# MCRO | Language & Term Exclusivity — Cross-Cluster Forensic Analysis

## Part 2: Connector Network, Bipartite Edge Analysis, and Case Event Linkage

| Field | Value |
|---|---|
| Prepared by | Matthew David Guertin, Pro Se Defendant |
| Case Reference | State of Minnesota v. Guertin \| 27-CR-23-1886 |
| Court | Fourth Judicial District Court, Hennepin County |
| Report Date | March 5, 2026 |
| Series | Part 2 of 3 — Language & Term Exclusivity |
| Corpus Size | 4,251 PDFs across 81 defendant clusters \| 2017–2025 |
| Target Cohort | 4 clusters: MATTHEW GUERTIN (1570), MUAD ABDULKADIR (674), ADRIAN WESLEY (290), PETER LEHMEYER (696) |
| Database | PostgreSQL (Supabase) — live forensic schema; ibfmjtwahkwqzcmeyqii |
| Reproducibility | All findings query-reproducible from live database. See Appendix SQL. |

## IMPORTANT DISCLAIMER

This report presents objective forensic data findings reproducible from the live source database. All statistics were freshly computed against the live PostgreSQL/Supabase database (project ibfmjtwahkwqzcmeyqii) on the date of this report. No pre-computed values from prior reports or uploaded reference files have been used as factual inputs.

The analyses contained in this report do not assert conclusions about fraud, fabrication, criminal intent, or motive. Each finding documents a measurable pattern in the data. Causal explanations are not provided in Findings sections unless directly and unambiguously supported by the database evidence examined in this report.

This is Part 2 of a planned 3-part series. Part 1 established the exclusive term set and first-order convergence signals. Part 2 transforms those findings into a bipartite network analysis of cross-cluster structural connections. Timeline-aligned bridge scoring is reserved for Part 3.

**Independent verification recommended.** All SQL queries are provided in full in the Appendix. A credentialed digital forensics examiner (CFCE, EnCE, or equivalent) should independently verify these findings before use in formal proceedings.

# EXECUTIVE SUMMARY

**Key Findings (Part 2):**

• All three Part 1 anchor metrics reproduced exactly from the live database: 50 exclusive terms, 74 documents with at least one exclusive term, and the June 14, 2023 Adrian Wesley XMP title filing confirmed.

• 9 of 12 tracking font SHA256 hashes in the Target 4 are bridge fonts — present in cluster 1570 (MATTHEW GUERTIN) and at least one other Target 4 cluster. These 9 bridges account for 90.3% of all cluster-font edges.

• Every one of the 50 exclusive terms is a bridge artifact — by definition present in cluster 1570 and at least one other cluster. The term graph has 110 edges, 100% of which are bridge edges.

• TRACKING-FONT-E1 exists in only 8 documents corpus-wide (0.19%) and bridges exclusively clusters 1570 and 696. TRACKING-FONT-F1 exists in only 6 documents (0.14%) and bridges the same pair. These are effectively unique structural wires between two specific defendants.

• TRACKING-FONT-B1 spans 3,059 days (8.4 years) across 30 Target 4 documents bridging clusters 1570 and 290 — the same pair linked by the Adrian Wesley XMP metadata anomaly.

• Judge Michael Browne appears as judicial officer in the top-document cases of all 4 Target clusters. Six additional judicial officers span 2–3 clusters within the same case set.

• 12 distinct docket event names appear in the top-document cases of all 4 clusters, led by “Found Incompetent” (45 events across 7 cases) and “Rule 20 Progress Report” (41 events across 7 cases).

• The minimum connector set to isolate cluster 1570 from all other Target 4 clusters consists of 59 distinct artifacts (50 terms + 9 bridge fonts). Removing any single bridge font severs only one cluster connection; the remaining links persist through language terms.

• Only 2 documents in the entire 4,251-document corpus contain another defendant’s cluster name in their XMP title metadata. Both are in cluster 1570 (MATTHEW GUERTIN). Both name ADRIAN WESLEY. The base rate for this phenomenon is 0.047%.

## Corpus Overview — Part 2

| Metric | Value |
|---|---|
| Exclusive terms (Part 1 definition, re-derived) | 50 |
| Target 4 documents with ≥1 exclusive term | 74 of 328 |
| Top docs (≥5 exclusive terms) | 33 across 7 cases, all 4 clusters |
| Distinct tracking font SHA256 values (Target 4) | 12 |
| Cross-cluster font bridges (1570 + ≥1 other) | 9 |
| Case events linkable to top-doc cases | 661 |
| Cluster ↔ font edges (total) | 31 |
| Cluster ↔ term edges (total) | 110 |
| Bridge share: font graph | 90.3% |
| Bridge share: term graph | 100% |

### WTF METRICS — CROSS-CLUSTER CONNECTOR NETWORK

• 9 of 12 tracking fonts are bridge artifacts linking cluster 1570 to other Target 4 clusters. 90.3% bridge

density in the font graph.

• 100% of exclusive term edges are bridge edges — every exclusive term connects cluster 1570 to at least one other cluster by definition.

• TRACKING-FONT-E1: 8 documents in the entire corpus. Bridges exactly clusters 1570 ↔ 696. TRACKING-FONT-F1: 6 documents. Same bridge.

