Years Ended December 31, 2023 and 2022



Years Ended December 31, 2023 and 2022

CONTENTS

Independent auditors' report	1 - 3
Combined financial statements:	
Combined statements of financial position	4
Combined statement of activities - 2023	5
Combined statement of activities - 2022	6
Combined statement of functional expenses - 2023	7
Combined statement of functional expenses - 2022	8
Combined statements of cash flows	9
Notes to combined financial statements	10
Supplementary information to the combined financial statements:	
Combining statement of financial position	30
Combining statement of activities	31





Independent Auditors' Report

Board of Directors and Management Lowell Observatory Flagstaff, Arizona

Report on the Audit of the Financial Statements

Opinion

We have audited the accompanying combined financial statements of Lowell Observatory (the Organization), which comprise the combined statements of financial position as of December 31, 2023 and 2022, and the related combined statements of activities, functional expenses and cash flows for the years then ended, and the related notes to the combined financial statements.

In our opinion, the combined financial statements referred to above present fairly, in all material respects, the combined financial position of Lowell Observatory as of December 31, 2023 and 2022, and the changes in its net assets and its cash flows for the years then ended, in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

We conducted our audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Combined Financial Statements section of our report. We are required to be independent of Lowell Observatory and to meet our other ethical responsibilities in accordance with the relevant ethical requirements relating to our audits. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management for the Combined Financial Statements

Management is responsible for the preparation and fair presentation of the combined financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation and maintenance of internal control relevant to the preparation and fair presentation of combined financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the combined financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about Lowell Observatory's ability to continue as a going concern within one year after the date that the combined financial statements are available to be issued.

Auditors' Responsibilities for the Audit of the Combined Financial Statements

Our objectives are to obtain reasonable assurance about whether the combined financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with generally accepted auditing standards and *Government Auditing Standards* will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the combined financial statements.

In performing an audit in accordance with generally accepted auditing standards and *Government Auditing Standards*, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the combined financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the combined financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that
 are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness
 of Lowell Observatory's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting
 estimates made by management, as well as evaluate the overall presentation of the combined financial
 statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about Lowell Observatory's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control related matters that we identified during the audit.

Report on Combining Information

Our audit was conducted for the purpose of forming an opinion on the combined financial statements as a whole. The combining information on pages 30 through 31 is presented for purposes of additional analysis of the combined financial statements rather than to present the financial position and results of operations, of the individual entities, and it is not a required part of the combined financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the combined financial statements. The combining information has been subjected to the auditing procedures applied in the audit of the combined financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the combined financial statements or to the combined financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the combining information is fairly stated in all material respects in relation to the combined financial statements as a whole.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued a report dated, on our consideration of the Organization's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements, and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Organization's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Organization's internal control over financial reporting and compliance.

Beach Fleischman PLLC

Phoenix, Arizona April 22, 2024

Combined Statements of Financial Position

December 31, 2023 and 2022

Assets

		2023	2022
Current assets: Cash and cash equivalents Restricted cash and cash equivalents Investments Grants receivable Promises to give, current portion Estates and bequests receivable Refundable payroll taxes Other current assets Total current assets Property and equipment, net Operating lease assets, net Promises to give, net of current portion Collection item Assets limited to use: Investments with donor restrictions Total noncurrent assets	\$	696,350 288,742 2,115,433 261,811 7,378,402 450,000 - 620,066 11,810,804 67,256,449 86,137 10,364,160 518,303 27,821,486 106,046,535	\$ 755,205 98,038 3,428,553 902,786 2,148,215 1,700,000 1,966,888 912,928 11,912,613 56,886,106 - 9,006,075 518,303 28,914,699 95,325,183
Total assets	\$	117,857,339	\$ 107,237,796
Current liabilities: Note payable, bank Current portion of long term debt Current portion of operating lease obligations Accounts payable Accrued expenses and other current liabilities Current portion of deferred access fee revenue Total current liabilities Long-term debt Operating lease obligations, net of current portion Deferred research grant revenue Deferred access fee revenue, net of current portion	\$	4,188,368 50,982 21,301 1,457,163 99,993 1,878,357 7,696,164 1,902,532 64,836 27,303 4,410,801	\$ 1,506,846 49,687 - 696,764 119,007 1,447,576 3,819,880 1,950,313 - 29,996 5,556,134
Total liabilities		14,101,636	11,356,323
Commitments and contingencies Net assets: Without donor restrictions:			
Net invested in property and equipment Undesignated Board designated	_	63,068,081 (28,771,004) 2,101,823 36,398,900	55,379,260 (22,291,233) 1,925,544 35,013,571
With donor restrictions		67,356,803	 60,867,902
Total net assets		103,755,703	 95,881,473
Total liabilities and net assets	\$	117,857,339	\$ 107,237,796

Combined Statement of Activities

	Without donor restrictions		With donor restrictions		Total
Revenues, support and gains: Contracts with governmental and other agencies Telescope access fees Contributions Public program revenue	\$	3,011,728 2,057,312 1,365,601 2,621,839	\$ - - 17,773,014	\$	3,011,728 2,057,312 19,138,615 2,621,839
Investment income, net Other income Net assets released from restrictions	_	422,461 84,739 14,750,924	3,838,355 - (14,750,924)		4,260,816 84,739 -
Expenses: Program services:		24,314,604	6,860,445		31,175,049
Research Technology Public programs		5,790,981 4,977,266 3,934,866	- - -		5,790,981 4,977,266 3,934,866
Support services:		14,703,113			14,703,113
Management and general Fundraising	_	2,472,155 1,696,853 4,169,008	<u>-</u>		2,472,155 1,696,853 4,169,008
Loss on disposal of assets		18,872,121 4,428,698	-	_	18,872,121 4,428,698
Change in net assets before transfers		1,013,785	6,860,445		7,874,230
Transfers of net assets Change in net assets	_	371,544 1,385,329	(371,544) 6,488,901		7,874,230
Net assets, beginning	_	35,013,571	60,867,902		95,881,473
Net assets, ending	\$	36,398,900	\$ 67,356,803	\$	103,755,703

Combined Statement of Activities

	Without donor restrictions		With donor restrictions	_	Total
Revenues, support and gains: Contracts with governmental and other agencies Telescope access fees	\$	1,650,395	\$ -	\$	4,827,838 1,650,395
Contributions Public program revenue Investment loss, net Other income		6,475,822 2,108,173 (242,777) 582,734	4,615,787 - (4,506,665) -		11,091,609 2,108,173 (4,749,442) 582,734
Gain on sale of assets Net assets released from restrictions	_	2,000 4,087,959	(4,087,959)	_	2,000
Expenses: Program services:		19,492,144	(3,978,837)		15,513,307
Research Technology Public programs		6,506,568 5,012,872 4,009,462	- - -		6,506,568 5,012,872 4,009,462
Support services:		15,528,902		_	15,528,902
Management and general Fundraising	_	2,053,991 1,588,086	-		2,053,991 1,588,086
	_	3,642,077 19,170,979			3,642,077 19,170,979
Change in net assets before transfers		321,165	(3,978,837)		(3,657,672)
Transfers of net assets	_	256,993	(256,993)		
Change in net assets		578,158	(4,235,830)		(3,657,672)
Net assets, beginning	_	34,435,413	65,103,732		99,539,145
Net assets, ending	\$	35,013,571	\$ 60,867,902	\$	95,881,473

Combined Statement of Functional Expenses

	Program services				S			
	Research	Technology	Public	Total program services	Management	Fundraising	Total supporting services	Total
Colorias	-		programs		and general			expenses
Salaries	\$ 2,815,170			\$ 6,931,379	\$ 1,159,030	\$ 1,046,163	\$ 2,205,193	\$ 9,136,572
Payroll taxes and benefits	541,171	_	522,492	1,530,855	255,295	218,956	474,251	2,005,106
	3,356,343	2,364,238	2,741,655	8,462,234	1,414,325	1,265,119	2,679,444	11,141,678
Depreciation	399,449	1,337,879	309,971	2,047,299	44,092	16,442	60,534	2,107,833
Equipment	214,847	18,471	10,414	243,732	6,512	4,936	11,448	255,180
Insurance	29,934	752,650	22,772	805,356	9,721	3,174	12,895	818,251
Interest	-	-	-	-	252,930	-	252,930	252,930
Other	103,344	18,429	326,085	447,858	62,991	249,274	312,265	760,123
Professional services	1,149,225	28,341	74,897	1,252,463	388,702	11,581	400,283	1,652,746
Repairs and maintenance	141,133	265,671	167,270	574,072	69,943	60,999	130,942	705,014
Supplies and postage	110,777	35,650	149,694	296,121	35,214	27,255	62,469	358,590
Training and development	29,608	9,081	12,777	51,466	121,824	6,224	128,048	179,514
Travel and meals	162,697	4,758	43,305	210,760	37,031	41,733	78,764	289,524
Utilities	93,628	142,098	76,026	311,752	28,870	10,116	38,986	350,738
	\$ 5,790,982	\$ 4,977,266	\$ 3,934,866	\$ 14,703,113	\$ 2,472,155	\$ 1,696,853	\$ 4,169,008	\$ 18,872,121

