Legend

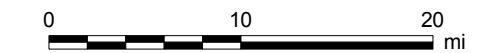
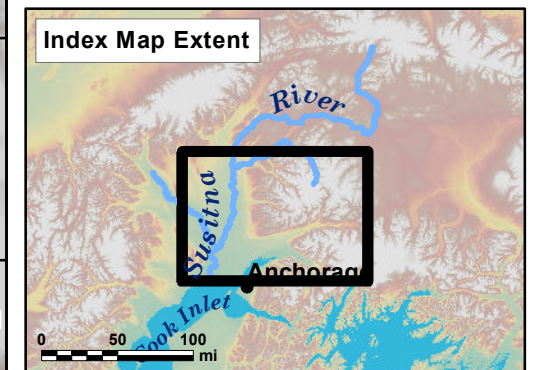
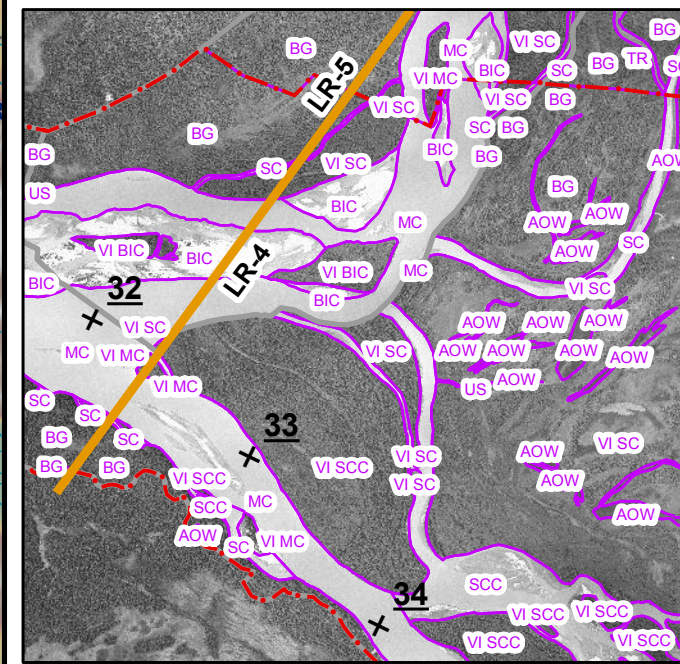
- Sheet Extents
- Roads
- Railroads
- Rivers and Streams
- Waterbodies

Data Sources: See Map References

Legend For Individual Mapbook Pages

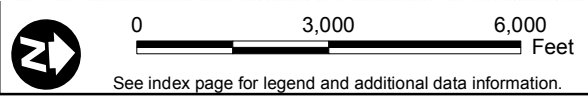
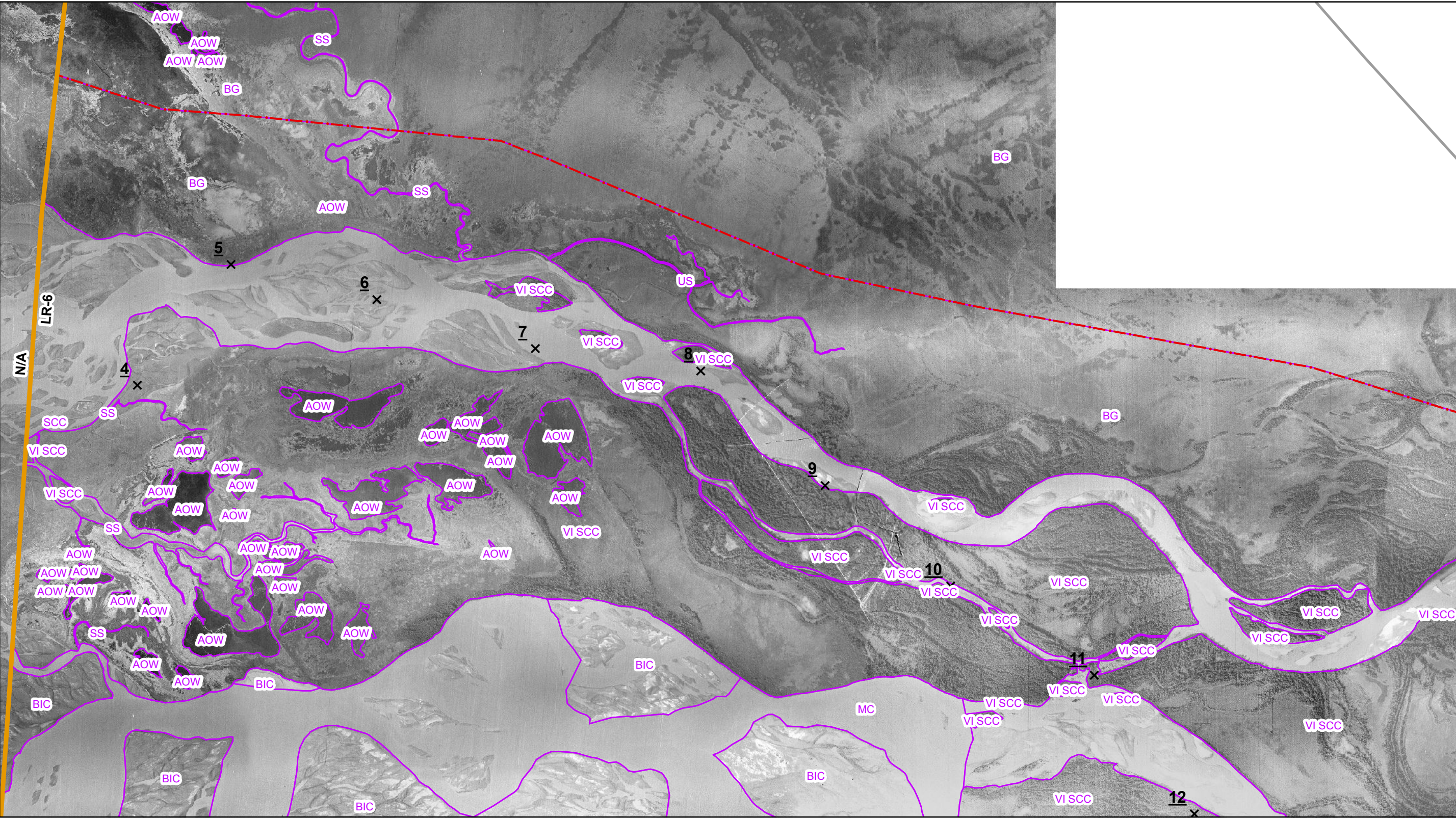
- Project River Miles
- Geomorphic Reach Breaks
- Combined Extent of Aerial Photo Coverage for 1950s, 1983 & 2012
- Analysis Extent Boundary
- 1950s Geomorphic Features

Example Mapbook Page Data



Projection: NAD83 State Plane Alaska 4 FIPS 5004 (ft)
Date Created: 8/21/2014
Map Author: Tetra Tech
File: 1950_LR_GeomFeat_v1_20140120_Cover.mxd