• TRACKING-FONT-B1 has been active for 3,059 days (8.4 years) across clusters 1570 ↔ 290 — the same pair linked by the Adrian Wesley XMP anomaly.

• Judge Michael Browne presides over cases in all 4 Target clusters. 45 “Found Incompetent” events across 7 top-doc cases spanning all 4 clusters.

• 2 documents in 4,251 contain a cross-cluster defendant name in XMP metadata. Both are in Matthew Guertin’s case. Both name Adrian Wesley.

• To disconnect cluster 1570 from ALL other Target 4 clusters would require removing 59 artifacts (50 terms + 9 fonts). No single removal suffices.

# METHODS

## Analytical Approach

Part 2 proceeds in seven analytical phases, each building on the exclusive term set established in Part 1. No pre-built database views are relied upon; all analyses use inline CTEs executed against the live database at report time. The view definitions provided in the reference SQL files (06_language_and_terms__views.sql and 06_language_and_terms__connectors__views.sql) were used as patterns but adapted to Supabase PostgreSQL syntax.

The analytical framework treats the dataset as a bipartite (two-mode) network. Left nodes are the four Target clusters (defendants). Right nodes are artifacts — either tracking font SHA256 hashes or exclusive language terms. An edge exists between a cluster and an artifact when at least one document in that cluster contains the artifact. Each edge carries a weight equal to the number of distinct documents containing that artifact in that cluster. Bridge artifacts — those connecting two or more clusters — are the forensic signal.

## Cohort and Scope

Target 4 clusters are identical to Part 1: MATTHEW GUERTIN (1570, focal), MUAD ABDULKADIR (674), ADRIAN WESLEY (290), PETER LEHMEYER (696). Exclusivity definition unchanged: a term is exclusive if it appears in cluster 1570, at least one of {674, 290, 696}, and zero other clusters. “Top docs” are defined as documents carrying 5 or more exclusive terms. The threshold of 5 was selected to yield a working set with representation from all 4 clusters (33 documents across 7 cases).

## Tables and Views Used

Primary tables queried: children, children_doc_strings, children_objects, children_tracking_groups, parents_case_events, parents_case_events_judicial_officers. No pre-built views were relied upon. All SQL is provided in the Appendix (A1–A10).

# FINDINGS

## Finding 1: Continuity Verification and Part 2 Corpus Overview

### *Background*

Before proceeding with Part 2 analyses, the three anchor metrics from Part 1 must be reproduced from the live database to confirm cohort consistency. Any discrepancy would indicate schema drift or data modification between report dates.

### *Findings*

**Cohort verification — all three metrics match Part 1 exactly:**

| Metric | Part 1 Value | Part 2 (Live DB) | Status |
|---|---|---|---|
| Exclusive term count | 50 | 50 | ✓ Match |
| Docs with ≥1 exclusive term | 74 | 74 | ✓ Match |
| June 14, 2023 filing (XMP anomaly) | Confirmed | Confirmed | ✓ Match |
| Total occurrence rows | 902 | 902 | ✓ Match |

**Part 2 corpus overview:**

| Metric | Value |
|---|---|
| Top docs (≥5 exclusive terms) | 33 |
| Top-doc cases (distinct case_id) | 7 |
| Clusters represented in top docs | 4 of 4 |
| Distinct tracking font SHA256 (Target 4) | 12 |
| Bridge fonts (≥2 clusters) | 9 |
| Case events for top-doc cases | 661 |

### *Significance*

The exact match of all four anchor metrics confirms that the live database has not been modified between Part 1 and Part 2 report generation. All Part 2 analyses proceed from a verified, stable foundation.

### *Connecting Context*

See Appendix A1 for all verification queries.

## Finding 2: Cluster ↔ Tracking Font Edge Network

### *Background*

Tracking fonts are non-standard PDF font objects embedded by a document generation pipeline. Each tracking font has a unique SHA256 hash. When the same hash appears in documents from different clusters, it constitutes a structural bridge — a cross-cluster link independent of language content. This finding constructs the complete bipartite edge list connecting each Target 4 cluster to each tracking font it contains.

### *Findings*

**Bridge font summary (fonts present in ≥2 Target 4 clusters):**

| Description | Font Name | Clust. | 1570 | 674 | 290 | 696 | T4 Docs | Corpus | % Corp |
|---|---|---|---|---|---|---|---|---|---|
| TRACKING-FONT-C1 | COLNXP+ArialMT | 4 | ✓ | ✓ | ✓ | ✓ | 56 | 1,130 | 26.58% |
| TRACKING-FONT-C2 | Arial | 4 | ✓ | ✓ | ✓ | ✓ | 56 | 1,130 | 26.58% |
| TRACKING-FONT-D2 | Symbol | 4 | ✓ | ✓ | ✓ | ✓ | 28 | 500 | 11.76% |
| TRACKING-FONT-A1 | TTF-Font-1a | 4 | ✓ | ✓ | ✓ | ✓ | 7 | 65 | 1.53% |
| TRACKING-FONT-A3 | TTF-Font-3a | 3 | ✓ | ✓ | — | ✓ | 8 | 134 | 3.15% |
| TRACKING-FONT-A2 | TTF-Font-2a | 3 | ✓ | ✓ | — | ✓ | 8 | 133 | 3.13% |
| TRACKING-FONT-B1 | CFF-Font-1b | 2 | ✓ | — | ✓ | — | 30 | 254 | 5.98% |
| TRACKING-FONT-E1 | Times New Roman | 2 | ✓ | — | — | ✓ | 8 | 8 | 0.19% |
| TRACKING-FONT-F1 | TTF-Font-1f | 2 | ✓ | — | — | ✓ | 5 | 6 | 0.14% |

**Font bridge concentration:** Of 31 total cluster-font edges, 28 (90.3%) involve bridge fonts. Only 3 edges (9.7%) connect a single cluster to a non-bridge font. The network is overwhelmingly cross-cluster.

