ASPERN

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INDEPENDENT ON-CHAIN DUE-DILIGENCE REPORT · SAMPLE

The vault this report is about

1337 USDC

ASPERN vault id: ethereum-1337-usdc-94643e

on Morpho · Ethereum · operator not identified

vault contract `0x94643e86aa5e38ddac6c7791c1297f4e40cd96c1`

Deployed 25 October 2025; our own record of it begins 11 August 2026.

AN ON-CHAIN EVIDENCE REPORT: NOT A SECURITY, CREDIT OR LEGAL AUDIT, AND NOT A RECOMMENDATION.

Verify this report: aspern.org/verify/3198ebbc0060 (document id 3198ebbc0060; the digest is of the readings, not of this PDF file)

Generated 9 November 2026, 12:36 UTC. Freshness: oldest model input the depositor list behind concentration, 24 min before issue; control checked 26 min before (within the 26 h target).

HIGHEST FINDING	WEIGHTED MODEL SCORE	SCORE INPUTS USABLE
MATERIAL RISK PRESENT	CONDITIONAL ON HOW AN ANOMALOUS INPUT IS HANDLED	NOT EVERY RISK ASSESSED
Severe	**High**	**4 of 5**
liquidity; the weighted result does not override this finding	risk score 55 of 100, higher is riskier; high is 45 to 69. On the inputs read; what was not read could put it at 38 to 69 (moderate to high); bounds with what was not read at its best and worst	model inputs available (70% of their weight), not of the vault's risks; overall risk coverage: incomplete. Some control roles: not established

NOT ASSESSED	some control roles: not established. The score's input share does not cover these.
MOST IMPORTANT RISKS	liquidity, severe; depositor concentration, severe; 100% of allocations in one market (sdeUSD/USDC)
WITHDRAWAL EVIDENCE	venue reports $0 withdrawable at 9 Nov 2026, 12:28 UTC; simulated at issue for one holder, block 26377375, 12:36 UTC the same day: nothing tested passed; the smallest tested, $1, failed and amounts below it were not tested
ACCOUNTING ANOMALY	booked, not shown to be recoverable; no repayment indexed 2 Dec 2025 to 9 Nov 2026

ACCOUNTING ANOMALY
Share-price growth appears consistent with interest accrued at the rate ceiling, and the venue's transaction index shows no repayment from 2 December 2025 through 9 November 2026, when it was asked (its completeness was not verified). Recovery of the booked amount has not been established, so the capital figure is what the vault has booked, not what has been shown to be recoverable.

LIQUIDITY	Model input: uninvested cash, 0.0% of capital (venue separately: 0.0% withdrawable), giving 1.00. The simulation is a separate measure.
LARGEST HOLDER	One address holds approximately 100% of the deposits (list checked 9 November 2026); its exit could take much of what can be withdrawn. An address is not necessarily one owner.
LARGEST MARKET	100% of what is allocated sits in the sdeUSD / USDC market; this says where the vault lends, not how good the collateral is. A vault can allocate nearly all its capital to one market while the shared exposure score stays low, because that score counts how much of the market other vaults we track also hold, and few may share it
CONTROL	owner signing risk high; the curator's role read, its powers not each read, the guardian read, 1 of 1 allocator the venue lists confirmed by the vault's contract (a single key), other roles not checked
UNATTRIBUTED CAPITAL	not established: the markets we read exceed the capital by $67,145, read at different moments, so the difference is not reconciled
KEY UNKNOWNS	other roles not checked; the vault's maximum withdrawal not established; exit routes other than a direct withdrawal by one holder not tested; who controls the largest holder (100.0% of the vault, a single key, 0x308ae32327f70cd43ee3dbcea09ac72a4c6c4925) not established; who controls each role address, beyond its kind, not established
SINCE LAST REPORT	no compared figure changed materially since the issued report of 2026-11-09
WOULD CHANGE IT	a withdrawal of $1 or more that succeeds, in a later simulation at a new block or as settled withdrawals on chain; the amount borrowed in the markets holding the vault’s capital falling, so that free liquidity reappears in them; a repayment, liquidation or recovery event on those markets, recorded on chain

CAPITAL HELD, AT BOOK VALUE

$513.9M

recovery not established · exactly $513,869,296 · Ethereum · read 9 November 2026, 12:16 UTC

WITHDRAWABLE, AS THE VENUE REPORTS

$0

read 9 November 2026, 12:28 UTC · 0.0% of capital, approximate (readings 12 min apart)

REPORT SECTIONS POPULATED

5 of 8

3 partly · 0 empty

WITHDRAWAL EVIDENCE

Bottom line: Book value is not established as recoverable. Every withdrawal size tested failed at the simulated block (26377375); this does not show what a later block would allow.

Venue-reported liquidity: $0, read 9 November 2026, 12:28 UTC. The venue's figure; not a withdrawal tried.

Ordinary withdrawal, simulated at block 26377375: 9 November 2026, 12:36 UTC, as the largest depositor (position $513,868,346): nothing tried passed; the smallest tested, $1, failed, and amounts below it were not tested. Downward search at the same block: 4 halving steps from $10,000 ended at $625; every step failed. Smaller amounts tried directly at the same block: $100 and $1; all failed. Amounts below $1 were not tested. Note: the simulation is 8 min newer than the venue's figure, so the two describe different states and are not compared amount for amount. Run when this report was issued.

Populated counts what this report could fill, not how complete a due diligence is. Partly: what depositors kept (1 not established); where the deployed capital rests (1 not established); what we could not read (4 not established).

What materially limits this vault today

WEIGHTED MODEL RESULT

high

2 severe findings: the overall result is an average and does not override them

conditional: 70% of the weight assessed

LIQUIDITY

severe

the band weighs this with the rest

DEPOSITOR CONCENTRATION

severe

the band weighs this with the rest

- the owner is a single externally-owned account, not a multisig.

What materially limits this vault today, continued

- Market allocation concentration: the largest market, sdeUSD / USDC, takes 100% of what is supplied, about 100% of the vault. This is where the vault lends; the depositor concentration dimension measures the largest depositor instead.
- At the last reading, 9 November 2026, 12:28 UTC, the venue reported no immediately withdrawable liquidity: $0 is a figure the venue returned, not a missing one, and every market this vault supplies read as fully borrowed at the same time. This is a point-in-time observation and may change.

This is an account of what we can and cannot establish about 1337 USDC. It contains model-based risk bands; they are not a credit rating, a probability of loss or an investment recommendation. Every section carries at least one reading.

A SAMPLE, fixed as it was read at 9 November 2026, 12:36 UTC. A report for a vault you choose is read fresh at the moment you ask for it. Nothing here is redacted: this is the whole document.

