UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended June 30, 2024.

OR

□ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from _____ to _____

Commission File Number: 001-32188

ORAGENICS, INC.
(Exact name of registrant as specified in its charter)

FLORIDA	**59-3410522**
(State or other jurisdiction of incorporation or organization)	**(IRS Employer Identification No.)**

1990 Main Street Suite 750
Sarasota, Florida 34236
(Address of principal executive offices)
813-286-7900
(Issuer's telephone number)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock	OGEN	NYSE American

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities and Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No □

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No □

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, non-accelerated filer, a smaller reporting company, or an emerging growth company. See definition of "accelerated filer", "large accelerated filer", "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act (check one):

Large accelerated filer	□	Accelerated filer	□
Non-accelerated filer	☒	Smaller reporting company	☒
		Emerging growth company	□

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. □

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes □ No ☒

Indicate the number of shares outstanding of each of the issuer's classes of common equity, as of the latest practicable date:

As of August 8, 2024, there were 5,580,693 shares of Common Stock, $0.001 par value, outstanding.

PART I – FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

Oragenics, Inc.
Condensed Consolidated Balance Sheets

	June 30, 2024	December 31, 2023
	(Unaudited)	
Assets		
Current assets:		
Cash and cash equivalents	$ 1,348,621	$ 3,483,501
Prepaid expenses and other current assets	270,334	382,273
Total current assets	1,618,955	3,865,774
Prepaid research and development expense	1,090,750	1,090,750
Operating lease right-of-use assets	—	9,811
Total assets	$ 2,709,705	$ 4,966,335
Liabilities and Shareholders' Equity		
Current liabilities:		
Accounts payable and accrued expenses	$ 1,383,309	$ 1,475,667
Short-term notes payable	—	312,703
Operating lease liabilities - Current	—	9,811
Total liabilities	1,383,309	1,798,181
Shareholders' equity:		
Preferred stock, no par value; 50,000,000 shares authorized; 5,417,000 and 5,417,000 Series A shares, 4,050,000 and 4,050,000 Series B shares, -0- and -0- Series C shares, 7,488,692 and 7,488,692 Series F shares outstanding at June 30, 2024 and December 31, 2023, respectively	1,592,723	1,592,723
Common stock, $0.001 par value; 350,000,000 shares authorized and 5,580,693 and 3,080,693 shares issued and outstanding at June 30, 2024 and December 31, 2023, respectively	5,581	3,081
Additional paid-in capital	210,702,269	207,790,604
Accumulated Deficit	(210,974,177)	(206,218,254)
Total shareholders' equity	1,326,396	3,168,154
Total liabilities and shareholders' equity	$ 2,709,705	$ 4,966,335

The accompanying notes to the condensed consolidated financial statements are an integral part of these statements.

Oragenics, Inc.
Condensed Consolidated Statements of Operations
(Unaudited)

	For the Three Months Ended June 30,		For the Six Months Ended June 30,	
	2024	**2023**	**2024**	**2023**
	(Unaudited)		(Unaudited)	
Grant revenue	$ —	$ 13,163	$ —	$ 30,187
Operating expenses:				
Research and development	906,779	2,006,696	1,570,193	3,679,272
General and administrative	1,399,221	1,115,785	3,195,910	2,365,048
Total operating expenses	2,306,000	3,122,481	4,766,103	6,044,320
Loss from operations	(2,306,000)	(3,109,318)	(4,766,103)	(6,014,133)
Other income (expense):				
Interest income	6,405	58,954	25,640	121,155
Interest expense	(1,803)	(843)	(8,888)	(4,190)
Other income	—	621	—	1,745
Foreign currency exchange net	(3,692)	—	(6,572)	—
Total other income, net	910	58,732	10,180	118,710
Loss before income taxes	(2,305,090)	(3,050,586)	(4,755,923)	(5,895,423)
Income tax benefit	—	—	—	—
Net loss	$ (2,305,090)	$ (3,050,586)	$ (4,755,923)	$ (5,895,423)
Basic and diluted net loss per share	$ (0.51)	$ (1.51)	$ (1.19)	$ (3.04)
Shares used to compute basic and diluted net loss per share	4,529,045	2,024,766	4,012,561	1,941,858

The accompanying notes to the condensed consolidated financial statements are an integral part of these statements.

Oragenics, Inc.
Condensed Consolidated Statements of Changes in Shareholders' Equity

	Common Stock		Preferred Stock		Additional Paid In Capital	Accumulated Deficit	Total Shareholders' Equity
	Shares	Amount	Shares	Amount			
Balances at December 31, 2023	3,080,693	$ 3,081	16,955,197	$ 1,592,723	$ 207,790,604	$ (206,218,254)	$ 3,168,154
Compensation expense relating to option issuances	—	—	—	—	69,344	—	69,344
Sale of Common Stock	1,400,000	1,400	—	—	1,837,201	—	1,838,601
Net loss	—	—	—	—	—	(2,450,833)	(2,450,833)
Balances at March 31, 2024	4,480,693	$ 4,481	16,955,197	$ 1,592,723	$ 209,697,149	$ (208,669,087)	$ 2,625,266
Compensation expense relating to option issuances	—	—	—	—	58,220	—	58,220
Sale of Common Stock	1,100,000	1,100	—	—	946,900	—	948,000
Net loss	—	—	—	—	—	(2,305,090)	(2,305,090)
Balances at June 30, 2024	5,580,693	$ 5,581	$ 16,955,197	$ 1,592,723	$ 210,702,269	$ (210,974,177)	$ 1,326,396

	Common Stock		Preferred Stock		Additional Paid In Capital	Accumulated Deficit	Total Shareholders' Equity
	Shares	Amount	Shares	Amount			
Balances at December 31, 2022	2,024,657	$ 2,025	9,467,000	$ 1,592,723	$ 196,977,071	$ (185,562,517)	$ 13,009,302
Compensation expense relating to option issuances	—	—	—	—	79,966	—	79,966
Net loss	—	—	—	—	—	(2,844,837)	(2,844,837)
Balances at March 31, 2023	2,024,657	2,025	9,467,000	1,592,723	197,057,037	(188,407,354)	10,244,431
Compensation expense relating to option issuances	—	—	—	—	63,628	—	63,628
Net loss	—	—	—	—	—	(3,050,586)	(3,050,586)
Balances at June 30, 2023	2,024,657	$ 2,025	9,467,000	$ 1,592,723	$ 197,120,665	$ (191,457,940)	$ 7,257,473

The accompanying notes to the condensed consolidated financial statements are an integral part of these statements.

Oragenics, Inc.
Condensed Consolidated Statements of Cash Flows
(Unaudited)

	For the Six Months Ended June 30,	
	2024	**2023**
Cash flows from operating activities:		
Net loss	(4,755,923)	(5,895,423)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	—	22,606
Stock-based compensation expense	127,564	143,594
Changes in operating assets and liabilities:		
Other receivables	—	(13,163)
Prepaid expenses and other current assets	111,939	1,232,949
Operating lease right of use assets	9,811	98,184
Accounts payable and accrued expenses	(92,358)	(274,070)
Change in operating lease liabilities	(9,811)	-
Net cash used in operating activities	(4,608,778)	(4,685,323)
Cash flows from financing activities:		
Payments on short-term notes payable	(312,703)	(267,640)
Net proceeds from issuance of common stock	2,786,601	—
Net cash provided by (used in) financing activities	2,473,898	(267,640)
Net decrease in cash and cash equivalents	(2,134,880)	(4,952,963)
Cash and cash equivalents at beginning of period	3,483,501	11,426,785
Cash and cash equivalents at end of period	$ 1,348,621	$ 6,473,822
Supplemental disclosure of cash flow information:		
Cash paid for interest	$ 8,888	$ 3,347

The accompanying notes to the condensed consolidated financial statements are an integral part of these statements.

1. Organization

Oragenics, Inc. (the "Company" or "we", or "our") was incorporated in November 1996. We are a development-stage company dedicated to the research and development of nasal delivery pharmaceutical medications and vaccines.

Commencing in December of 2023, we are focused on the development of medical products that treat brain related illnesses and diseases and our lead product candidate and focus is on the development and commercialization of ONP-002 for the treatment of mild traumatic brain injury ("mTBI" or "Concussion").

Prior to the purchase of our lead asset ONP-002, starting in May 2020 and through December 31, 2023 our lead asset was a nasal delivery vaccine candidate to provide long-lasting immunity from SARS-CoV-2, which causes COVID-19.

Currently research and development activities related to the nasal vaccine platform and our lantibiotic program are inactive, we will evaluate alternative opportunities for these programs moving forward as we continue to strengthen our focus and expertise on our intranasal drug delivery platform and drug candidates.

2. Basis of Presentation

The accompanying unaudited interim condensed consolidated financial statements as of June 30, 2024 and 2023 and for the three and six months ended June 30, 2024 and 2023, have been prepared in accordance with accounting principles generally accepted in the United States of America ("US GAAP") for interim condensed consolidated financial information and with the instructions to Form 10-Q and Article 8 of Regulation S-X. Accordingly, they do not include all of the information and footnotes required by US GAAP for complete condensed consolidated financial statements. In the opinion of management, the accompanying condensed consolidated financial statements include all adjustments, consisting of normal recurring accruals, necessary for a fair presentation of the financial condition, results of operations and cash flows for the periods presented. The results of operations for the interim period ended June 30, 2024 are not necessarily indicative of the results of operations that may be expected for the year ended December 31, 2024, or any future period.

These condensed consolidated financial statements should be read in conjunction with the audited financial statements and notes thereto for the year ended December 31, 2023, which are included in our Annual Report on Form 10-K filed with the Securities and Exchange Commission on March 29, 2024.

Going Concern Consideration

The Company has incurred recurring losses and negative cash flows from operations since inception. To date, the Company has not generated significant revenues from operations. The Company incurred a net loss of $4,755,923 and used cash of $4,608,778 in its operating activities during the six months ended June 30, 2024. As of June 30, 2024, the Company had an accumulated deficit of $210,974,177.

The Company expects to incur substantial expenditures to further develop its technologies. The Company believes its working capital at June 30, 2024 will be sufficient to meet the business objectives as presently structured only through the fourth quarter of 2024. As such, there is substantial doubt that we can continue as a going concern beyond that date. As a result, the Company has implemented certain cost-saving initiatives, including the termination of its lease of the corporate office located in Tampa, Florida.

The Company's ability to continue operations after its current cash resources are exhausted depends on its ability to obtain additional financing or achieve profitable operations, as to which no assurances can be given. Cash requirements may vary materially from those now planned because of changes in the Company's focus and direction of its research and development programs, competitive and technical advances, or other developments. Additional financing will be required to continue operations after the Company exhausts its current cash resources and to continue its long-term plans for clinical trials and new product development. There can be no assurance that any such financing can be realized by the Company, or if realized, what the terms thereof may be, or that any amount that the Company is able to raise will be adequate to support the Company's working capital requirements until it achieves profitable operations.

The Company intends to seek additional funding through sublicensing arrangements, joint venturing or partnering, sales of rights to technology, government grants and public or private financings. The Company's future success depends on its ability to raise capital and ultimately generate revenue and attain profitability. The Company cannot be certain that additional capital, whether through selling additional debt or equity securities or obtaining a line of credit or other loan, will be available to it or, if available, will be on terms acceptable to the Company. In the six-month period ended June 30, 2024 the Company secured funding through the sale of approximately 2.6 million shares of its common stock in two public offerings; the gross proceeds from both offerings, in the aggregate, were approximately $3.2 million before underwriting discounts, commissions, and other expenses payable by the Company. If the Company issues additional securities to raise funds, these securities may have rights, preferences, or privileges senior to those of its common stock, and the Company's current shareholders may experience dilution. If the Company is unable to obtain funds when needed or on acceptable terms, the Company may be required to curtail its current development programs, cut operating costs and forego future development and other opportunities.

