

# OXXON AUDIT

## · TECHNICAL REPORT

5-Tier Equity Waterfall with MOIC and IRR Hurdles.xlsx · AUD-8f587171 ·  
Reviewed 2 August 2026 · CONFIDENTIAL

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Issued by **Oxxon Advisors**

1. Audit Result

| SCORE      | GRADE      |
|------------|------------|
| 76.1 / 100 | C Adequate |

The numeric score of 76.1 falls within the B band. Triggered Critical findings cap the final grade at C.

| CRITICAL | HIGH | MEDIUM | LOW |
|----------|------|--------|-----|
| 2        | 2    | 0      | 0   |

| FORMULAS ANALYSED | ISSUE GROUPS | REMEDIATE / CONFIRM | DISCLOSED EXCEPTIONS |
|-------------------|--------------|---------------------|----------------------|
| 3,365             | 4            | 2 / 2               | 0                    |

2. Provenance & Coverage

Provenance

Every fact in this Technical Annex is derived from the deterministic audit record and supporting Manifest evidence.

| FIELD                       | VALUE                                                            |
|-----------------------------|------------------------------------------------------------------|
| Source SHA-256 (full)       | 8f587171c615f8c887e757222ea38d5e0e72a25b2a984222c214f8a7cd9f0385 |
| Engine version              | 2.1.0                                                            |
| Manifest schema version     | 2.0                                                              |
| Scoring methodology version | SM-2.0                                                           |
| Template version            | AUDIT-4.0                                                        |
| Replay reference            | AUD-8f587171                                                     |

| RULE PACK                  | VERSION |
|----------------------------|---------|
| AUDIT Structural Rule Pack | 1.0.0   |

Resolution Coverage

Single-cell references: resolved into graph edges.

Range references (expansion into member cells): not resolved into graph edges.

Range references recorded: 1897.

Defined-name references: not resolved into graph edges.

Defined-name references recorded: 0.

Structured (table) references: not resolved into graph edges.

Structured references recorded: 0.

External workbook references: not resolved into graph edges.

External references recorded: 0.

Dynamic references (INDIRECT / OFFSET): not resolved into graph edges.

Dynamic references recorded: 0.

Formulas that could not be parsed: 0.

The findings in this report are scoped to what the disclosures above record as resolved; references recorded but not resolved are outside this report's scope of opinion.

3. Technical Findings Register

Occurrences, unique affected cells and compressed ranges are three distinct measures, never conflated: an occurrence is one detected instance; unique cells are the distinct cells affected once overlaps are removed. The full compressed-range breakdown for every group is in the detailed sections below.

| # | SEVERITY | FINDING                               | DECISION  | OCCURRENCES | CELLS | DOWNSTREAM REACH |
|---|----------|---------------------------------------|-----------|-------------|-------|------------------|
| 1 | CRITICAL | Assumptions Governance Cluster        | Confirm   | 40          | 16    | 1,463            |
| 2 | CRITICAL | Silent Row Exclusion from Aggregation | Confirm   | 122         | 122   | 17               |
| 3 | HIGH     | Hardcoded Date Constants              | Remediate | 1           | 1     | 1,707            |
| 4 | HIGH     | Reference Anchor Inconsistency        | Remediate | 1           | 1     | 12               |

4. Critical Findings: Detailed Evidence

Group 1: Assumptions Governance Cluster

assumptions\_governance · Control assumptions\_governance (AUDIT Structural Rule Pack v1.0.0) · Confirm · 40 occurrences · 16 unique cells · 6 ranges · 1 sheet · Structural reach 1,463 · Technical Annex, Group 1

⦿ Cause

Hardcoded cell feeds 12 direct dependent formula cell(s) and 196 transitive downstream cells across 1 sheet(s). Max dependency depth: 3. Criticality score: 0.79.

? Risk

Multiple hardcoding-related findings co-fired in this model. The shared root cause is the absence of a managed input layer: assumptions are entered as scattered hardcoded values — some with high fan-in, some repeated verbatim across rows, some overriding the row pattern — rather than being centralised in a single controlled assumption register. Any change to a key assumption must be located and updated in multiple places, with no in-model mechanism to detect omissions or verify consistency.

📝 Remediation

Establish a dedicated input sheet that holds all model assumptions as labelled, validated, and named-range-referenced values. Replace each flagged hardcoded constant with a reference to the corresponding assumption cell. For constants that represent intentional exceptions, add a comment or flag cell documenting the justification.