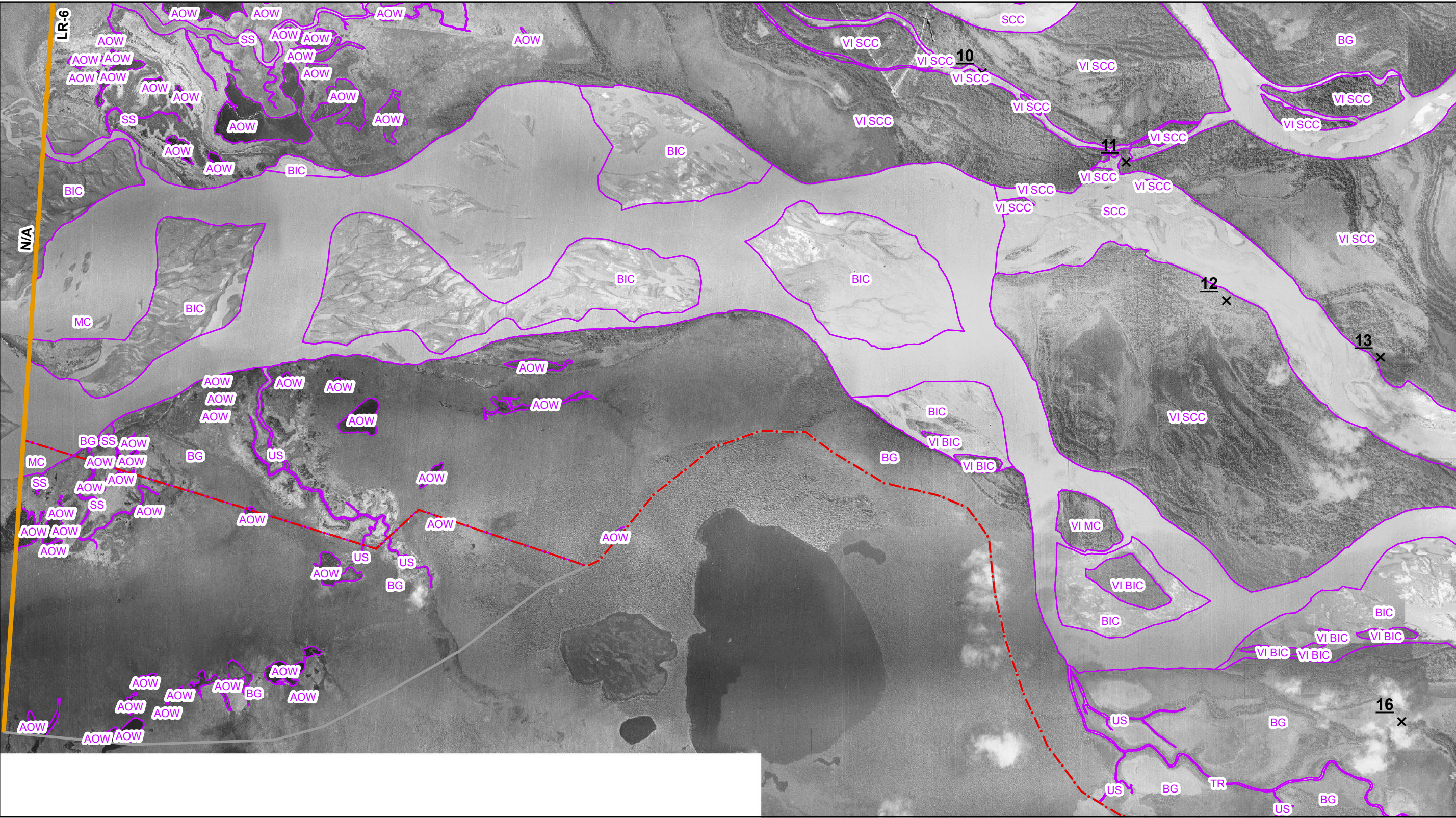


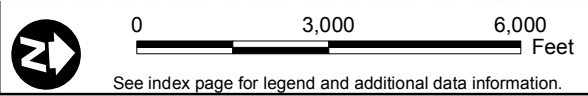
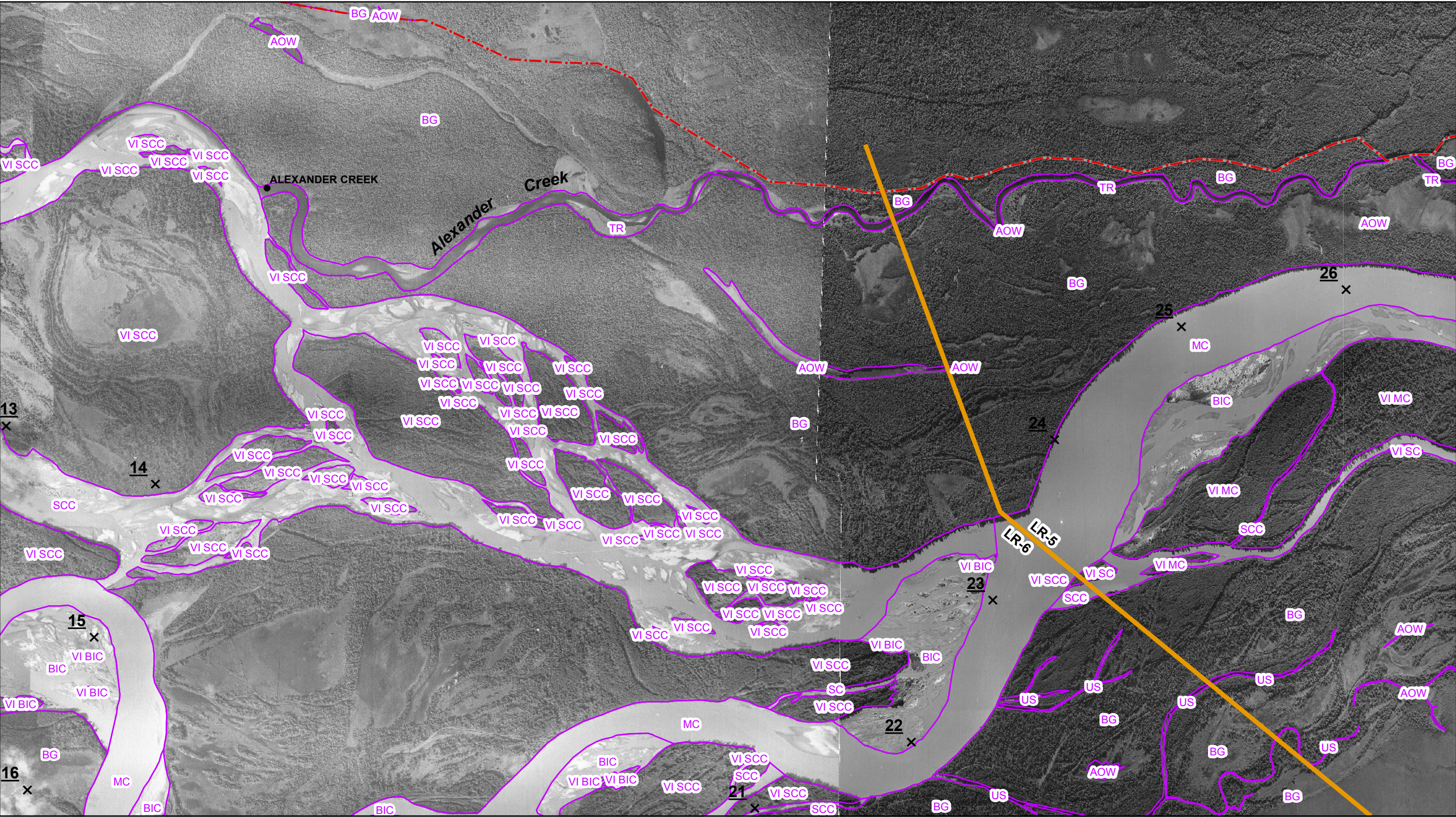
**LOWER SUSITNA RIVER SEGMENT
1950s GEOMORPHIC FEATURES**

Location:	Imagery Date:	Discharge (Sunshine)
PRM 0 - 22.5, 33.5 - 69:	10/10/2012,	53,700 cfs
PRM 22.5 - 33.5, 69 - 78:	09/30/2012,	46,900 cfs
PRM 22.5 - 33.5, 69 - 78:	09/30/2012,	46,900 cfs