3. Significant Accounting Policies

Basis of Consolidation

The condensed consolidated financial statements include the accounts of Oragenics, Inc. and our wholly owned subsidiaries Noachis Terra, Inc. ("NTI") and Oragenics Australia Pty Ltd. All intercompany balances and transactions have been eliminated.

New Accounting Standards

There are no additional accounting pronouncements issued or effective during the six months ended June 30, 2024, that have had, or are expected to have, a material impact on our condensed consolidated financial statements.

Use of Estimates

The preparation of condensed consolidated financial statements in conformity with US 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 condensed consolidated financial statements, as well as the reported amounts of expenses during the reporting period. Actual results could differ from those estimates. The principal area of estimation reflected in the condensed consolidated financial statements are estimates for research and development expenses and related prepaid and accrued expenses, which are based on the percentage of completion of the Company's contracts with Contract Research Organizations.

Net Loss Per Share

During all periods presented, the Company had securities outstanding that could potentially dilute basic earnings per share in the future but were excluded from the computation of diluted net loss per share, as their effect would have been antidilutive because the Company reported a net loss for all periods presented. Net loss per share is computed using the weighted average number of shares of common stock outstanding.

4. Prepaid Expense, Deposits, and Other Current Assets

Prepaid expenses, deposits, and other current assets consist of the following at June 30, 2024 and December 31, 2023:

	June 30, 2024	December 31, 2023
Prepaid research and development expense, current	$ 248,309	$ —
Prepaid insurance	-	334,940
Other prepaid expense, current	22,025	47,333
Prepaid research and development expense, long-term	1,090,750	1,090,750
Total prepaid expense, deposits, and other current assets	**$ 1,361,084**	**$ 1,473,023**

5. Accounts Payable and Accrued Expenses

Accounts payable and accrued expenses consist of the following as of June 30, 2024, and December 31, 2023:

	June 30, 2024	December 31, 2023
Accounts payable trade	$ 1,180,429	$ 1,244,947
Accrued expenses	180,955	222,739
Accrued Vacation	21,925	7,981
Total accounts payable and accrued expenses	**$ 1,383,309**	**$ 1,475,667**

6. Short-Term Notes Payable

The Company had the following short-term notes payable as of June 30, 2024 and December 31, 2023:

	June 30, 2024	December 31, 2023
Directors' and officers' liability insurance financing of $611,109 due in monthly installments of $64,316 including principal and interest at 9.55% and 5.34% through May 24, 2024.	$ —	$ 312,703
	$ —	$ 312,703

7. Shareholders' Equity

Common Stock

Other Share Issuances

Pursuant to the Company's effective registration statement on Form S-3 (File No. 333-269225) and a related prospectus and prospectus supplement, in each case filed with the Securities and Exchange Commission. On March 1, 2024, through an underwriting agreement (the "Underwriting Agreement") with ThinkEquity, LLC as representative (the "Representative") of the underwriters (collectively, the "Underwriters"), the Company sold 1,400,000 shares of common stock at a price of $1.50 per share to the public. According to the terms of the Underwriting Agreement, the Underwriters agreed to purchase the common shares at a price of $1.395 per share. The Company also granted the Underwriters an option exercisable for 45 days from the date of the Underwriting Agreement to purchase up to an additional 210,000 shares of common stock solely for the purpose of covering over-allotments (the "Over-allotment Options"). No Over-allotment Options were exercised. The Company also agreed to issue warrants to the designees of the Representative exercisable one hundred eighty (180) days after February 27, 2024 and expiring on February 27, 2029, to purchase up to 5% of the shares sold through the Underwriting Agreement at an exercise price of $1.875 per share. The gross proceeds from the sale of the shares were $2.1 million before underwriting discounts and commissions and other expenses payable by the Company were deducted.

The Underwriting Agreement contains customary representations, warranties and agreements by the Company, conditions to closing, indemnification obligations of the Company and the Underwriters, including for liabilities under the Securities Act of 1933, as amended, other obligations of the parties and termination provisions.

On June 25, 2024 the Company entered into a placement agency agreement (the "Placement Agency Agreement") with Dawson James Securities Inc. ("Dawson James" or the "Placement Agent") pursuant to which the Company engaged Dawson James as the placement agent for a registered public offering (the "Offering") of an aggregate of 1,100,000 shares of the Company's common stock, par value $0.001 ("Common Stock"). The Offering was undertaken pursuant to the Company's effective registration statement on Form S-3 (File No. 333-269225) and a related prospectus and prospectus supplement filed with the Securities and Exchange Commission. The offering price per share of Common Stock was $1.00. The Company agreed to pay the Placement Agent a placement agent fee in cash equal to 7.00% of the gross proceeds from the Offering, and to reimburse for certain out of pocket expenses, including legal fees not to exceed $75,000. In addition, the Company agreed to issue to the Placement Agent warrants to purchase up to five percent 5% of the aggregate number of securities sold in the Offering ("Dawson James Warrants") with an exercise price of 125% of the offering price of the Common Stock in the Offering and exercisable for five years from the date of the closing of the Offering and are initially exercisable six months from the closing of the Offering.

The Offering resulted in gross proceeds to the Company of $1.1 million before underwriting discounts and commissions and other expenses payable by the Company were deducted.

The Placement Agency Agreement contains customary representations, warranties and agreements, conditions to closing, indemnification obligations of the Company, including for liabilities under the Securities Act of 1933, as amended, other obligations of the parties, and termination provisions.

8. Warrants

The Company's outstanding and exercisable warrants as of June 30, 2024 are presented below:

	Number of Warrants	Weighted Average Exercise Price
Warrants outstanding at December 31, 2023	260,995	$ 82.55
Issued	125,000	1.60
Expired	(37,168)	72.24
Warrants outstanding at June 30, 2024	**348,827**	**52.02**

Warrants Outstanding		Exercise Price	Expiration Date
6,694	$	186.00	7/25/2024
10,888	$	186.00	11/8/2024
153,334	$	75.00	5/1/2025
52,911	$	60.00	7/17/2025
70,000	$	1.88	2/27/2029
55,000(1)	$	1.25	6/29/2029
348,827			

All outstanding warrants are classified as equity on the Company's Condensed Consolidated Balance Sheets.

(1)– Dawson James Placement Agent warrants are not exercisable until December 23, 2024.

9. Stock Compensation Plan

On September 29, 2023, the Board of Directors approved an amendment to the 2021 Equity Incentive Plan (the "Incentive Plan") to increase the authorized shares available under the Incentive Plan by 1,000,000. The amendment was approved by the Shareholders on December 14, 2023.

The Incentive Plan, as amended, provides aggregate number of shares of Common Stock that may be issued under the 2021 Plan will not exceed the sum of (i) 1,166,167 new shares, plus (ii) any shares remaining available for the grant of new awards under the 2012 Plan as of immediately prior to the effective date of the 2021 Equity Incentive Plan; plus, (iii) certain shares subject to outstanding awards granted under the 2012 Plan that may become available for issuance under the 2021 Equity Incentive Plan, as such shares become available from time to time.

Options are granted at the fair market value of the Company's stock on the date of the grant which determines the exercise price after the completion of the vesting period. Options can vest either immediately or over a period of up to three years from their respective grant dates and expire 10 years from the date of grant. As of June 30, 2024 and December 31, 2023, the Company did not award any stock appreciation rights under the Incentive Plan.

A summary of stock option activity for the six months ended June 30, 2024 is as follows:

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (In Years)	Aggregate Intrinsic Value[(1)]
Outstanding at December 31, 2023	244,733	$ 20.17	7.96	$ —
Granted	—	—	—	$ —
Expired	(17,146)	28.44	—	$ —
Forfeited	(4,667)	11.52		$ —
Outstanding at June 30, 2024	222,920	$ 19.72	8.29	$ —
Exercisable at June 30, 2024	186,370	$ 22.55	8.07	$ —

(1) The aggregate intrinsic value is calculated as the difference between the exercise price of the underlying stock option awards and the closing market price of our common stock as of December 31, 2023 and June 30, 2024; respectively.

As of June 30, 2024, an aggregate of 222,920 shares of common stock are covered by outstanding option awards and 1,042,812 shares of common stock are available for future awards under the Incentive Plan.

Total compensation cost related to stock options was approximately $58,220 and $63,628 for the three months ended June 30, 2024 and 2023, respectively. Total compensation cost related to stock options was approximately $127,564 and $143,594 for the six months ended June 30, 2024 and 2023, respectively. As of June 30, 2024, there was approximately $160,927 of unrecognized compensation costs related to stock options, which is expected to be recognized over a weighted average period of less than one year.

Restricted stock grant activity during the six months ended June 30, 2024 was as follows:

	Number of Shares	Weighted Average Grant Date Fair Value
Non-vested restricted stock at December 31, 2023	6,000	$ 3.37
Vested	(6,000)	3.37
Non-vested restricted stock at June 30, 2024	—	$ —

Total compensation cost related to restricted stock awards was approximately $5,000 for the six months ended June 30, 2024. There was no compensation cost related to restricted stock awards for the three months ended June 30, 2024.

10. License and Royalty Agreements

Inspirevax License

On February 23, 2023, the Company entered into a Commercial License Agreement (the "Inspirevax License Agreement") for its vaccine product candidate with Inspirevax Inc. ("Inspirevax") pursuant to which Inspirevax granted the Company an exclusive worldwide license to use Inspirevax's inventions, patents, trade secrets, know-how, copyright, biological material, designs, and/or technical information created by or on behalf of Inspirevax (the "Inspirevax Technologies") relating to its novel lipid-protein based intranasal adjuvants, to make, research, and develop an intra-nasal vaccine in combination with an antigen ("Combination Product") to be used in an intranasal vaccine for use against diseases caused by coronaviruses and any genetic variants thereof to be sold by us. The Company agreed to pay in consideration for the Inspirevax License Agreement an upfront signing fee and to certain milestone payment obligations. As of June 30, 2024, none of the milestone payment obligations for the Inspirevax License Agreement have been met.

11. Commitments and Contingencies

Three-Way Collaborative Agreement

In May of 2023, the Company entered into a Collaborative Research Agreement (the "Collaboration") with Inspirevax, and the National Research Council (the "Collaborators") for research related to the Company's vaccine product candidate. The Collaboration received non-dilutive funding from Consortium Québécois Sur La Découverte Du Médicament (the "CQDM") a not-for-profit corporation governed by Canada created to promote, stimulate, and support drug research, development and discovery. The CQDM also provides funding for drug research and discovery projects. The project is budgeted to cost approximately $1.7 million Canadian dollars over 27 months. Each collaborator is responsible for funding a portion of the project with payments made upon certain milestones, the CQDM grant award will fund approximately 40% of the budgeted project costs with the Collaborators. As part of the Company's efforts to focus financial resources to the development of it new lead asset, ONP-002, as of June 30, 2024, the Company has suspended its participation in the three-way agreement until additional financial resources can be allocated for the vaccine related research project.