Capital and deployment

Held	$513,869,296
Estimated share lent	$513,869,296
Supplied, not borrowed	$0
Unattributed	not established
Unreconciled excess	$67,145, the readings over the capital, read at different moments

Each bar is a share of what the vault holds, and the three below Held add to it. The last is not verified: it may be cash or lent somewhere we do not read, so it is counted neither as lent nor as unlent. Lent and Supplied, not borrowed are allocated pro rata from market-level data, because each market pools many suppliers; they are not a direct observation of loans attributable to this vault. The markets we read hold $67,145 (0.01% of the vault) more than the vault's own capital reading, read at another time; the amount counted in markets is capped at that reading, so Lent and Supplied, not borrowed are estimates adjusted by that amount, and the $67,145 stays unreconciled.

Withdrawable at the last reading, the venue's own figure: $0, read 9 November 2026, 12:28 UTC. A separate measure, not one of the bars above.

Supplied, not borrowed	$0	Supplied to markets we read and not borrowed now; it can count toward what could leave, under each market's own rules.
Unattributed capital	not established	The markets read exceed the capital by $67,145, read at different moments; not reconciled, and not a verified zero.
Withdrawable (venue)	$0	The venue's own figure, read 9 November 2026, 12:28 UTC. It overlaps the two rows above: do not add it to them.

How the figures above reconcile

ITEM	VALUE	READ AT	HOW
A Capital held	$513,869,296	9 Nov, 12:16 UTC	On chain: the vault's own total assets
B Supplied to the markets we read	$513,936,441	9 Nov, 12:28 UTC	Venue-reported: sum of this vault's positions in each market
C In no market we read	not established	computed	A less B is negative ($67,145): B was read later, so C is not established; no amount is taken from it below
D Supplied and not borrowed, estimated	$0	computed	Estimated: pro-rata share of each market's unborrowed money, from B
E The vault's own not-lent figure	$0	9 Nov, 12:28 UTC	Venue-reported
G Withdrawable, the venue's figure	$0	9 Nov, 12:28 UTC	Venue-reported: a separate reading; not a step of A

Unattributed capital: not established. The markets read exceed the capital by $67,145, read at different moments, so the account is not reconciled to the dollar.

The separate readings below differ by $67,145. Read at one block (9 November 2026, 08:44 UTC), before both of them, the vault's total and its positions agree: that confirms they agree at that moment, and leaves time between the separate readings as a possible explanation of their difference, not an established one.

Capital, $513,869,296: the vault's own figure for its total assets, read 9 November 2026, 12:16 UTC.

In the markets we read, $513,936,441: this vault's supply position in each market, as the venue reports it, read 9 November 2026, 12:28 UTC.

The markets hold more than the vault's own figure, so lent is counted up to what the vault holds and the excess is not counted as capital.

Read as: the readings are 12 minutes apart, and at the rate this vault's own share price implies over its last month, 800% a year, its assets grow by about $7,818 a minute, $86,825 over that interval. That is consistent with the gap being timing, and does not establish it: the reading at one block below shows agreement at one moment, not the cause of this gap. The rate is taken from the share-price series this report marks as an unresolved data anomaly, so this estimate carries the same doubt.

Reconciled at one block: at block 26,376,219 (9 November 2026, 08:44 UTC), the vault's total assets were $512,216,800; its positions in the markets of its withdraw queue, with interest accrued to that block as the vault accrues it, $512,216,800, of which $512,216,800 lent; difference $0. At that moment the two agree. Its largest market had gone 10.9 days without an update, so that market's stored totals lagged the interest the vault already counts; a reading of the stored totals would differ from the vault's own figure by that interest.

Value held, and the shaded part is how far it sat below its own running peak. Drawn over the whole record we hold: value held from 17 August 2026 and share price from 13 February 2026, both to 9 November 2026. A paid report carries the maximum we have rather than a window. The liquidity readings behind resilience are a separate daily series, of which we hold 25 days.

What depositors kept

Raw share-price reading, not a holder's return, because the rate it implies is past what a depositor could plan around (over 300% a year, or a loss of everything). Data anomaly: growth matches interest booked at the rate ceiling, and the venue's transaction index shows no repayment from 2 December 2025 through 9 November 2026, when it was asked (its completeness was not verified); whether the booked amount can be recovered is not established. The record opens at this vault's first reading, 6.4379, which is why the line climbs off the floor.

Over 269 days, from 6.437879 on 13 February 2026 to 2,150.285813 on 9 November 2026, the share price moved 33,301% in total. It is not read as a return, because the rate it implies is past what a depositor could plan around (over 300% a year, or a loss of everything). What the series itself shows is below.

Data anomaly: growth matches interest booked at the rate ceiling, and the venue's transaction index shows no repayment from 2 December 2025 through 9 November 2026, when it was asked (its completeness was not verified); whether the booked amount can be recovered is not established.

Observed:

– the first and last readings used are 6.437879 on 13 February 2026 and 2,150.285813 on 9 November 2026, each the value of one share in the vault's asset as the vault converts it;
– over each of 7 stretches of about a month the rate the series implies is between 766% and 799% a year, continuously compounded, and no interval between two readings departs from that rate by more than 0.3% of the whole move;
– the market this vault lends into was read from the chain at 12 blocks about thirty days apart, from 14 December 2025 to 9 November 2026: at every one, borrowed was at least 99.9% of supplied, and the rate model's rate at target was at its ceiling of 200% a year at every one;
– supplied grew from 11,905,657 USDC to 14,596,084,056 USDC, and borrowed from 11,905,657 USDC to 14,596,084,056 USDC;
– the two rates are different quantities: the rate at target is the model's reference rate, 200% a year at its ceiling;
– at full utilisation the adaptive curve charges borrowers 4 times that, 800% a year, which is the rate the share price can grow at;

What depositors kept (continued)

– the market is 0x0f9563442d64ab3bd3bcb27058db0b0d4046a4c46f0acd811dacae9551d2b129 on ethereum, read at its own blocks (24009946, 24224901, 24439800, 24654824, 24869952, 25085319, 25300488, 25515642, 25730859, 25946088, 26161134, 26376432);
– the figures above are the WHOLE market's, not this vault's: this vault supplies about $513,936,441 of it, 2.8% of its supply now ($513,936,441 over the venue's current figure for the whole market, $18.57B, both from the latest reading, not the last ledger block above), and its own book value is about $513,869,296;
– that is its accounting claim on the market, which is not shown to be recoverable;
– by the venue's transaction index (api.morpho.org marketTransactions, asked at 9 November 2026, 09:28 UTC; its coverage of blocks is the venue's and was not checked by us), the last borrow on 2 December 2025 (https://etherscan.io/tx/0x628a6bbad64f50f7230981235834c05752be3679723012bb862614b74e171858), the last repayment on 2 December 2025 (https://etherscan.io/tx/0x8f66ec12b2fa4966c2dbc826a8ef561cdc2ab4cf72a3f7f283e2b552f78f2d0b) and the last liquidation on 26 November 2025 (https://etherscan.io/tx/0x9604f11476f0ab40f543b06f97c3097301c4f325fbc04e1ab189bc2ac90865db);
– since 2 December 2025, 800,229 USDC was supplied and 800,230 USDC withdrawn;
– the venue reported nothing withdrawable at the last reading.

