OTC 976 Revised 11-2025	State of Oklahoma Formal Appeal County Board of Equalization	Tax Year 2026

Muskogee County

Mail or deliver one copy to the County Board of Equalization secretary (county clerk) and one copy to the county assessor. Appeals must be filed within 15 calendar days of the date the decision is mailed or delivery date printed on the county assessor's informal hearing notice of decision.

TAXPAYER MUST ANSWER COMPLETELY - PLEASE PRINT

Personal: ☑ Residential: ☐ Homestead Exemption: ☐
Agricultural: ☐ Commercial: ☐ Other: ☐ If Other, explain in "For the following reason(s)" below.

Account Number: 510164068		
Your Name (Please Print): Jeffrey Shamma		
Owner's Name (If Different): Down Quark Systems LLC		
Taxpayer/Agent: Agent - BDO USA, P.C.	Other (Specify):	
Taxpayer/Agent Address: 2929 Allen Pkwy, Fl 20		
City: Houston	State: TX	Zip: 77019
Daytime Phone: 713-407-3718	Other Phone:	
Email Address: jshamma@bdo.com		
Protested Property Address: 4800 S 24th St W, Muskogee, OK 74401		

LEGAL DESCRIPTION:

School District: 3312

The County Board of Equalization will notify the protestant of the hearing date, place and time.

The undersigned protestant appeals the action of the county assessor where the county assessor responded to the petitioner's protest of valuation as a result of the informal hearing as required by 68 OS Sec. 2876.

Informal hearing was held on (date): 04/24/2026

As a result of the informal hearing decision, the assessor's stated value of $ 316,543,696 ,

☑ **was** OR ☐ **was not** (check one) adjusted.

The assessor's adjusted value is $ 259,193,848 . (indicate N/A if no adjustment)

I am appealing the above stated value and believe the correct value to be $ 168,454,650

For the following reason(s):

Crypto mining equipment prices are unique in such a way that original acquisition cost does not accurately reflect the market value of the equipment. Value considers obsolescence via Replacement Cost New analysis under the market and cost approaches.

Attach any supporting documentation, if needed.

Protestant's Signature: _____ Date: 05/07/2026

Statutory provisions governing protest procedure are printed on page 2 of this form.

ACCOUNT NUMBER: 510164068

TAX YEAR: 2026

NAME: Down Quark Systems LLC (Polaris)

OPINION OF VALUE: $168,454,650

ISSUES:

- OKLAHOMA STATUTES, 2001, TITLE 68 REVENUE AND TAXATION, Chapter 1 Tax Codes, Article 28 Ad Valorem Tax Code

  2817.A. All taxable personal property, except intangible personal property, personal property exempt from ad valorem taxation, or household personal property, shall be listed and assessed each year at its fair cash value, estimated at the price it would bring at a fair voluntary sale, as of January 1.

- Oklahoma 2026 Business Personal Property Valuation Schedule Discussion

Pertinent Facts

1. This appeal concerns highly specialized cryptocurrency mining equipment, not traditional computer or office equipment.

2. ASIC mining equipment behaves differently from normal business personal property due to 1) rapid technological obsolescence, 2) constant heavy use, 3) dependence on Bitcoin economics, and 4) extreme market price volatility.

3. Opinion of value and taxpayer's methodology reflects actual market conditions as of January 1, 2026. This is derived from publicly available information at the Hashrate Index website.

4. ASIC Miners do not depreciate in a stable or linear fashion like normal servers/computers. Market prices fluctuate rapidly based on 1) Bitcoin

Price, 2) Mining Profitability, 3) Electricity Costs, 4) Hashrate Efficiency, and 5) the rapid release of newer technology.

5. Older miners quicky lose market relevance when more efficient models are released.

6. All these factors indicate Obsolescence (Functional and Economical/External) and is the main critical issue.

7. To take into account of Obsolescence, a Replacement Cost New Less Depreciation (RCNLD) Approach under the Cost Approach is used as it captures modern equivalent utility and current market trends, where standard depreciation and Reproduction Cost does not.