Ladenburg Thalmann Litigation

On December 7, 2022, the Company entered into an investment banking engagement letter with Ladenburg Thalmann, ("Ladenburg"). The engagement letter was subsequently amended at various times (together with amendments to the "Engagement Letter"). The Company terminated the Engagement Letter as of August 15, 2023. Ladenburg recently sent the Company an invoice in the amount of $2,500,000, and a demand letter from Ladenburg's general counsel demanding payment thereof followed shortly thereafter. Ladenburg is of the view that a fee is owed based on the Company's purchase of assets from Odyssey Health, Inc. The Company strongly disagrees that any such fee is due to Ladenburg and initiated a confidential action for arbitration against Ladenburg with the Financial Industry Regulatory Authority ("FINRA") on March 12, 2024, seeking, among other things, a declaratory judgment that no such fee is owed. On April 17, 2024 Ladenburg filed a Complaint in federal court in the Southern District of Florida, and also filed motion for a temporary restraining order ("TRO") and preliminary injunction seeking to move the venue from FINRA to the federal court in Miami-Dade County. On May 3, 2024 the Magistrate Judge assigned to the case issued a Report and Recommendation denying the motion; although Ladenburg objected to the Report and Recommendation, Magistrate Judge's Report and Recommendation, the District Court Judge adopted the Report and Recommendation, finalizing the Court's denial of the requested injunctive relief. On May 9, 2024, the Company filed a motion to dismiss in the federal court action, which is still currently pending. Meanwhile, the FINRA action continues and is set to be heard in February of 2025. The Company believes Ladenburg's claims are unlikely to prevail and intends to defend itself vigorously. It is possible, however, that there could be an unfavorable outcome or resolution of the claims asserted, which could negatively and materially impact the Company's business, consolidated financial position and results of operations. Litigation is inherently uncertain and there can be no assurance that the Company will prevail. The Company does not include an estimate of legal fees and other related defense costs in its estimate of loss contingencies.

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following information should be read in conjunction with the Condensed Consolidated Financial Statements, including the notes thereto, included elsewhere in this Form 10-Q as well as our Annual Report on Form 10-K for the year ended December 31, 2023 filed on March 29, 2024.

As used in this quarterly report the terms "we", "us", "our", "Oragenics" and the "Company" mean Oragenics, Inc. and its wholly owned subsidiary Noachis Terra Inc., unless the context otherwise requires.

Forward-Looking Statements

This Quarterly Report on Form 10-Q includes "forward-looking" statements within the meaning of Section 27A of the Securities Act of 1933, as amended and Section 21E of the Securities Exchange Act of 1934, as amended, including, but not limited to, statements regarding the Company's future performance, business prospects, events and product development plans. These forward-looking statements are not historical facts, but are based on current expectations, estimates and projections about our industry, our beliefs and our assumptions. These forward-looking statements include statements about our strategies, objectives and our future achievement. To the extent statements in this Quarterly Report involve, without limitation, our expectations for growth, estimates of future revenue, our sources and uses of cash, our liquidity needs, our current or planned clinical trials or research and development activities, product development timelines, our future products, regulatory matters, expense, profits, cash flow balance sheet items or any other guidance on future periods, these statements are forward-looking statements. These statements are often, but not always, made through the use of word or phrases such as "believe," "will," "expect," "anticipate," "estimate," "intend," "plan," and "would. "These forward-looking statements are not guarantees of future performance and concern matters that could subsequently differ materially from those described in the forward-looking statements. Actual events or results may differ materially from those discussed in this Quarterly Report on Form 10-Q. Except as may be required by applicable law, we undertake no obligation to update any forward-looking statements or to reflect events or circumstances arising after the date of this Report. Important factors that could cause actual results to differ materially from those in these forward-looking statements are in the section entitled "Risk Factors" located below and in the most recent Annual Report on Form 10-K filed with the Securities and Exchange Commission, and the other risks and uncertainties described elsewhere in this report as well as other risks identified from time to time in our filings with the Securities and Exchange Commission, press releases and other communications. In addition, the statements contained throughout this Quarterly Report concerning future events or developments or our future activities, including concerning, among other matters, current or planned clinical trials, anticipated research and development activities, anticipated dates for commencement of clinical trials, anticipated completion dates of clinical trials, anticipated meetings with the FDA or other regulatory authorities concerning our product candidates, anticipated dates for submissions to obtain required regulatory marketing approvals, anticipated dates for commercial introduction of products, and other statements concerning our future operations and activities, are forward-looking statements that in each instance assume that we are able to obtain sufficient funding in the near term and thereafter to support such activities and continue our operations and planned activities in a timely manner. There can be no assurance that this will be the case. Also, such statements assume that there are no significant unexpected developments or events that delay or prevent such activities from occurring. Failure to timely obtain sufficient funding, or unexpected developments or events, could delay the occurrence of such events or prevent the events described in any such statements from occurring.

Overview

Oragenics, Inc. (the "Company" or "we", or "our") was incorporated in November 1996. We are a development-stage company dedicated to the research and development of nasal delivery pharmaceutical medications and vaccines.

Commencing in December of 2023, we are focused on the development of medical products that treat brain related illnesses and diseases and our lead product candidate is for the development, requisite clinical trials and commercialization of ONP-002 for the treatment of mild traumatic brain injury ("mTBI" or "Concussion").

Prior to the purchase of our lead asset ONP-002, starting in May 2020 and through December 31, 2023 our lead asset was a nasal delivery vaccine candidate to provide long-lasting immunity from SARS-CoV-2, which causes COVID-19.

In September of 2023 the Company terminated its lease for the building where some of the research and development activities for its lantibiotic program were undertaken.

Currently research and development activities related to the nasal vaccine platform and our lantibiotic program are inactive, and we will evaluate alternative opportunities for these programs moving forward as we continue to strengthen our focus and expertise on our intranasal drug delivery platform and drug candidates.

About Mild Traumatic Brain Injury (mTBI)

Concussions are an unmet medical need that affects millions worldwide. Repetitive concussions are thought to increase the risk of developing Chronic Traumatic Encephalopathy ("CTE") and other neuropsychiatric disorders. It is estimated that 5 million concussions occur in the U.S. annually and that as many as 50% go unreported. The worldwide incidence of concussion is estimated at 69 million. The global market for concussion treatment was valued at $6.9 billion in 2020 and is forecast to reach $8.9 billion by 2027, according to Grandview Research. Common settings for concussion include contact sports, military training and operations, motor vehicle accidents, children at play and elderly assistive-living facilities due to falls.

Our ONP-002 Neurology Asset for Brain Related Illness and Injury

Following our December 2023 acquisition of certain assets from Odyssey Health, Inc. ("Odyssey") related to the segment of Odyssey's business focused on developing medical products that treat brain related illnesses and diseases (the "Neurology Assets") our lead product and focus is on the development and commercialization of ONP-002 for the treatment of mTBI.

ONP-002 to date has been shown to be stable up to 104 degrees for 18-months. The drug candidate is spray-dry manufactured into a powder and filled into the novel intranasal device. The drug is then administered through the nasal passage from a unique nasal delivery device. The novel intranasal device is lightweight and intended to be easy enough for self-administration use in the field or by medical personnel.

We believe the proprietary powder formulation and intranasal administration allows for rapid and direct accessibility to the brain. The device is breath propelled and we expect it to allow patients to blow into the device which closes the soft palate in the back of the nasopharynx, preventing the flow of drug to the lungs or esophagus, minimizes system exposure and side effects, and easily crosses the blood brain barrier. This mechanism traps ONP-002 in the nasal cavity allowing for more abundant and faster drug availability in the traumatized brain.

Expected ONP-002 Product Development Timeline:

Pre-clinical Animal Studies	Phase 1	Phase 2a	Phase 2b	Phase 3
Complete	Complete	Estimated Q3/Q4 2024 start	Estimated Q1 2025 start	Estimated Q4 2026 start

This product development plan is an estimate and is subject to change based on funding, technical risks and regulatory approvals.

Intellectual Property

Patents on ONP-002 have been filed and/or issued and a patent has been filed on the nasal delivery device as follows:

- New chemical entity patent filing concerning the C-20 Steroid compounds has been filed with the USPTO and is pending in the U.S. and approved in Europe and Canada.
    - C-20 steroid compounds, composition and uses thereof to treat traumatic brain injury (TBI), including concussion.
    - Inventions relate to, inter alia, ONP-002 compositions, methods of use to treat, minimize and/or prevent traumatic brain injury ("TBI"), including severe TBI, moderate TBI, and mild TBI, including concussions, methods of manufacture and/or synthesis, products by process, and intermediates.
    - An issued U.S. patent expiration with 5-year maximum patent term extension to 9/17/2040.
    - An issued U.S. patent expiration without patent term extension to 9/17/2035.
- New nasal delivery device filing concerning the Breath-Powered Nasal Devices has been filed with the USPTO as a utility patent application and with the USPTO PCT Receiving Office as a PCT application.
- Breath-Powered Nasal Devices for Treatment of Traumatic Brain Injury ("TBI"), Including Concussion, and Methods.
- Inventions relate to, inter alia, breadth-powered nasal devices, single-directional breath-powered nasal devices for providing dual airflow for propelling a drug substance into a nasal cavity for targeted delivery to the olfactory region in high drug substance concentration for rapid diffusion into the brain for the treatment of local or systemic and/or central nervous system ("CNS") injury, disease or disorder, and methods of treating local or sCNS injury, disease or disorder with such devices.

ONP-002 Pre-Clinical Trials

The drug has completed toxicology studies in rats and dogs. Those studies show that ONP-002 has a large safety margin of its predicted efficacious dose. In preclinical animal studies, the drug demonstrated rapid and broad biodistribution throughout the brain while simultaneously reducing swelling, inflammation, and oxidative stress, along with an excellent safety profile.

Results from the preclinical studies suggest that ONP-002 has an equivalent, and potentially superior, neuroprotective effect compared to related neurosteroids. The animals treated with the drug post-concussion showed positive behavioral outcomes using various testing platforms including improved memory and sensory-motor performance, and reduced depression/anxiety like behavior.

ONP-002 Clinical Trials

ONP-002 has completed a Phase 1 clinical trial in healthy human subjects showing it is safe and well tolerated.

Safety studies have established a dosing regimen of 2X/day for fourteen days. The Phase 1 clinical trial was performed in Melbourne, Australia with a Contract Research Organization ("CRO"), Avance Clinical Pty Ltd ("Avance Clinical") and Nucleus Network Pty Ltd. The country of Australia provides a currency exchange advantage and a tax rebate at the end of our fiscal year from the Australian government on all Research and Development performed in Australia.

The Phase 1 study was double-blinded, randomized and placebo controlled (3:1, drug: placebo). Phase 1 used a Single Ascending/Multiple Ascending (SAD/MAD) drug administration design. The SAD component was a 1X treatment (low, medium, or high dose) and the MAD component was a 1X/day treatment for five consecutive days (low and medium dose). Blood and urine samples were collected at multiple time points for safety pharmacokinetics. Standard safety monitoring was provided for each body system.

Forty human subjects (31 males, 9 females) were successfully enrolled in Phase 1. The Safety Review Board, made up of medical doctors, has reviewed the trial data and has determined the drug is safe and well tolerated at all dosing levels.

We are preparing for Phase 2 clinical trials to further evaluate ONP-002's safety and efficacy. Based on the Phase 1 data, we plan to apply for an Investigational New Drug application with the FDA and conduct a Phase 2 trial in the United States.

We anticipate a Phase 2 clinical trial will be performed administering ONP-002 intranasally in concussed patients 2x a day for up to fourteen days. The Phase 2a feasibility study is expected to be performed in Australia with a target initiation date in the fourth quarter of 2024 to be followed closely by a Phase 2b proof of concept study in the US.

Recent Developments – Phase 2

In the six months ended June 30, 2024, we executed agreements with several vendors to advance our efforts toward starting Phase 2 clinical trials, including a contract with Avance Clinical to conduct Phase 2 clinical trials in Australia.

Our Business Development Strategy

Success in the biopharmaceutical and product development industry relies on the continuous development of novel product candidates. Most product candidates do not make it past the clinical development stage, which forces companies to look externally for innovation. Accordingly, we expect from time to time, to seek strategic opportunities through various forms of business development, which can include strategic alliances, licensing deals, joint ventures, collaborations, equity-or debt-based investments, dispositions, mergers and acquisitions. We view these business development activities as a necessary component of our strategies, and we seek to enhance shareholder value by evaluating business development opportunities both within and complementary to our current business as well as opportunities that may be new and separate from the development of our existing product candidates. Our business strategy requires significant capital.