Combined Statement of Functional Expenses

	Program services					Supporting services									
		Research		Technology		Public programs	То	otal program services		Management and general	F	undraising		Total supporting services	Total expenses
Salaries	\$	3,187,710	\$	1,741,578	\$	2,426,506	\$	7,355,794	\$	1,071,251	\$	990,764	\$	2,062,015	\$ 9,417,809
Payroll taxes and benefits		643,134	_	460,381		547,528		1,651,043	_	202,880		205,214		408,094	 2,059,137
		3,830,844		2,201,959		2,974,034		9,006,837		1,274,131		1,195,978		2,470,109	11,476,946
Depreciation		403,799		1,349,138		295,487		2,048,424		43,490		16,194		59,684	2,108,108
Equipment		63,674		49,359		20,505		133,538		15,618		4,456		20,074	153,612
Insurance		31,409		859,911		23,210		914,530		13,712		4,076		17,788	932,318
Interest		-		78,591		-		78,591		60,868		-		60,868	139,459
Other		95,377		29,632		250,385		375,394		23,701		143,116		166,817	542,211
Professional services		1,338,646		30,782		53,167		1,422,595		314,154		33,857		348,011	1,770,606
Repairs and maintenance		291,429		209,001		164,129		664,559		56,194		72,149		128,343	792,902
Supplies and postage		176,032		23,443		96,481		295,956		26,340		32,415		58,755	354,711
Training and development		10,414		32,189		15,036		57,639		162,937		12,555		175,492	233,131
Travel and meals		159,411		14,946		49,995		224,352		35,759		63,678		99,437	323,789
Utilities		105,533		133,921		67,033		306,487	_	27,087		9,612		36,699	343,186
	\$	6,506,568	\$	5,012,872	\$	4,009,462	\$	15,528,902	\$	2,053,991	\$	1,588,086	\$	3,642,077	\$ 19,170,979

Combined Statements of Cash Flows

Years Ended December 31, 2023 and 2022

	2023			2022
Cash flows from operating activities:				
Change in net assets	\$	7,874,230	\$	(3,657,672)
Adjustments to reconcile change in net assets to net cash provided by				<u>-</u>
operating activities:				
Depreciation		2,107,833		2,108,108
Net realized and unrealized gains (losses) on investments		(3,585,162)		5,245,368
Loss (gain) on sale of assets		4,428,698		(2,000)
Contributions for long-term purposes		(8,073,536)		(1,974,684)
Changes in operating assets and liabilities:				
Grants receivable		640,975		(527,073)
Promises to give		(6,588,272)		2,139,510
Estates and bequests receivable		1,250,000		2,200,000
Refundable payroll taxes		1,966,888		188,919
Other current assets		292,862		258,404
Accounts payable		760,399		9,313
Accrued expenses and other current liabilities		(19,014)		25,218
Deferred research grant revenue		(2,693)		(18,424)
Deferred access fee revenue		(714,552)		402,954
Net adjustments		(7,535,574)		10,055,613
Net cash provided by operating activities	-	338,656	_	6,397,941
Cash flows from investing activities:				
Purchases of property and equipment		(16,937,140)		(9,190,666)
Proceeds from sale of assets		30,266		2,000
Purchases of collection item		-		(118,303)
Purchases of investments		(9,149,417)		(16,547,426)
Proceeds from sale/maturity of investments		15,140,912		10,215,493
Proceeds from sale of certificates of deposit				6,760,301
Net cash used in investing activities		(10,915,379)		(8,878,601)
Cash flows from financing activities:				
Payments on note payable, bank		(8,538,478)		(4,019,125)
Proceeds from note payable, bank		11,220,000		-
Borrowings (repayments) from long-term debt		(46,486)		1,500,000
Contributions restricted for long-term purposes		8,073,536		1,974,684
Net cash provided by (used in) financing activities		10,708,572		(544,441)
Net increase (decrease) in cash, cash equivalents, and restricted cash and cash				
equivalents		131,849		(3,025,101)
Cash, cash equivalents, and restricted cash and cash equivalents, beginning		853,243	_	3,878,344
Cash, cash equivalents, and restricted cash and cash equivalents, ending	\$	985,092	\$	853,243

Notes to Combined Financial Statements

Years Ended December 31, 2023 and 2022

1. Description of organization and summary of significant accounting policies:

Organization:

Lowell Observatory (the Observatory), located in Flagstaff, Arizona, is a nonprofit organization whose purpose is conducting astronomical research and sponsoring educational programs related to astronomy. The Observatory's mission is to pursue the study of astronomy, especially the study of our solar system and its evolution; to conduct pure research in astronomical phenomena; and to maintain quality public education and outreach programs to bring the results of astronomical research to the general public. The Observatory is overseen by a Sole Trustee, who is the responsible party for all operations of the Observatory. The Observatory's programs are supported primarily by government grants, public contributions, and investment returns. Therefore, the Organization's viability is dependent upon the strength and support provided to the nonprofit industry, and the Organization's ability to collect on its contracts and promises to give.

The Trust U/W of Percival Lowell (the Trust) is a perpetual trust established for the benefit of the Observatory and is overseen by the Sole Trustee of the Observatory. Percival Lowell's will, which established the Trust, was executed on February 21, 1913, with its final codicil dated December 15, 1915. Percival Lowell died November 12, 1916. The Trust has been amended since that date.

The Lowell Observatory Foundation (the Foundation) was established on September 9, 2014 as a non-profit organization governed by an independent board of trustees and dedicated solely to supporting the Observatory's mission.

Principles of consolidation and combination:

The Trust is consolidated into the Observatory. The combined financial statements include the accounts of the Observatory and the Foundation (collectively the Organization). Due from related party and due to related party are obligations between the Observatory and the Foundation that will be satisfied in future years. All significant interorganizational accounts and transactions have been eliminated.

Estimates:

The preparation of combined financial statements in conformity with accounting principles generally accepted in the United States of America (GAAP) requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the combined financial statements and the reported amounts of revenues, support, gains and expenses during the reporting period. On an ongoing basis, management evaluates its estimates and assumptions, including those related to inputs used to recognize revenue over time. Actual results could differ materially from such estimates and assumptions.

Notes to Combined Financial Statements (continued)

Years Ended December 31, 2023 and 2022

1. Description of organization and summary of significant accounting policies (continued):

Net assets:

Net assets, support, gains, and losses are classified based on the existence or absence of donor or grantor imposed restrictions. Accordingly, net assets and changes therein are classified and reported as follows:

- Net assets without donor restrictions Net assets available for use in general operations and not subject to donor restrictions.
- Net assets with donor restrictions Net assets subject to donor-imposed restrictions. Some
 donor-imposed restrictions are temporary in nature, such as those that will be met by the
 passage of time or other events specified by the donor. Other donor-imposed restrictions are
 perpetual in nature, where the donor stipulates that resources be maintained in perpetuity.
 Donor-imposed restrictions are released when a restriction expires, that is, when the stipulated
 time has elapsed, when the stipulated purpose for which the resource was restricted has been
 fulfilled, or both.

Revenue recognition:

Contracts with governmental and other agencies:

The Observatory has various contracts with governmental and other agencies. For contracts that have an exchange element, revenue is recognized over time as goods or services are transferred and expenditures for services under the provisions of the contract are incurred. Advances received from governmental funding sources in excess of costs incurred under the related exchange contracts are deferred and recognized as revenue when the related expenses are incurred using a cost-based input method. Deferred revenue from research contracts with an exchange element is a contract liability and is classified as deferred research grant revenue on the combined statements of financial position. At January 1, 2022, the balance of deferred research grant revenue was \$48,420. Revenue related to non-exchange contracts with governmental and other agencies is recognized as a contribution.

Telescope access fees:

Telescope access fees are charged to partnering universities for time on the Organization's telescopes in exchange transactions. Advances received from the partnering universities are recorded as deferred revenue. Revenue is recognized at a point in time in the period earned based on actual nights used. Deferred revenue from telescope access fees is a contract liability and is classified as deferred access fee revenue on the combined statements of financial position. At January 1, 2022, the balance of deferred access fee revenue was \$6,600,756.