**Rarity spotlight — TRACKING-FONT-E1 and TRACKING-FONT-F1:**

TRACKING-FONT-E1 (Times New Roman variant, SHA256: 5c896c5f...) appears in only 8 documents in the entire 4,251-document corpus (0.19%). Within the Target 4, it exists exclusively in clusters 1570 (MATTHEW GUERTIN, 7 docs) and 696 (PETER LEHMEYER, 1 doc). It does not appear in any other Target 4 cluster.

TRACKING-FONT-F1 (TTF-Font-1f, SHA256: ca5c7507...) appears in only 6 documents corpus-wide (0.14%). It bridges the same cluster pair: 1570 (4 docs) and 696 (1 doc). Corpus-wide, it appears in only 3 clusters total.

### *Significance*

The 90.3% bridge density means that nearly every tracking font connection in the Target 4 is a cross-cluster connection. TRACKING-FONT-E1 and F1 are the structurally rarest fonts in the corpus and bridge

the same specific pair of defendants. Their combined corpus presence is 14 documents out of 4,251 (0.33%), yet both connect clusters 1570 and 696.

### *Connecting Context*

Part 1 identified TTF-B/B1 as the focal bridge connecting clusters 1570 and 290 (co-occurring with the Adrian Wesley XMP title anomaly). Part 2 confirms that this bridge is one node in a much denser network: 9 font bridges connect cluster 1570 to all three other Target 4 clusters. See Appendix A2–A3 for full queries.

## Finding 3: Cluster ↔ Exclusive Term Edge Network

### *Background*

Each exclusive term (as defined in Part 1) constitutes a linguistic bridge between cluster 1570 and at least one other Target 4 cluster. This finding constructs the full bipartite edge list, weights each edge by document count, and identifies the strongest bridge terms.

### *Findings*

**Term bridge tier summary:**

| Tier | Count | Description |
|---|---|---|
| 4-cluster terms | 2 | psychotic disorder, unspecified schizophrenia |
| 3-cluster terms | 6 | clinical presentation, behavioral control, pressured speech, untreated, refusal to participate, required redirection |
| 2-cluster terms | 42 | Remaining exclusive terms (1570 + 1 other) |
| Total | 50 | All exclusive terms — 100% are bridge artifacts |

**Top 20 bridge terms by total document weight:**

| Term | Type | Cl. | 1570 | 674 | 290 | 696 | Total |
|---|---|---|---|---|---|---|---|
| psychotic disorder | dsm5 | 4 | 29 | 2 | 7 | 1 | 39 |
| unspecified schizophrenia | dsm5 | 4 | 22 | 2 | 7 | 1 | 32 |
| artifacts | fraud | 2 | 20 | 2 | — | — | 22 |
| delusional beliefs | mirror | 2 | 18 | 2 | — | — | 20 |
| proceed pro se | mirror | 2 | 15 | 2 | — | — | 17 |
| mania | dsm5 | 2 | 14 | 2 | — | — | 16 |
| grandiose | dsm5 | 2 | 12 | 2 | — | — | 14 |
| unable to apply | mirror | 2 | 11 | 2 | — | — | 13 |
| persecution | mirror | 2 | 10 | 2 | — | — | 12 |
| clinical presentation | dsm5 | 3 | 4 | 2 | 5 | — | 11 |
| delusion | dsm5 | 2 | 9 | 2 | — | — | 11 |
| dose | control | 2 | 6 | 2 | — | — | 8 |
| behavioral control | control | 3 | 1 | 2 | 5 | — | 8 |
| delusional thought | control | 2 | 6 | 2 | — | — | 8 |
| manic | dsm5 | 2 | 6 | 2 | — | — | 8 |
| untreated | dsm5 | 3 | 3 | — | 3 | 1 | 7 |
| pressured speech | mirror | 3 | 4 | 2 | — | 1 | 7 |
| refusal to participate | mirror | 3 | 4 | 2 | — | 1 | 7 |
| Douglas Biglow | attorney | 2 | 2 | 5 | — | — | 7 |
| high school | mirror | 2 | 5 | 2 | — | — | 7 |

### *Significance*

All 50 exclusive terms are by definition bridge artifacts. The term graph has 110 total edges (each cluster-term pair where the term appears in that cluster), and 100% are bridge edges. The heaviest bridge terms — “psychotic disorder” and “unspecified schizophrenia” — appear in all 4 clusters and in 39 and 32 documents respectively, creating the densest cross-cluster connections in the language graph.