8. Market Evidence (ASIC Price Index and Third Party Vendor pricing) support Opinion of Value.

OKLAHOMA
Tax Commission

2026 BUSINESS PERSONAL PROPERTY VALUATION SCHEDULE

AD VALOREM
ISSUED IN ACCORDANCE WITH 68 O.S. 2011, § 2875 A4

tax.ok.gov

Personal Property Valuation Schedule

Introduction

This schedule has been prepared by the Ad Valorem Tax Division, pursuant to 68 O.S. 2011, § 2875 A(4), to help achieve equity in the assessment of the personal property of commercial and industrial establishments through uniform application of valuation guidelines. It is the goal of this Division that equity be realized within and between all classes of property throughout all taxing jurisdictions in Oklahoma.

None of the content of this schedule is intended, in any way, to relieve property owners or assessing officials of their obligations by law to report, value, or assess personal property at its true and full market value. Application of the valuation guidelines, procedures, and rates contained in this publication, together with sound judgment on the part of assessment officials, will help determine the validity of values received from a variety of commercial operations. Methodologies contained herein are intended only to provide the user with an approximation of value for the personalty "typical" for that class, not an absolute value. The replacement cost less normal depreciation tables are provided to determine estimated market value based on adjustments to information obtained from property owners. All forms of depreciation including physical, economic, and functional obsolescence should be considered as applicable to arrive at current fair cash value.

This Schedule is available on the Oklahoma Tax Commission website. www.tax.ok.gov (select- Ad Valorem, select- Publications, select Business Personal Property Valuation Schedule.)

Questions regarding the schedule, or suggestions for future schedules, may be directed to:

Oklahoma Tax Commission
Ad Valorem Division
123 Robert S. Kerr Ave
Oklahoma City, OK 73102
(405) 319-8200

DEPRECIATION / OBSOLESCENCE

Depreciation / obsolescence is loss in value due to any cause. It is the difference between the market value of an improvement or piece of equipment and its reproduction or replacement cost as of the date of valuation. Depreciation is divided into three general categories:

1. Physical depreciation is loss in values due to physical deterioration. This is most common and usually considered as normal "wear and tear".

2. Functional obsolescence is loss in value due to lack of utility or desirability of part or all the property, inherent to the equipment. This is a form of depreciation in which the loss in value or usefulness of a property is caused by inefficiencies or inadequacies inherent on the property itself, when compared to a more efficient or less costly replacement property. Examples of functional obsolescense include but are not limited to: old technology, overcapacity, lack of functional utility, and/or excess operating costs.

3. External or economic obsolescence is loss in value due to causes outside the property and independent of it. This is a form of depreciation where the loss in value or usefulness of a property is caused by factors external to the property. Examples of economic obsolescense include but are not limited to: inflation, loss of raw materials and/or labor, increased costs of raw materials and/or labor, new legislation/ordinances, reduced demand, and/or increased competition.

Functional and external depreciation / obsolescence are not directly included in the tables and any excessive obsolescence may require special consideration separate from the normal depreciation developed from the tables.

Our appeal will begin by briefly providing a simplified overview of what Bitcoin and Bitcoin mining are, what kind of equipment is required to compete in the industry, and what makes that equipment a particularly unique type of asset that cannot be valued in the same way as typical computer or server hardware. As this is a relatively new and constantly evolving industry, most people, assessors included, know very little about it compared to something like restaurants or retail stores.

The Blockchain

Bitcoin, and many similar cryptocurrencies, functions using a "proof-of-work" system that records transaction across a distributed network of computers called the blockchain. In simpler terms, the blockchain is a secure public list of all transactions conducted using Bitcoin that is maintained by "Bitcoin miners". Each batch of transactions can be seen as the **blocks**, and as they are added to all of the previous blocks, they form a **chain** of transactions leading back to the beginning.

Bitcoin Mining

In order to ensure that only valid blocks of transactions are recorded to the blockchain, the system requires a certain amount of effort, or computing power, to add each block to the chain. The "effort" consists of essentially using computing power to solve a cryptographic puzzle. Whoever is able to solve the puzzle and record a block to the chain is rewarded with Bitcoins. In extremely simple terms, the miners attempt to solve this puzzle repeatedly in a process called "hashing" until they find the correct answer. Each subsequent block in the chain requires more effort than the preceding one, and since Bitcoin has been around since 2009, the effort required for each new block is tremendous. Mining hardware is now judged by how many terahashes (1 trillion hashes) per second it can attempt for some reference of the scale that we are talking about here. To compete for a chance to mine the next block requires specialized hardware, of which the main components are "Application-Specific Integrated Circuits" or ASICs.