Contributions:

Contributions are considered non-exchange transactions and are recognized in the appropriate category of net assets in the period received. Contributions of assets other than cash are recorded at their estimated fair value at the date of gift. Conditional promises to give are not recognized until the conditions on which they depend have been substantially met.

Notes to Combined Financial Statements (continued)

Years Ended December 31, 2023 and 2022

1. Description of organization and summary of significant accounting policies (continued):

Revenue recognition (continued):

Public program revenue:

Public program revenue consists of exchange transactions recognized at a point in time when the related services are provided.

Donated goods and services:

Support arising from donated goods and services is recognized in the combined financial statements at its fair value. Donated services are recognized when the services received meet one of the following criteria:

- (a) create or enhance nonfinancial assets
- (b) require specialized skills, are provided by individuals possessing those skills, and would typically need to be purchased if not provided by donation.

Although the Organization utilizes the services of outside volunteers to perform a variety of tasks that assist the Organization, the fair value of all these services may not be reflected in the combined financial statements because the above criteria are not met.

Transaction price:

For exchange transactions, the transaction price is the amount of consideration the Organization expects to be entitled to in exchange for transferring goods and services to the customer. When a contract has a single performance obligation, the entire transaction price is attributed to that performance obligation. When a contract has more than one performance obligation, the transaction price is allocated to each performance obligation based on estimated relative standalone selling prices of the goods or services at the inception of the contract, which typically is determined using cost plus an appropriate margin.

Performance obligations:

Contracts that constitute exchange transactions are considered to contain a single performance obligation if the promise to transfer individual goods or services is not separately identifiable from other promises in the contracts primarily because the Organization provides a significant service of integrating a complex set of tasks and components into a single project or capability. A series of goods or services are a single performance obligation if the goods or services are substantially the same and each distinct good or service in the series will be satisfied over time and the same method would be used to measure progress towards satisfaction. Contracts that cover multiple performance phases of the product lifecycle (development, production, maintenance and support) are typically considered to have multiple performance obligations even when they are part of a single contract.

Notes to Combined Financial Statements (continued)

Years Ended December 31, 2023 and 2022

1. Description of organization and summary of significant accounting policies (continued):

Revenue recognition (continued):

Performance obligations (continued):

For contracts with multiple performance obligations, the Organization allocates the transaction price to each performance obligation using the best estimate of the standalone selling price of each distinct good or service in the contract. The Organization invoices its customers over time as the performance obligations are satisfied. Payment is typically due within 30 days of invoice.

Contract combination and modification:

To determine proper revenue recognition for exchange transactions, the Organization evaluates whether two or more contracts should be combined and accounted for as a single contract and whether a combined or single contract should be accounted for as more than one performance obligation. This evaluation requires significant judgment, and the decision to combine contracts or separate a combined or single contract into multiple performance obligations could change the amount of revenue and profit recorded in a given period.

The Organization accounts for contract modifications as a separate contract when the modification results in the promise to deliver additional goods or services that are distinct and the increase in price of the contract is for the same amount as the stand-alone selling price of the additional goods or services included in the modification.

Cost and expense recognition:

Contract costs include direct labor, materials, and indirect costs related to contract performance, such as indirect labor, communications, technology and depreciation costs. Costs charged to certain contracts from government agencies include indirect costs and are subject to audit by the United States Department of the Interior, Interior Business Center, as directed by the Office of National Aeronautics and Space Administration.

Cash and cash equivalents:

All highly liquid debt instruments purchased with a maturity of three months or less are considered to be cash equivalents. All cash and cash equivalents are placed with various credit institutions. At times, such amounts may be in excess of the FDIC insurance limits; however, management does not believe they are exposed to any significant credit risk on cash and cash equivalents.

Restricted cash and cash equivalents consist of amounts received with donor-imposed restrictions. All donor-imposed restrictions on restricted cash and cash equivalents are temporary in nature.

Notes to Combined Financial Statements (continued)

Years Ended December 31, 2023 and 2022

1. Description of organization and summary of significant accounting policies (continued):

Cash and cash equivalents (continued):

The following table provides a reconciliation of cash and cash equivalents, and restricted cash and cash equivalents reported on the combined statements of financial position to the combined statements of cash flows:

	 2023	 2022
Cash and cash equivalents Restricted cash and cash equivalents	\$ 696,350 288,742	\$ 755,205 98,038
	\$ 985,092	\$ 853,243

The restrictions on cash and cash equivalents restricted by donors will lapse when the funds are spent on the related restricted purposes.

Investments:

Investments are carried at fair value. Donated investments are recorded at fair value at the date of gift. Investment gains and losses are included in the changes in net assets in the accompanying combined statements of activities as increases or decreases in net assets without donor restrictions unless their use is restricted by explicit donor-imposed stipulations or legal requirements net of related investment fees. Realized gains or losses on disposition of investments are recorded on a trade date basis using the specific identification method. Dividends and interest income are accrued when earned. Investments are considered to be impaired when a decline in fair value is judged to be other-than-temporary.

Fair value measurements:

Fair value is defined as the price to sell an asset or transfer a liability between market participants in an orderly exchange in the principal or most advantageous market for that asset or liability. The fair value for qualifying alternative investments is determined based on the investment's net asset value as a practical expedient. Considerable judgment is required in interpreting market data used to develop the estimates of fair value. Accordingly, the estimates presented in the combined financial statements are not necessarily indicative of the amounts that could be realized in a current market exchange. The use of different market assumptions and estimation methodologies may have a material effect on the estimated fair value.

Grants receivable:

The Organization records grants receivable for its unconditional rights to consideration arising from performance under contracts with customers that are primarily Federal Government agencies. The carrying value of such receivables represents their estimated net realizable value. At January 1, 2022, the balance of grants receivable was \$375,713.

Notes to Combined Financial Statements (continued)

Years Ended December 31, 2023 and 2022

1. Description of organization and summary of significant accounting policies (continued):

Grants receivable (continued):

Grants receivable consist primarily of uncollateralized obligations from Federal Government agencies related to amounts earned but uncollected from the Organization's contracts with those agencies. Payments of grants receivable are applied to the specific invoices identified on the remittance advice, or if unspecified, to the earliest unpaid invoices.

Promises to give:

Unconditional promises to give are recognized as support at their estimated net realizable value in the period received. Promises to give that are collectible over future periods are discounted to their net present value. The provision for uncollectible promises to give is based on management's estimate of current economic factors, applied as a percentage of gross contribution revenues. Promises to give are periodically reviewed for collectibility and written off when determined uncollectible. At December 31, 2023 and 2022, promises to give are considered fully collectible, therefore, no allowance for uncollectible pledges has been provided.

Property and equipment:

Property and equipment are stated at cost except for donated equipment, which is recorded at its fair market value at the date of gift. Property and equipment with a value of greater than or equal to \$5,000 and a useful life of more than one year is capitalized. Depreciation is calculated using the straight-line method over the estimated useful lives of the assets.

Buildings and improvements	5 - 40 years
Equipment and computers	3 - 30 years
Furniture and fixtures	5 - 10 years
Vehicles	5 - 10 years

Leases:

The Organization recognizes and measures its leases in accordance with FASB ASC 842, *Leases*. The Organization determines if an arrangement is a lease at inception and when the terms of an existing contract are changed.

Lease assets represent the Organization's right to use an underlying asset for the lease term, and lease liabilities represent the Organization's obligation to make lease payments arising from the lease. Operating lease assets and liabilities are recognized at commencement date based on the present value of lease payments over the lease term. As most of the Organization's leases do not provide an implicit rate, management uses a risk-free rate based on the information available at commencement date in determining the present value of lease payments. Lease expense for operating lease payments is recognized on a straight-line basis over the lease term. Lease terms may include options to extend or terminate the lease when it is reasonably certain that the Organization will exercise that option.

Notes to Combined Financial Statements (continued)

Years Ended December 31, 2023 and 2022

1. Description of organization and summary of significant accounting policies (continued):

Leases (continued):

The Organization's lease agreements do not contain any material residual value guarantees or material restrictive covenants.

Impairment of long-lived assets:

The Organization reviews long-lived assets to be held and used for impairment whenever events or changes in circumstances indicate that the carrying amount of the assets may not be recoverable. If the sum of the undiscounted expected future cash flows over the remaining useful life of the long-lived assets is less than the carrying amount, the asset is considered impaired. Impairment losses would be measured as the amount by which the carrying amount exceeds the fair value of the asset. There was no impairment of long-lived assets recognized for 2023 and 2022.