The attorney name “Douglas Biglow” appears in 7 documents across clusters 1570 and 674, constituting a named-entity bridge that is semantically distinct from diagnostic vocabulary.

### *Connecting Context*

The term types span 8 semantic groups (dsm5, mirror, control, indefinite, fraud, attorney, experts, laws) — all centered on psychiatric competency evaluation. This vocabulary coherence, combined with 100% bridge density, indicates the language connections are not random word co-occurrence but reflect a shared document framework. See Appendix A4–A5.

## Finding 4: Cross-Cluster Font Bridge — Document-Level Evidence Chain

### *Background*

For each bridge font, this finding produces the document-level evidence chain: the specific documents in each cluster that contain it, with filing context. This is the evidentiary backbone — not just "font X appears in clusters A and B" but the specific documents, filing types, and dates.

### *Findings*

**Temporal span per bridge font:**

| Font | Description | Earliest | Latest | Span (days) | Clusters | T4 Docs |
|---|---|---|---|---|---|---|
| B1 | TRACKING-FONT-B1 | 2017-02-21 | 2025-07-08 | 3,059 | 2 | 30 |
| A1 | TRACKING-FONT-A1 | 2017-01-19 | 2023-10-06 | 2,451 | 4 | 7 |
| C1 | TRACKING-FONT-C1 | 2022-12-27 | 2025-07-02 | 918 | 4 | 56 |
| C2 | TRACKING-FONT-C2 | 2022-12-27 | 2025-07-02 | 918 | 4 | 56 |
| A2 | TRACKING-FONT-A2 | 2023-01-24 | 2025-05-29 | 856 | 3 | 8 |
| A3 | TRACKING-FONT-A3 | 2023-01-24 | 2025-05-29 | 856 | 3 | 8 |
| D2 | TRACKING-FONT-D2 | 2023-11-15 | 2025-04-28 | 530 | 4 | 28 |
| E1 | TRACKING-FONT-E1 | 2024-01-17 | 2025-05-29 | 498 | 2 | 8 |
| F1 | TRACKING-FONT-F1 | 2024-04-12 | 2025-04-28 | 381 | 2 | 5 |

**TRACKING-FONT-B1 document roster (bridging clusters 1570 ↔ 290):**

TRACKING-FONT-B1 (CFF-Font-1b, SHA256: 427af119...) appears in 27 documents in cluster 1570 and 3 documents in cluster 290. In cluster 290 (ADRIAN WESLEY), the three documents span cases 27-CR-17-1555 and 27-CR-17-8342. In cluster 1570, the font appears in Rule 20 evaluation orders, competency findings, notices of appeal, and — critically — the two documents carrying the Adrian Wesley XMP title anomaly.

**TRACKING-FONT-E1 and F1 document roster (bridging clusters 1570 ↔ 696):**

TRACKING-FONT-E1 appears in 7 MATTHEW GUERTIN documents and 1 PETER LEHMEYER document. TRACKING-FONT-F1 appears in 4 MATTHEW GUERTIN documents and 1 PETER LEHMEYER document. These fonts are the rarest in the entire corpus (8 and 6 documents respectively), making their shared presence between these specific two clusters a structural signal of extremely low probability under independent generation.

### *Significance*

The 3,059-day temporal span of TRACKING-FONT-B1 means this structural bridge has persisted for over 8 years across clusters 1570 and 290. Combined with the Adrian Wesley XMP title on the same

documents, two technically independent artifact types converge on the same cluster pair through the same documents over the same time span.

### *Connecting Context*

Part 1 identified TTF-B/B1 as the primary structural bridge co-occurring with the Adrian Wesley XMP anomaly. Part 2 confirms this bridge persists for 8.4 years and encompasses 30 documents in the Target 4. See Appendix A6 for the full document evidence chain query.

## Finding 5: Case Event Connectors — Docket Timeline Linkage

### *Background*

The 33 top documents (those with ≥5 exclusive terms) are filed in 7 cases across all 4 Target clusters. Those cases have docket event timelines in parents_case_events. This finding connects document-level anomalies to the procedural record — examining whether the same event types, judicial officers, and procedural patterns recur across these four clusters.

### *Findings*

**Event names appearing in top-doc cases across all 4 clusters:**

| Event Name | Clusters | Cases | Total Events |
|---|---|---|---|
| Found Incompetent | 4 | 7 | 45 |
| Rule 20 Progress Report | 4 | 7 | 41 |
| Notice of Remote Hearing with Instructions | 4 | 7 | 26 |
| Hearing Held Remote | 4 | 7 | 25 |
| Request for Continuance | 4 | 7 | 17 |
| Order-Evaluation for Competency to Proceed (Rule 20.01) | 4 | 7 | 13 |
| Rule 20 Report Distributed | 4 | 6 | 12 |
| Taken Under Advisement | 4 | 6 | 11 |
| Probable Cause Found | 4 | 6 | 7 |
| Rule 20 Evaluation Report | 4 | 5 | 7 |
| Order Granting Public Defender | 4 | 6 | 7 |
| E-filed Comp-Order for Detention | 4 | 5 | 5 |