Location:	Imagery Date:	Discharge (Sunshine)
PRM 0 - 22.5, 33.5 - 69:	10/10/2012,	53,700 cfs
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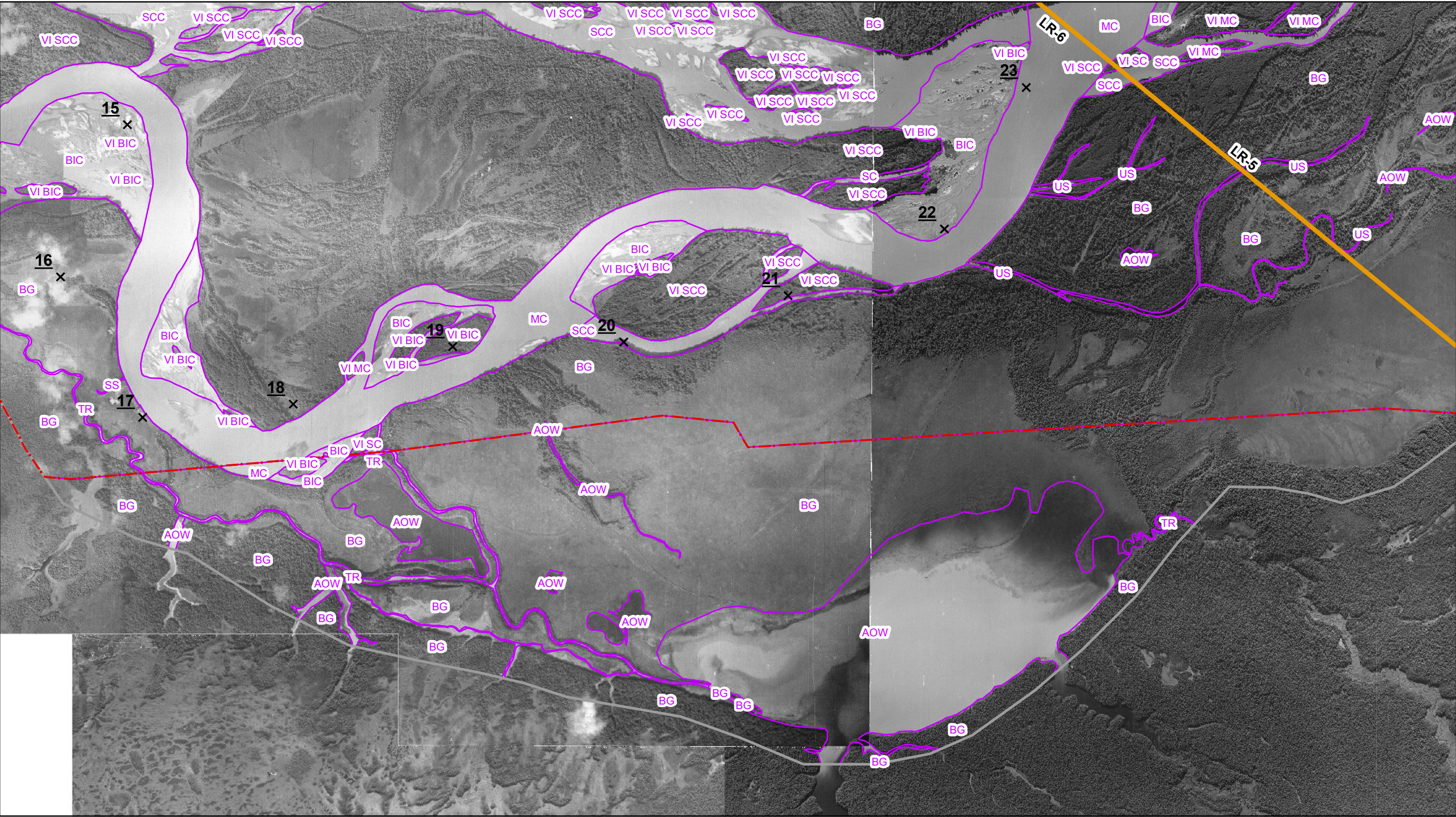