☑ Target state

Assumptions are centralised in a single controlled, named, validated input sheet; no scattered hardcoded values remain outside it.

Affected worksheets: Waterfall

Evidence

| LOCATION      | COUNTVALUE / FORMULA | EVIDENCE                                                  |
|---------------|----------------------|-----------------------------------------------------------|
| Waterfall!C6  | 1                    | Input Confidence: 17%                                     |
| Waterfall!D13 | 1=D12+5%             | Formula contains embedded rate/percentage literal(s): 5%. |
| Waterfall!C20 | 1100000.0            | Hardcoded value 100000.0 appears in 3 cells.              |

|                   |           |                                                                                                                 |
|-------------------|-----------|-----------------------------------------------------------------------------------------------------------------|
| Waterfall!C21:E21 | 3100000.0 | Hardcoded cell feeds 61 direct dependent formula cell(s) and 122 transitive downstream cells across 1 sheet(s). |
| Waterfall!C21:E21 | 3         | Worksheet classification: Calculation (confidence: 50%).                                                        |
| Waterfall!C21:E21 | 3         | Input Confidence: 30%                                                                                           |

6 representative rows of 28 compressed evidence rows shown below.

Complete unabridged evidence is available in the Manifest under Control assumptions\_governance (AUDIT Structural Rule Pack v1.0.0).

## Group 2: Silent Row Exclusion from Aggregation

**R023** • Control R023 (AUDIT Structural Rule Pack v1.0.0) • Confirm • 122 occurrences • 122 unique cells • 2 ranges • 1 sheet • Structural reach 17 • Technical Annex, Group 2

### 🕒 Cause

Cell D49 on sheet 'Waterfall' has a formula that is below the aggregation range referenced by 'Waterfall!D50' (D46:D48) but is not included in it. If this cell represents a line item in the total, it is silently excluded from the aggregation.

### ? Risk

A SUM formula's range stops just short of an adjacent formula cell that may represent a line item in the total. If the adjacent cell is a data row that was added after the aggregation was written, it is silently excluded from the total — the sum formula shows no error; and the omission cannot be detected by visual inspection of the output. In financial models, a single missed row can materially misstate revenue, cost, or cash flow.

### 📝 Remediation

Verify whether the flagged adjacent cell should be included in the aggregation. If so, extend the SUM range to include it. If not, add an inline comment confirming the exclusion is intentional. Consider using structured table references or dynamic named ranges to prevent future rows from being silently excluded when the model is extended.

### ☑ Target state

All formula rows within the data region will be confirmed as either included in the aggregation or explicitly excluded with documented justification.

**Affected worksheets:** Waterfall

### Evidence

| LOCATION           | COUNT VALUE / FORMULA | EVIDENCE                                                                                                                                           |
|--------------------|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Waterfall!D49:BL49 | 61=D38                | Cell D49 on sheet 'Waterfall' has a formula that is below the aggregation range referenced by 'Waterfall!D50' (D46:D48) but is not included in it. |

Waterfall!D93:BL93

61=-D103-D105-D106+D92

Cell D93 on sheet 'Waterfall' has a formula that is above the aggregation range referenced by 'Waterfall!D96' (D94:D95) but is not included in it.

Complete unabridged evidence is available in the Manifest under Control R023 (AUDIT Structural Rule Pack v1.0.0).

## 5. High Findings

### Group 3: Hardcoded Date Constants

**R008 · Control R008 (AUDIT Structural Rule Pack v1.0.0) · Remediate · 1 occurrence · 1 unique cell · 1 range · 1 sheet · Structural reach 1,707 · Technical Annex, Group 3**

**Cause:** Cell contains a hardcoded date constant. Dates that should flex with the deal timeline must not be typed directly into the formula chain.

**Risk:** A hardcoded date constant cannot flex with deal timeline changes. In financial models, frozen close dates, lease expiries, or valuation dates directly corrupt hold-period IRR and cash flow timing.

**Remediation:** Replace with a named input cell in the assumptions tab and reference it throughout the model so a single date change propagates consistently.

**Affected worksheets:** Waterfall

| LOCATION     | COUNTVALUE / FORMULA | EVIDENCE                                 |
|--------------|----------------------|------------------------------------------|
| Waterfall!C1 | 1                    | Cell contains a hardcoded date constant. |

Complete unabridged evidence is available in the Manifest under Control R008 (AUDIT Structural Rule Pack v1.0.0).