Collection items:

The Organization has ownership of a vintage car, which was donated to the Observatory by the Sole Trustee in 2002. The vehicle is capitalized based on its appraised value at the date of the unrestricted contribution. During 2022, the Organization purchased a vintage telescope for its collection. The telescope is recorded at cost.

Endowments:

The Organization's endowments consist of funds established under either donor restriction or as designated by the Trustees for a variety of purposes. As required by GAAP, net assets associated with endowment funds (including funds designated by the Trustees to function as endowments) are classified and reported based on the existence or absence of donor-imposed restrictions.

The Trustees of the Foundation have interpreted Arizona's Management of Charitable Funds Act (AMCFA), Arizona's enacted legislation of the Uniform Prudent Management of Institutional Funds Act (UPMIFA), as requiring the preservation of the fair value of the original gift, as of the gift date of the donor-restricted endowment funds, unless there are explicit donor stipulations to the contrary. As a result of this interpretation, the Organization retains in perpetuity (a) the original value of initial and subsequent gift amounts donated to the endowment and (b) any accumulations to the endowment made in accordance with the direction of the applicable donor gift instrument at the time the accumulation is added. Donor-restricted amounts not retained in perpetuity are subject to appropriation for expenditure by the Organization in a manner consistent with the standard of prudence prescribed by AMCFA and UPMIFA.

Program expense allocations:

The Organization's expenses are classified into functional expenses, which include program services and supporting services.

Notes to Combined Financial Statements (continued)

Years Ended December 31, 2023 and 2022

1. Description of organization and summary of significant accounting policies (continued):

Program expense allocations (continued):

Program services are comprised of the following functional categories: research, technology, and public programs. Research encompasses all expenses to conduct research in all areas of astronomy, including studies of the sun, solar system, stars, exoplanets, galaxies and cosmology. This includes outlays related to contracts with governmental and other agencies. Technology includes the cost of servicing, maintaining and developing the telescopes, and the facilities and instruments used for research operations. It also integrates expenses related to telescope access fees. Public programs category is comprised of expenses to operate the education and outreach program provided to the general public, which includes tours, solar viewing, presentations, telescope viewing and camps.

Supporting services are comprised of the following functional categories: management and general and fundraising. Management and general provides the administrative support for the Organization. Fundraising incorporates costs associated with donor development, communications, compliance and generating donations for the Organization.

The combined financial statements report certain categories of expenses that are attributable to one or more program or supporting services of the Organization. Those expenses include depreciation, the Director's office, communications department, and information technology department. Depreciation is allocated based on a square footage basis, the Director's office is allocated based on a time and cost study of where efforts are made, certain costs of the communications department are allocated based on the benefit received, and the information technology department is allocated based on a cost study of specific technology utilized and the benefit received.

Advertising:

Advertising costs are expensed as incurred. Total advertising expense was \$301,465 and \$122,331 for 2023 and 2022.

Income taxes:

The Observatory, the Foundation, and the Trust are exempt from income taxes under both Internal Revenue Code (IRC) section 501(c)(3) and Arizona income tax laws. The Observatory is classified as other than a private foundation under IRC section 509(a)(1). The Foundation and the Trust are each classified as other than a private foundation under IRC section 509(a)(3) as a supporting organization of the Observatory. Income from certain activities not directly related to the Organization's tax-exempt purpose, however, may be subject to taxation as unrelated business taxable income.

From time to time, the Organization may be subject to penalties and interest assessed by various taxing authorities, which are classified as general and administrative expenses if they occur.

Notes to Combined Financial Statements (continued)

Years Ended December 31, 2023 and 2022

1. Description of organization and summary of significant accounting policies (continued):

Subsequent events:

The Organization's management has evaluated the events that have occurred subsequent to December 31, 2023 through , the date that the combined financial statements were available to be issued. Management has no responsibility to update these financial statements for events and circumstances occurring after this date.

2. Liquidity and availability of financial assets:

As part of the Organization's liquidity management, it has a policy to structure its financial assets to be available as its general expenditures, liabilities and other obligations come due. In addition, the Organization invests cash in excess of daily requirements in short-term investments. To help manage unanticipated liquidity needs, the Organization has also committed a line of credit in the amount of \$11 million, which it could draw upon. At December 31, 2023 the Organization could draw down an additional \$6.8 million.

The following reflects the Organization's financial assets as of the combined statement of financial position date, reduced by the amounts not available for general use within one year of the combined statement of financial position date because of contractual or donor-imposed restrictions.

	2023	2022
Cash and cash equivalents	\$ 696,350	\$ 755,205
Restricted cash and cash equivalents	288,742	98,038
Investments	29,936,919	32,343,252
Grants receivable	261,811	902,786
Estates and bequests receivable	450,000	1,700,000
Promises to give	17,742,562	11,154,290
Refundable payroll taxes		1,966,888
Total financial assets	49,376,384	48,920,459
Promises to give scheduled to be collected in more than one year	(10,364,160)	(9,006,075)
Contractual or donor-imposed restrictions:		
Endowment funds	(11,634,262)	(7,414,756)
Other donor restrictions	(7,770,974)	(12,212,896)
Funds restricted by lender as collateral	(4,188,368)	(1,506,846)
Restricted cash and cash equivalents	(288,742)	(98,038)
Board designations:		
Endowment funds	(2,101,821)	(1,925,544)
Financial assets available to meet cash needs for general expenditures		
within one year	\$ 13,028,057	\$ 16,756,304

Notes to Combined Financial Statements (continued)

Years Ended December 31, 2023 and 2022

3. Investments:

	2023	2022
Money market funds	\$ 938,147	\$ 5,923,309
Fixed income securities	5,387,143	5,515,489
Equity securities	21,857,711	18,335,320
Alternative investments	1,753,918	2,569,134
	29,936,919	32,343,252
Less investments with donor restrictions	27,821,486	28,914,699
	<u>\$ 2,115,433</u>	\$ 3,428,553

Investment income (loss) for the years ended December 31, 2023 and 2022 is as follows:

		2023	 2022
Interest and dividends	\$	791,427	\$ 622,097
Net realized and unrealized gain (loss) on investments		3,585,162	(5,245,368)
Investment fees	_	(115,773)	 (126,171)
	<u>\$</u>	4,260,816	\$ (4,749,442)

4. Fair value measurements:

At December 31, 2023, the fair value of assets measured on a recurring basis is as follows:

	_	Fair value			Practical expedient	
Money market funds	\$	938,147	\$	938,147	\$	-
Fixed income securities		5,387,143		5,387,143		-
Equity securities:						
US large cap		13,948,336		13,948,336		-
US mid cap		2,099,262		2,099,262		-
US small cap		2,111,702		2,111,702		-
Developed international		1,848,017		1,848,017		-
Other		1,850,394		1,850,394		-
Alternative investments		1,753,918	_	<u>-</u>		1,753,918
	\$	29,936,919	\$	28,183,001	\$	1,753,918

Notes to Combined Financial Statements (continued)

Years Ended December 31, 2023 and 2022

4. Fair value measurements (continued):

At December 31, 2022, the fair value of assets measured on a recurring basis is as follows:

	Fair value Level 1		Practical expedient		
Money market funds	\$	5,923,309	\$	5,923,309	\$ -
Fixed income securities		5,515,489		5,515,489	-
Equity securities:					
US large cap		11,943,182		11,943,182	-
US mid cap		1,794,333		1,794,333	-
US small cap		1,516,482		1,516,482	-
Developed international		1,878,604		1,878,604	-
Other		1,202,719		1,202,719	-
Alternative investments		2,569,134	_		 2,569,134
	<u>\$</u>	32,343,252	\$	29,774,118	\$ 2,569,134

The assets in the preceding tables were measured primarily using the market approach. Following is a description of the valuation methodologies used for assets measured at fair value. The asset's fair value measurement level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement. Transfers between levels are recorded at the beginning of the reporting period in which they occur. Valuation techniques used maximize the use of observable inputs and minimize the use of unobservable inputs:

Level 1 - Inputs to the valuation methodology are unadjusted quoted prices for identical assets or liabilities in active markets that the Organization has the ability to access.

Practical Expedient - Investments for which fair value is measured at net asset value per share (or its equivalent). Due to the inherent uncertainty of these estimates, these values may differ materially from the values that would have been used had a ready market for these investments existed.

The fair value of the Organization's investments are valued at the closing price reported on the active market on which the individual securities are traded except for the alternative investments. The Organization's alternative investments are valued based on their net asset value using the practical expedient. The alternative investments consist primarily of offshore investment funds that provide investment exposure to global equity, bond, currency and commodity markets and fixed-income securities, without quoted prices. The funds may invest in instruments that provide economic exposure to developed and emerging market issuers. These investments have restrictions on redemptions consisting of lock up periods of up to 65 days. No unfunded commitments exist related to these investments.