As part of the Company's efforts to preserve cash resources and focus on the development of our ONP-002 concussion drug product candidate, the Company closed its facility in Alachua Florida where some of the work related to the lantibiotics program was performed, and has paused all research and development activities related to our vaccine product candidate. Until the Company can secure additional capital and determine an alternative solution to continue these research and development programs, they will remain paused.

Financial Overview

Research and Development Expenses

Research and development consist of expenses incurred in connection with the discovery and development of our product candidates. These expenses consist primarily of employee-related expenses, which include salaries and benefits and attending science conferences; expenses incurred under our License Agreements with third parties and under other agreements with contract research organizations, investigative sites and consultants that conduct our clinical trials and a substantial portion of our nonclinical studies; the cost of acquiring and manufacturing clinical trial materials; facilities, depreciation and other allocated expenses, which include direct and allocated expenses for rent and maintenance of facilities and equipment, and depreciation of fixed assets; license fees, for and milestone payments related to, in-licensed products and technology; stock-based compensation expense; and costs associated with nonclinical activities and regulatory approvals. We expense research and development costs as incurred.

Our research and development expenses can be divided into (i) clinical research, and (ii) nonclinical research and development activities. Clinical research costs consist of clinical trials, manufacturing services, regulatory activities all of which are largely provided by third parties. Nonclinical research and development costs consist of our research activities, research activities provided by third parties, our own nonclinical studies, nonclinical studies provided by third parties, the acquisition of in process research and development, related personnel costs and laboratory supplies, and other costs such as rent, utilities, depreciation and stock-based compensation we incur associated with the development of our product candidates. While we are currently focused on advancing our product development programs, our future research and development expenses will depend on the clinical success of our product candidates, as well as ongoing assessments of each product candidate's commercial potential. In addition, we cannot forecast with any degree of certainty which product candidates may be subject to future partnerships, when such arrangements will be secured, if at all, and to what degree such arrangements would affect our development plans, research expenses and capital requirements.

Our research and development expenses were $1,570,193 and $3,679,272 for the six months ended June 30, 2024 and 2023, respectively. In 2023 our research and development costs consisted of our COVID vaccine program and our lantibiotics program, which were paused in 2023. For the six months ended June 30, 2024, our research and development expenses consisted of the costs related to the development of our ONP-002 neurology asset. Due to limited resources, while we continue our development efforts, we have focused our research and development expenses to our ONP-002 drug and paused further development of our vaccine product and lantibiotics research until we can raise additional capital.

Our current product development strategy contemplates continued research and development of our ONP-002 product. Continued research and development expenses are subject to available capital and our ability to raise the additional required capital. The lengthy process of completing pre-clinical studies, clinical trials, seeking regulatory approval, and expanding the potential claims we are able to make requires expenditure of substantial resources. Any failure or delay in completing pre-clinical studies, clinical trials, or in obtaining regulatory approvals, could cause a delay in generating product revenues and cause our research and development expenses to increase and, in turn, have a material adverse effect on our operations. Our current product candidate is not expected to be commercially available until we are able to obtain regulatory approval from the FDA or the regulatory authority in other jurisdictions where we may seek approval.

Our plan is to budget and manage expenditures in research and development such that they are undertaken in a cost-effective manner yet still advance the research and development efforts. Subject to available capital, overall research and development expenses could increase as a result of our concussion product candidate. Our research and development projects are currently expected to be taken to the point where they can be licensed or partnered with larger pharmaceutical companies.

Recent Financing

On June 26, 2024, we announced the sale of 1.1 million shares of our common stock, par value $0.001, through a placement agreement with Dawson James Securities, Inc. ("Dawson James") at an offering price per share of common stock of $1.00. The offering resulted in gross proceeds of $1.1 million before deducting placement agent fees and other estimated offering expenses payable by the Company. We also agreed to issue placement agent warrants ("Dawson James Warrants") to purchase up to 5% of the aggregate number of securities sold in the offering with an exercise price 125% of the offering price of the common stock in the offering. The Dawson James Warrants are exercisable for five years from the date of closing the offering and are initially exercisable six months from the closing of the Offering.

We intend to use the net proceeds from the offering to fund the continued development of ONP-002 and for general corporate purposes and working capital.

General and Administrative Expenses

General and administrative expenses consist principally of salaries and related costs for personnel in executive, finance, and administrative functions. Other general and administrative expenses include facility costs not otherwise included in research and development expenses, patent filing, and professional fees for legal, consulting, auditing and tax services.

We are aware that certain general and administrative expenses could increase for, among others, the following reasons:

- the efforts we undertake from, time to time, to raise additional capital; and
- consulting, legal, accounting and investor relations costs associated with being a public company.

Other Income (Expense)

Other income (expense) includes miscellaneous income as well as interest income and expense. Interest income consists of interest earned on our cash and cash equivalents. The primary objective of our investment policy is capital preservation. Interest expense consists primarily of interest and costs associated with our indebtedness.

Income Taxes

At December 31, 2023, the Company has federal and state tax net operating loss carryforwards of $153,575,836 and $137,731,183, respectively. The State of Pennsylvania tax net operating loss carryforwards will expire through 2036. Federal and Florida tax net operating loss carryforwards generated prior to December 31, 2017 will expire through 2037 and are not subject to taxable income limitations. Federal and Florida tax net operating loss carryforwards generated subsequent to December 31, 2017, do not expire but may be subject to taxable income limitation pursuant to the Tax Cuts and Jobs Act that was enacted on December 22, 2017. The Company also has federal research and development tax credit carryforwards of $4,169,354 of which are included as an uncertain tax position. The federal tax credit carryforward will expire beginning in 2021 and continuing through 2043 unless utilized.

Utilization of net operating loss carryforwards and research and development credit carryforwards may be subject to a substantial annual limitation due to ownership change limitations that may have occurred or, could occur in the future in accordance with Section 382 of the Internal Revenue Code of 1986 ("IRC Section 382") and with Section 383 of the Internal Revenue Code of 1986, as well as similar state provisions. These ownership changes may limit the amount of net operating loss carryforwards and research and development credit carryforwards that can be utilized annually to offset future taxable income and taxes, respectively. In general, an ownership change, as defined by IRC Section 382, results from transactions increasing the ownership of certain stockholders or public groups in the stock of a corporation by more than 50 percentage points over a three-year period. The Company has completed several financings since its inception which may result in a change in ownership as defined by IRC Section 382 or could result in a change in control in the future. In each period since our inception, we have recorded a 100% valuation allowance for the full amount of our deferred tax asset, as the realization of the deferred tax asset is uncertain. As a result, we have not recorded any federal tax benefit in our statements of operations.

Results of Operations for the Three and Six Months Ended June 2024 and 2023

Grant revenue. There was no grant revenue for the three and six-month periods ended June 30, 2024. For the comparable three and six-month periods in 2023, there was $13,163 and $30,187 in grant revenue, respectively. This decrease was attributable to awards received for a small business innovation research grant that expired in the three-month period ended September 30, 2023.

Research and Development. Research and development expenses were $906,779 and $1,570,193, respectively, for the three and six-month periods ended June 30, 2024, compared to $2,006,696 and $3,679,272 for the comparable three and six-month periods ended June 30, 2023. This is a decrease of 54.8% and 57.3% for the comparable three and six-month periods ended June 30, 2024.

This decrease was mainly driven by decreased costs associated with the development of our COVID vaccine product and our lantibiotics program. For the three months ended June 30, 2023, research and development expenses for our COVID vaccine and lantibiotics programs were approximately $2.0 million and primarily associated with costs for outside consultants. For the three-month period ended June 30, 2024, research and development expense related to ONP-002 was approximately $0.9 million. For the six-month period ended June 30, 2024 and 2023, respectively our research and development expenses were approximately $1.4 million for our ONP-002 product and $0.1 million for our vaccine product, and approximately $3.7 million for our vaccine and lantibiotics programs.

General and Administrative. General and administrative expenses were $1,399,221 for the three months ended June 30, 2024, compared to $1,115,785 for three months ended June 30, 2023, an increase of approximately $283,436 or 25.4%. General and administrative expenses for the six-month period ended June 30, 2024, were approximately $3,195,910 compared to $2,365,048 for the comparable six-month period in 2023, an increase of $830,862 or 35.1%. This increase was primarily due to increased expenses related to:

- Consulting expenses - $212,786
- Investor relations - $398,600
- Salaries, wages, and bonus expense - $223,687
- Legal expense - $174,073

These expense increases were offset by decreases in:

- Rent, utilities and other office related expenses - $281,160 as well as
- Public company, stock compensation, and filing and registration expenses.

Other Income (Expense). Other income, net, was $910 for the three months ended June 30, 2024, compared to $58,732 for the three months ended June 30, 2023. For the six-month period ended June 30, 2024 and 2023, other income, net, was $10,180 and $118,710 respectively, resulting in a decrease of $108,530 or 91.4% for the comparable six-month periods. The net change was primarily attributable to a reduction in interest income due to lower cash balances in interest earning accounts for the comparable periods.

Liquidity and Capital Resources

Since our inception, we have funded our operations primarily through the sale of equity securities in our initial public offering, the sale of equity securities and warrants in private placements, debt financing, warrant exercises, public offerings, and grants. During the six months ended June 30, 2024 and 2023, our operating activities used cash of $4,608,778 and $4,685,323 respectively. The decrease is primarily driven by changes in net losses adjusted for non-cash items and changes in operating assets and liabilities. We had a working capital surplus of $235,646 and $2,067,593 at June 30, 2024 and December 31, 2023, respectively.

During the six months ended June 30, 2024 and 2023, our financing activities provided cash of $2,473,898 and used cash of $267,640 respectively. The cash provided by financing activities during the six months ended June 30, 2024 was primarily due to net proceeds from our underwritten public offerings.

The Company has made several changes to reduce cash used in operations until additional capital can be obtained. These changes include a reduction in staffing and a reduction in research and development activity. These changes have positively impacted the forecast of cash resources available for operations, which we believe will allow us to fund our operating plan through the fourth quarter of 2024.

Financing

Additional details of our financing activities for the periods reflected in this report are provided below as well as certain information on our outstanding shares of preferred stock:

At-the-Market ("ATM Program")

On February 24, 2023 the Company entered into an ATM with Ladenburg Thalmann & Co. Inc ("Ladenburg") to sell shares of its common stock. The Company did not issue any shares of common stock under its ATM with Ladenburg during the six-month periods ended June 30, 2024 and 2023. The Company did not sell any shares through the ATM program while it was active. The ATM program with Ladenburg terminated on January 30, 2024.

On August 8, 2024, the Company entered into an At-The-Market Issuance Sales Agreement (the "Sales Agreement") with Ascendiant Capital Markets, LLC, as sales agent (the "Agent"), pursuant to which the Company may offer and sell through or to the Agent (the "ATM") up to $10.0 million in shares of its common stock (the "Shares") at-the-market. Shares offered and sold in the Offering are anticipated to be issued pursuant to the Company's universal shelf registration statement on Form S-3 (the "Shelf Registration Statement") filed with the Securities and Exchange Commission (the "SEC"). Under the terms of the Sales Agreement, the Agent is entitled to a commission at a fixed rate of 3.0% of the gross proceeds from each sale of shares under the Agreement. There can be no assurances the Company will be able to raise any funds under the Sales Agreement.

Other Financings

We entered into short term financing arrangements for the payment of our annual insurance premiums for our products liability insurance, cyber coverage, products liability coverage, and directors and officers and employment practices insurance.