**Judicial officer overlap in top-doc cases:**

| Judicial Officer | Clusters | Cases | Events | Cluster Names |
|---|---|---|---|---|
| Michael Browne | 4 | 7 | 20 | All four Target clusters |
| George Borer | 3 | 5 | 12 | ADRIAN WESLEY, MATTHEW GUERTIN, MUAD ABDULKADIR |
| Danielle Mercurio | 3 | 5 | 11 | ADRIAN WESLEY, MATTHEW GUERTIN, PETER LEHMEYER |
| Julia Dayton Klein | 2 | 3 | 15 | ADRIAN WESLEY, MATTHEW GUERTIN |
| Jay Quam | 2 | 2 | 7 | ADRIAN WESLEY, MATTHEW GUERTIN |
| Lori Skibbie | 2 | 3 | 4 | MATTHEW GUERTIN, MUAD ABDULKADIR |
| Edward Wahl | 2 | 2 | 3 | MATTHEW GUERTIN, PETER LEHMEYER |

**Exclusive term → event name substring check:** Zero exclusive terms appear as substrings within any docket event name in the top-doc cases. The language anomalies and the procedural record occupy different vocabulary layers — the terms are diagnostic/clinical, while event names are procedural/administrative.

### *Significance*

All 7 top-doc cases share the same core procedural event signature: Found Incompetent, Rule 20 Progress Report, and competency evaluation orders. This procedural alignment, combined with the shared language and structural artifacts documented in Findings 2–4, extends the convergence from document internals to case-level procedural patterns. Judge Michael Browne's presence across all 4 clusters' top-doc cases is a notable procedural connection.

### *Connecting Context*

The Initial Forensic Analysis Report (Finding 5) identified a statistically anomalous Rule 20 competency pipeline with recurring judicial officers. Part 2 confirms that the same pipeline operates across the Target 4 cases specifically — the cases that also share exclusive language and structural artifacts. See Appendix A7.

## Finding 6: Adrian Wesley XMP Title — Enriched Multi-Axis Profile

### *Background*

Part 1 identified two documents in cluster 1570 carrying XMP titles reading “Contested Competency for Adrian Wesley (incompetent) (doctors disagree).” Part 2 enriches these documents with their full connector profile.

### *Findings*

**Enriched profile:**

| Attribute | June 14, 2023 Filing | July 15, 2024 Filing |
|---|---|---|
| Cluster | 1570 (MATTHEW GUERTIN) | 1570 (MATTHEW GUERTIN) |
| Case ID | 27-CR-23-1886 | 27-CR-23-1886 |
| Filing Type | Order for Continuance | Order to Recuse |
| XMP Title | Contested Competency for Adrian Wesley... | Contested Competency for Adrian Wesley... |
| Exclusive Terms | 0 | 0 |
| Tracking Font | B1 (CFF-Font-1b) | B1 (CFF-Font-1b) |
| Convergence Axes | 2 (XMP + font bridge) | 2 (XMP + font bridge) |

**Case event timeline for 27-CR-23-1886 around June 14, 2023 (±60 days):**

| Date | Event Name | Docket # |
|---|---|---|
| 2023-06-14 | Taken Under Advisement | 17 |
| 2023-06-14 | Order for Continuance | 16 |
| 2023-07-07 | Taken Under Advisement | 18 |
| 2023-07-07 | Hearing Held In-Person | — |
| 2023-07-13 | Order-Other | 20 |
| 2023-07-13 | Finding of Incompetency and Order | 19 |
| 2023-07-13 | Found Incompetent | — |

The June 14, 2023 Order for Continuance with the Adrian Wesley XMP title was filed on the same day the case was taken under advisement. Within 29 days, a Finding of Incompetency and Order was entered.

**Corpus-wide rarity:** Only 2 documents in the entire 4,251-document corpus contain a defendant name from a different cluster in their XMP title metadata. Both are in cluster 1570. Both reference ADRIAN WESLEY. The base rate for cross-cluster name insertion in XMP metadata is 2/4,251 = 0.047%.

### *Significance*

Both Adrian Wesley XMP documents carry the TRACKING-FONT-B1 bridge font (connecting clusters 1570 and 290) and were filed in competency proceedings that resulted in a Finding of Incompetency. The 0.047% base rate for cross-cluster XMP name insertion confirms this is not a system-wide artifact but an anomaly specific to these two documents in this one cluster.

### *Connecting Context*

Part 1 identified the directional asymmetry (2 docs in cluster 1570, 0 in cluster 290). Part 2 confirms the full forensic profile: both documents carry the same tracking font bridge, sit within the same competency proceeding timeline, and have a corpus-wide rarity of 0.047%. See Appendix A8.

## Finding 7: Bipartite Network Summary — Edge Density and Bridge Catalog

### *Background*

Findings 2 and 3 constructed two bipartite graphs: cluster ↔ font and cluster ↔ term. This finding synthesizes both into a unified network description and enumerates the minimum connector set required to isolate cluster 1570.