ASICs

ASIC chips are computer chips manufactured for one specific application, in this case Bitcoin mining. The value of an ASIC is largely defined by two key features: hashrate and electricity usage (joules). Therefore, one of the most common metrics one encounters when pricing ASICs is Efficiency measured in Joules per TeraHash (J/TH), or, in layman's terms, how much electricity does this computer chip use to compute 1 trillion hashes. A

Bitcoin miner wants to use the least possible energy to run the most possible hashes, so the lower an ASIC's J/TH, the more expensive it will generally be. It is not the only metric that determines the price of ASICs, however, as prices are also directly proportional with the price of Bitcoin and the cost of electricity as well. As a result, other commonly seen metrics are $ per TH or Bitcoin per TH.

Unique Valuation and Pricing Factors

The vast majority of tangible personal property assets seen on Business Personal Property returns have comparatively stable prices or depreciate in a predictable linear fashion in a way that ASICs do not. Unlike typical personal computers, laptops or servers, which one might initially assume are similar assets and have prices that remain flat and slowly decrease with age, ASIC prices can fluctuate rapidly both upwards and downwards in response to changes in the price of Bitcoin or electricity generation. The price could be considered to be more similar to that of a commodity than to most other fixed assets.

In addition to that, this equipment is used almost non-stop from the moment it is installed computing trillions of hashes per second, which puts considerable wear and tear on the ASICs, physically degrading the hardware and reducing performance over time. As a result, these assets are still subject to depreciation like other fixed assets, and at a rapid rate.

After accounting for both of the preceding factors, one also has to consider the remarkable advancement of technology in this sector, at a pace far exceeding that of most other equipment. This means that obsolescence is an ever-present consideration, as newer, more efficient ASICs are frequently being developed and released into the market.

Valuation and Pricing Methodology

The Cost Approach is the primary valuation method for cryptocurrency mining equipment due to the specialized nature of the assts and limitations in reliable, consistent market data.

At the core of this approach is Replacement Cost New (RCN), which represents the current cost to replace an item with a new one of a similar kind, quality, and capacity. RCN provides a clear and objective starting point for the valuation process and serves as the benchmark from which all depreciation and obsolescence adjustments are measured.

In virtually every equipment appraisal, RCN functions as the foundation for determining value, as it establishes the baseline from which adjustments for physical deterioration, functional obsolescence, and external (economic) obsolescence are applied to arrive at an indication of fair market value. RCN estimates may be derived directly from the market using current vendor pricing, manufacturer quotes, or industry cost data (such as the ASIC Price Index), ensuring that the analysis reflects current economic conditions.

For cryptocurrency mining equipment, the use of replacement cost (rather than reproduction cost) is particularly important due to rapid technological advancement. Replace cost reflects modern equivalent utility, incorporating improved processing power and energy efficiency that characterize newer mining equipment.

After establishing the Replacement Cost New (RCN), depreciation must be applied:

- **Physical Deterioration** – Typically estimated using an age-life method, though it primarily accounts only for physical wear and tear of the asset.

- **Functional Obsolescence** – Most critical factor to consider. Mining equipment becomes quickly outdated due to advances in hash rate efficiency and energy consumption. Older units incur higher and excess operating costs as well as reduced output, resulting in substantial, often incurable, obsolescence.

- **External Obsolescence** - Another critical factor to consider as it reflects economic factors outside the asset itself, including cryptocurrency price volatility, mining difficulty, and electricity costs. These factors directly affect profitability and therefore, the value.

Because of these influences, cryptocurrency mining equipment typically exhibits an economic life significantly shorter than its physical life, requiring careful depreciation adjustments.

The Market Approach is another valuation method to consider. This approach estimates value based on recent transactions of similar mining equipment, with adjustments made for differences in characters such as:

- Hash rate and processing power
- Energy Efficiency
- Age and Condition
- Manufacturer and Model

The Market Approach, when applicable, services as a corroborative indicator, helping validate the reasonableness of the cost-derived value.