In July of 2023, we entered into a short-term note payable for $611,109 bearing interest at a rate of 9.55% to finance the renewals of the directors' and officers' liability, employment practices liability, products liability, cyber liability, and other liability policies. Principal and interest payments on the note began in August of 2023 and continued through May of 2024 based on straight-line amortization over the 10-month period.

Recent Developments

On June 25, 2024, the Company entered into a placement agency agreement (the "Placement Agency Agreement") with Dawson James Securities Inc. ("Dawson James" or the "Placement Agent") pursuant to which the Company engaged Dawson James as the placement agent for a registered public offering (the "Offering") of an aggregate of 1,100,000 shares of the Company's common stock, par value $0,001 ("Common Stock"). The offering price per share of Common Stock was $1.00. The Company agreed to pay the Placement Agent a placement agent fee in cash equal to 7.00% of the gross proceeds from the Offering, and to reimburse for certain out of pocket expenses, including legal fees not to exceed $75,000. In addition, the Company agreed to issue to the Placement Agent warrants to purchase up to five percent 5% of the aggregate number of securities sold in the Offering ("Dawson James Warrants") with an exercise price of 125% of the offering price of the Common Stock in the Offering and exercisable for five years from the date of the closing of the Offering and are initially exercisable six months from the closing of the Offering.

The Offering resulted in gross proceeds to the Company of $1.1 million before underwriting discounts and commissions and other expenses payable by the Company were deducted.

The Placement Agency Agreement contains customary representations, warranties and agreements by the Company, conditions to closing, indemnification obligations of the Company, including for liabilities under the Securities Act of 1933, as amended, other obligations of the parties, and termination provisions.

Our Outstanding Preferred Stock

Series A and Series B

During 2017, we issued shares of Series A and Series B Preferred Stock in financing transactions (the "Preferred Stock Financings"). In connection with the Preferred Stock Financings, we filed Certificate of Designations of Preferences, Rights and Limitations of Series A and Series B Preferred Stock with the Secretary of State of the State of Florida, effective May 10, 2017 and November 8, 2017, respectively. On August 26, 2022, holders of 4,000,000 shares of the Company's Series A Convertible Preferred Stock, and 2,550,000 shares of the Company's Series B Convertible Preferred Stock converted the Series A Convertible Preferred Stock and the Series B Convertible Preferred Stock into an aggregate of 15,167 shares of common stock. As of June 30, 2024 our outstanding Series A and Series B Preferred Stock and the amount of common stock that may be issued upon conversion is set forth below:

Preferred Stock Series	Outstanding Shares	Common Stock Equivalents
Series A Preferred	5,417,000	9,028
Series B Preferred	4,050,000	13,500

In addition, we issued warrants to purchase shares of Common Stock to the Series A holders, and to the Series B holders in connection with the Preferred Stock Financing. As of June 30, 2024, there are 17,742 shares of common stock able to be acquired upon exercise of the warrants held by our Series A and Series B holders respectively.

Except as otherwise required by law, the Series A and Series B Preferred Stock have no voting rights. However, as long as any shares of Series A and Series B Preferred Stock are outstanding, we shall not, without the affirmative vote of the holders of a majority of the then outstanding shares of the Series A and Series B Preferred Stock, (a) alter or change adversely the powers, preferences or rights given to the Series A or Series B Preferred Stock or alter or amend the Certificate of Designation, (b) amend its articles of incorporation or other charter documents in any manner that adversely affects any rights of the holders of Series A and Series B Preferred Stock, (c) increase the number of authorized shares of Series A and Series B Preferred Stock, or (d) enter into any agreement with respect to any of the foregoing. Upon any liquidation, dissolution or winding-up by us, whether voluntary or involuntary that is not a Fundamental Transaction (as defined in the Certificate of Designations), the holders of Series A and Series B Preferred Stock shall be entitled to receive out of the assets, the greater of (i) the product of the number of shares of Series A and Series B Preferred Stock then held by such holder, multiplied by the Original Issue Price; and (ii) the amount that would be payable to such holder in the Liquidation (as defined in the Certificate of Designations) in respect of Common Stock issuable upon conversion of such shares of Series A and Series B Preferred Stock if all outstanding shares of Series A and Series B Preferred Stock were converted into Common Stock immediately prior to the Liquidation. The Series A and Series B Preferred Stock is classified as permanent equity. Each of the Series A and Series B Preferred Stock have redemption rights to the extent we have funds legally available therefore, at any time after the fifth anniversary of the original issue date of the applicable Series A and Series B Preferred Stock. We have the right to redeem all or any portion of the outstanding shares of Series A and Series B Preferred Stock at the original issue price by providing at least seventy-five (75) days written notice of such redemption to all holders of the then outstanding shares of Series A and Series B Convertible Preferred Stock.

Series F

On December 28, 2023, as part of consideration paid to Odyssey and pursuant to an Asset Purchase Agreement executed with Odyssey, we issued 8,000,000 shares of convertible Series F Preferred Stock. The Series F Preferred Stock is convertible on a one-for one basis. The Series F Preferred Stock has no voting rights, is ranked junior to our Series A and Series B Preferred Stock and is at parity with our common stock, in addition there shall be no dividends paid on the Series F Preferred Stock. At the closing of the Odyssey transaction 511,308 shares of Series F Preferred Stock were converted into 511,308 shares of common stock. At June 30, 2024, there were 7,488,692 shares of Series F Preferred Stock outstanding.

Future Capital Requirements

On April 18, 2024, we received Notice from the NYSE American that we are no longer in compliance with NYSE American's continued listing standards. Specifically, we are not in compliance with the continued listing standards set forth in Sections 1003(a)(ii) and 1003(a)(iii) of the NYSE American Company Guide. Section 1003(a)(ii) requires a listed company to have stockholders' equity of $4 million or more if the listed company has reported losses from continuing operations and/or net losses in three of its four most recent fiscal years. Section 1003(a)(iii) requires a listed company to have stockholders' equity of $6 million or more if the listed company has reported losses from continuing operations and/or net losses in its five most recent fiscal years. We reported stockholders' equity of $3.2 million as of December 31, 2023, and $1.3 million as of June 30, 2024. Additionally, we have reported losses from continuing operations and/or net losses in our five most recent fiscal years ended December 31, 2023.

The Notice further provides that we must submit a plan of compliance (the "Plan") by May 18, 2024 (the "Deadline") addressing how we intend to regain compliance with the continued listing standards by October 18, 2025. The Plan is required to include specific milestones, quarterly financial projections and details related to any strategic initiatives we plan to complete.

We submitted the Plan by the Deadline and on June 18, 2024 we were notified by the NYSE American that our Plan to regain compliance with NYSE American's continued listing standards had been accepted, as part of the acceptance we were granted a plan period through October 18, 2025. During the plan period, we will be subject to quarterly monitoring for compliance with the plan. If we do not regain compliance with NYSE American's listing standards by October 18, 2025, or if we do not make progress consistent with our plan, the NYSE American may initiate delisting proceedings.

Our common stock will continue to be listed on NYSE American during the plan period under the symbol "OGEN" with a "below compliance" indicator appended to our ticker symbol (with the added designation of ".BC"). Our receipt of the notification from NYSE American accepting the compliance Plan does not affect our business operations or our reporting requirements with the U.S. Securities and Exchange Commission.

We are committed to undertaking a transaction or transactions in the future to achieve compliance with the NYSE American's requirements. However, there can be no assurance that we will be able to achieve compliance with the NYSE American's continued listing standards within the required timeframe. Additionally, we can provide no assurance that the transaction or transactions necessary to achieve compliance can be obtained or that they can be obtained with terms favorable to investors.

If the Common Stock ultimately were to be delisted for any reason, it could negatively impact the Company by (i) reducing the liquidity and market price of the Company's Common Stock; (ii) reducing the number of investors willing to hold or acquire the Common Stock, which could negatively impact the Company's ability to raise equity financing; and (iii) limiting the Company's ability to use a registration statement to offer and sell freely tradable securities, thereby preventing the Company from accessing the public capital markets; and (iv) impairing the Company's ability to provide equity incentives to its employees.

Our capital requirements for the remainder of 2024 will depend on numerous factors, including our ability raise additional capital including through possible joint ventures and/or partnerships. We expect to incur substantial expenditures to further develop or commercialize our technologies including continued increases in costs related to research, nonclinical testing and clinical trials, as well as costs associated with our capital raising efforts and being a public company. We will require substantial funds to conduct research and development and nonclinical and Phase 2 clinical testing of our licensed, patented technologies and to develop sublicensing relationships for the Phase 2 and 3 clinical testing and manufacture and marketing of any products that are approved for commercial sale. Our financing plans include seeking both equity and debt financing, alliances or other partnership agreements with entities interested in our technologies, or other business transactions that would generate sufficient resources to ensure continuation of our operations and research and development programs.

Our current available cash and cash equivalents provide us with limited liquidity. We believe our existing cash will allow us to fund our operating plan through the fourth quarter of 2024. As a result, we have implemented certain cost-saving initiatives, including reducing our efforts and staff focused on our lantibiotics program and our vaccine product candidate, which are expected to negatively impact the development of these programs. See, "Risk Factors." We expect to manage the timing of our development expenditures and to continue to seek additional funding for our operations. Any required additional capital may not be available on reasonable terms, if at all. If we were unable to obtain additional financing, we may be required to reduce the scope of, delay or eliminate some or all of our planned clinical testing, research and development and commercialization activities, which could harm our business. The sale of additional equity or debt securities may result in additional dilution to our shareholders. If we raise additional funds through the issuance of debt securities or preferred stock, these securities could have rights senior to those of our common stock and could contain covenants that would restrict our operations. We also will require additional capital beyond our currently forecasted amounts, for example, as we seek to move forward with the development of ONP-002 we will require additional capital. In addition, we continue to pursue other non-dilutive opportunities for our COVID-19 research and development funding opportunities through governmental and nongovernmental sources, as well as potential research collaboration arrangements with academic institutions and other commercial partners. Our ability to advance the development of our ONP-002 concussion candidate at our currently anticipated pace, is dependent upon our ability to secure additional capital resources through these funding opportunities or an alternative capital raise, such as an equity or debt financing or other strategic business collaboration.

Because of the numerous risks and uncertainties associated with research, development and clinical testing of our product candidates, we are unable to estimate the exact amounts of our working capital requirements. Our future funding requirements will depend on many factors, including, but not limited to:

- Conducting preclinical research and phase 2 clinical trials for our ONP-002 concussion drug,
- Our ability to partner or collaborate with third parties;
- Identifying and securing clinical sites for the conduct of human trials for our product candidates;
- The number and characteristics of the product candidates we pursue;
- The scope, progress, results and costs of researching and developing our product candidate, and conducting nonclinical and clinical trials
- The timing of, and the costs involved in, obtaining regulatory approvals for our product candidates;
- Our ability to maintain current research and development licensing agreements and to establish new strategic partnerships, licensing or other arrangements and the financial terms of such agreements;
- The costs involved in preparing, filing, prosecuting, maintaining, defending and enforcing patent claims, including litigation costs and the outcome of such litigation;
- The timing, receipt and amounts of sales of, or royalties on, our products and future products,

We have based our estimates on assumptions that may prove to be wrong. We may need to obtain additional funds sooner or in greater amounts than we currently anticipate. Potential sources of financing include strategic relationships, grants, public or private sales of our shares or debt and other sources. We may seek to access the public or private equity markets when conditions are favorable due to our long-term capital requirements. We do not have any committed sources of financing at this time, and it is uncertain whether additional funding will be available when we need it on terms that will be acceptable to us, or at all. If we raise funds by selling additional shares of common stock or other securities convertible into common stock, the ownership interest of our existing stockholders will be diluted. If we are not able to obtain financing when needed, we may be unable to carry out our business plan. As a result, we may have to significantly limit our operations and our business, financial condition and results of operations would be materially harmed.