Interpretation: a steady curve is consistent with accrual; a change of unit or a one-off donation would more likely show as a single step, and none is seen at this sampling; the growth matches interest the rate model charges at its maximum on a debt on which the venue's transaction index shows no repayment and no liquidation from 2 December 2025 through 9 November 2026, when it was asked. Of what is borrowed now, 14,596,084,056 USDC, about 14,584,178,399 USDC was added by interest over the readings above; it is booked as owed to depositors. We have not established whether any of it can be recovered.

Not verified: the decimals of the share and the asset at each reading; transfers of the asset straight into the vault; who the borrowers are, what their collateral is worth against what they owe, and why none has been liquidated.

Effect on score: the model's worst fall suffered is read from this same series, so it is withheld from the score as an anomalous input rather than counted; counted, it would put the overall score at 38 (moderate) instead of 55 (high). The overall band therefore depends on how this series is resolved.

Fees, as read 9 November 2026, 11:31 UTC from contract:fee(): performance 0%, management not read. The fee is taken from what depositors earn, so the figures above are after it where the share price is the source. Who can change it, and with what delay, is under who can act on it.

- Could not establish: how the fees have changed over time: we read the current fees, not their history.

How you get out

The contract imposes no notice period and no request step: a redeem that succeeds settles in the transaction that asks for it, and it succeeds only if the vault holds enough to pay at that moment, which is the liquidity reading and a separate question. There is no queue and no lock-up in the contract.

2 withdrawals settled in the last 30 days, totalling $73, and the largest single exit we have ever recorded here is $584,631. At its last reading the venue's figure for what could be taken out was $0; that is an amount at one instant, while the figures beside it are totals over a period, so one is not a share of the other. All time, since 2025-10-29, 29 withdrawals totalling $1,033,999. This is evidence about what has already been possible, never a promise about today.

Simulated withdrawal: Simulated at block 26377375 (9 November 2026, 12:36 UTC), by eth_call, which runs the vault's own withdraw and sends nothing, on behalf of its largest depositor, whose position was worth $513,868,346: none of the sizes tried would have gone through; $1,000,000 ($1M), $51,386,930 (a tenth of the vault), $513,354,477 (the holder's position, less 0.1% for rounding), $10,000 ($10,000), $100,000 ($100,000), $5,138,693 (1% of the vault), $25,693,465 (5% of the vault), $100 (a small amount, $100), $1 (a small amount, $1) would have reverted (NotEnoughLiquidity: the markets it would pull from lack the free money). Downward search at the same block: 4 halving steps from $10,000 ended at $625; every step failed. Smaller amounts tried directly at the same block: $100 and $1; all failed. Amounts below $1 were not tested. One holder at one block, before anybody else takes the same liquidity, and only up to what that holder owns; it says nothing about a later block.

We hold 25 days of readings for this vault and publish nothing about resilience below 30. A worst day out of 25 reads as though it were the worst of a quarter, and it is not. 5 more days of collection and this answers by itself.

Withdrawals simulated at block 26377375, 9 November 2026, 12:36 UTC
Open block 26377375 on the explorer

SCENARIO REQUESTED	AMOUNT TESTED	RESULT	WHY THE TWO DIFFER
$1M	**$1,000,000**	**Reverted**	—
Reason: NotEnoughLiquidity: the markets it would pull from lack the free money			
a tenth of the vault	**$51,386,930**	**Reverted**	—
Reason: NotEnoughLiquidity: the markets it would pull from lack the free money			

Withdrawals simulated at block 26377375, 9 November 2026, 12:36 UTC (continued)

SCENARIO REQUESTED	AMOUNT TESTED	RESULT	WHY THE TWO DIFFER
the holder's whole position	**$513,354,477**	**Reverted**	less 0.1% for rounding
Reason: NotEnoughLiquidity: the markets it would pull from lack the free money			
$10,000	**$10,000**	**Reverted**	—
Reason: NotEnoughLiquidity: the markets it would pull from lack the free money			
$100,000	**$100,000**	**Reverted**	—
Reason: NotEnoughLiquidity: the markets it would pull from lack the free money			
1% of the vault	**$5,138,693**	**Reverted**	—
Reason: NotEnoughLiquidity: the markets it would pull from lack the free money			
5% of the vault	**$25,693,465**	**Reverted**	—
Reason: NotEnoughLiquidity: the markets it would pull from lack the free money			
a small amount, $100	**$100**	**Reverted**	—
Reason: NotEnoughLiquidity: the markets it would pull from lack the free money			
a small amount, $1	**$1**	**Reverted**	—
Reason: NotEnoughLiquidity: the markets it would pull from lack the free money			
downward search, 4 steps halving from $10,000	**$625**	**Reverted**	the last halving step; smaller amounts were tried directly (rows above), the smallest $1
Reason: every step failed			

To repeat: on ethereum, eth_call the vault 0x94643e86aa5e38ddac6c7791c1297f4e40cd96c1 with withdraw(assets, receiver, owner), receiver and owner both 0x308ae32327f70cd43ee3dbcea09ac72a4c6c4925, sent from 0x308ae32327f70cd43ee3dbcea09ac72a4c6c4925, at block 26377375; assets is each amount in USDC at its smallest unit. Amounts tried: $1,000,000 (reverted: NotEnoughLiquidity: the markets it would pull from lack the free money); $51,386,930 (reverted: NotEnoughLiquidity: the markets it would pull from lack the free money); $513,354,477 (reverted: NotEnoughLiquidity: the markets it would pull from lack the free money); $10,000 (reverted: NotEnoughLiquidity: the markets it would pull from lack the free money); $100,000 (reverted: NotEnoughLiquidity: the markets it would pull from lack the free money); $5,138,693 (reverted: NotEnoughLiquidity: the markets it would pull from lack the free money); $25,693,465 (reverted: NotEnoughLiquidity: the markets it would pull from lack the free money); $100 (reverted: NotEnoughLiquidity: the markets it would pull from lack the free money); $1 (reverted: NotEnoughLiquidity: the markets it would pull from lack the free money). The largest that would pass was searched by halving between $0 and $10,000, 4 steps. A call that returns is a withdrawal that would have gone through at that block for that holder; it says nothing of a later block or another account. Simulator exit-sim-3, run when this report was issued.