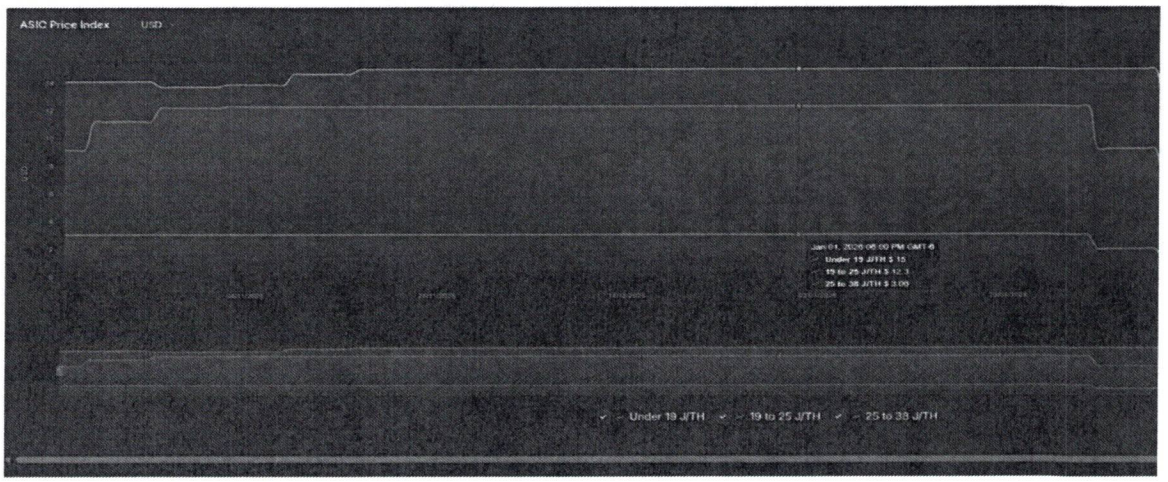
An important database that tracks industry pricing on ASICs is maintained by the Hashrate Index and aptly named the "ASIC Price Index". Per their description of the metric, "Hashrate Index collects the price, hashrate, and electricity usage for dozens of SHA-256 miners over time. We leverage multiple sources including forums (Bitcoin Talk, Reddit), broker-dealers (websites, telegram channels), manufacturers' websites, and Luxor's ASIC Trading Desk. We calculate the ASIC Price Index by averaging each unit price based on its nominal hashrate output. We group together different ASIC models into different efficiency tiers based on their power efficiency and display each efficiency in terms of $ per TH or BTC per TH. Each Bitcoin mining ASIC listing we use in the index is vetted through a confidence interval using previous index values and our proprietary algorithm." "Metric Description", *ASIC Price Index,* https://data.hashrateindex.com/asic-index-data/price-index

They divide the commonly used ASIC equipment into 4 tiers based on efficiency (J/TH):

- Under 19 J/TH (**Tier 1**) – These are typically cutting-edge, latest generation chips (S21, S21 Pro, S21e XP Hydro, S21 XP Hydro)
- 19 to 25 J/TH (**Tier 2**) – These are still considered current generation chips, but are no longer the top of the line (S19K Pro, S19 XP, T21)
- 25 to 38 J/TH (**Tier 3**) – These are considered mid-generation chips on the lower end of current efficiency requirements (S19j Pro, S19 Pro)
- Over 38 J/TH – These are outdated chips and are not relevant to our purposes, so this tier will be excluded from future calculations

Using the ASIC Price Index, we are able to determine what the cost per terahash was for each tier of ASICs as of the January 1st, 2026 lien date for property tax purposes. The prices were as follows:

- Tier 1 (<19 J/TH) - $15.00 per TH
- Tier 2 (19-25 J/TH) - $12.30 per TH
- Tier 3 (25-38 J/TH) - $3.06 per TH