Critical Accounting Estimates and Policies

Our discussion and analysis of our financial condition and results of operations are based upon our condensed consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States of America ("US GAAP"). The preparation of condensed consolidated financial statements in accordance with US GAAP requires us to make estimates and assumptions that affect reported amounts and related disclosures. We consider an accounting estimate to be critical if it requires assumptions to be made that were uncertain at the time the estimate was made; and changes in the estimate or different estimates that could have been made could have a material impact on our results of operations or financial condition. The principal area of estimation reflected in the condensed consolidated financial statements are estimates for research and development expenses and related prepaid and accrued expenses, which are based on the percentage of completion of the Company's contracts with Contract Research Organizations.

Recently Issued Accounting Pronouncements

There are no accounting pronouncements issued or effective during the three months ended June 30, 2024 that have had or are expected to have an impact on our condensed consolidated financial statements.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Oragenics, Inc. is a smaller reporting company as defined by Rule 12b-2 of the Securities and Exchange Act of 1934 and is not required to provide the information required under this item.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Management's evaluation of the effectiveness of the Company's disclosure controls and procedures as defined in Rules 13a-15(e) and 15d-15(e) of the Securities Exchange Act was performed under the supervision and participation of our senior management, including our President and Interim Principal Executive Officer and Chief Financial Officer. The purpose of disclosure controls and procedures is to ensure that information required to be disclosed in the reports filed or submitted under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to management, including our President and Interim Principal Executive Officer and Chief Financial Officer, to allow timely decisions regarding required disclosures. Based upon that evaluation, our Interim Principal Executive Officer and Chief Financial Officer concluded that, as of the end of such period, our disclosure controls and procedures were effective as of June 30, 2024 in ensuring that information required to be disclosed by us in reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported with the time periods specified in the Securities and exchange Commission's rules and forms.

Changes in Internal Controls over Financial Reporting

Our management, with the participation of our President and Interim Principal Executive Officer and Chief Financial Officer, has concluded there were no other significant changes in our internal controls over financial reporting that occurred during our last fiscal quarter that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Limitations on the Effectiveness of Controls

Our management, including our Interim Principal Executive Officer and President, and Chief Financial Officer, does not expect that our Disclosure Controls and internal controls will prevent all errors and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within the Company have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of a simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people, or by management or board override of the control.

The design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions; over time, controls may become inadequate because of changes in conditions, or the degree of compliance with the policies or procedures may deteriorate. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

PART II – OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

On December 7, 2022, the Company entered into an investment banking engagement letter with Ladenburg Thalmann, ("Ladenburg"). The engagement letter was subsequently amended at various times (together with amendments to the "Engagement Letter"). The Company terminated the Engagement Letter as of August 15, 2023. Ladenburg recently sent the Company an invoice in the amount of $2,500,000, and a demand letter from Ladenburg's general counsel demanding payment thereof followed shortly thereafter. Ladenburg is of the view that a fee is owed based on the Company's purchase of assets from Odyssey Health, Inc. The Company strongly disagrees that any such fee is due to Ladenburg and initiated a confidential action for arbitration against Ladenburg with the Financial Industry Regulatory Authority ("FINRA") on March 12, 2024, seeking, among other things, a declaratory judgment that no such fee is owed. On April 17, 2024 Ladenburg filed a Complaint in federal court in the Southern District of Florida, and also filed motion for a temporary restraining order ("TRO") and preliminary injunction seeking to move the venue from FINRA to the federal court in Miami-Dade County. On May 3, 2024, the Magistrate Judge assigned to the case issued a Report and Recommendation denying the motion; although Ladenburg objected to the Report and Recommendation, Magistrate Judge's Report and Recommendation, the District Court Judge adopted the Report and Recommendation, finalizing the Court's denial of the requested injunctive relief. On May 9, 2024, the Company filed a motion to dismiss in the federal court action, which is still currently pending. Meanwhile, the FINRA action continues and is set to be heard in February of 2025. The Company believes Ladenburg's claims are unlikely to prevail and intends to defend itself vigorously. It is possible, however, that there could be an unfavorable outcome or resolution of the claims asserted, which could negatively and materially impact the Company's business, consolidated financial position and results of operations. Litigation is inherently uncertain and there can be no assurance that the Company will prevail. The Company does not include an estimate of legal fees and other related defense costs in its estimate of loss contingencies.

ITEM 1A. RISK FACTORS

In addition to the other information set forth in this Form 10-Q, you should carefully consider the factors discussed in Part I, Item 1A, subsection "Risk Factors" of our Annual Report on Form 10-K for the fiscal year ended December 31, 2023 which could materially affect our business, financial condition or future results of operations. The risks described in our Annual Report on Form 10-K for the fiscal year ended December 31, 2023 are not the only risks that we face. Additional risks and uncertainties not currently known to us or that we currently deem to be immaterial may also materially adversely affect our business, financial condition and future results of operations. The following information updates, and should be read in conjunction with, the risk factors previously disclosed in Item 1A, subsection "Risk Factors" to Part I of our Annual Report on Form 10-K for the fiscal year ended December 31, 2023 filed on March 29, 2024. Except as set forth below, there have been no material changes to the risk factors previously disclosed under the caption "Risk Factors" in our Annual Report on Form 10-K.

Risks Related to Our Business

We have incurred significant losses since our inception and expect to continue to experience losses for the foreseeable future.

We have incurred significant net losses and negative cash flow in each year since our inception, including net losses of approximately $4.8 million and $5.9 million for the six months ended June 30, 2024 and 2023, respectively, and approximately $21 million for the year ended December 31, 2023. As of June 30, 2024, our accumulated deficit was approximately $211 million. We have devoted a significant amount of our financial resources to research and development, including our nonclinical development activities and clinical trials. We expect that the costs associated with our plans to begin phase 2 clinical trials, contract manufacturing and file an IND for our concussion product candidate will continue and, to have successful results, likely will require an increase in the level of our overall expenses going forward. As a result, we expect to continue to incur substantial net losses and negative cash flow for the foreseeable future. These losses and negative cash flows have had, and will continue to have, an adverse effect on our shareholders' equity and working capital. Our current cash, cash equivalents and short-term investments are not sufficient to fully implement our business strategy and sustain our operations. As a result of our limited resources, we have undertaken cost-saving initiatives, including reducing our efforts and staff focused on our COVID vaccine candidate and our lantibiotics program. Our actual costs may ultimately vary from our current expectation, which could materially impact our use of capital and our forecast of the period of time through which our financial resources will be adequate to support our operations. Because of the numerous risks and uncertainties associated with product development and commercialization, we are unable to accurately predict the timing or amount of substantial expenses or when, or if, we will be able to generate the revenue necessary to achieve or maintain profitability. Due to of our accumulated losses and substantial doubt that we can continue as a going concern beyond June 2024, the Company is evaluating various opportunities for its Lantibiotics Program and its N-CoV2-1 vaccine product candidate, as well as alternative assets that could be acquired or developed. These opportunities could include a wide range of options including, among other things, a potential sale, spin-off, fund raising, combination or other strategic transaction, which may also include the winding down of research and development activities. The result of this process may result in the liquidation of assets for significantly less than amounts that have been invested in them, the write-off of prior expenses incurred in connection with the development of such assets and may have a material adverse effect on our results of operations and liquidity. Notwithstanding the above, the Company will seek to maximize the value of such assets to the extent possible. Until we can generate a sufficient amount of product revenue, if ever, we expect to finance future cash needs through public or private equity offerings, debt financings or corporate or government collaboration and licensing arrangements. If we do not succeed in raising additional funds on acceptable terms, we may be unable to complete existing nonclinical and planned clinical trials or obtain approval of our product candidates from the FDA and other regulatory authorities. We believe our existing cash will allow us to fund our operating plan only through the third quarter of 2024.

We may have difficulty raising additional capital, which could deprive us of the resources necessary to implement our business plan, which would adversely affect our business, results of operation and financial condition.

We need to raise additional capital to fund the development and commercialization of our product candidates and to operate our business. The need to raise additional capital is expected to increase as we continue our work research and development activities and preparation to start phase 2 clinical trials for ONP-002. In order to support the initiatives envisioned in our business plan, we will need to raise additional funds through the sale of assets, public or private debt or equity financing, collaborative relationships or other arrangements. If our operations expand faster or at a higher rate than currently anticipated, we may require additional capital sooner than we expect. We are unable to provide any assurance or guarantee that additional capital will be available when needed by our company or that such capital will be available under terms acceptable to our company or on a timely basis.

Our ability to raise additional financing depends on many factors beyond our control, including the state of capital markets, the market price of our common stock and the development or prospects for development of competitive products by others. If additional funds are raised through the issuance of equity, convertible debt or similar securities of our company, the percentage of ownership of our company by our company's stockholders will be reduced, our company's stockholders may experience additional dilution upon conversion, and such securities may have rights or preferences senior to those of our common stock. The preferential rights granted to the providers of such additional financing may include preferential rights to payments of dividends, super voting rights, a liquidation preference, protective provisions preventing certain corporate actions without the consent of the fund providers, or a combination thereof. We are unable to provide any assurance that additional financing will be available on terms favorable to us or at all.

If adequate funds are not available or are not available on acceptable terms, with limited capital, we expect to continue to hold research and development of our lantibiotics and Covid programs and may reduce or slow research and development activity of our ONP-002 lead asset. Thus, the unavailability of capital could substantially harm our business, results of operations and financial condition.

With limited resources we have paused our other product candidate research and development and now rely on the progress and success of ONP-002.

With limited capital, we have put the research and development of our COVID vaccine program and our lantibiotics program on hold and have chosen instead to focus the limited capital on the development of ONP-002. As such, our future success currently depends on the successful development of ONP-002, our concussion asset, of which there can be no assurances.

Risks Related to Our Common Stock

We cannot assure you that we will continue to be listed on the NYSE American.

Our common stock commenced trading on the NYSE American (formerly the NYSE MKT) on April 10, 2013, and we are subject to certain NYSE American continued listing requirements and standards. On April 18, 2024 we received notice of non-compliance from the NYSE American due to our shareholder equity not meeting the NYSE American's continued listing requirements and standards for minimum stockholder's equity, which is below the NYSE American's minimum requirement. We will need to raise additional capital to regain compliance, of which there can be no assurances. We may also incur costs that we have not previously incurred for expenses for compliance with the rules and requirements of the NYSE American. We cannot provide any assurance that we will be able to continue to satisfy the requirements of the NYSE American's continued listing standards. A delisting of our common stock from the NYSE American could negatively affect the price and liquidity of our common stock and could impair our ability to raise capital in the future.

The issuance of additional equity securities by us in the future would result in dilution to our existing common shareholders.

Our Board of Directors has authority, without action or vote of our shareholders, to issue all or a part of our authorized but unissued shares, except where shareholder approval is required by law or the rules of any exchange on which our shares are listed. Any issuance of additional equity securities by us in the future could result in dilution to our existing common shareholders. Such issuances could be made at a price that reflects a discount or a premium to the then-current trading price of our common stock. In addition, our business strategy may include expansion through internal growth by acquiring complementary businesses, acquiring or licensing additional products or brands, or establishing strategic relationships with targeted customers and suppliers. In order to do so, or to finance the cost of our other activities, we may issue additional equity securities that could result in further dilution to our existing common shareholders. These issuances would dilute the percentage ownership interest of our existing common shareholders, which would have the effect of reducing their influence on matters on which our shareholders vote and might dilute the book value of our common stock. For example, our outstanding shares of common stock at December 31, 2023 was 3,080,693, due to additional common stock issuances related to capital raises, at June 30, 2024 our outstanding shares of common stock was 5,580,693. Furthermore, if Odyssey or the holders of Preferred Shares Series A and B convert their preferred shares into common stock an additional 7,511,220 shares of common stock could be issued resulting in dilution to our existing common shareholders.