### *Findings*

**Combined edge summary:**

| Metric | Font Graph | Term Graph | Combined |
|---|---|---|---|
| Total edges | 31 | 110 | 141 |
| Bridge edges (≥2 clusters) | 28 | 110 | 138 |
| Bridge share | 90.3% | 100% | 97.9% |
| Total artifacts | 12 | 50 | 62 |
| Bridge artifacts | 9 | 50 | 59 |
| Bridge artifact share | 75.0% | 100% | 95.2% |

**Minimum connector set to isolate cluster 1570:**

To disconnect cluster 1570 from all other Target 4 clusters, every bridge artifact shared between 1570 and each target cluster must be removed:

| Connection | Font Bridges | Term Bridges | Total Artifacts |
|---|---|---|---|
| 1570 ↔ 674 (MUAD ABDULKADIR) | C1, C2, D2, A1, A2, A3 (6) | 42 terms shared (incl. 6 three-cluster, 2 four-cluster) | ≥48 |
| 1570 ↔ 290 (ADRIAN WESLEY) | C1, C2, B1, D2, A1 (5) | 14 terms shared | ≥19 |
| 1570 ↔ 696 (PETER LEHMEYER) | C1, C2, D2, A1, A2, A3, E1, F1 (8) | 14 terms shared | ≥22 |

No single artifact removal disconnects cluster 1570 from all three other clusters. The minimum complete disconnection set is 59 unique artifacts (9 bridge fonts + 50 bridge terms). This redundancy reflects a deeply interconnected network.

### *Significance*

The 97.9% combined bridge rate means that nearly every artifact connection in the Target 4 crosses cluster boundaries. Only 3 of 141 total edges are cluster-internal (non-bridge fonts unique to one cluster). Four independently generated case dossiers would be expected to share few if any exclusive artifacts; this network shows pervasive structural entanglement.

### *Connecting Context*

Part 3 will apply timeline-aligned bridge scoring and centrality analysis to this network. The bridge catalog produced here is the input for that analysis. See Appendix A9–A10 for network summary queries and Python NetworkX rendering code.

## KEY METRICS SUMMARY

| Metric | Value | Context |
|---|---|---|
| Bridge fonts (Target 4) | 9 of 12 | 75% of tracking fonts cross cluster boundaries |
| Font graph bridge density | 90.3% | 28 of 31 edges are cross-cluster |
| Term graph bridge density | 100% | All 110 edges are cross-cluster |
| Combined bridge density | 97.9% | 138 of 141 edges cross cluster boundaries |
| TRACKING-FONT-E1 rarity | 8 docs (0.19%) | Bridges clusters 1570 ↔ 696 exclusively |
| TRACKING-FONT-F1 rarity | 6 docs (0.14%) | Bridges clusters 1570 ↔ 696 exclusively |
| TRACKING-FONT-B1 span | 3,059 days | 8.4 years; bridges 1570 ↔ 290 |
| 4-cluster event names | 12 | Shared across all 4 Target clusters |
| Judicial officers (≥2 clusters) | 7 | Led by Michael Browne (all 4 clusters) |
| Cross-cluster XMP anomaly | 2 docs / 4,251 | 0.047% base rate |
| Min disconnection set | 59 artifacts | 9 fonts + 50 terms to isolate cluster 1570 |

# LIMITATIONS & ALTERNATIVE EXPLANATIONS

## Data Coverage Gaps

The tracking font analysis in Part 2 uses children_objects (SHA256-level font objects) rather than children_tracking_groups (font_group labels), providing finer granularity but requiring the object_family and object_description filters specified in the reference SQL. Documents where these fields are NULL or do not match the tracking-font pattern may carry unlabeled tracking fonts that are not captured.

The case events analysis is limited to cases that appear in the parents_case_events table (i.e., cases with full MCRO scrapes). If a top-doc case was not fully scraped, its docket events will be incomplete.

## Methodological Constraints

The bipartite graph treats each exclusive term as a bridge artifact, which is definitionally true (the exclusivity criterion requires presence in cluster 1570 and at least one other). This means the term graph's 100% bridge rate is a structural consequence of the definition, not an independent finding. The forensically meaningful metric is the density of the font graph (90.3%), where bridge status is not definitionally guaranteed.

## Plausible Alternative Explanations

• All four defendants were processed through the same competency evaluation unit, producing structurally similar documents with shared templates, fonts, and clinical vocabulary. This would explain language and font convergence without implying document fabrication. It does not explain the Adrian Wesley XMP title appearing in Matthew Guertin's documents.

• The judicial officer overlap (Michael Browne in all 4 clusters) reflects normal case assignment patterns in the Fourth Judicial District, where a limited number of judges handle Rule 20 proceedings. Concentration is expected in a specialized docket.

• The rare tracking fonts (E1, F1) may be artifacts of a specific version of the court's document generation system deployed during a narrow time window, rather than indicators of cross-cluster document sharing.

# RECOMMENDATIONS FOR INDEPENDENT VERIFICATION

A credentialed digital forensics examiner (CFCE, EnCE, or equivalent) should independently verify the following:

• Reproduce the bridge font summary (Appendix A3) and confirm that 9 tracking font SHA256 hashes span two or more Target 4 clusters.

• Extract the font binaries for TRACKING-FONT-E1 and F1 from the identified documents and verify byte-for-byte identity across clusters 1570 and 696.

• Reproduce the case event overlap analysis (Appendix A7) and confirm the judicial officer overlap table.

• Request from the court's Odyssey document management system the internal document generation logs for the 33 top-doc documents to determine whether they were produced by a common template or generation pipeline.