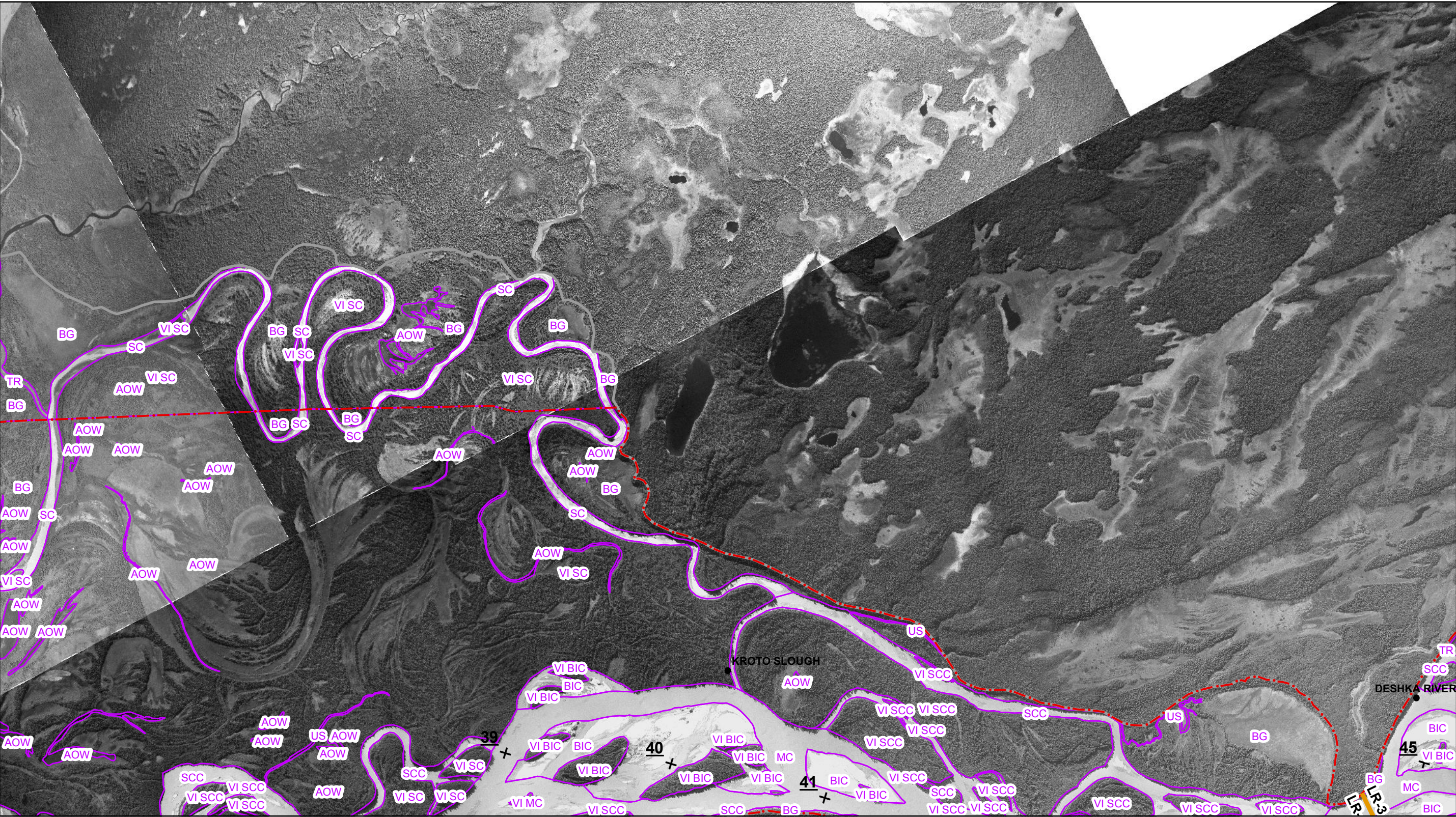


**LOWER SUSITNA RIVER SEGMENT
1950s GEOMORPHIC FEATURES**

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PRM 0 - 22.5, 33.5 - 69:	10/10/2012,	53,700 cfs	PRM 0 - 22.5, 33.5 - 69:	10/10/2012,	53,700 cfs
PRM 22.5 - 33.5, 69 - 78:	09/30/2012,	46,900 cfs	PRM 22.5 - 33.5, 69 - 78:	09/30/2012,	46,900 cfs
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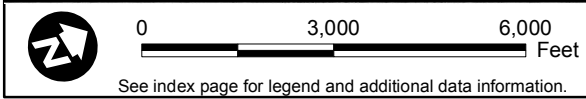
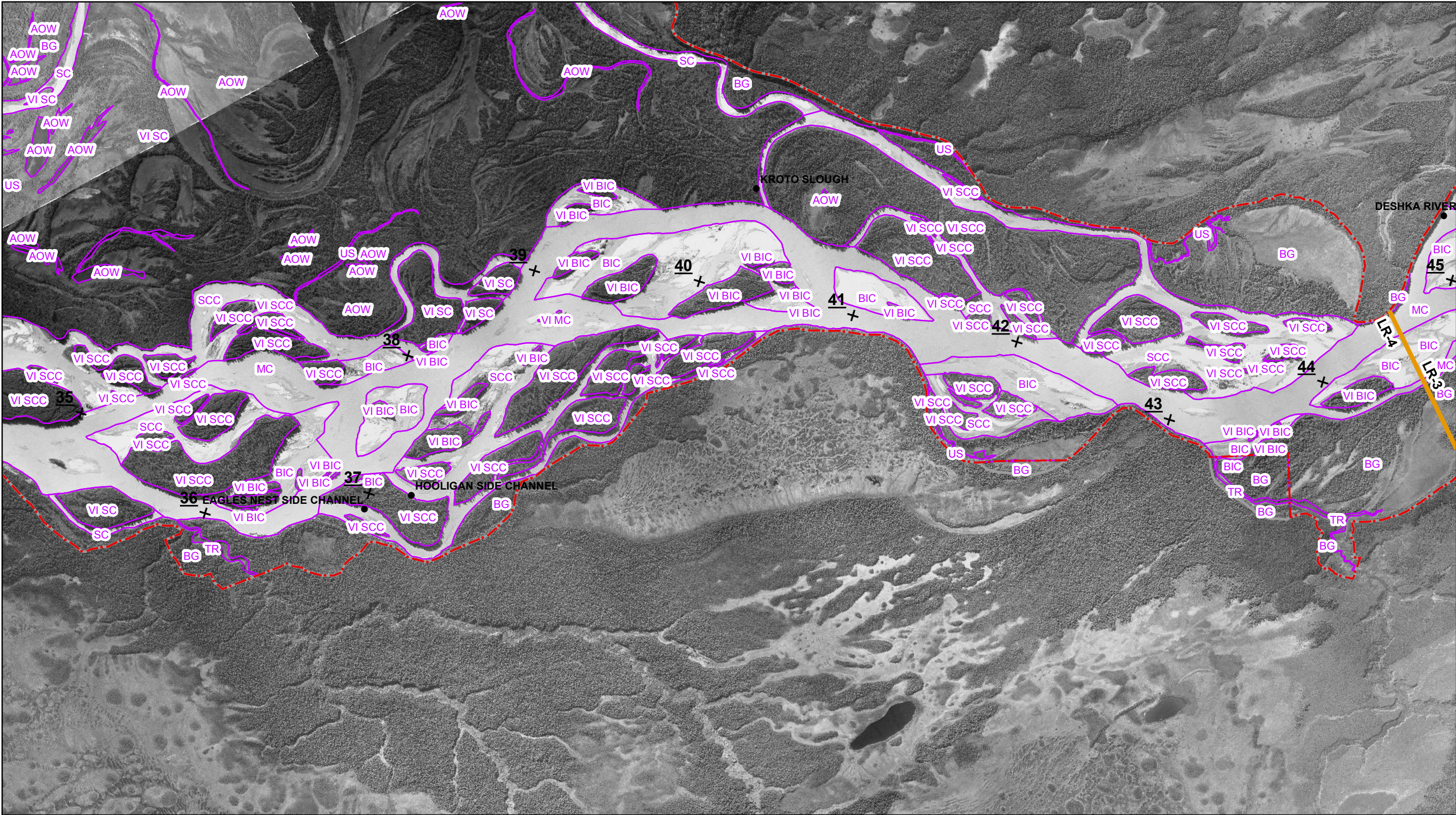




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See index page for legend and additional data information.

**LOWER SUSITNA RIVER SEGMENT
1950s GEOMORPHIC FEATURES**

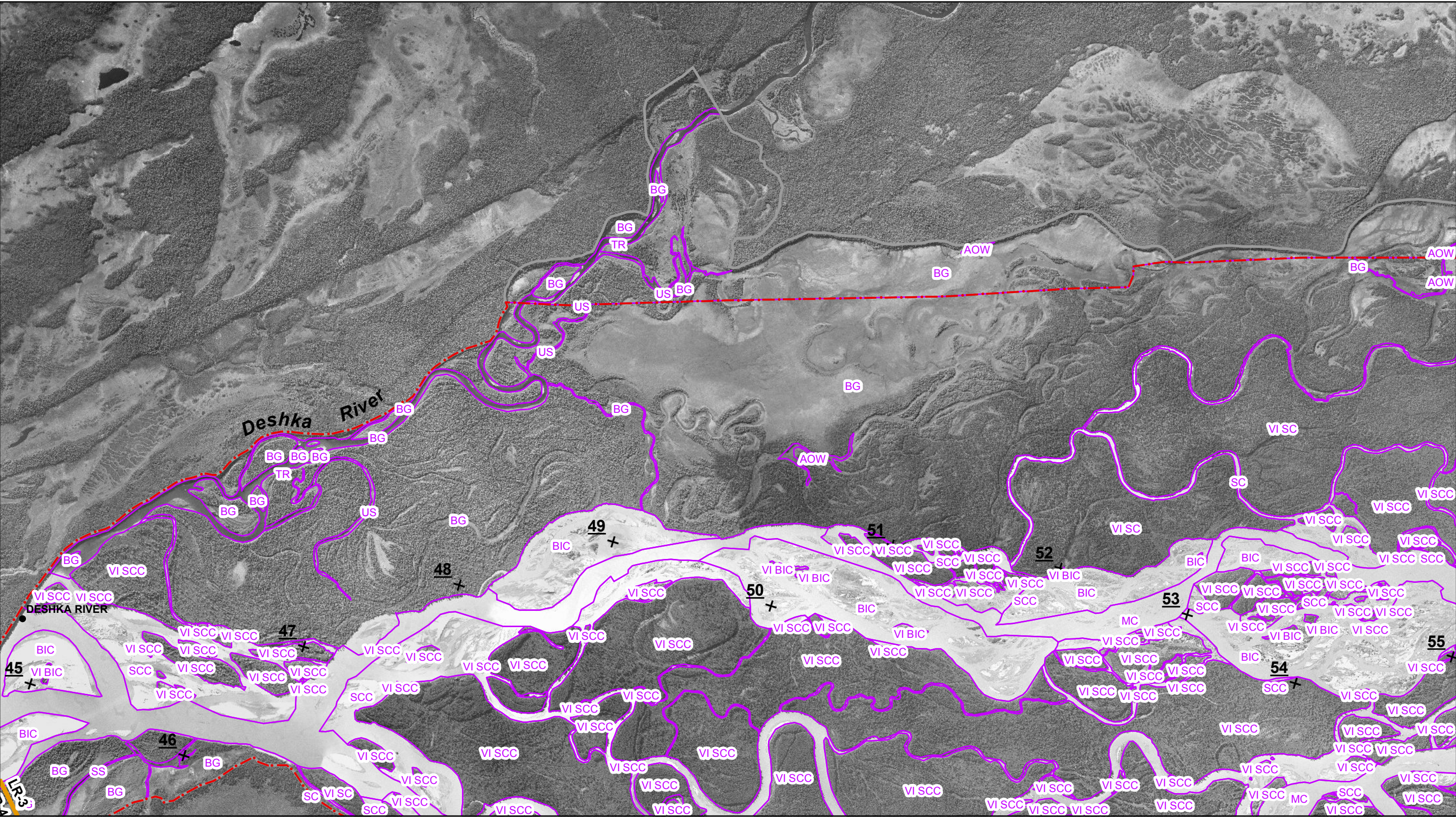
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PRM 22.5 - 33.5, 69 - 78:	09/30/2012,	46,900 cfs	PRM 22.5 - 33.5, 69 - 78:	09/30/2012,	46,900 cfs
PRM 22.5 - 33.5, 69 - 78:	09/30/2012,	46,900 cfs	PRM 22.5 - 33.5, 69 - 78:	09/30/2012,	46,900 cfs