ITEM 2. UNREGISTERED SALE OF EQUITY SECURITIES, USE OF PROCEEDS AND ISSUER PURCHASES OF EQUITY SECURITIES

None, other than those previously disclosed on the Company's Current Reports on Form 8-K.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None.

ITEM 4. MINE SAFETY DISCLOSURES

Not Applicable.

ITEM 5. OTHER INFORMATION

(a) The disclosure set forth below is provided in lieu of a separate Form 8-K filing: On August 8, 2024, the Company entered into an At-The-Market Issuance Sales Agreement (the "Sales Agreement") with Ascendiant Capital Markets, LLC, as sales agent (the "Agent"), pursuant to which the Company may offer and sell through or to the Agent (the "ATM") up to $10.0 million in shares of its common stock (the "Shares") at-the-market, subject to subject to the limits imposed by General Instruction I.B.6 of Form S-3. Shares offered and sold in the Offering are anticipated to be issued pursuant to the Company's universal shelf registration statement on Form S-3 (the "Shelf Registration Statement") filed with the Securities and Exchange Commission (the "SEC"). Under the terms of the Sales Agreement, the Agent is entitled to a commission at a fixed rate of 3.0% of the gross proceeds from each sale of shares under the Agreement.

(b) None.

(c) ***Director and Officer Trading Plans and Arrangements.*** During the quarterly period ended June 30, 2024, no director or officer of the Company adopted or terminated any contract, instruction or written plan for the purchase or sale of securities of the Company intended to satisfy the affirmative defense conditions of Rule 10b5-1(c) of the Exchange Act or any "non-Rule 10b5-1 trading arrangement" (as defined in the Exchange Act).

ITEM 6. EXHIBITS

Incorporated by reference to Exhibits filed after signature page.

EXHIBIT INDEX

Exhibit number	Exhibit description	Incorporated by Reference				Filed herewith
		Form	File no.	Exhibit	Filing date	
1.1	Placement Agency Agreement dated June 25, 2024 between Oragenics, Inc. and Dawson James Securities, Inc.	8-K	001-32188	1.1	6/26/24	
3.1	Amended and Restated Articles of Incorporation as amended prior to December 29, 2017 (including certificates of designation of Series A, B and C Preferred Stock).	8-K	001-32188	3.1	12/29/17	
3.2	Articles of Amendment to Amended and Restated Articles of Incorporation dated effective December 29, 2017.	8-K	001-32188	3.2	12/29/17	
3.3	Articles of Amendment to Amended and Restated Articles of Incorporation effective January 19, 2018.	8-K	001-32188	3.1	1/19/18	
3.4	Articles of Amendment to Amended and Restated Articles of Incorporation.	8-K	001-32188	3.4	6/26/18	
3.5	Articles of Amendment to Amended and Restated Articles of Incorporation	8-K	001-32188	3.5	2/28/22	
3.6	Articles of Amendment to Amended and Restated Articles of Incorporation	8-K	001-32188	3.1	1/23/23	
3.7	Amendment to Articles of Incorporation for Certificate of Designation of Series F Convertible Preferred Stock	8-K	001-32188	3.1	12/8/23	
3.8	Amendment to Articles of Incorporation to Increase Common Stock	8-K	001-32188	3.1	12/15/23	
3.9	Bylaws	SB-2	333-100568	3.2	10/16/02	
3.10	First Amendment to Bylaws	8-K	001-32188	3.1	6/9/10	
3.11	Second Amendment to Bylaws	8-K	001-32188	3.1	8/24/10	
3.12	Third Amendment to Bylaws	8-K	001-32188	3.9	2/28/22	

10.1	At-The-Market Issuance Sales Agreement between the Company and Ascendiant Capital Markets, LLC dated August 8, 2024	X
31.1	Certification of Principal Executive Officer pursuant to Rule 13a-14 and Rule 15d-14(a), promulgated under the Securities and Exchange Act of 1934, as amended.	X
31.2	Certification of Principal Financial Officer pursuant to Rule 13a-14 and Rule 15d-14(a), promulgated under the Securities and Exchange Act of 1934, as amended.	X
32.1	Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (Chief Executive Officer). **	X
32.2	Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (Chief Financial Officer). **	X
101.INS	Inline XBRL Instance Document	
101.SCH	Inline XBRL Taxonomy Extension Schema	X
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase	X
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase	X
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase	X
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase	X
104	Cover Page Interactive Data File (embedded within the Inline XBRL document	

*Portions of the exhibits have been omitted pursuant to Item 601(b)(10)(iv).

SIGNATURES

In accordance with the requirements of the Exchange Act, the registrant caused this report to be signed on its behalf by the undersigned, thereunto duly authorized on this 9th day of August 2024.

ORAGENICS, INC.

BY: */s/ J. Michael Redmond*
J. Micheal Redmond, President and Interim Principal Executive Officer

BY: */s/ Janet Huffman*
Janet Huffman, Chief Financial Officer and Principal Accounting Officer

Exhibit 10.1

ORAGENICS, INC.

Common Stock
(par value $0.001 per share)

At-The-Market Issuance Sales Agreement

August 8, 2024

Ascendiant Capital Markets, LLC
110 Front Street, Suite 300
Jupiter, FL 33477

Ladies and Gentlemen:

Oragenics, Inc., a Florida corporation (the "Company"), confirms its agreement (this "Agreement") with Ascendiant Capital Markets, LLC (the "Agent"), as follows:

1. Issuance and Sale of Shares. The Company agrees to issue and sell through or to the Agent, shares (the "Placement Shares") of the Company's common stock, par value $0.001 per share (the "Common Stock"), from time to time during the term of this Agreement and on the terms set forth in this Agreement; *provided however*, that in no event will the Company issue or sell through or to the Agent such dollar amount of Placement Shares that would exceed $10,000,000 in the aggregate, subject to the limits imposed by General Instruction I.B.6 of Form S-3 (the "Maximum Amount"). Notwithstanding anything to the contrary contained herein, the parties hereto agree that compliance with the limitations set forth in this Section 1 on the amount of Placement Shares issued and sold under this Agreement will be the sole responsibility of the Company and that the Agent will have no obligation in connection with such compliance provided the Agent follows the trading instructions provided by the Company pursuant to any Placement Notice in all material respects. The issuance and sale of Placement Shares through or to the Agent will be effected pursuant to the Registration Statement (as defined below) filed by the Company and declared effective by the U.S. Securities and Exchange Commission (the "SEC"), although nothing in this Agreement will be construed as requiring the Company to use the Registration Statement to issue Common Stock. Certain capitalized terms used in this Agreement have the meanings ascribed to them in Section 25.

The Company has filed with the SEC, in accordance with the provisions of the Securities Act of 1933, as amended (the "Securities Act"), and the rules and regulations thereunder (the "Securities Act Regulations"), a registration statement on Form S-3 (File No. 333-269225), including a base prospectus, relating to certain securities, including the Placement Shares, to be issued from time to time by the Company, and which incorporates by reference documents that the Company has filed or will file in accordance with the provisions of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and the rules and regulations thereunder. The Company has prepared or will prepare a prospectus supplement specifically relating to the Placement Shares (the "Prospectus Supplement") to the base prospectus included as part of the registration statement. The Company will furnish to the Agent, for use by it, copies of the prospectus included as part of the registration statement, as supplemented by the Prospectus Supplement. Except when the context otherwise requires, such registration statement, including all documents filed as part thereof or incorporated by reference therein, and including any information contained in a Prospectus (as defined below) subsequently filed with the SEC pursuant to Rule 424(b) under the Securities Act Regulations or deemed to be a part of the registration statement pursuant to Rule 430B of the Securities Act Regulations, is herein called the "Registration Statement." The base prospectus, including all documents incorporated therein by reference, included in the Registration Statement, as it may be supplemented by the Prospectus Supplement, in the form in which the prospectus and/or Prospectus Supplement have most recently been filed by the Company with the SEC pursuant to Rule 424(b) under the Securities Act Regulations is herein called the "Prospectus." Any reference herein to the Registration Statement, the Prospectus, or any amendment or supplement thereto will be deemed to refer to and include the documents incorporated by reference therein, and any reference herein to the terms "amend," "amendment," or "supplement" respecting the Registration Statement or the Prospectus will be deemed to refer to and include the filing of any document with the SEC deemed to be incorporated by reference therein, including in each such case filings made after the execution hereof (any such documents, collectively, the "Incorporated Documents").

For purposes of this Agreement, all references to the Registration Statement, the Prospectus, or any amendment or supplement thereto will be deemed to include the most recent copy filed with the SEC pursuant to its Electronic Data Gathering Analysis and Retrieval System, or if applicable, the Interactive Data Electronic Application system when used by the SEC (collectively, "EDGAR").

2. Placements. Each time that the Company wishes to issue and sell Placement Shares hereunder (each, a "Placement"), it will notify the Agent by email notice (or other method mutually agreed to in writing by the parties) of the number of Placement Shares, the period during which sales are requested to be made, any limitation on the number of Placement Shares that may be sold in any one day, and any minimum price below which sales may not be made (a "Placement Notice"), the form of which is attached hereto as Schedule 1. The Placement Notice will originate from any of the individuals from the Company set forth on Schedule 3 (with a copy to each of the other individuals from the Company listed on the schedule) and will be addressed to each of the individuals from the Agent that are set forth on Schedule 3, as Schedule 3 may be amended from time to time. The Placement Notice will be effective unless and until: (a) the Agent declines to accept the terms contained therein for any reason, in its sole discretion, which must be evidenced by a written notice to the Company, addressed to the individuals set forth on Schedule 3 within two (2) Business Days after receipt of such Placement Notice; (b) the entire amount of the Placement Shares thereunder have been sold; (c) the Company suspends or terminates the Placement Notice; or (d) the Agreement has been terminated under the provisions of Section 13. The amount of any discount, commission, or other compensation to be paid by the Company to the Agent in connection with the sale of the Placement Shares will be calculated in accordance with the terms set forth in Schedule 2. Neither the Company nor the Agent will have any obligation whatsoever respecting a Placement or any Placement Shares unless and until the Company delivers a Placement Notice to the Agent and the Agent does not decline such Placement Notice pursuant to the terms set forth above, and then only upon the terms specified therein and herein. In the event of a conflict between the terms of Sections 2, 3, and 4 of this Agreement and the terms of a Placement Notice, the terms of the Placement Notice will control.

3. Sale of Placement Shares by the Agent. Subject to the terms and conditions of this Agreement, each Agent, at any time it is an Agent, for the period specified in the Placement Notice, will use its commercially reasonable efforts consistent with its normal trading and sales practices and applicable state and federal laws, rules, and regulations and the rules of the NYSE American Stock Market (the "Exchange"), to sell the Placement Shares in accordance with the terms of such Placement Notice. The Agent will provide written confirmation to the Company no later than the opening of the Trading Day (as defined below) immediately following the Trading Day on which it has sold Placement Shares hereunder, setting forth the number of Placement Shares sold on such day, the compensation payable by the Company to the Agent pursuant to Section 2 for such sales, and the Net Proceeds (as defined below) payable to the Company, with an itemization of the deductions made by the Agent (as set forth in Section 5(b)) from the gross proceeds that it receives from such sales. Subject to the terms of the Placement Notice, Placement Shares may be sold hereunder by any method permitted by law deemed to be an "at the market" offering as defined in Rule 415(a)(1)(x) and Rule 415(a)(4) of the Securities Act Regulations, including sales made directly on the Exchange or on any other existing trading market for the Common Stock, to or through a market maker or directly to the Placement Agent as principal in negotiated transactions. Subject to the terms of a Placement Notice, the Agent may also sell Placement Shares by any other method permitted by law, including in privately negotiated transactions, with the Company's consent. "Trading Day" means any day on which Common Stock is purchased and sold on the Exchange.