#### Group 4: Reference Anchor Inconsistency

R020 • Control R020 (AUDIT Structural Rule Pack v1.0.0) • Remediate • 1 occurrence • 1 unique cell • 1 range • 1 sheet • Structural reach 12 • Technical Annex, Group 4

**Cause:** Reference to C68 uses anchor class 'col\_abs' but the dominant class in this row is 'full\_abs'. Inconsistent anchoring can cause silent calculation errors when formulas are copied or rows are inserted.

**Risk:** Within a structurally consistent row of formulas, one or more cells reference the same cell using a different anchor class (absolute vs. relative) than the rest of the row. Inconsistent anchoring is a common copy-paste error; the deviant formula will produce a different result from its peers when rows or columns are inserted or when the formula is copied further.

**Remediation:** Review the anchor class of the flagged reference and align it with the dominant class used across the row. Use \$COL\$ROW for fixed references to assumption cells and unanchored references (COL ROW) for references that should shift with the projection period.

**Affected worksheets:** Waterfall

| LOCATION      | COUNTVALUE / FORMULA  | EVIDENCE                                                                                       |
|---------------|-----------------------|------------------------------------------------------------------------------------------------|
| Waterfall!D68 | 1=D63/(1-\$C68)*\$C68 | Reference to C68 uses anchor class 'col_abs' but the dominant class in this row is 'full_abs'. |

Complete unabridged evidence is available in the Manifest under Control R020 (AUDIT Structural Rule Pack v1.0.0).

## 6. Medium & Low Findings

### Medium

✓ No Medium-severity issue groups triggered.

### Low

✓ No Low-severity issue groups triggered.

Complete evidence for every Medium and Low finding remains available in the Manifest.



7. Structural Risk & Model Intelligence

A. Structural Risk Profile

|                                                                                                                        |                                                                                                                                               |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Input Integrity</b><br>Can I trust what goes into this model.<br><b>High:</b> 1 group · reach 1,707                 | <b>Calculation Reliability</b><br>Will the maths hold under change.<br><b>Critical:</b> 1 group · reach 17<br><b>High:</b> 1 group · reach 12 |
| <b>Concentration Risk</b><br>Where are the chokepoints that move the answer.<br><b>Critical:</b> 1 group · reach 1,463 | <b>External Exposure</b><br>What does this model depend on that I do not control.<br>✓ No structural issues in this domain.                   |
| <b>Reproducibility</b><br>Will the same file give the same answer twice.<br>✓ No structural issues in this domain.     | <b>Structural Complexity</b><br>How hard is this to review, how fragile is it.<br>✓ No structural issues in this domain.                      |

Structural risk is concentrated in Concentration Risk at CRITICAL severity (1 group, reach 1,463). This is the primary area requiring management attention.

Density and reach describe structural exposure -- how far an issue's effect can propagate through the model -- not financial materiality, which this audit does not assess.

B. Dependency Concentration

5 cells on Waterfall act as concentration points, each influencing a large share of downstream calculations. These represent the model's highest-leverage cells -- any error in them propagates widely. Formal review of their inputs and logic is warranted.

| CELL          | RELATIVE REACH | DOWNSTREAM REACH |
|---------------|----------------|------------------|
| Waterfall!C1  | <div></div>    | 1,707            |
| Waterfall!D26 | <div></div>    | 1,706            |
| Waterfall!E26 | <div></div>    | 1,678            |
| Waterfall!C11 | <div></div>    | 1,654            |
| Waterfall!F26 | <div></div>    | 1,650            |

Affected sheets: Waterfall. Reach range: 1,650 to 1,707 downstream calculations.

C. Model Structural Profile

|                                                                |
|----------------------------------------------------------------|
| <b>! Calculation depth:</b> 259 stages (exceptional band)      |
| ✓ <b>Circularity:</b> No circular dependency regions detected. |

✓ **External dependencies:** No external dependencies detected.

✓ **Volatile functions:** No volatile function usage detected.