How you get out (continued)

Not observed as lent, in dollars, one reading a day for 83 days from 18 August 2026: $0 at the last, at most $7 on 11 October 2026, under 0.1% of the vault's book on every day. Each day is the vault's own figure for what it has not lent, over what it has lent plus that figure. It counts money supplied and not borrowed and money in no market we read alike. In the capital account, nothing supplied to the markets we read was left unborrowed (their free money is nil); what lies in no market we read is not established, because the markets exceed the capital by $67,145, read at different moments. Not observed as lent is what we did not see lent, not a finding that no borrower holds it, and not what could be withdrawn, which is read separately. The vault page charts the same readings; resilience is measured on the withdrawable readings, a different series that began later.

What could go wrong

The overall band and material exceptions are summarized on page 1. By risk: market low; liquidity severe; depositor concentration severe; operating low; controller high. Each is read on its own below.

Who can act on it

Operator: not identified; no curator or manager has been matched to this vault.

Observed execution pattern: no automation observed (evidence: none; no sign of automation in what we read; that does not show a person runs it). This describes how transactions are executed, not who sets the strategy or answers for it; the operator is named separately. The classification is rule-based and records no observation period or count, so it is not a probability.

ROLE	ADDRESS	WHAT WE READ
Owner	0x1467b99d...cba95250	a single key (an externally owned account)
Guardian	none	none set, so nobody can veto a timelocked change
Allocator	0x1467b99d...cBA95250	a single key; listed by the venue and confirmed by the vault's contract; can reallocate among markets already enabled, within their caps, and reorder the supply and withdraw queues (reallocate, setSupplyQueue, updateWithdrawQueue), with no timelock; cannot enable a market, raise a cap or move funds out of the vault, so not counted as control

Control last checked 9 November 2026, 12:10 UTC, 26 min before this report was generated: within ASPERN's 26-hour refresh target. Changes since that check are not excluded.

The vault's timelock for curator changes is zero. Different addresses are what can be read on chain; they do not establish that different people or organisations control them. One signature is enough to act as owner. What the owner and curator may change (curators, allocations, caps, fees, where funds can be sent) is set by the venue's contract; we read who holds the roles, not whether either can move funds out directly. If they can and no timelock stands in the way, one signature could redirect the funds.

Who can do what, and what it means for a depositor

ROLE	CAN DO	LIMIT	FOR A DEPOSITOR	VERIFIED
Owner 0x1467b99d ...cba95250 (a single key)	appoint the curator, the guardian and allocators; set the performance fee and the timelock; everything the curator and allocators can do	fee at most 50% of the interest, set at once; a shorter timelock waits the vault timelock, no delay, as does replacing the guardian, and the guardian can revoke either	who controls whoever manages the money; a fee change cuts the yield from the next accrual, with no delay	holder and its kind read on chain; powers from its contract
Curator 0x00000000 ...00000000	raise a market's supply cap or add a market; lower a cap; start removing a market	a raise or a new market waits the vault timelock, no delay; a lower cap applies at once	which markets, and so which collateral and oracles, the deposit can be lent against, and how much in each	holder read on chain; powers from its contract; its powers not each read
Guardian 0x00000000 ...00000000	revoke a pending timelocked change (a cap raise, a new market, a shorter timelock)	only changes still pending; cannot move money	a second key between the curator and a new risk	read on chain; powers from its contract
Allocator 0x1467b99d ...cba95250 (a single key)	move money between the enabled markets and set the order withdrawals drain them	enabled markets only, within each market's supply cap	where the money sits now, and so how much can be withdrawn at once	confirmed by the vault's isAllocator; powers from its contract

The powers are those of the MetaMorpho V1 contract the venue lists this vault as running; the holders, their kind, the timelock and the allocators were read on chain. A power not checked is not established.

Verified: who holds the owner role, and what kind of address it is; the length of the timelock read; that each address the venue lists as an allocator holds the role, by the vault's own contract.

Not verified: the list of what each role can do, which is set by the venue's contract; whether the venue's list holds every address with allocator permission; an address it omits would not have been checked.

Not established: whether different addresses are controlled by different people or organisations.

Who else is in the same markets

The market holding the most of this vault's allocation, 100.0%, and so the one that sets the shared-exposure reading: 8.0% of everything supplied to the sdeUSD / USDC on morpho market (id 0x0f9563442d64ab3bd3bcb27058db0b0d4046a4c46f0acd811dacae9551d2b129) comes from vaults we track, 2 of them including this one: this vault 2.8%, the others 5.2%. Numerator: what those vaults supply to it. Denominator: the market's whole supply on the venue's own figure, $18,565,511,499. The rest of the market is suppliers we do not track, whose behaviour this cannot see.

In the model, shared exposure reads 0.10: 100% of what it supplies sits in a market where the vaults we track hold 8.0% of everything supplied, 5.2% of it other than this vault; scored as 1.00 times the others' 5.2% over 50.0% of the market, where a crowd counts in full: 0.10. The value is the share of this vault's own supply in that market, times how much of a crowd the other vaults we track make there: in full from 50% of the market, proportionally below it. It counts only where the market publishes its size and holds another vault we track.

Where the deployed capital rests

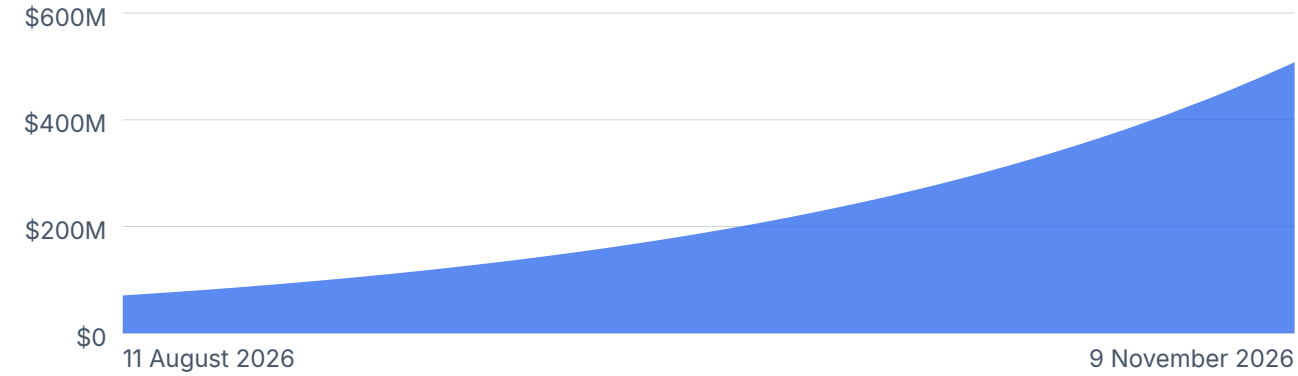
$513,936,441 is allocated across 1 market, and the shares below are of that figure rather than of the vault, because the two are read separately and do not agree.