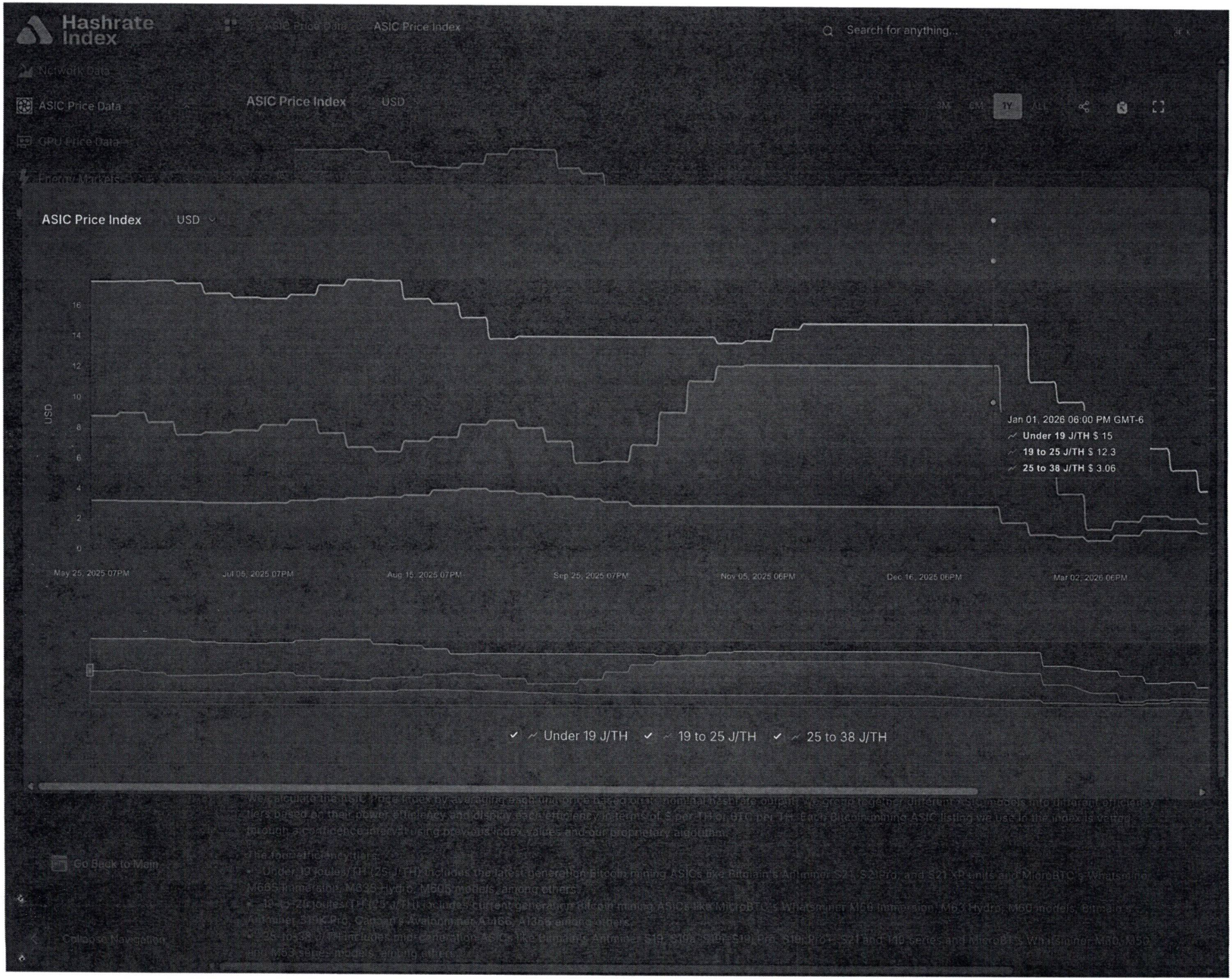
Replacement Cost New (RCN) Calculation

We also know what models of ASICs we have at each location, the quantity of each, how many terahashes per second they are capable of, and the efficiency of each (J/TH). Using these components, we can easily derive an accurate market value of the assets (Replacement Cost New [RCN]) as of 1/1/26 that better reflects the market value compared to the outdated acquisition cost. The below chart provides a summary of the ASIC Price Index values of some commonly used ASIC models.