**LOWER SUSITNA RIVER SEGMENT
1950s GEOMORPHIC FEATURES**

Location:	Imagery Date:	Discharge (Sunshine)	Location:	Imagery Date:	Discharge (Sunshine)
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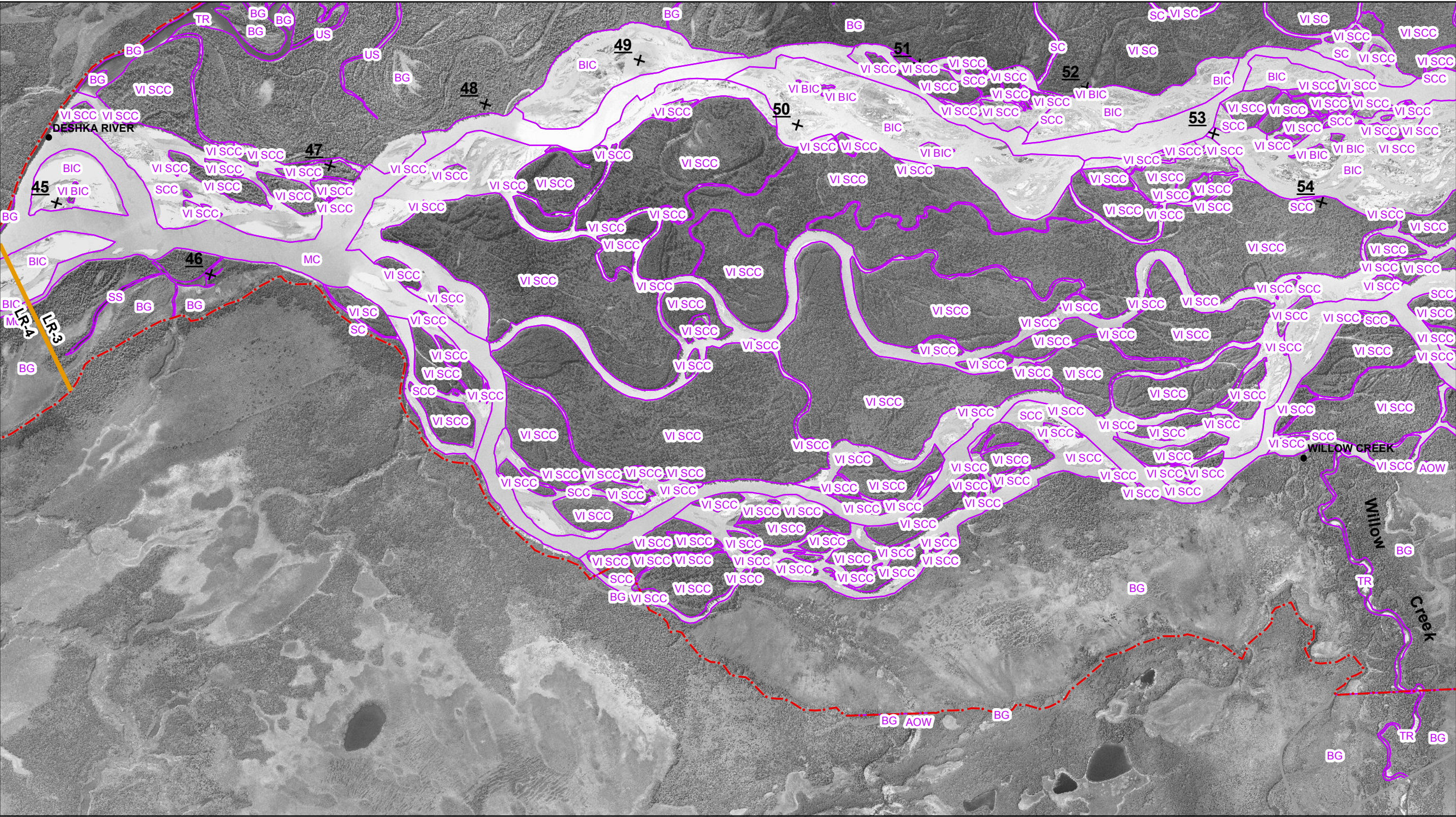
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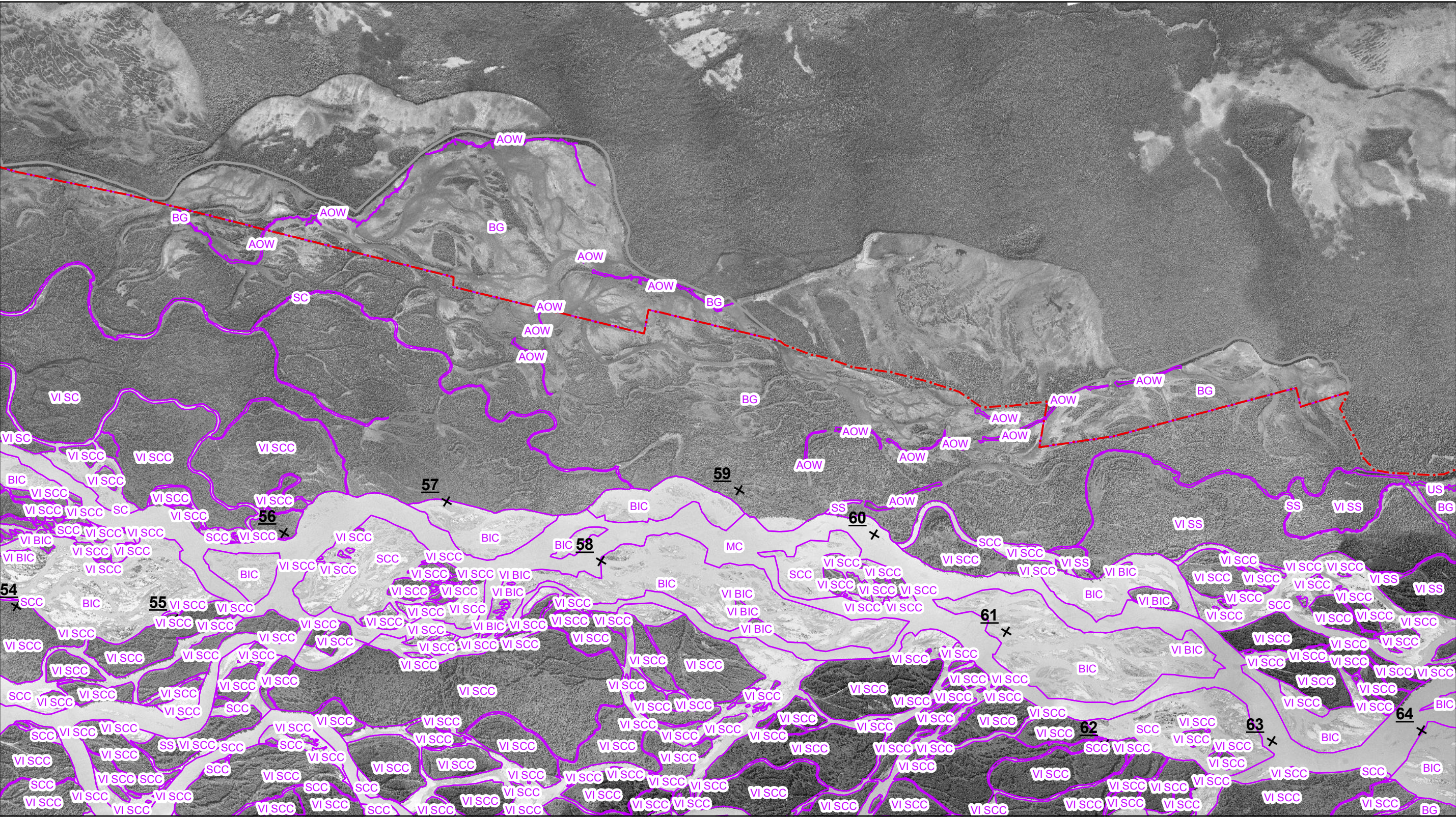
**LOWER SUSITNA RIVER SEGMENT
1950s GEOMORPHIC FEATURES**