MORPHO MARKET	OF ALLOCATION	OF MARKET SUPPLY	LIQUIDATES AT	FREE, WHOLE MKT
sdeUSD / USDC oracle ChainlinkOracleV2 · 100.0% borrowed	100.0%	3%	92%	$0

Free, whole market: what nobody borrows in that market, all suppliers' money together. Other suppliers can claim it too, so it is not this vault's own; this vault's share of it is counted as not lent in the capital account.

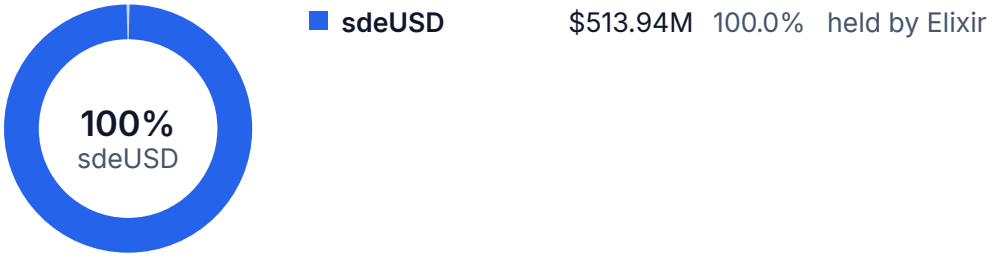
Of market supply: this vault's supply as a share of everything supplied to that market, on the venue's own figure for the market.

Allocation history



Where the vault's allocated capital sat each day from 2026-08-11 to 2026-11-09, as the venue reports it, across 2 destinations. A day's total is what was allocated, not the vault's total assets: cash held idle is not in it.

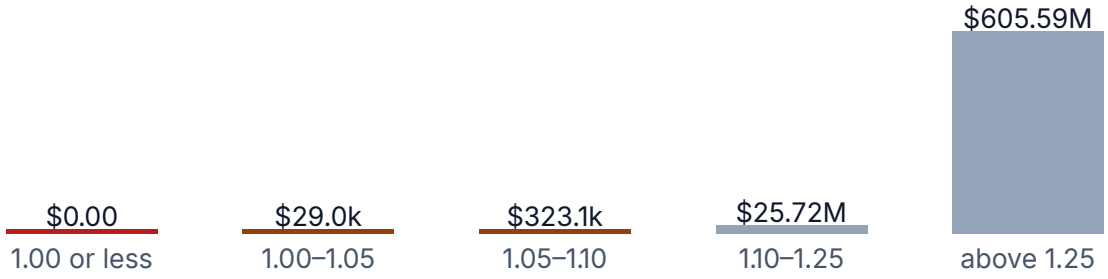
Collateral, the withdrawal queue and borrower health



#	QUEUE, DRAIN ORDER	ALLOCATED	REDEEMABLE	OF TVL
1	sdeUSD / USDC	$513.94M	$0.00	0.0%

Redeemable here is the smaller of this vault's supply and the market's free money, now; it is market liquidity, not a simulated withdrawal. Utilisation, weighted by allocation: 100.0%.

At-risk debt (health factor 1.10 or below), this vault's share: $0 (liquidatable $0, 1.00–1.05 $0, 1.05–1.10 $0); $279,988 in the whole markets, every supplier together. Read 2026-11-09 across 4 markets.



Collateral of every borrower in those markets, by health factor. At or below 1.00 can be liquidated now.

ALLOCATIONS EXCEED THE VAULT

$67,145

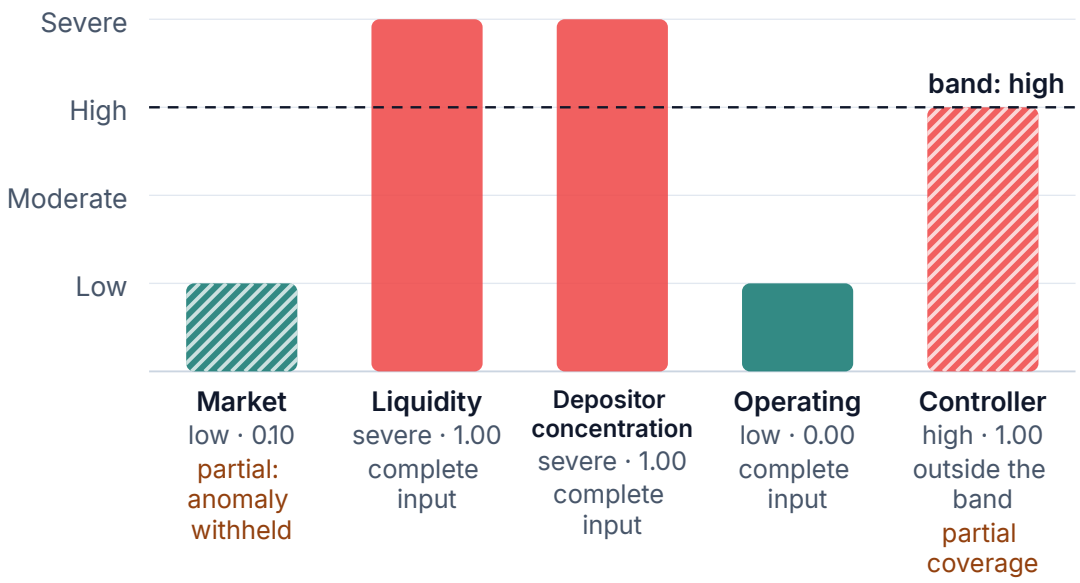
two readings taken at different moments, not capital found

What we could not read

- Could not establish: a withdrawal that was attempted and reverted.
- Could not establish: how long anybody actually waited to get out: the contract terms say what a queue or notice must be, and no record shows what a depositor met.
- Could not establish: a gate or limit that refused somebody before they submitted.
- Could not establish: anything on a venue whose flows we do not read.

Five risk dimensions, read separately

Each is read on its own components. A dimension marked as outside the band cannot move the band however badly it reads. The overall band weighs every component together instead, so it can read better than this and is not in conflict with it: a dimension says how bad its worst reading is, the band says what the whole weighs.



Model input availability: 100% of applicable weighted components (82.5 of 82.5 weight points have a value). Input quality: **25 points withheld as an unresolved anomaly (worst fall suffered), so the score stands on 57.5 of 82.5 (70%)**. Neither measures source accuracy or report completeness; they are our coverage, not a risk the vault runs, so they are not a column.

Outside that percentage: control: assessed separately, high; whether the ways out work when used: not verified (nothing was executed); legal terms, custody and off-chain arrangements: outside this report's scope.

Height is an ordered level from low to severe, not a measured length. The figure beside each level is the component that set it, on a 0-1 scale where 0 is the best value it can take over the record we hold: low observed risk is not zero risk. The dashed line is the overall band. None of this is a probability of loss.