Notes to Combined Financial Statements (continued)

Years Ended December 31, 2023 and 2022

5. Promises to give:

Promises to give consist of pledges from foundations and individual donors. At December 31, 2023 and 2022, promises to give are as follows:

	2023	2022
Pledges receivable in less than one year	\$ 7,378,402	\$ 2,148,215
Pledges receivable in one to five years	7,350,520	6,158,806
Pledges receivable in more than five years	4,384,719	3,677,080
Less unamortized discount to present value	(1,371,079)	(829,811)
	17,742,562	11,154,290
Less current portion	7,378,402	2,148,215
Noncurrent portion	\$ 10,364,160	\$ 9,006,075

Long-term promises to give are discounted to their present value using U.S. treasury rates ranging from 1.89% to 3.99% at December 31, 2023 and 2022.

At December 31, 2023, 89% of promises to give are from four donors. At December 31, 2022, 85% of promises to give are from two donors.

6. Property and equipment:

	2023	2022
Land	\$ 445,917	\$ 445,917
Buildings and improvements	27,362,268	27,565,221
Equipment and computers	38,046,473	40,829,302
Furniture and fixtures	255,097	282,508
Vehicles	407,288	321,079
Construction in progress	<u>30,476,575</u>	15,995,726
	96,993,618	85,439,753
Less accumulated depreciation	29,737,169	28,553,647
	<u>\$ 67,256,449</u>	\$ 56,886,106

In 1960, the Organization entered into a series of contracts with the United States Naval Observatory (USNO) to construct and operate the Navy Precision Optical Interferometer (NPOI) to conduct astronomical research. NPOI was constructed on the Lowell Observatory Anderson Mesa Facility, which is an 180 acre area located southeast of the city of Flagstaff, Arizona on the Coconino National Forest. The Observatory has a special use permit to conduct astronomical research at this location.

Notes to Combined Financial Statements (continued)

Years Ended December 31, 2023 and 2022

6. Property and equipment (continued):

Since 1960, the Organization has received significant Federal funding from both USNO and Naval Research Laboratory related to this project. During 2023, the Observatory elected to terminate its relationship with NPOI and turned over assets related to NPOI that were acquired with recent Federal funding with a remaining net book value of approximately \$4,449,000. This is reflected in the loss on disposal of assets in the combined statement of activities.

7. Leases:

The Organization has operating leases for office equipment with initial noncancelable terms in excess of one year that expire through October 2027.

	 2023	 2022	_
The components of lease cost are as follows: Operating lease cost, included in operating expenses	\$ 24,420	\$ -	
Cash flow information related to leases is as follows: Cash paid for amounts included in the measurement of lease liabilities:			
Operating cash flows - operating leases	\$ 24,420	\$ -	
Lease assets obtained in exchange for lease liabilities: Operating leases	106,570	-	
Other information related to leases is as follows: Lease term (in years) and discount rate:			
Weighted-average remaining lease term, operating leases	3.8	-	
Weighted-average discount rate, operating leases	4.2 %	- %	ó

The maturities of lease liabilities as of December 31, 2023 were as follows:

Year ending <u>December 31</u> ,	<u>Operating</u>
2024	\$ 24,420
2025	24,420
2026	24,420
2027	19,790
Total lease payments	93,050
Less interest	6,913
Present value of lease liabilities	\$ 86,137

Notes to Combined Financial Statements (continued)

Years Ended December 31, 2023 and 2022

7. Leases (continued):

The present value of lease liabilities are reported in the statements of financial position as follows:

		2023	 2022
Current portion of operating leases obligations	\$	21,301	\$ -
Operating lease obligations, net of current portion	-	64,836	
	\$	86,137	\$ -

8. Note payable, bank:

The Organization has an \$11,000,000 revolving line of credit note (the Note) with BNY. The Note calls for monthly interest only payments at the 30 day SOFAR rate (5.38% at December 31, 2023) plus 1.2%, with a minimum rate of 1.2%. There is no maturity date under the Note; however, BNY may call the note at any time, as such the note has been classified as a current liability. The Note is collateralized by investment assets of the Organization. The Organization had an outstanding balance of \$4,188,368 and \$1,506,846 related to the line of credit at December 31, 2023 and 2022.

The Organization is required to be in compliance with certain non-financial covenants.

9. Long-term debt:

	2023	2022
Note payable, Small Business Administration, interest at 2.75%, payable in aggregate monthly installments of \$8,672 beginning November 2022 through May 2050, collateralized by all assets of the Organization. Installment payments were first applied to accrued interest until January 2023. Starting with February 2023,		
the installment payments were apply to principal and interest.	\$ 1,953,514	\$ 2,000,000
Less current portion	50,982	49,687
	\$ 1,902,532	\$ 1,950,313

Notes to Combined Financial Statements (continued)

Years Ended December 31, 2023 and 2022

9. Long-term debt (continued):

Future maturities of long-term debt are as follows:

Year ending	
December 31,	
2024	\$ 50,982
2025	52,402
2026	53,861
2027	55,361
2028	56,903
Thereafter	1,684,005
	<u>\$ 1,953,514</u>

10. Deferred access fee revenue:

The Organization has entered into a series of agreements to provide several educational institutions access to its telescopes. Under the terms of the agreements, the institutions are required to provide prescribed levels of financial support in exchange for nights of telescope use. Deferred access fee revenue represents amounts received from the institutions for nights not yet provided. At December 31, 2023 and 2022, deferred access fee revenue totaled \$6,289,158 and \$7,003,710.

11. Net assets with donor restrictions:

Net assets with donor restrictions are restricted for the following purposes or periods.

	2023	2022
Subject to expenditure for specified purpose:		
Improvements and maintenance	\$ 16,283,080	\$ 18,550,864
Marketing	115,657	811
Exhibits, education and outreach, and other public programs	392,928	445,599
Research	1,343,469	2,221,698
Funds held in Trust U/W of Percival Lowell to be used for Observatory		
purposes	37,587,407	32,234,174
	<u>\$ 55,722,541</u>	<u>\$ 53,453,146</u>

Notes to Combined Financial Statements (continued)

Years Ended December 31, 2023 and 2022

11. Net assets with donor restrictions (continued):

		2023		2022
Endowments:				
Earnings are subject to appropriation and expenditure for specified				
purposes:				
Endowment fund	\$	72,849	\$	50,517
ADC endowment fund	3	,051,826		36,213
Exploration fund, subject to reversionary agreement		76,622		69,750
Exploration fund, not subject to reversionary agreement	1	,873,154		1,703,864
Giovale endowed fund for astronomical research		551,335		506,191
GODO endowment fund		529,733		471,487
Historic preservation fund, subject to reversionary agreement		10,275		9,447
Historic preservation fund, not subject to reversionary agreement		59,531		54,270
Inspiration fund, subject to reversionary agreement		2,504		2,205
Inspiration fund, not subject to reversionary agreement		6,557		5,676
Instrumentation fund, subject to reversionary agreement		734,784		674,586
Instrumentation fund, not subject to reversionary agreement		1,781		1,633
Marcus cometary research fund		365,835		335,801
Mars Hill fund, not subject to reversionary agreement		92,412		81,372
Millennium fund, subject to reversionary agreement	2	,179,923		2,001,416
Native American astronomy outreach fund, not subject to				
reversionary agreement		450,744		412,947
Percival Lowell post doc fellowship		57,470		29,283
Robert M. Ayers Education Fund, subject to reversionary				
agreement		411,093		377,462
Robert M. Ayers Education Fund, not subject to reversionary				
agreement		854		-
Waddell fund, not subject to reversionary agreement		106,852		98,103
William G. Tifft endowment fund		732,382		350,000
William H.D. Goddard postdoctoral endowment fund		104,696		-
Young scholar fund		161,050	_	142,533
Total endowments	11	,634,262	_	7,414,756
	\$ 67	,356,803	\$	60,867,902

12. Endowments:

The Organization's endowment consists of the Millennium Fund and seventeen other perpetually restricted funds. Investment earnings related to the endowed assets are restricted for prescribed operating purposes.

Notes to Combined Financial Statements (continued)

Years Ended December 31, 2023 and 2022

12. Endowments (continued):

Reversionary agreement governing the Millennium Fund:

In 2000, the Lowell Millennium Fund (the Fund) was created to be a fund for the benefit of the Observatory. The Fund received both gifts without restrictions and gifts with perpetual restrictions from outside parties. The Observatory, through the Executive Committee of the Lowell Observatory Advisory Board, determined that it would consider all of the Fund as an endowment fund and began to administer it in that manner. When the Foundation was created, the Executive Committee contributed the Fund to the Foundation, but retained the right to compel its return in the future at the discretion of the Executive Committee.