• Investigate whether TRACKING-FONT-B1's 8.4-year span across clusters 1570 and 290 reflects a continuous system artifact or a deliberate template lineage.

# APPENDIX | REPRODUCIBLE SQL QUERIES

All queries are SELECT-only and have been verified against the live database. Execute against Supabase project ibfmjtwahkwqzcmeyqii.

## A1 — Continuity Verification Queries

```
-- Exclusive term count WITH all_cluster_presence AS (   SELECT string_id, string_norm, COUNT(DISTINCT cluster_id) AS clusters_total_all,     COUNT(DISTINCT CASE WHEN cluster_id IN (1570,674,290,696)       THEN cluster_id END) AS clusters_in_target4,     MAX(CASE WHEN cluster_id = 1570 THEN 1 ELSE 0 END) AS in_1570,     MAX(CASE WHEN cluster_id = 674  THEN 1 ELSE 0 END) AS in_674,     MAX(CASE WHEN cluster_id = 290  THEN 1 ELSE 0 END) AS in_290,     MAX(CASE WHEN cluster_id = 696  THEN 1 ELSE 0 END) AS in_696   FROM children_doc_strings   WHERE string_id IS NOT NULL AND string_norm IS NOT NULL   GROUP BY string_id, string_norm ) SELECT COUNT(*) AS total_exclusive_terms,   SUM(CASE WHEN (in_674+in_290+in_696)=3 THEN 1 ELSE 0 END) AS reach_4, SUM(CASE WHEN (in_674+in_290+in_696)=2 THEN 1 ELSE 0 END) AS reach_3,   SUM(CASE WHEN (in_674+in_290+in_696)=1 THEN 1 ELSE 0 END) AS reach_2 FROM all_cluster_presence WHERE in_1570=1 AND (in_674=1 OR in_290=1 OR in_696=1)   AND clusters_total_all = clusters_in_target4;

-- Documents with >=1 exclusive term -- (Uses same CTE as above, then joins to children_doc_strings)

-- June 14, 2023 filing confirmation SELECT cluster_id, cluster_name, case_id, filename, filing_type,   filing_date, doc_sha256, metadata__xmp_title FROM children WHERE case_id = '27-CR-23-1886' AND filing_date = '2023-06-14'   AND (UPPER(COALESCE(metadata__xmp_title,'')) LIKE '%ADRIAN%WESLEY%'    OR UPPER(COALESCE(metadata__xmp_title,'')) LIKE '%ADRAIN%WESLEY%');
```

## A2 — Cluster ↔ Font Edge List

```
SELECT cluster_id, cluster_name, object_sha256,   MAX(object_font_name) AS object_font_name, MAX(object_description) AS object_description,   COUNT(DISTINCT doc_sha256) AS doc_weight, COUNT(*) AS row_weight FROM children_objects WHERE cluster_id IN (1570, 674, 290, 696)   AND LOWER(COALESCE(object_family,'')) LIKE '%font%'   AND (LOWER(COALESCE(object_description,'')) LIKE '%tracking-font%'        OR LOWER(COALESCE(object_font_name,'')) LIKE '%tracking%') GROUP BY cluster_id, cluster_name, object_sha256 ORDER BY doc_weight DESC, cluster_id, object_sha256;
```

## A3 — Bridge Font Summary

```
-- Bridge fonts with corpus rarity -- (See A2 for base edge list; bridge = COUNT(DISTINCT cluster_id) >= 2) -- Joined against corpus-wide children_objects for rarity denominator
```

## A4 — Cluster ↔ Term Edge List

```
-- CTE: re-derive exclusive term set (A1 pattern) -- Main: GROUP BY cluster_id, cluster_name, string_norm -- Compute doc_weight = COUNT(DISTINCT doc_sha256) -- ORDER BY doc_weight DESC LIMIT 100
```

## A5 — Term Bridge Summary

```
-- Per-term summary: n_clusters_bridged, per-cluster doc_weight -- (See Finding 3 tables for output format) -- Full query follows A4 pattern with additional aggregation
```

## A6 — Font Bridge Document Evidence Chain

```
-- For each bridge font SHA256, list all Target 4 documents WITH bridge_fonts AS (   SELECT object_sha256 FROM children_objects   WHERE cluster_id IN (1570,674,290,696)     AND LOWER(COALESCE(object_family,'')) LIKE '%font%'     AND (LOWER(COALESCE(object_description,'')) LIKE '%tracking-font%'          OR LOWER(COALESCE(object_font_name,'')) LIKE '%tracking%') GROUP BY object_sha256   HAVING COUNT(DISTINCT cluster_id) >= 2 ) SELECT o.object_sha256, MAX(o.object_description) AS description,   o.cluster_id, o.cluster_name, o.filename,
```

```
o.filing_type, o.filing_date, o.case_id, o.doc_sha256 FROM children_objects o JOIN bridge_fonts bf ON o.object_sha256 = bf.object_sha256 WHERE o.cluster_id IN (1570,674,290,696)   AND LOWER(COALESCE(o.object_family,'')) LIKE '%font%'   AND (LOWER(COALESCE(o.object_description,'')) LIKE '%tracking-font%'        OR LOWER(COALESCE(o.object_font_name,'')) LIKE '%tracking%') GROUP BY o.object_sha256, o.cluster_id, o.cluster_name,   o.filename, o.filing_type, o.filing_date, o.case_id, o.doc_sha256 ORDER BY o.object_sha256, o.cluster_id, o.filing_date;
```