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Feet

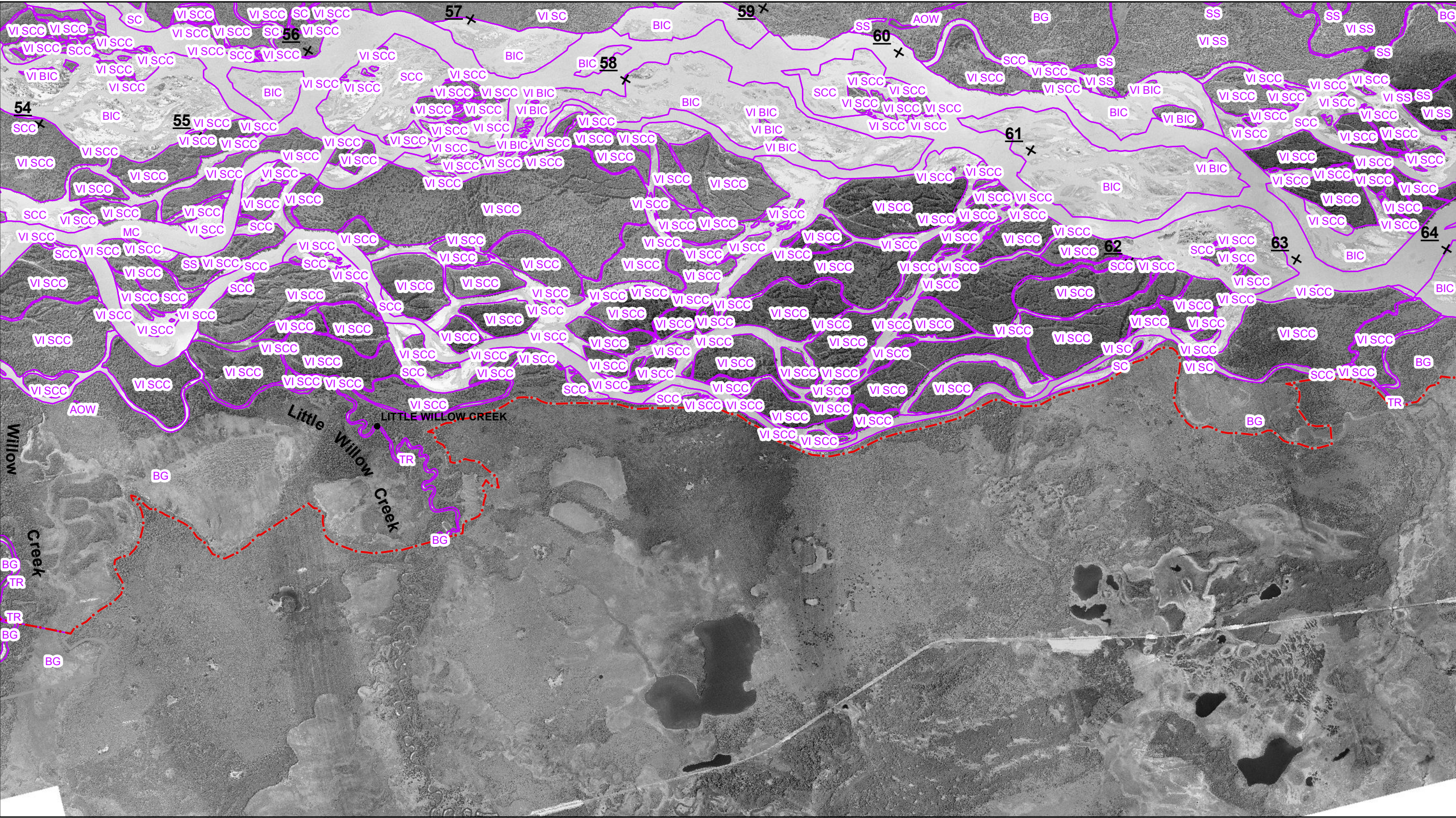
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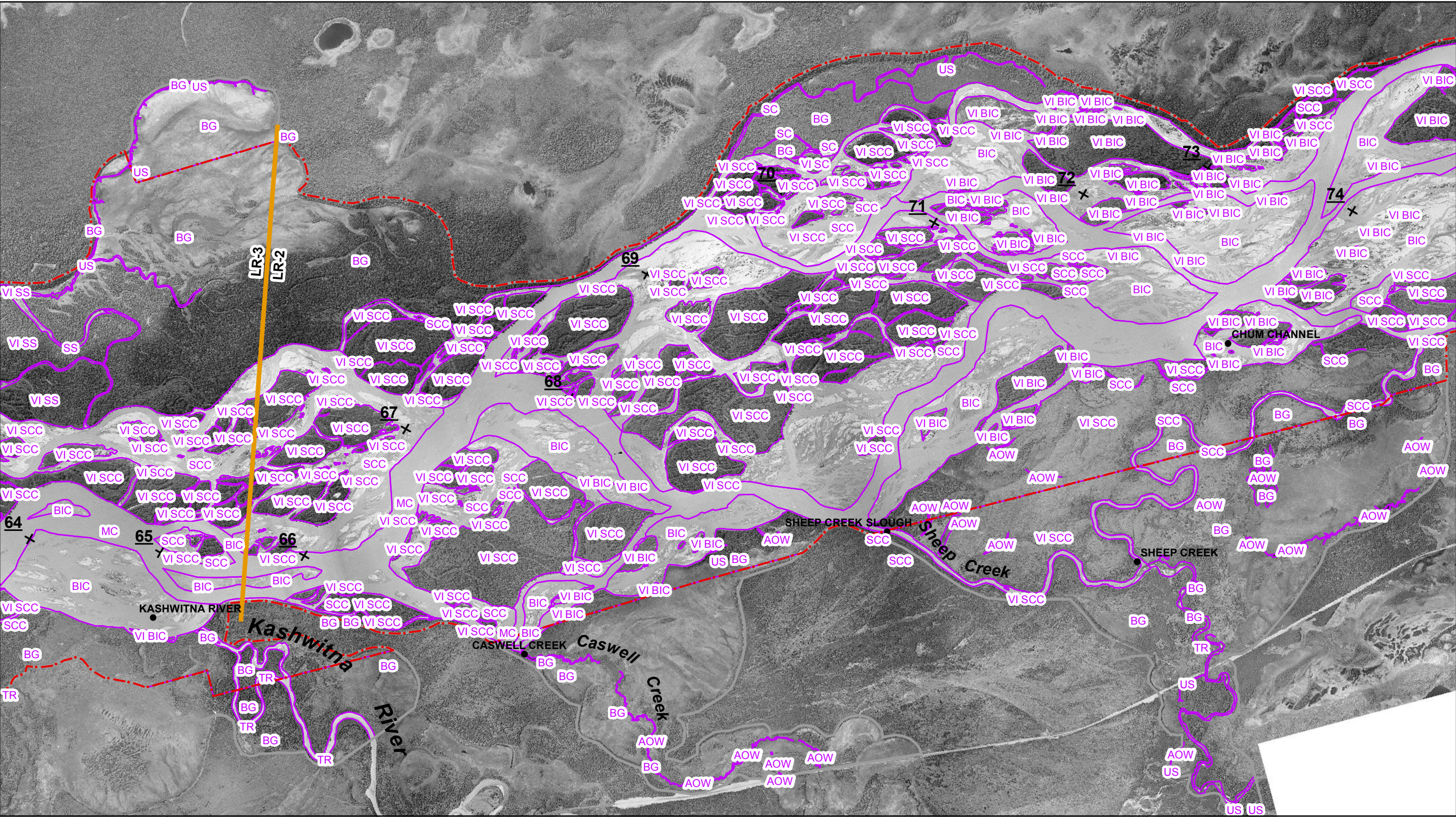
LOWER SUSITNA RIVER SEGMENT
1950s GEOMORPHIC FEATURES