## 8. Controls Catalogue

The following 26 controls, registered as rule pack AUDIT Structural Rule Pack version 1.0.0, were executed against this workbook.

| CONTROL TITLE |                                          | SEVERITY BASIS WEIGHT |      |
|---------------|------------------------------------------|-----------------------|------|
| R001          | Hardcoded Values in Calculated Rows      | Critical              | 15.0 |
| R002          | Broken External Data Links               | Critical              | 10.0 |
| R003          | Circular Calculation Dependencies        | High                  | 7.0  |
| R004          | Formula Inconsistency in Projection Rows | Critical              | 15.0 |
| R005          | Non-Reproducible Function Usage          | High                  | 8.0  |
| R006          | Propagated Formula Errors                | Critical              | 9.0  |
| R007          | Stale Values at Delivery Risk            | High                  | 8.5  |
| R008          | Hardcoded Date Constants                 | High                  | 7.5  |
| R009          | Unverifiable External Data Sources       | High                  | 7.5  |
| R010          | High-Reach Hardcoded Constant            | High                  | 7.0  |
| R011          | Cross-Period Formula Deviation           | High                  | 7.0  |
| R012          | Rate Assumptions Embedded in Formulas    | High                  | 8.5  |
| R013          | Suppressed Error Detection               | High                  | 8.0  |
| R014          | Unauditable Formula Complexity           | High                  | 7.5  |
| R015          | Explicit Aggregation Review              | Low                   | 2.0  |
| R016          | No Centralised Assumptions Register      | Medium                | 6.5  |
| R017          | Excessive External File Dependencies     | Medium                | 6.5  |
| R018          | Excessive Hardcoding by Sheet            | Medium                | 6.0  |
| R019          | Repeated Assumption Hardcoding           | High                  | 8.0  |
| R020          | Reference Anchor Inconsistency           | High                  | 8.5  |
| R021          | Hidden Sheet Dependency                  | High                  | 7.0  |
| R022          | Merged Cells in Calculation Area         | High                  | 7.0  |

|      |                                        |          |      |
|------|----------------------------------------|----------|------|
| R023 | Silent Row Exclusion from Aggregation  | Critical | 10.0 |
| R024 | Unreferenced Assumption in Input Sheet | Medium   | 6.5  |
| R025 | Stale or Broken Named Range Definition | Medium   | 7.5  |
| R026 | Unguarded Numeric Input Cell           | Medium   | 6.0  |

Calculation-depth review-effort bands (governed constants, disclosed for transparency):

| DEPTH RANGE   | REVIEW-EFFORT BAND |
|---------------|--------------------|
| 1–49 stages   | Moderate           |
| 50–149 stages | High               |
| 150–∞ stages  | Exceptional        |

## 9. Methodology, Evidence & Reliance

### Scoring Methodology

Scoring methodology SM-2.0: score =  $100 - (\text{sum of triggered control weights} \div 207.0) \times 100$ , floored at 0 and capped at 100. A triggered Critical-severity control caps the grade at C regardless of the numeric score.

| GRADE | SCORE RANGE | LABEL     |
|-------|-------------|-----------|
| A     | 90 – 100    | Excellent |
| B     | 75 – 89     | Good      |
| C     | 60 – 74     | Adequate  |
| D     | 40 – 59     | Poor      |
| F     | 0 – 39      | High Risk |

### Workbook Statistics

| STATISTIC        | VALUE     |
|------------------|-----------|
| Worksheets       | 2         |
| Formula cells    | 3365      |
| Named ranges     | 0         |
| External links   | 0         |
| Calculation mode | automatic |

### Manifest & Evidence Relationship

Every fact in this Technical Annex is derived from the deterministic audit record and supporting Manifest evidence.

### **Reliance**

This report presents the results of a deterministic structural audit of the identified workbook. It is not an opinion on the reasonableness of any commercial assumption, forecast, projection, or valuation conclusion contained in the workbook.

This report may be relied upon only in respect of the exact file identified by the source hash in this report, and only for the structural controls disclosed in the Coverage section and Appendix B.

References recorded but not resolved into the dependency graph, as disclosed in the Coverage section, are outside this report's scope of opinion and are not covered by any statement in this report.

## **10. Conclusion**

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All 26 controls (rule pack AUDIT Structural Rule Pack version 1.0.0) were executed against this workbook: 3,365 formulas analysed, 0 disclosed exceptions (Section 2). Overall result: 76.1/100, grade C (Adequate).

2 findings require remediation and 2 require confirmation only, with full evidence in Sections 4 and 5 for Critical and High findings; every Medium and Low finding is registered in Section 3 and detailed in Section 6.

Every fact in this Technical Annex is derived from the deterministic audit record and supporting Manifest evidence.

Complete the identified remediation and confirmation actions before consequential reliance on this workbook, then re-run OXXON AUDIT to confirm resolution.