Five risk dimensions, read separately (continued)

How the overall band is calculated

The overall band is a weighted average of six components on a 0-100 scale (drawdown 25%, crowding 20%, liquidation 17.5%, exit 17.5%, concentration 12%, consistency 8%): below 25 reads low, 25-45 moderate, 45-70 high, 70 and above severe. One severe component raises the average without setting it, which is why each risk is also read on its own. The controller is not one of the six.

Each component that carried a reading counts at its weight, and the total is divided by the weight that was read, not by 100: exposure shared with tracked vaults 0.10 × 20 + could you get out 1.00 × 17.5 + largest depositor 1.00 × 12 + stopped operating 0.00 × 8 = 31.6, over 57.5 points read, gives 55 of 100, which reads high (45 to 70). Withheld: worst fall suffered (25 points), which was read but comes from a share-price series marked as an unresolved data anomaly; counted as read, at 0.00, the score would be 38 (moderate), and that is a sensitivity, not the published figure. An anomalous input does not vote until its cause is established. Every other component that applies to this vault was read. With what is withheld at its best the score would be 38 (moderate), at its worst 69 (high). Those are scenarios for that input with every other input unchanged: a model sensitivity range: not a confidence interval in the statistical sense, and not bounds on an actual loss; the withheld input is set to its lowest risk value (0) for the first and its highest (1) for the second, at its weight. Does not apply to this kind of vault: account margin cushion (17.5 points), so it is outside the denominator.

COMPONENT	INPUT	RISK VALUE	WEIGHT	POINTS	STATE
exposure shared with tracked vaults	1.0000	0.1038	20	2.08	measured
could you get out	0.0000	1.0000	17.5	17.50	measured
largest depositor	0.9998	0.9998	12	12.00	measured
stopped operating	0.0000	0.0000	8	0.00	measured
worst fall suffered	—	—	25	—	withheld (anomaly)
account margin cushion	—	—	17.5	—	does not apply

Total 31.57 points over 57.5 read = risk score 55 of 100, higher is riskier

Risk values run from 0 to 1 (its worst). A contribution of 0 means the input added no points under the model's thresholds; it does not mean the risk is absent. The weight read is the denominator, so an unread component neither lowers nor raises the score; 82.5 points apply to this vault. Model risk-4 (in effect from 2026-11-07 11:30 UTC).

WHAT EACH INPUT IS, AS SCORED 9 NOVEMBER 2026, 12:33 UTC

exposure shared with tracked vaults: 100% of what it supplies sits in a market where the vaults we track hold 8.0% of everything supplied, 5.2% of it other than this vault; scored as 1.00 times the others' 5.2% over 50.0% of the market, where a crowd counts in full: 0.10. Does not measure: only vaults ASPERN tracks, not every supplier

could you get out: at least effectively none of it could be withdrawn at the last reading: uninvested cash $0 over capital $513,936,441, a floor on what could leave; the venue's own withdrawable figure is the same $0, so the two readings agree. Does not measure: one reading of what could leave, not what would leave under stress

largest depositor: largest wallet holds approximately 100% (99.9822%). Does not measure: addresses, not owners: one owner can hold several

stopped operating: operating at its usual cadence. Does not measure: whether the vault keeps operating, not how well

Why each risk reads this way

RISK	READS	WHAT IT RESTS ON
Market	low	**Limited scope: past share-price falls, markets shared with other vaults and, where the vault borrows, distance to liquidation; excludes collateral and borrower credit risk.** Market risk reads low, set by its worst component (exposure shared with tracked vaults) over the record we hold. Low observed risk is not zero risk. Market here is two observed readings: the worst fall in the vault's past share price and how much of its lending shares a market with other vaults we track. It does not assess the collateral, the borrowers' ability to repay, a concentration in one market (read under where the capital rests), or whether withdrawals hold under stress. **Market: low on the available scored input only; worst fall suffered read but withheld as an unresolved data anomaly; shared exposure counts the vaults we track only.** set by crowding: reading 0.10 of a worst possible 1.00
Liquidity	severe	Liquidity risk reads severe, set by its worst component (could you get out) over the record we hold. Input: at least effectively none of it could be withdrawn at the last reading: uninvested cash $0 over capital $513,936,441, a floor on what could leave; the venue's own withdrawable figure is the same $0, so the two readings agree. The reading 1.00 is one less that share over 25%: a quarter or more free reads 0, nothing free reads 1. set by exit: reading 1.00 of a worst possible 1.00

Five risk dimensions, read separately (continued)

RISK	READS	WHAT IT RESTS ON
Depositor concentration	severe	Depositor concentration risk reads severe, set by its worst component (largest depositor) over the record we hold. It measures how much of the vault its largest depositor holds, not how much the vault lends into one market; that is the allocation table. Input: largest wallet holds approximately 100% (99.9822%), by the address's position; addresses are not merged by who owns them, and whether the largest is a person, another vault or a custodian is not established. The reading 1.00 is that share less 25%, over 75%: a quarter or less reads 0, the whole vault 1. set by concentration: reading 1.00 of a worst possible 1.00
Operating	low	**Limited scope: continuity of the observed record; not a review of operations.** Operating risk reads low, set by its worst component (stopped operating) over the record we hold. Low observed risk is not zero risk. set by consistency: reading 0.00 of a worst possible 1.00
Controller *	high	A single party can act alone. What that party may change is set by the venue's contract; if it can redirect funds and nothing delays it, one signature is enough to do so. This is not part of the overall band: a vault reading low can read high here. **Controller: owner signing risk high on the roles read; the powers of each role were not each read.** set by control.actsAlone: reading 1.00 of a worst possible 1.00

Five risk dimensions, read separately (continued)

RISK	READS	WHAT IT RESTS ON
Evidence *	not scored	5 of the 5 risk components that apply to this vault carried a reading and 4 of them were used in the score (account margin cushion does not apply to this kind of vault); read but withheld from the score due to an unresolved anomaly: worst fall suffered. By weight, 82.5 of the 82.5 points that apply have a value, and 57.5 of them (70%) were used in the score (a different denominator: components are not equally weighted); the rest of the 100 is the weight of what does not apply. This is a statement about our coverage and carries no level of its own, because how much we could read is not a risk the vault runs.

* not part of the overall band.

What this report will carry later

How well this vault's way out has held up over time needs 5 more daily readings: about 14 November 2026, if collection is not interrupted. Drift in its yield and in its liquidity is measured on the same daily readings and needs them too. Drift in control needs control read on many days, and this report reads it once, at the time given under Sources. Nothing is withheld here; the readings do not exist yet, and this note goes when they do.

What this report does not look at

The words "due diligence" promise more than this document delivers, so the edge is stated rather than left to be discovered.