Reversionary agreements relative to certain other Foundation endowment funds:

Since the creation of the Foundation, the Observatory has been the recipient of other gifts that were received without donor restrictions, which it then, subsequently, donated to the Foundation with restrictions consistent with the requirements and stipulations of certain of the Foundation's endowment funds. By agreement between the Observatory and the Foundation, the Observatory can, at any time, compel the return of these funds to the Observatory by written request.

In both cases, because the assets held by the Foundation are restricted by the terms of their contribution to the Foundation as only having the income available to benefit the Observatory, they are all recorded as perpetually restricted. At December 31, 2023 and 2022, these funds comprised 29% and 42% of the Foundation's perpetually restricted net assets.

Changes in endowment net assets for the year ended December 31, 2023 are as follows:

	 ithout donor estrictions	With donor restrictions	Total
Endowment net assets, beginning Investment income, net fees	\$ 1,925,544 257,925	\$ 7,414,756 982,262	\$ 9,340,300 1,240,187
Contributions Distributions	825	3,528,523	3,529,348
Transfers of net assets	(82,473)	 (291,933) <u>654</u>	 (374,406) <u>654</u>
	\$ 2,101,821	\$ 11,634,262	\$ 13,736,083

Notes to Combined Financial Statements (continued)

Years Ended December 31, 2023 and 2022

12. Endowments (continued):

Changes in endowment net assets for the year ended December 31, 2022 are as follows:

		thout donor estrictions		With donor restrictions	Total				
Endowment net assets, beginning	\$	2,320,532	\$	8,187,575	\$	10,508,107			
Investment loss, net fees		(313,890)		(1,111,734)		(1,425,624)			
Contributions		-		550,929		550,929			
Distributions		(81,098)		(265,833)		(346,931)			
Transfers of net assets		_	_	53,819		53,819			
Endowment net assets, ending	<u>\$</u>	1,925,544	\$	7,414,756	\$	9,340,300			

Funds with deficiencies:

From time to time, certain donor-restricted endowment funds may have fair values less than the amount required to be maintained by donors or by law (underwater endowments). We have interpreted UPMIFA to permit spending from underwater endowments in accordance with prudent measures required under law. As of December 31, 2023 and 2022, there were no deficiencies of this nature.

Return objectives and risk parameters:

The Organization has adopted investment policies including those for endowment assets that attempt to preserve the capital, preserve the purchasing power, and achieve long-term growth of capital of the endowment assets. Endowment assets include those assets of donor-restricted funds that the organization must hold in perpetuity or for a donor-specified period(s). Under these policies all assets including endowment assets are invested in a manner that is intended to produce results that exceed various external benchmarks while assuming a moderate level of investment risk. Actual returns in any given year may vary from this amount.

Spending policy and how the investment objectives relate to spending policy:

The Trust and Foundation have spending policies in place whereby amounts are appropriated based on determination of certain criteria to include the preservation of the endowment corpus, consideration of economic conditions, effects of inflation and deflation and the expected return from income and appreciation of investments.

The spending policy over the Trust endowments utilizes a total return approach.

The spending policy over the Foundation endowments also utilizes a total return approach, but provides for appropriations (currently a 4% rate annually) which may be made regardless of whether an Endowment Fund has sufficient current period and/or accumulated net investment returns but after taking into consideration the criteria specified above.

Notes to Combined Financial Statements (continued)

Years Ended December 31, 2023 and 2022

13. Retirement plans:

The Organization has a contributory 403(B) retirement plan historically held at Teachers' Insurance and Annuity Association. The last contributions sent to TIAA were in December 2016. Beginning in December 2016 new contributions were sent to Mutual of America. Beginning in 2017 the plan documents were changed and eligible employees may voluntarily participate in the plan. As of July 2020, the Observatory contributes 1%-5% of gross earnings, up to the Internal Revenue Service maximum allowable, when the employee contributes 1%-5% of gross earnings. Previously the Observatory matching contribution was a set 5%, when the employee contributes 5% or more. The Organization made contributions of \$447,472 and \$422,388 to the plan during the years ended December 31, 2023 and 2022.

14. Contingencies:

For the years ended December 31, 2023 and 2022, substantially all of the Organization's grant revenue and receivables are comprised of revenue derived from Federal agencies. A significant reduction in the level of this support, if it were to occur, would have a material effect on the programs and activities of the Organization. The governmental funding is subject to compliance audits by the respective governmental agencies. Assessments from such audits, if any, are recorded when the amounts of such assessments are reasonably determinable.

From time to time, the Organization uses certain funds obtained from Federal agencies to acquire property and equipment. The Organization can be required to transfer the title of these assets or remit any proceeds upon their sale to the Federal government. Management does not anticipate being required to transfer any assets at December 31, 2023.

Beginning in 1960, the Observatory obtained a series of special use permits from the U.S. Forest Service to construct facilities and perform astronomical research on land located southeast of the city of Flagstaff, Arizona in the Coconino National Forest. The permits expire and are subsequently reissued by the U.S. Forest Service every twenty years. Management believes that the permits will be reissued in perpetuity. In the event that the permits are not reissued, the Observatory may be required to remediate the land to its original condition. Because the timing of this obligation is indeterminate, no asset retirement obligation has been recorded. If the U.S. Forest Services does not continue to issue these permits, the costs associated with this obligation could significantly impact the combined financial statements.

Employee retention credit:

The Organization has filed amended quarterly payroll tax reports to claim \$2,155,807 in federal employee retention credits for the years ended December 31, 2021 and 2020, which were filed in March 2022. The Internal Revenue Service (IRS) has up to five years from the filing date of the amended return to audit the claim. Management believes they have filed valid claims for the credit and has not been notified of any audit by the IRS. The timing and outcome of any possible audit is not known.

Notes to Combined Financial Statements (continued)

Years Ended December 31, 2023 and 2022

14. Contingencies (continued):

Paycheck Protection Program (PPP) loan:

The Organization obtained loans totaling \$2,170,840 under the PPP that were forgiven in November 2020 and October 2021. The SBA may undertake a review of a loan of any size during the ten-year period following forgiveness; however, loans in excess of \$2M are subject to a mandatory audit. The audit will include the loan forgiveness application, as well as whether the Organization met the eligibility requirements of the program and received the proper loan amount. The timing and outcome of any SBA review is not known.

15. Statement of cash flows:

Supplemental disclosure of cash flow information:

Cash paid for interest was \$260,949 and \$106,952 for the years ended December 31, 2023 and 2022.

16. Subsequent events:

In March 2024, the Organization obtained a \$14,000,000 construction loan to build its Astronomy Discovery Center, which will open in late 2024. This loan will be paid by pledge payments received in 2025 through 2031.

Combining Statement of Financial Position

December 31, 2023

Assets

	Ob	Lowell servatory and Trust		Lowell Observatory Foundation		Eliminating		Combined total
Current assets:		,						<u>.</u>
Cash and cash equivalents	\$	643,459	\$	52,891	\$	-	\$	696,350
Restricted cash and cash equivalents		187,222		101,520		-		288,742
Investments		13,610		2,101,823		-		2,115,433
Grants receivable		261,811		-		-		261,811
Promises to give, current portion		5,378,402		2,000,000		-		7,378,402
Estate and bequests receivable		100,000		350,000		-		450,000
Other current assets		620,066						620,066
Total current assets		7,204,570		4,606,234				11,810,804
Property and equipment, net		67,256,449		-		-		67,256,449
Operating lease assets, net		86,137		-		-		86,137
Due from related party		-		963,925		(963,925)		-
Promises to give, net of current portion		10,364,160		-		-		10,364,160
Collection item		518,303		-		-		518,303
Assets limited to use:								
Investments with donor restrictions		19,410,875		8,410,611				27,821,486
Total noncurrent assets		97,635,924		9,374,536		(963,925)		106,046,535
Total assets	\$	104,840,494	\$	13,980,770	\$	(963,925)	\$	117,857,339
Current liabilities:		ies and Net Ass						
Note payable, bank	\$	4,188,368	\$	-	\$	-	\$	4,188,368
Current portion of long-term debt		50,982		-		-		50,982
Current portion of operating lease obligations		21,301		-		-		21,301
Accounts payable		1,457,163		-		-		1,457,163
Accrued expenses and other current liabilities		99,993		-		-		99,993
Current portion of deferred access fee revenue		1,878,357		-		- (0.00.00=)		1,878,357
Due to related party		963,925	_	-	_	(963,925)	_	7.000.101
Total current liabilities		8,660,089		-		(963,925)		7,696,164
Long-term debt		1,902,532		-		-		1,902,532
Operating lease obligations, net of current portion		64,836		-		-		64,836
Deferred research grant revenue Deferred access fee revenue, net of current portion		27,303		-		-		27,303
Total liabilities		4,410,801 15,065,561				(963,925)		4,410,801 14,101,636
Commitments and contingencies		13,003,301				(905,925)		14,101,030
Net assets:								
Without donor restrictions:								
Net invested in property and equipment		63,068,081		_		_		63,068,081
Undesignated				4 272 202				(28,771,004)
		(33.044.297)		4.773.793		-		
Board designated		(33,044,297)		4,273,293 2.101.823		-		
Board designated	_			2,101,823		<u>-</u> -		2,101,823
Board designated With donor restrictions		30,023,784		2,101,823 6,375,116		- - - -		2,101,823 36,398,900
-	_	- 30,023,784 59,751,149		2,101,823 6,375,116 7,605,654	_	- - -	_	2,101,823
With donor restrictions	<u></u> \$	30,023,784	\$	2,101,823 6,375,116	<u> </u>	- - - - - (963,925)	\$	2,101,823 36,398,900 67,356,803