Model	TH/s	Efficiency	Condition	ASIC Price Index $/TH
S19j Pro	102.00	29.50	Used, Hashing	$ 3.06
S19 Pro	110.00	29.50	Used, Hashing	$ 3.06
S19k Pro	120.00	23.00	Used, Hashing	$ 12.30
S19 XP	141.00	21.50	Used, Hashing	$ 12.30
T21	190.00	19.00	Used, Hashing	$ 12.30
S21	200.00	17.50	Used, Hashing	$ 15.00
S21 Pro	234.00	15.00	Used, Hashing	$ 15.00
S21e XP Hydro	430.00	13.00	Used, Hashing	$ 15.00
S21 XP Hydro	473.00	12.00	Used, Hashing	$ 15.00

At the Polaris location, there are 2 models of ASICs: the S21 XP Hydro and the S21e XP Hydro. The relevant statistics of each model are below:

- S21 XP Hydro
  - 473 Terahashes per second
  - 12 Joules per Terahash Efficiency (Tier 1)


Hashrate Index
ASIC Price Data
ASIC Price Index
Search for anything...
Network Data
ASIC Price Data
ASIC Price Index
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6M
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GPU Price Data
Energy Markets
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Under 19 J/TH $ 15
19 to 25 J/TH $ 12.3
25 to 38 J/TH $ 3.06
Under 19 J/TH
19 to 25 J/TH
25 to 38 J/TH
Go Back to Main
Collapse Navigation

- S21e XP Hydro
  - 430 Terahashes per second
  - 13 Joules per Terahash Efficiency (Tier 1)

Since both of these models fall under Tier 1, we know that the average price of these ASICs as of January 1st was $15.00 per Terahash.

- S21 XP Hydro runs 473 Terahashes per second, so at $15.00 per TH, the RCN of each one of these units is ($15 x 473) = $7,095.
- S21e XP Hydro runs 430 Terahashes per second, so at $15.00 per TH, the RCN of each one of these units is ($15 x 430) = $6,450.

We also know the quantity of ASICs at this location for each one of these models:

- S21 XP Hydro – 33,210 units
- S21e XP Hydro – 779 units

Therefore, the total Replacement Cost New at the Polaris location for each model is:

- S21 XP Hydro – 33,210 units at $7,095 per unit = $235,624,950
- S21e XP Hydro – 779 units at $6,450 per unit = $5,024,550
- **Grand Total RCN of $240,649,500**

A visual representation of the above calculations is below:

Model	# of Units	TH/Second	$/TH	Replacement Cost New per Unit	Total RCN
S21 XP Hydro	33,210	473	$ 15.00	$ 7,095	$ 235,624,950
S21e XP Hydro	779	430	$ 15.00	$ 6,450	$ 5,024,550

From here, we need to apply depreciation using the state of Oklahoma's depreciation schedule, pictured below:

Section X
January 2026

DEPRECIATION-FIXTURES AND EQUIPMENT
ECONOMIC LIFE DEPRECIATION - PERCENT GOOD

Effective Age	Typical Life Expectancy in Years																		
	3	5	6	7	8	9	10	11	12	13	14	15	16	17	18	20	25	26.5	30
1	70	85	87	89	90	91	92	93	94	94	95	95	96	96	96	97	98	98	98
2	50	69	73	76	79	82	84	86	87	88	89	90	91	91	92	93	95	96	97
3	30	52	57	62	67	72	76	78	80	82	84	85	86	87	88	90	93	94	95
4	20	34	41	48	54	61	68	70	73	75	77	79	81	82	83	86	90	91	93
5		23	30	37	43	51	58	62	66	69	71	73	75	77	79	82	87	89	91
6		20	23	28	33	41	49	54	58	62	65	68	71	73	75	78	84	86	89
7			20	23	26	33	39	45	50	54	58	62	65	68	70	74	81	83	86
8				20	22	26	30	37	43	47	51	55	58	62	65	70	78	80	84
9					20	22	24	30	36	41	45	49	53	57	60	65	75	78	82
10						20	21	25	29	34	39	43	47	51	54	60	71	74	79
11							20	22	23	29	33	37	42	46	49	55	68	71	76
12								20	22	25	28	31	36	40	44	50	64	68	74
13									20	22	24	26	31	35	39	45	60	64	71
14										20	22	23	27	31	34	40	56	61	68
15											20	21	24	28	31	35	52	57	65
16												20	22	25	27	31	48	53	61
17													20	21	23	27	44	50	58
18														20	22	24	39	45	54
19															20	22	34	41	51
20																21	30	37	47
21																20	28	34	43
22																	26	32	40
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32																			

Due to the previously mentioned rate of physical deterioration and obsolescence, these assets should be on a 3-year schedule.