- the smart contracts themselves: we read what they expose, and we do not audit them for exploitable code
- the legal structure, the jurisdiction and whatever regulation applies to it
- the team, beyond what their own contracts and venues say about them
- sanctions, KYC and anti-money-laundering standing of anybody involved
- custody and off-chain operational security, including how keys are held

- withdrawals that were attempted and reverted, or requests prevented before submission: this report does not establish them, because it reads the vault's state and not the receipts of transactions that failed
- exposure on chains or venues we do not read, which an allocator should assume exists
- anything about price, and any view on whether the return is worth the risk

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Sources and method

When each figure was read:

- Capital: 9 November 2026, 12:16 UTC
- Withdrawable (the venue's figure): 9 November 2026, 12:28 UTC
- Control and its roles: 9 November 2026, 12:10 UTC
- The report as a whole: 9 November 2026, 12:36 UTC

Addresses read, in full:

- Owner: 0x1467b99d8fec651cb85a4498bff47094cba95250
- Allocator: 0x1467b99d8FEC651CB85a4498BFf47094cBA95250

How the score is computed: model risk-4, in effect from 2026-11-07 11:30 UTC.

- Shared exposure, crowding-3, in effect from 2026-11-06 17:00 UTC: the share in a crowded market times the share the other tracked vaults hold, in full from half the market (crowding-1 scored the share alone). crowding-3: a vault alone in a market whose size is published reads the others' share it can see, which is none, so 0; crowding-2 declined to vote there and left the weight unread.
- Liquidity input, exit-2, in effect from 2026-11-07 11:30 UTC: the withdrawable share takes its denominator from the capital the venue reported in the same reading as the withdrawable figure, so the two are of one moment (exit-1 divided by the contract's capital, read up to an hour apart).
- Anomalous inputs, anomaly-1, in effect from 2026-11-01 00:00 UTC: an input marked as an unresolved data anomaly is withheld from the score and its effect printed as a sensitivity (before, it was counted as read).
- A score from before 2026-11-07 11:30 UTC was computed by risk-3, so a change across that moment is partly the model's and not the vault's. The changelog at aspern.org/changelog says what each version changed.

When each reading was taken

READING	SOURCE	OBSERVED AT	STATUS
Capital held	the vault's own totalAssets() read on chain and priced by us	9 November 2026, 12:16 UTC	fresh: 19m
Withdrawable	the venue's own figure	9 November 2026, 12:28 UTC	fresh: 8m
Control	roles and powers read from the contracts	9 November 2026, 12:10 UTC	checked 26m before issue, within the 26-hour refresh target; later changes not excluded
Withdrawal simulation	eth_call at one block, run at issue	9 November 2026, 12:36 UTC	run at issue
Depositor list	the vault's positions list from Morpho's API	9 November 2026, 12:12 UTC	fresh: 24m
Value series	the share price read from the vault contract as we went, times its supply	9 November 2026, 11:00 UTC	fresh: 1h 36m

Which figures can be acted on now

FIGURE	STATE	INPUTS APART	IN THE MODEL
Liquidity input (withdrawable over capital)	**current**	12 min (limit 30)	used by the model
Control roles and powers	**current**	—	not used
Depositor list	**current**	—	used by the model
Withdrawal simulation	**current**	—	not used

Indicative: the figure combines readings taken further apart than its own limit, or its input is older than its refresh target; it describes the vault near that time, not now. The same state is in the API and MCP answer as metricStatus.

Data coverage

AREA	STATE	WHAT IT MEANS	EFFECT ON THE SCORE
Model input: Market	**available**	read for this report	in the weighted score
Model input: Liquidity	**available**	read for this report	in the weighted score
Model input: Depositor concentration	**available**	read for this report	in the weighted score
Model input: Operating	**available**	read for this report	in the weighted score
Model input: Controller	**available**	read for this report	in the weighted score
Some control roles	**not available**	not established by this report	outside the score; read as an unknown, not as safe
Withdrawal execution	**available**	simulated for one holder at one block	shown beside the score, not inside it

Data coverage (continued)

AREA	STATE	WHAT IT MEANS	EFFECT ON THE SCORE
Oracle	**partial**	its type is read; its feeds and how stale they may be are not	outside the score
Collateral	**partial**	which collateral and its LLTV; what it would realise in a liquidation is not	outside the score
Sanctions screening	**partial**	exact match of the addresses screened, holders covering 100.0% of balances; owners, intermediaries and counterparties not screened	outside the score
Smart-contract code, legal structure, off-chain custody	**out of scope**	not audited or read by this report	outside the score; no finding either way

How to read this result

- The weighted model score summarises the inputs this model applies to this vault; it is not a probability of loss and not a finding of safety.
- The highest finding is the most severe single finding; the weighted score never overrides it.
- Model inputs available counts the inputs the model could read; it is not a share of the vault’s risks. Areas outside the model are listed under it and in the data coverage table.
- A missing area is an unknown, never low risk.

If the largest holder left

The largest holder's position, about $513,777,780 (100.0% of the vault), against $0 the venue reports withdrawable now: 0% of it could leave now, and the rest waits on borrowers repaying or new deposits. A reading at one moment, not a forecast of what that holder will do.

Booked value against what can be recovered: the evidence

• What the vault reports: $513.87M of assets, its own total, which includes interest booked on the debt it lends; a book value.

• What is available: $0 withdrawable by the venue's figure; in simulation nothing passed, the smallest tried, $1, failed.

• What the market shows: the market this vault lends into was read from the chain at 12 blocks about thirty days apart, from 14 December 2025 to 9 November 2026: at every one, borrowed was at least 99.9% of supplied, and the rate model's rate at target was at its ceiling of 200% a year at every one; supplied grew from 11,905,657 USDC to 14,596,084,056 USDC, and borrowed from 11,905,657 USDC to 14,596,084,056 USDC.

• Book value against money not lent, over time: from 18 August 2026 to 9 November 2026 the booked value went from $83.06M to $506.14M, while what was not lent to a borrower, the most that could leave through the markets, went from less than $1 to $0; growth in the books is not money that could be withdrawn.

• What is not known: whether the booked debt can be recovered, whether the borrower will repay, and what the collateral would realise; the venue's transaction index shows no repayment from 2 December 2025 through 9 November 2026, when it was asked (its completeness was not verified).

• What would change the conclusion: a withdrawal of $1 or more that succeeds, in a later simulation at a new block or as settled withdrawals on chain; the amount borrowed in the markets holding the vault’s capital falling, so that free liquidity reappears in them; a repayment, liquidation or recovery event on those markets, recorded on chain; the value series reconciling with what can be withdrawn, so the withheld input can be counted.

How the repayment search was run

Searched api.morpho.org marketTransactions for this market's Borrow, Repay and Liquidation events over its whole history, to 9 November 2026: 178 borrows, the last on 2 December 2025 (tx 0x628a6bba…4e171858); 147 repays, the last on 2 December 2025 (tx 0x8f66ec12…f78f2d0b); 3 liquidations, the last on 26 November 2025 (tx 0x9604f114…c90865db). No repayment from 2 December 2025 through 9 November 2026. The index's completeness was not verified, and a settlement off the chain would not appear.