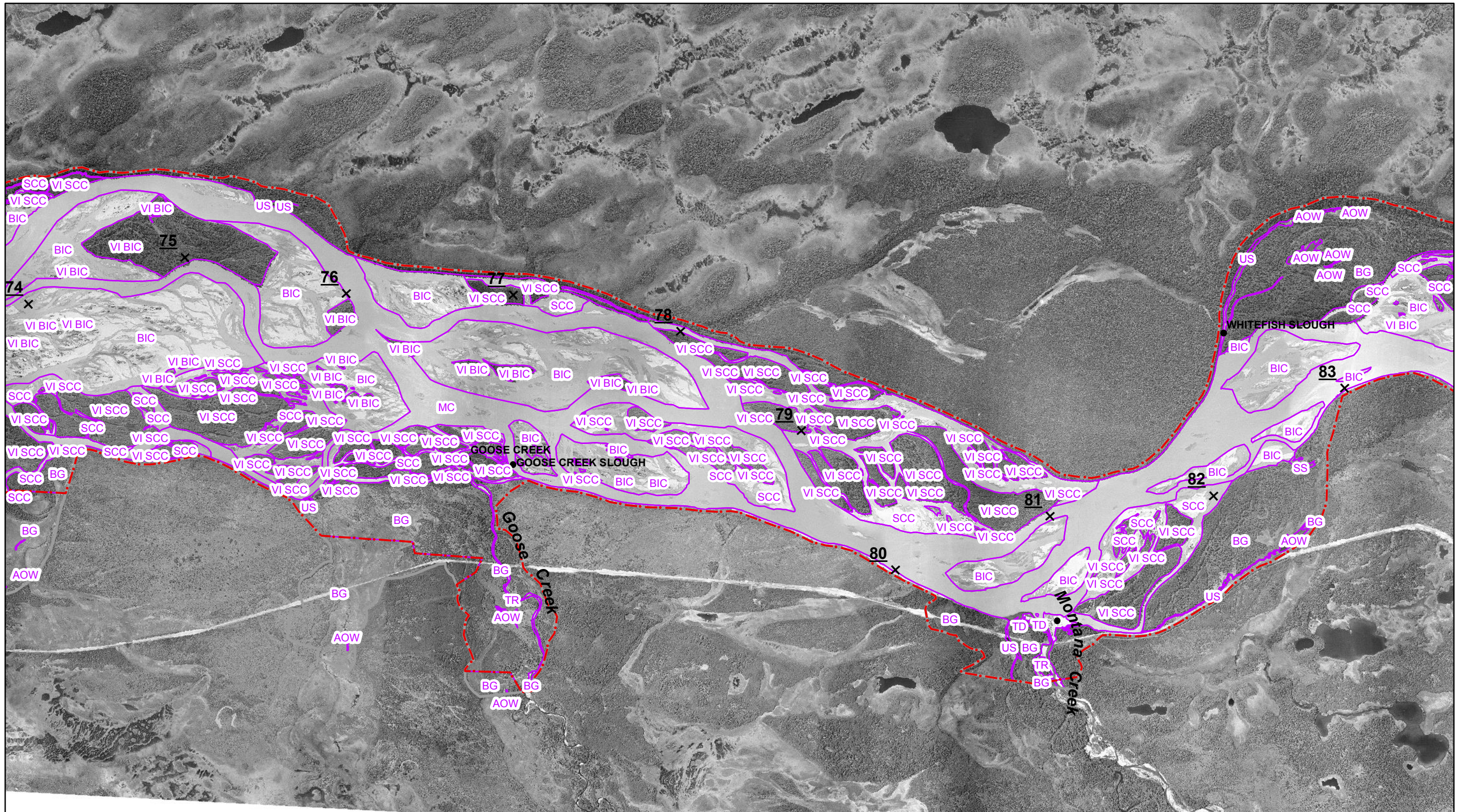
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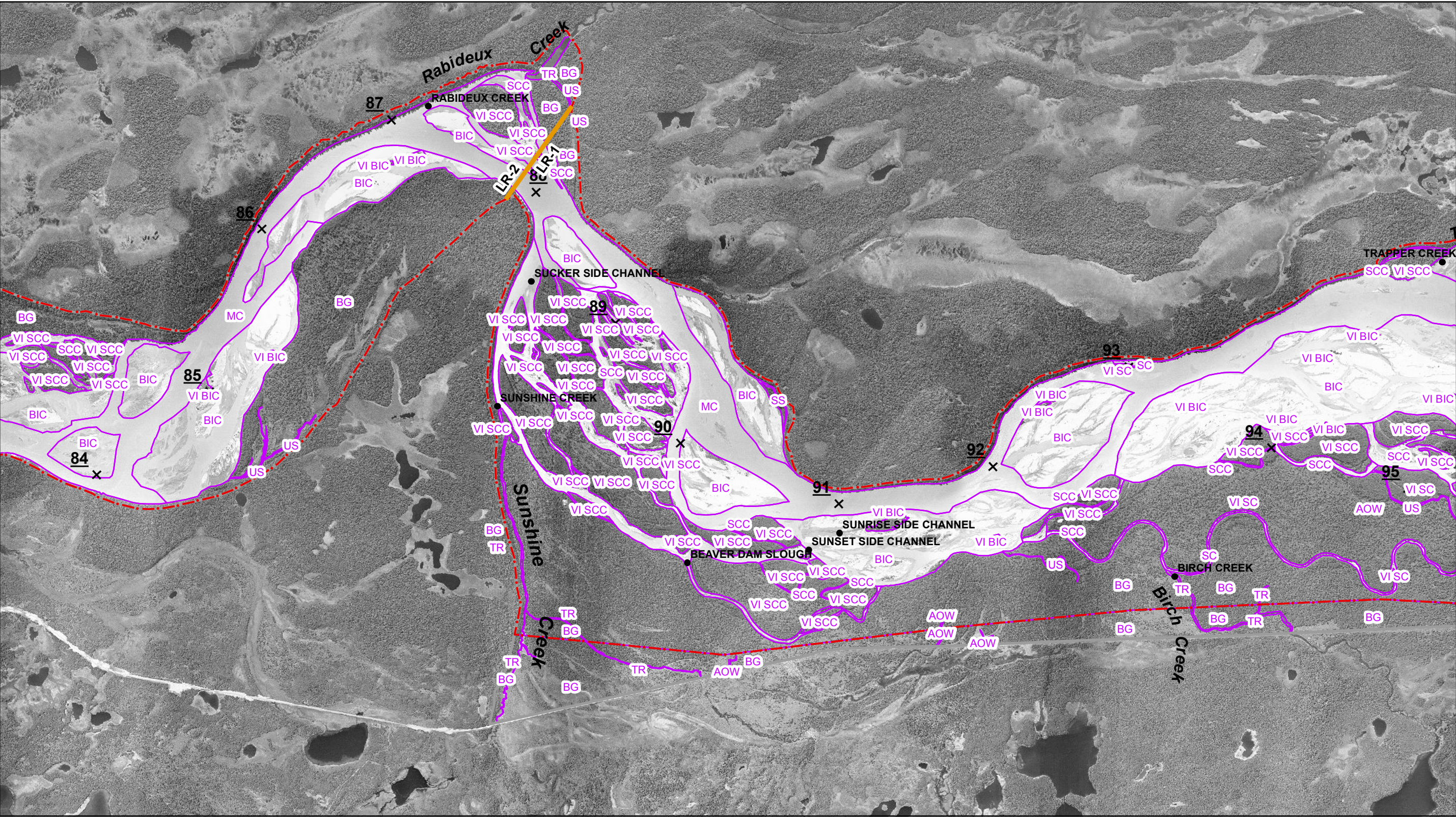
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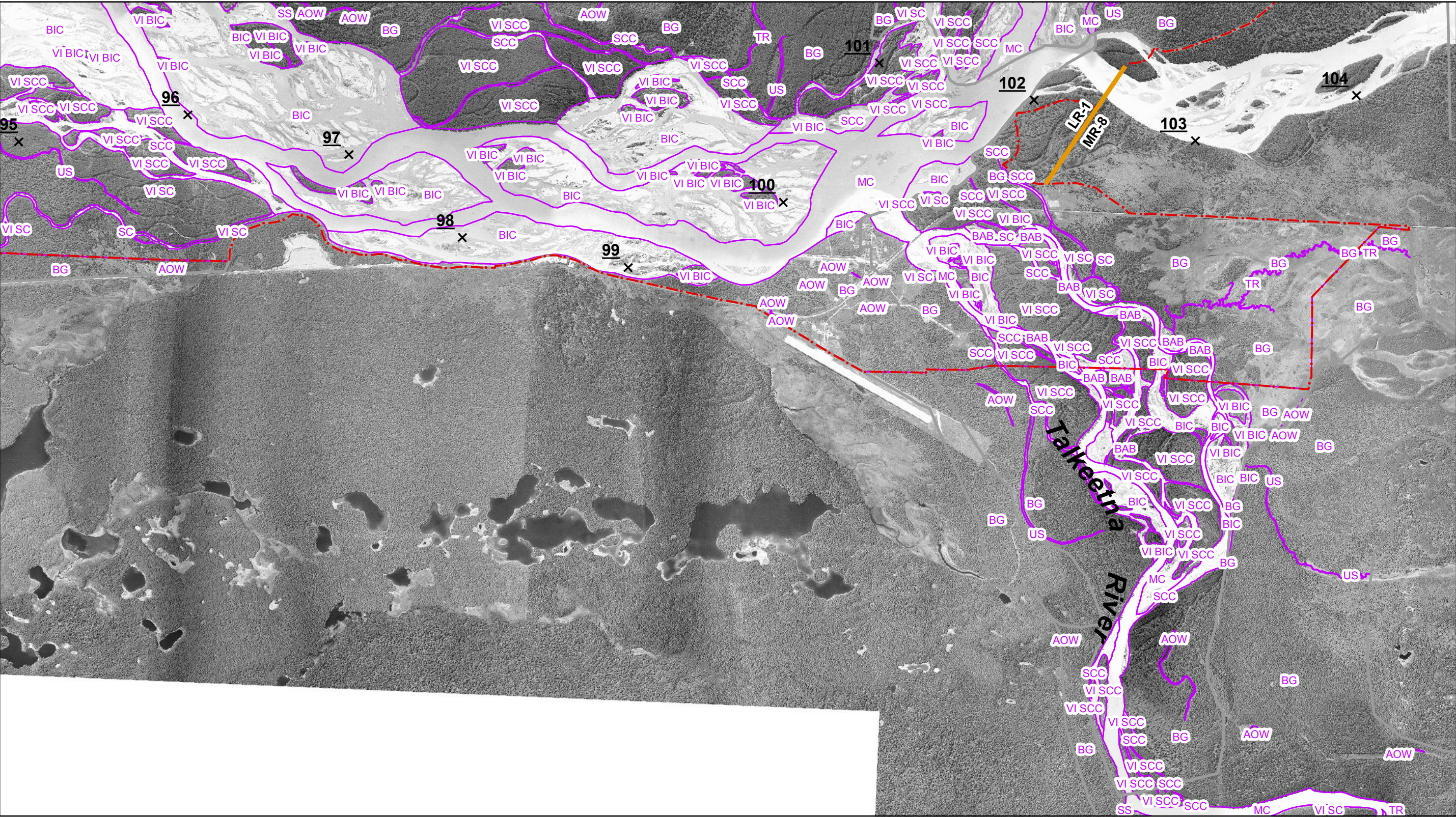