All of the assets at this location were placed in service in 2025, giving them all an effective age of 1 year (70% Good).

Calculating the Replacement Cost New Less Depreciation means multiplying the RCN of $240,649,500 by the 70% good which gives us a RCNLD of **$168,454,650.**

Model	# of Units	TH/Second	$/TH	Replacement Cost New per Unit	Total RCN	% Good	Replacement Cost New Less Depreciation
S21 XP Hydro	33,210	473	$ 15.00	$ 7,095	$ 235,624,950	70%	$ 164,937,465
S21e XP Hydro	779	430	$ 15.00	$ 6,450	$ 5,024,550	70%	$ 3,517,185

This approach is the most effective means we have of determining the actual fair market value of assets of this type and this location as of the January 1st lien date and is more capable of accounting for the multitude of confounding factors unique to this industry than the original acquisition cost. To even further support this point, we could calculate the RCNLD using actual, real-world vendor prices as of 2/10/26 for these assets that show an even wider variance from the acquisition cost for these assets and show the inimitable nature of the pricing in this industry.

Actual pricing information has been obtained from 3 ASIC vendors that equipment has been purchased from in the past as of February 10th, 2026. These 3 vendors are Bitasics, JSBit, and Luxor. We will be taking the average of the 3 prices for the purposes of this exercise. A chart containing this information is below:

Model	TH/s	Efficiency	Condition	Bitasics $/TH	JSBit $/TH	Luxor $/TH	Average $/TH	Average Price per Unit
S19j Pro	102.00	29.50	Used, Hashing	$ 0.80	$ 0.80	$ 0.85	$ 0.82	$ 83.30
S19 Pro	110.00	29.50	Used, Hashing	$ 0.80		$ 0.80	$ 0.80	$ 88.00
S19k Pro	120.00	23.00	Used, Hashing	$ 2.00	$ 2.70	$ 2.50	$ 2.40	$ 288.00
S19 XP	141.00	21.50	Used, Hashing	$ 2.40	$ 2.90	$ 2.60	$ 2.63	$ 371.30
T21	190.00	19.00	Used, Hashing	$ 3.20	$ 4.00	$ 3.50	$ 3.57	$ 677.67
S21	200.00	17.50	Used, Hashing	$ 5.00		$ 5.00	$ 5.00	$ 1,000.00
S21 Pro	234.00	15.00	Used, Hashing	$ 8.10	$ 9.50	$ 9.00	$ 8.87	$ 2,074.80
S21e XP Hydro	430.00	13.00	Used, Hashing	$ 10.00		$ 10.00	$ 10.00	$ 4,300.00
S21 XP Hydro	473.00	12.00	Used, Hashing	$ 11.00	$ 11.50	$ 11.25	$ 11.25	$ 5,321.25

When comparing these prices to the January 1st ASIC Price Index values, you can see that the price per terahash dropped by over 25% in just over one month. Using these new prices to calculate the Replacement Cost New gives us the following results:

- S21 XP Hydro – 33,210 units at $5,321.25 per unit = $176,718,712.50
- S21e XP Hydro – 779 units at $4,300 per unit = $3,349,700
- **Grand Total RCN of $180,068,413**

This example clearly illustrates why the Replacement Cost New model should be used to value this equipment, as it can accurately capture the market value of this property as of the time that it is being assessed.

BDO Opinion of Value: $168,454,650

	Original cost reflects purchase price at time of acquisition, which does not accurately reflect the market value of the equipment due to rapid pace of obsolesence		The ASIC Price Index reflects the current price per TH or various Bitcoin mining ASICs grouped by efficiency tier.			Prices are an average of 3 different ASIC vendors: BitASICs, JSBit & Luxor		
			ASIC Price Index as of 1/1/2026			Vendor pricing as of 2/10/2026		
Location	**Original Cost**	**Rendered Value**	Total Replacement Cost New	RNCLD 3-Year Table	RCNLD 3-Year Assessed Value	Total Replacement Cost New	RNCLD 3-Year Table	RCNLD 3-Year Assessed Value
Polaris	$ 370,276,929	$ 37,985,244	$ 240,649,500	$ 168,454,650	$ 20,214,558	$ 180,068,413	$ 144,054,730.00	$ 17,286,567.60