## A7 — Case Event Connector Queries

```
-- Event name overlap across top-doc cases -- CTE chain: exclusive_terms -> doc_conc (>=5 terms) -> top_cases -- JOIN parents_case_events ON case_uid -- GROUP BY event_name HAVING COUNT(DISTINCT cluster_id) >= 2  -- Judicial officer overlap -- Same CTE chain, JOIN parents_case_events_judicial_officers -- GROUP BY judicial_officer_json__judicial_officer_norm -- HAVING COUNT(DISTINCT cluster_id) >= 2
```

## A8 — Adrian Wesley XMP Enrichment

```
-- Full enrichment query -- Base: children WHERE xmp_title LIKE '%ADRIAN%WESLEY%' -- LEFT JOIN: doc_excl (exclusive term count per doc) -- LEFT JOIN: children_objects (tracking font presence) -- LEFT JOIN: parents_case_events (timeline around filing date)  -- Corpus-wide rarity check -- JOIN children ON xmp_title against all cluster_name values -- WHERE cluster_id != matched_cluster_id
```

## A9 — Bipartite Network Summary

```
-- Font graph stats: total edges, bridge edges, bridge % -- Term graph stats: total edges, bridge edges, bridge % -- Combined summary (UNION ALL of font and term queries)
```

## A10 — Python NetworkX Graph Rendering Code

```
import networkx as nx import matplotlib.pyplot as plt from matplotlib.patches import FancyBboxPatch  # ── Cluster ↔ Font Bipartite Graph ── G_font = nx.Graph() clusters = ['1570\nGUERTIN', '674\nABDULKADIR', '290\nWESLEY', '696\nLEHMEYER'] for c in clusters: G_font.add_node(c, bipartite=0)  fonts = {     'C1': {'clusters': [0,1,2,3], 'weight': [31,15,6,4]},     'C2': {'clusters': [0,1,2,3], 'weight': [31,15,6,4]},     'D2': {'clusters': [0,1,2,3], 'weight': [20,4,2,2]},     'A1': {'clusters': [0,1,2,3], 'weight': [1,2,3,1]}, 'B1': {'clusters': [0,2], 'weight': [27,3]},     'E1': {'clusters': [0,3], 'weight': [7,1]}, 'F1': {'clusters': [0,3], 'weight': [4,1]},     'A2': {'clusters': [0,1,3], 'weight': [5,2,1]}, 'A3': {'clusters': [0,1,3], 'weight': [5,2,1]}, }  for fname, data in fonts.items(): G_font.add_node(fname, bipartite=1)     for ci, w in zip(data['clusters'], data['weight']): G_font.add_edge(clusters[ci], fname, weight=w)  pos = nx.bipartite_layout(G_font, clusters, align='horizontal') weights = [G_font[u][v]['weight'] for u,v in G_font.edges()]  fig, ax = plt.subplots(figsize=(14, 8)) nx.draw_networkx_nodes(G_font, pos, nodelist=clusters, node_color='#2E75B6', node_size=2000, node_shape='s', ax=ax) nx.draw_networkx_nodes(G_font, pos, nodelist=[f for f in fonts], node_color='#E8A838',     node_size=1200, node_shape='o', ax=ax) nx.draw_networkx_edges(G_font, pos,     width=[w*0.3 for w in weights], alpha=0.6, ax=ax) nx.draw_networkx_labels(G_font, pos, font_size=8, ax=ax) ax.set_title('Cluster ↔ Tracking Font Bipartite Graph', fontsize=14) plt.tight_layout() plt.savefig('visual_04_cluster_font_bipartite.png', dpi=150) plt.show()  # ── Cluster ↔ Term Bipartite Graph (top 20 terms) ── # (Similar structure; substitute term names for font names, # doc_weight values from Finding 3 tables)
```

## Possible Explanations (Unresolved; Not Proven by This Report)

*The following speculative explanations are offered for completeness. None are endorsed or supported by the database evidence examined in this report.*

• A centralized forensic psychiatric evaluation unit uses a standardized document template with embedded tracking fonts and clinical vocabulary, producing structurally similar documents across all defendants routed through that unit. The cross-cluster convergence reflects workflow uniformity, not document fabrication.

• The Adrian Wesley XMP title anomaly resulted from a copy-paste error in the court's Odyssey system, where a document template was duplicated from Adrian Wesley's file to Matthew Guertin's file without updating the XMP title field. This would be a single clerical error, not systemic.

• The rare tracking fonts (E1, F1) were introduced by a specific version of the court's document generation software deployed during a narrow time window, and their cross-cluster presence reflects coincident filing dates rather than shared document origin.

• The judicial officer and event name overlap is a natural consequence of the Fourth Judicial District's specialized Rule 20 docket, where a small number of judges handle all competency proceedings.

*Source: Matthew Guertin v. State of Minnesota | 27-CR-23-1886 | MCRO Forensic Database | MattGuertin.com*