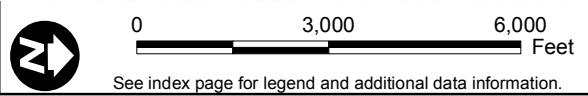
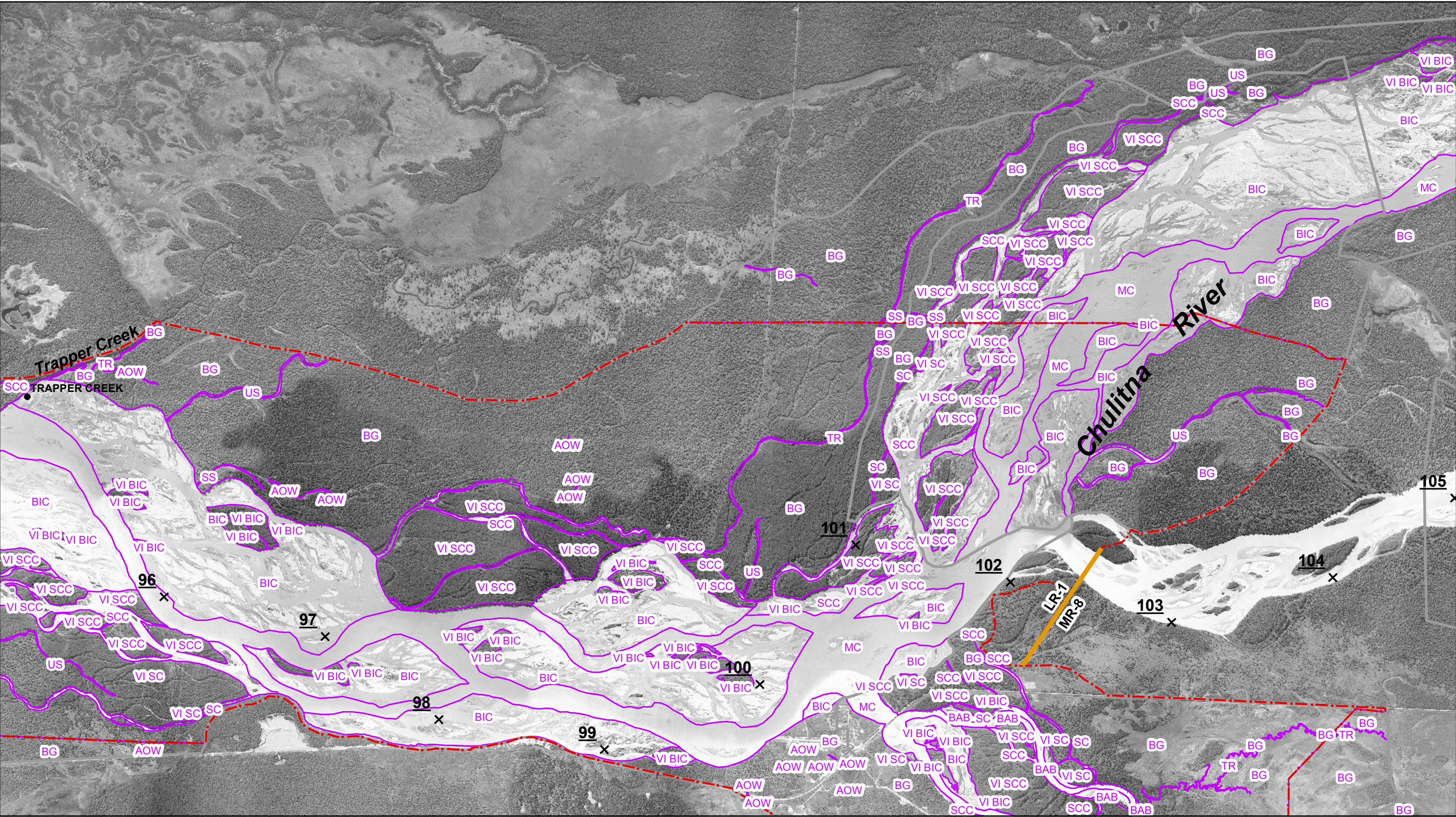












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