Limits: the index is the venue’s own and its completeness was not verified against the chain’s logs; a settlement agreed off the chain does not reduce the debt the market books and would not appear; repayment by any account, including on the borrower’s behalf, is a Repay event in this market and would appear.

Query, as sent to api.morpho.org marketTransactions: { marketTransactions(first: 1, orderBy: Timestamp, orderDirection: Desc, where: { marketUniqueKey_in: ["0x0f9563442d64ab3bd3bcb27058db0b0d4046a4c46f0acd811dacae9551d2b129"], chainId_in: [1], type_in: [Repay] }) { pageInfo { countTotal } items { timestamp txHash } } }

What would change this conclusion

• a withdrawal of $1 or more that succeeds, in a later simulation at a new block or as settled withdrawals on chain

• the amount borrowed in the markets holding the vault’s capital falling, so that free liquidity reappears in them

• a repayment, liquidation or recovery event on those markets, recorded on chain

• the value series reconciling with what can be withdrawn, so the withheld input can be counted

Each is something a later report can read; none is a forecast.

Changes since the previous report

• [vault] Capital: $512.08M → $513.87M (up $1.79M, 0.35%; below the 1% materiality threshold)
• [vault] Venue-reported withdrawable: $0 → $0 (unchanged, within a dollar)
• [vault] Weighted model score: 55 (high) → 55 (high) (unchanged)
• [vault] Highest finding: liquidity, severe → liquidity, severe (unchanged)
• [vault] Control roles: 3 read → the same holders (unchanged)

Against the previous issued report (2026-11-09 08:51 UTC, 26108fe7edb4): no compared figure changed materially; moved below the 1% materiality threshold: capital. Each row is marked as a change in the vault, in what could be read, or in the method; a vault row compares two readings taken at different moments, and is not by itself a change in the vault's risk.

What the loans depend on: sdeUSD

• Dependence: 100.0% of what the vault lends is against sdeUSD, lent as USDC: its value is what stands behind the loans.
• A price move: at an LLTV of 91.5% a borrower is liquidated when the debt reaches 91.5% of the collateral's value; a borrower at that line owes more than the collateral is worth after a further fall of about 8.5% in sdeUSD against USDC, as the oracle reports it, if liquidation has not completed.
• The oracle: ChainlinkOracleV2, by the venue's type for it; its feeds and how stale they may be were not read.
• Whether the terms can change: fixed: a Morpho market's LLTV, oracle and rate model are set when it is created and cannot be changed; the vault's curator can still move the money to another market.
• Liquidation capacity: not established: the depth to sell the collateral in a fall was not read.

Sanctions list exposure screening

NO EXACT MATCH AMONG THE ADDRESSES SCREENED

OFAC SDN of 2026-11-06, file SHA-256 bbf4658b7803ed6aa25712670bd6dfea56b6f9f93001d99e5d8ea221b237a597. Scope: roles and direct holders; 9 screened.

No exact match among the 9 addresses screened (roles and direct holders; the holders screened cover 100.0% of the vault's balances), against the digital currency addresses on OFAC SDN of 2026-11-06, at this block. Not a finding that no sanctioned party is involved.

Not screened: beneficial owners behind any address; the users of custody accounts, contracts and other vaults among the holders; intermediaries the funds passed through, and where they came from; borrowers and other suppliers in the markets the vault lends to.

An exact match of addresses against the digital currency addresses the list publishes, at one block and one list version. The list’s published addresses are not exhaustive: no exact match does not rule out sanctioned persons, unlisted addresses or beneficial owners, and says nothing about where funds came from. A match is a match of an identifier, not a finding about who controls it. A holder can be a custody account, a contract or another vault, whose own users are not screened here. Not a legal opinion; obligations depend on jurisdiction.

Every figure here is a reading this platform publishes per vault; the report adds only the arithmetic it labels as such.

Every reading here is published per vault at aspern.org/vault/ethereum-1337-usdc-94643e

Methodology aspern-0.5 · score model risk-4 from 2026-11-07 11:30 UTC (parts: shared exposure crowding-3 from 2026-11-06 17:00 UTC; liquidity input exit-2 from 2026-11-07 11:30 UTC; anomalous inputs anomaly-1 from 2026-11-01 00:00 UTC) · readings taken 9 November 2026, 12:36 UTC · an assessment document has not been published on-chain for this vault

Terms used

On chain: read from the vault or market contract at a stated time or block

Venue-reported: as the venue (Morpho, Euler, Hyperliquid) publishes it; not re-derived here

Simulated: a call run by eth_call at one block as one account; nothing sent, and true only for that block and account

Estimated: calculated from other readings, such as a pro-rata share of a market's free money; not measured

Not established: the evidence needed for a figure was not available; never a zero

Reading difference: two readings taken at different moments that do not reconcile; not money placed anywhere

Book value: what the vault records its assets as, including interest it has booked; not what has been shown recoverable

Weighted model score: the six risks combined by fixed weights; a model result, not a probability of loss

Highest finding: the worst single risk read; the weighted score never cancels it

Model inputs available: how many of the model's own inputs carried a usable reading, and their share of its weight; not a share of the vault's risks

Venue-reported withdrawable: the venue's own figure for what could be withdrawn now; not a withdrawal that was made

Idle cash: the vault's own balance of the asset, outside every market

Not observed as lent: idle cash, plus money supplied to markets and not borrowed, plus money in no market read; the sum of those parts, and not what could be withdrawn

Deployment not verified: capital the report could not place in any market it read

Materiality threshold: a change of 1% or less of the earlier figure is reported as below it, with its size

Illustrative scenario: arithmetic on the positions as read under a stated move; not a forecast and not a maximum loss

No exact match: none of the addresses screened is on the named list; not a finding that no sanctioned party is involved

Tracked-vault shared exposure: how much of a market other vaults ASPERN tracks also supply; not all suppliers, and not concentration

LLTV: the loan-to-value at which a borrower in a market can be liquidated

Utilisation: the share of what is supplied to a market that is borrowed; what is not borrowed is its free money

Curator, allocator, guardian, timelock: who chooses markets, who moves money between them, who can veto a pending change, and how long a change waits

Checking this report

The document id is the start of a SHA-256 digest of this report's readings in canonical JSON (keys sorted, no whitespace), not of the bytes of this file: the same readings give the same id however the file is produced.

1. Download the readings as JSON: aspern.org/sample-readings/3198ebbc0060.json, kept under this document's id and never rewritten.
2. Run shasum -a 256 readings.json. Full digest: 3198ebbc006047a9533776ccd916f2837a86555d4a47a3516d8cd2f6d6e5fa75. Its first 12 characters are this document's id, 3198ebbc0060.
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