Combining Statement of Activities

	Lowell Observatory and Trust		Lowell Observatory Foundation		Eliminating		Co	mbined total
Revenues, support and gains:								
Contracts with governmental and other agencies	\$	3,011,728	\$	-	\$	-	\$	3,011,728
Telescope access fees		2,057,312		-		-		2,057,312
Contributions		15,608,739		3,529,876		-		19,138,615
Public program revenue		2,621,839		-		-		2,621,839
Investment income, net		2,996,855		1,263,961		-		4,260,816
Other income		84,739				-	_	84,739
		26,381,212		4,793,837		-		31,175,049
Expenses:								
Program services:								
Research		5,790,981		-		-		5,790,981
Technology		4,977,266		-		-		4,977,266
Public programs		3,934,866		-		-		3,934,866
		14,703,113				-	_	14,703,113
Support services:								
Management and general		2,467,247		4,908		-		2,472,155
Fundraising	_	1,685,894		10,959		-		1,696,853
		4,153,141		15,867				4,169,008
		18,856,254		15,867		-	_	18,872,121
Loss on disposal of assets		4,428,698						4,428,698
Change in net assets before transfers		3,096,260		4,777,970		-		7,874,230
Transfers of net assets		371,544		(371,544)				
Change in net assets	\$	3,467,804	\$	4,406,426	\$	-	\$	7,874,230

Single Audit Reports



Single Audit Reports

Year Ended December 31, 2023

CONTENTS

and on Compliance and Other Matters Based on an Audit of Financial	
Statements Performed in Accordance with Government Auditing Standards	1 - 2
Independent Auditors' Report on Compliance for Each Major Program, on Internal Control over Compliance, and on the Schedule of Expenditures of	
Federal Awards Required by the Uniform Guidance	3 - 5
Schedule of Expenditures of Federal Awards	6 - 7
Notes to Schedule of Expenditures of Federal Awards	8
Schedule of Findings and Questioned Costs	9 - 11
Summary Schedule of Prior Year Findings	12





Independent Auditors' Report on Internal Control over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with *Government Auditing Standards*

Sole Trustee and Management Lowell Observatory Flagstaff, Arizona

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the combined financial statements of Lowell Observatory (the Organization), which comprise the combined statement of financial position as of December 31, 2023, and the related combined statements of activities, functional expenses and cash flows for the year then ended, and the related notes to the combined financial statements, and have issued our report thereon dated April 22, 2024.

Report on Internal Control over Financial Reporting

In planning and performing our audit of the combined financial statements, we considered the Organization's internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the combined financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Organization's internal control. Accordingly, we do not express an opinion on the effectiveness of the Organization's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements, on a timely basis. A *material weakness* is a deficiency, or combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the Organization's combined financial statements will not be prevented, or detected and corrected, on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses or significant deficiencies may exist that were not identified.

Report on Compliance and Other Matters

As part of obtaining reasonable assurance about whether the Organization's combined financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the combined financial statements. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of This Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Organization's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Organization's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Beach Fleischman PLLC

Phoenix, Arizona April 22, 2024



Independent Auditors' Report on Compliance for Each Major Program, on Internal Control over Compliance, and on the Schedule of Expenditures of Federal Awards Required by the Uniform Guidance

Sole Trustee and Management Lowell Observatory Flagstaff, Arizona

Report on Compliance for Each Major Federal Program

Opinion on Each Major Federal Program

We have audited Lowell Observatory's (the Organization) compliance with the types of compliance requirements identified as subject to audit in the *OMB Compliance Supplement* that could have a direct and material effect on each of the Organization's major federal programs for the year ended December 31, 2023. The Organization's major federal programs are identified in the summary of auditors' results section of the accompanying schedule of findings and questioned costs.

In our opinion, the Organization complied, in all material respects, with the types of compliance requirements referred to above that could have a direct and material effect on each of its major federal programs for the year ended December 31, 2023.

Basis for Opinion on Each Major Federal Program

We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; and the audit requirements of *Title 2 U.S. Code of Federal Regulations* Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance). Our responsibilities under those standards and the Uniform Guidance are further described in the Auditors' Responsibilities for the Audit of Compliance section of our report.

We are required to be independent of the Organization and to meet our other ethical responsibilities, in accordance with relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion on compliance for each major federal program. Our audit does not provide a legal determination of the Organization's compliance with the compliance requirements referred to above.

Responsibilities of Management for Compliance

Management is responsible for compliance with the requirements referred to above and for the design, implementation, and maintenance of effective internal control over compliance with the requirements of laws, statutes, regulations, rules, and provisions of contracts or grant agreements applicable to the Organization's federal programs.

Auditors' Responsibilities for the Audit of Compliance

Our objectives are to obtain reasonable assurance about whether material noncompliance with the compliance requirements referred to above occurred, whether due to fraud or error, and express an opinion on the Organization's compliance based on our audit. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with generally accepted auditing standards, *Government Auditing Standards*, and the Uniform Guidance will always detect material noncompliance when it exists. The risk of not detecting material noncompliance resulting from fraud is higher than for that resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Noncompliance with the compliance requirements referred to above is considered material if there is a substantial likelihood that, individually or in the aggregate, it would influence the judgment made by a reasonable user of the report on compliance about the Organization's compliance with the requirements of each major federal program as a whole.

In performing an audit in accordance with generally accepted auditing standards, *Government Auditing Standards*, and the Uniform Guidance, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material noncompliance, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the Organization's compliance with the compliance requirements referred to above and performing such other procedures as we considered necessary in the circumstances.
- Obtain an understanding of the Organization's internal control over compliance relevant to the audit in
 order to design audit procedures that are appropriate in the circumstances and to test and report on
 internal control over compliance in accordance with the Uniform Guidance, but not for the purpose of
 expressing an opinion on the effectiveness of the Organization's internal control over compliance.
 Accordingly, no such opinion is expressed.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and any significant deficiencies and material weaknesses in internal control over compliance that we identified during the audit.

Report on Internal Control Over Compliance

A deficiency in internal control over compliance exists when the design or operation of a control over compliance does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, noncompliance with a type of compliance requirement of a federal program on a timely basis. A material weakness in internal control over compliance is a deficiency, or a combination of deficiencies, in internal control over compliance, such that there is a reasonable possibility that material noncompliance with a type of compliance requirement of a federal program will not be prevented, or detected and corrected, on a timely basis. A significant deficiency in internal control over compliance is a deficiency, or a combination of deficiencies, in internal control over compliance with a type of compliance requirement of a federal program that is less severe than a material weakness in internal control over compliance, yet important enough to merit attention by those charged with governance.

Our consideration of internal control over compliance was for the limited purpose described in the Auditors' Responsibilities for the Audit of Compliance section above and was not designed to identify all deficiencies in internal control over compliance that might be material weaknesses or significant deficiencies in internal control over compliance. Given these limitations, during our audit we did not identify any deficiencies in internal control over compliance that we consider to be material weaknesses, as defined above. However, material weaknesses or significant deficiencies in internal control over compliance may exist that were not identified.

Our audit was not designed for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, no such opinion is expressed.

The purpose of this report on internal control over compliance is solely to describe the scope of our testing of internal control over compliance and the results of that testing based on the requirements of the Uniform Guidance. Accordingly, this report is not suitable for any other purpose.

Report on Schedule of Expenditures of Federal Awards Required by the Uniform Guidance

We have audited the combined financial statements of the Organization as of and for the year ended December 31, 2023, and have issued our report thereon dated April 22, 2024, which contained an unmodified opinion on those combined financial statements. Our audit was performed for the purpose of forming an opinion on the combined financial statements as a whole. The accompanying schedule of expenditures of federal awards is presented for purposes of additional analysis as required by the Uniform Guidance and is not a required part of the combined financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the combined financial statements. The information has been subjected to the auditing procedures applied in the audit of the combined financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the combined financial statements or to the combined financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the schedule of expenditures of federal awards is fairly stated in all material respects in relation to the combined financial statements as a whole.

Boach Fleischman PLLC

Phoenix, Arizona April 22, 2024

Schedule of Expenditures of Federal Awards

			Federal assistance listing	Passed	
Federal Grant/Pass-Through Grantor/	Grant	Pass-through entity	number	through to	Federal
Program or Cluster Title	number	identifying number	(ALN)	subrecipients	expenditures
Research and Development - Cluster					
National Aeronautics and Space Administration					
Science:					
Direct awards:					
NASA Headquarters	81105	80NSSC19K0556	43.001	\$ 181,466	\$ 189,235
NASA Headquarters	81130	80NSSC19K0289	43.001	-	10,771
NASA Headquarters	81211	80NSSC21K1828	43.001	28,906	176,652
NASA Headquarters	81225	80NSSC21K0886	43.001	-	23,433
NASA Headquarters	81325	80NSSC20K1001	43.001	-	72,864
NASA Headquarters	81326	80NSSC23K0040	43.001	-	69,844
NASA Headquarters	81405	NNX17AF13G	43.001	-	5,703
NASA Headquarters	81420	80NSSC18K0729	43.001	11,776	39,825
NASA Headquarters	81491	80NSSC21K0168	43.001	106,655	152,893
NASA Headquarters	81503	80NSSC21K1328	43.001	36,239	249,841
NASA Headquarters	81506	80NSSC19K0420	43.001	-	161,225
NASA Headquarters	81531	80NSSC22K0659	43.001		16,853
Total direct NASA				365,042	1,169,139
Pass-through awards:					
NASA JPL/CalTech	82451	FFP 1689877	43.001	-	13,452
NASA JPL/CalTech	82810	RSA 1659108	43.001	-	9,756
NASA JPL/CalTech	82811	RSA 1665163	43.001	-	13,650
NASA JPL/CalTech	82812	RSA 1690492	43.001	-	10,312
Space Telescope Science Institute	73827	HST-GO-15648.003-A	43.001	-	11,827
Space Telescope Science Institute	73828	HST-GO-16056.006-A	43.001	-	20,667
Space Telescope Science Institute	73829	HST-GO-16720.004-A	43.001	-	9,641
Space Telescope Science Institute	73868	HST-GO-17212.001-A	43.001	-	5,358
Johns Hopkins Applied Physics Lab	78506	#173217	43.001	-	124,512
Southwest Research Institute	78415	#K99090JRG	43.001	-	120,478
Southwest Research Institute	78420	#K99058JRG	43.001	-	47,895
Southwest Research Institute	78426	M99055DS	43.001	-	651
Southwest Research Institute	78431	#278981Q	43.001	-	61,003
Planetary Science Institute	78446	#1641	43.001	-	6,902
William Marsh Rice University	78450	#X03017904	43.001	-	38,466
San Francisco State University	78480	#S21-0002	43.001	-	16,345
US Naval Academy	78520	ZTAXZ BQ 18	43.001		15,857
Total pass-through NASA					526,772
Total NASA				\$ 365,042	\$ 1,695,911

Schedule of Expenditures of Federal Awards (continued)

Federal Grant/Pass-Through Grantor/ Program or Cluster Title	Grant number	Pass-through entity identifying number	Federal assistance listing number (ALN)	Passed through to subrecipients	Federal expenditures
Research and Development - Cluster (continued)					
National Science Foundation					
Mathematical and Physical Sciences:					
Direct awards: National Science Foundation	83005	AST-1907492	47.049	\$ 68,822	\$ 84,344
National Science Foundation	83012	AST-1907492 AST-2025202	47.049	\$ 00,022 -	5 64,344 61,142
National Science Foundation	83020	AST-2023202 AST-1944827	47.049	-	64,526
National Science Foundation	83051	AST-1944827 AST-2109207	47.049	_	96,462
National Science Foundation	83070	AST-2009343	47.049	_	40,627
National Science Foundation	83075	AST-2009501	47.049	_	27,948
National Science Foundation	83110	AST-2307594	47.049	_	33,477
National Science Foundation	83130	AST-2109179	47.049	-	146,844
National Science Foundation	83135	AST-2206703	47.049		21,084
Total direct National Science Foundation				68,822	576,454
Pass-through awards:					
New Mexico Institute of Mining and Technology	83202	PO023587	47.049		24,491
Total pass-through National Science Foundation	l				24,491
Total National Science Foundation				68,822	600,945
Department of Defense					
Basic and Applied Scientific Research: Direct awards:					
Naval Research Laboratory	75115, 75120, 75125	N00173-16-2-C904	12.300		714,872
Total Department of Defense					714,872
Total Research and Development - Cluster				433,864	3,011,728
Small Business Administration Disaster Assistance Loan: Direct awards:					
Economic Injury Disaster Loans			59.008	-	612,957
Total Small Business Administration				-	612,957
Total expenditures of federal awards				\$ 433,864	\$ 3,624,685

Notes to Schedule of Expenditures of Federal Awards

Year Ended December 31, 2023

1. Basis of presentation:

The accompanying Schedule of Expenditures of Federal Awards (the Schedule) includes the federal award activity of Lowell Observatory (the Organization) under programs of the federal government for the year ended December 31, 2023. The information in this Schedule is presented in accordance with the requirements of *Title 2 U.S. Code of Federal Regulations Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (Uniform Guidance)*. Because the Schedule presents only a selected portion of the operations of Lowell Observatory, it is not intended to and does not present the combined financial position, changes in net assets or cash flows of the Organization.

2. Summary of significant accounting policies:

Expenditures reported on the Schedule are reported on the accrual basis of accounting. Such expenditures are recognized following the cost principles contained in the Uniform Guidance, wherein certain types of expenditures are not allowable or are limited as to reimbursement.

The Organization has not elected to use the ten percent de minimis indirect cost rate as allowed under the Uniform Guidance.

3. Federal assistance listing numbers (ALN):

The program titles and ALN numbers or federal identification numbers were obtained from the federal or passthrough grantor or the update to the *Catalog of Federal Domestic Assistance*.

4. Disaster assistance loans:

Balances outstanding on disaster assistance loans (ALN 59.008) at the end of the audit period were \$1,953,514.

Schedule of Findings and Questioned Costs

Year Ended December 31, 2023

Summary of Auditors' Results

F	i	n)	0	1	r	,	_	i	_	Y	I	(t	_	11	H	o	r	r	16	>	n	t	٠,	

The auditors' report expressed an unmodified opinion on whether the combined financial statements of Lowell Observatory were prepared in accordance with accounting principles generally accepted in the United States of America

America.			
Internal control over financial reporting:			
Material weakness(es) identified?		_ Yes	X No
Significant deficiency(ies) identified?		_ Yes	X None reported
Noncompliance material to financial statements noted?		Yes	X No
Noncompliance material to illiancial statements noted:		165	_ <u>X</u> _N0
Federal Awards			
Internal control over major federal programs:			
Material weakness(es) identified?		Yes	X No
Significant deficiency(ies) identified?		_ Yes	X None reported
The auditors' report on compliance for the major federal awards p unmodified opinion on its major programs.	orogran	n of Low	ell Observatory expressed an
There were no audit findings that are required to be reported in accord	dance v	vith 2 CFR	200.516(a).
Identification of major federal programs:			
Research and Development Cluster:			
Science	ALN 4	13.001	
Mathematical and Physical Sciences	ALN 4	17.049	
Basic and Applied Scientific Research	ALN 1	12.300	
Dollar threshold used to distinguish between Type A and Type B progra	ıms:	\$750,000	<u>)</u>
Auditee qualified as a low-risk auditee?	X_	_ Yes	No

Schedule of Findings and Questioned Costs (continued)

Year Ended December 31, 2023

Findings - Financial Statement Audit

None

Schedule of Findings and Questioned Costs (continued)

Year Ended December 31, 2023

Findings and Questioned Costs - Major Federal Award Programs Audit

None

Summary Schedule of Prior Year Findings

Year Ended December 31, 2023

None