4. Suspension of Sales. The Company or the Agent may, upon notice to the other party in writing (including by email correspondence to each of the individuals of the other party set forth on Schedule 3, if receipt of such correspondence is actually acknowledged by any of the individuals to whom the notice is sent, other than via auto-reply) or by telephone (confirmed immediately by verifiable email correspondence to each of the individuals of the other party set forth on Schedule 3), suspend any sale of Placement Shares; provided, however, that such suspension will not affect or impair any party's obligations respecting any Placement Shares sold hereunder prior to the receipt of such notice. Notwithstanding anything herein to the contrary, the obligations under Section []7(l), 7(m), and 7(n) with respect to delivery of certificates, opinions and comfort letters to the Agent shall not apply while a suspension of sales under this Section 4 is in effect. Each of the parties agrees that no such notice under this Section 4 will be effective against any other party unless it is made to one of the individuals named on Schedule 3 hereto, as such schedule may be amended from time to time.

5. Sale and Delivery to the Agent; Settlement.

(a) Sale of Placement Shares. On the basis of the representations and warranties herein contained and subject to the terms and conditions herein set forth, upon delivery of a Placement Notice, and unless the sale of the Placement Shares described therein has been declined, suspended, or otherwise terminated in accordance with the terms of this Agreement, each Agent, at any time it is an Agent, for the period specified in the Placement Notice, will use its commercially reasonable efforts consistent with its normal trading and sales practices and applicable state and federal laws, rules and regulations and the rules of the Exchange to sell such Placement Shares up to the amount specified, and otherwise in accordance with the terms of such Placement Notice. The Company acknowledges and agrees that: (i) there can be no assurance that any Agent will be successful in selling Placement Shares; (ii) no Agent will incur any liability or obligation to the Company or any other Person (as defined herein) for a failure to sell Placement Shares for any reason other than a failure by such Agent to use its commercially reasonable efforts consistent with its normal trading and sales practices and applicable law and regulations to sell such Placement Shares as required under this Agreement; and (iii) no Agent will be under any obligation to purchase Placement Shares on a principal basis pursuant to this Agreement, except as otherwise agreed by such Agent and the Company.

(b) Settlement of Placement Shares. Unless otherwise specified in the applicable Placement Notice, settlement for sales of Placement Shares will occur on the second Trading Day (or such earlier day as is industry practice for regular-way trading) following the date on which such sales are made (each, a "Settlement Date"). The Agent shall notify the Company of each sale of Placement Shares no later than opening day following the Trading Day that the Agent sold Placement Shares. The amount of proceeds to be delivered to the Company on a Settlement Date against receipt of the Placement Shares sold (the "Net Proceeds") will be equal to the aggregate sales price received by the Agent, after deduction for the Agent's commission, discount, or other compensation for such sales payable by the Company pursuant to Section 2 hereof.

(c) Delivery of Placement Shares. Before each Settlement Date, the Company will, or will cause its transfer agent to, electronically transfer an agreed-upon amount of the Placement Shares being sold by crediting the Agent's account or its designee's account (*provided* the Agent shall have given the Company written notice of such designee a reasonable period of time prior to the Settlement Date) at The Depository Trust Company through its Deposit and Withdrawal at Custodian System or by such other means of delivery as may be mutually agreed upon by the parties hereto, which in all cases will be freely tradable, transferable, registered shares in good deliverable form. On each Settlement Date, the Agent will deliver the related Net Proceeds in same-day funds to an account designated by the Company on, or prior to, the Settlement Date. The Agent is not obligated to sell any of the Placement Shares unless they are first deposited in the Agent's account or its designee's account. The Company agrees that if the Company or its transfer agent defaults in its obligation to deliver Placement Shares before a Settlement Date through no fault of the Agent that, in addition to and in no way limiting the rights and obligations set forth in Section 11(a) hereto, it will hold the Agent harmless against any loss, claim, damage, or expense (including reasonable and documented legal fees and expenses) arising out of or in connection with such default by the Company or its transfer agent (if applicable).[ ]

(d) Limitations on Offering Size. Under no circumstances will the Company cause or request the offer or sale of any Placement Shares if, after giving effect to the sale of such Placement Shares, the aggregate gross sales proceeds of Placement Shares sold pursuant to this Agreement would exceed the lesser of: (i) together with all sales of Placement Shares under this Agreement, the Maximum Amount; or (ii) the amount authorized from time to time to be issued and sold under this Agreement by the Company's board of directors, a duly authorized committee thereof, or a duly authorized executive committee, and notified to the Agent in writing. Under no circumstances will the Company cause or request the offer or sale of any Placement Shares pursuant to this Agreement at a price lower than the minimum price authorized from time to time by the Company's board of directors, a duly authorized committee thereof, or a duly authorized executive committee, and notified to the Agent in writing.

6. Representations and Warranties of the Company. The Company represents and warrants to, and agrees with, the Agent that as of the date of this Agreement and as of each Applicable Time, unless such representation, warranty or agreement specifies a different date or time:

(a) Registration Statement and Prospectus. The Company and, assuming no act or omission on the part of the Agent that would make such statement untrue, the transactions contemplated by this Agreement meet the requirements for and comply with the conditions for the use of Form S-3 under the Securities Act. The Registration Statement has been filed with the SEC and has been declared effective under the Securities Act. The Prospectus Supplement will name the Agent as the agent in the section entitled "Plan of Distribution." The Company has not received, and has no notice of, any order of the SEC preventing or suspending the use of the Registration Statement or threatening or instituting proceedings for that purpose. The Registration Statement and the offer and sale of Placement Shares as contemplated hereby meet the requirements of Rule 415 under the Securities Act and comply in all material respects with said Rule. Any statutes, regulations, contracts, or other documents that are required to be described in the Registration Statement or the Prospectus or to be filed as exhibits to the Registration Statement have been so described or filed. Copies of the Registration Statement, the Prospectus, and any such amendments or supplements and all documents incorporated by reference therein that were filed with the SEC on or prior to the date of this Agreement have been delivered, or are available through EDGAR, to the Agent and its counsel. The Company has not distributed and, prior to the later to occur of each Settlement Date and completion of the distribution of the Placement Shares, will not distribute any offering material in connection with the offering or sale of the Placement Shares other than the Registration Statement and the Prospectus and any Issuer Free Writing Prospectus (as defined below) to which the Agent has consented, which consent shall not be unreasonably withheld or delayed. The Common Stock is currently listed on the Exchange under the trading symbol "OGEN." Except as disclosed in the Registration Statement, including the Incorporated Documents, the Company has not, in the six months preceding the date hereof, received notice from the Exchange to the effect that the Company is not in compliance with the Exchange's listing requirements. Except as disclosed in the Registration Statement, including the Incorporated Documents, or the Prospectus, the Company has no reason to believe that it will be unable to comply with the Exchange listing requirements.

(b) No Misstatement or Omission. The Registration Statement, when it became effective, and the Prospectus, and any amendment or supplement thereto, on the date of such Prospectus or amendment or supplement, conformed and will conform in all material respects with the requirements of the Securities Act. At each Settlement Date, the Registration Statement and the Prospectus, as of such date, will conform in all material respects with the requirements of the Securities Act. The Registration Statement, when it became effective, did not contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading. The Prospectus and any amendment and supplement thereto, on the date thereof and at each Applicable Time, did not and will not include an untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in light of the circumstances under which they were made, not misleading. The documents incorporated by reference in the Prospectus or any Prospectus Supplement did not, and any further documents incorporated by reference therein will not, when filed with the SEC, contain an untrue statement of a material fact or omit to state a material fact required to be stated in such document or necessary to make the statements in such document, in light of the circumstances under which they were made, not misleading. The foregoing will not apply to statements in, or omissions from, any such document made in reliance upon, and in conformity with, information furnished to the Company by the Agent specifically for use in the preparation thereof.

(c) Conformity with Securities Act and Exchange Act. The Incorporated Documents, when such documents were or are filed with the SEC under the Securities Act or the Exchange Act, or became or become effective under the Securities Act, as the case may be, conformed or will conform in all material respects with the requirements of the Securities Act and the Exchange Act, as applicable.

(d) Financial Information. The consolidated financial statements of the Company included or incorporated by reference in the Registration Statement, the Prospectus, and the Issuer Free Writing Prospectuses, if any, together with the related notes and schedules, complied as to form in all material respects with applicable accounting requirements and the published rules and regulations of the SEC with respect thereto as in effect as of the time of filing. Such financial statements have been prepared in accordance with generally accepted accounting principles, consistently applied, during the periods involved (except: (i) as may be otherwise indicated in such financial statements or the notes thereto; or (ii) in the case of unaudited interim statements, to the extent they may exclude footnotes or may be condensed or summary statements) and fairly present in all material respects the consolidated financial position of the Company and the Subsidiaries (as defined below) as of the dates indicated and the consolidated results of operations and cash flows of the Company for the periods specified (subject, in the case of unaudited statements, to normal year-end audit adjustments that will not be material, either individually or in the aggregate); the other financial and statistical data respecting the Company and the Subsidiaries contained or incorporated by reference in the Registration Statement, the Prospectus, and the Issuer Free Writing Prospectuses, if any, are accurately and fairly presented and prepared in all material respects on a basis consistent with the financial statements and books and records of the Company; there are no financial statements (historical or pro forma) that are required to be included or incorporated by reference in the Registration Statement or the Prospectus that are not included or incorporated by reference as required; the Company and the Subsidiaries do not have any material liabilities or obligations, direct or contingent (including any off-balance sheet obligations), not described in the Registration Statement (including the exhibits thereto) and the Prospectus that are required to be described in the Registration Statement or the Prospectus (including exhibits thereto and Incorporated Documents); and all disclosures contained or incorporated by reference in the Registration Statement, the Prospectus, and the Issuer Free Writing Prospectuses, if any, regarding “non-GAAP financial measures” (as such term is defined by the rules and regulations of the SEC) comply in all material respects with Regulation G of the Exchange Act and Item 10 of Regulation S-K under the Securities Act, to the extent applicable.

(e) Conformity with EDGAR Filing. The Prospectus delivered to the Agent for use in connection with the sale of the Placement Shares pursuant to this Agreement will be identical to the versions of the Prospectus created to be transmitted to the SEC for filing via EDGAR, except to the extent permitted by Regulation S-T.

(f) Organization. The Company and each of its Subsidiaries are duly organized, validly existing as a corporation, limited partnership, limited liability company, or other legal entity, and in good standing under the laws of their respective jurisdictions of organization, except where the failure to be in good standing would not, individually or in the aggregate, have a Material Adverse Effect (as defined below) or reasonably be expected to have a Material Adverse Effect. The Company and each of its Subsidiaries are duly qualified as a foreign corporation for transaction of business and in good standing under the laws of each other jurisdiction in which their respective ownership or lease of property or the conduct of their respective businesses requires such qualification, and have all corporate power and authority necessary to own or hold their respective properties and to conduct their respective businesses as described in the Registration Statement and the Prospectus, except where the failure to be so qualified or in good standing or have such power or authority would not, individually or in the aggregate, have a material adverse effect or reasonably be expected to have a material adverse effect on the assets, business, operations, earnings, properties, condition (financial or otherwise), prospects, stockholders' equity, or results of operations of the Company and the Subsidiaries taken as a whole, or prevent or materially interfere with consummation of the transactions contemplated hereby (a "Material Adverse Effect").

(g) Subsidiaries. The significant subsidiaries of the Company, as determined pursuant to Rule 1-02(w) of Regulation S-X, are set forth on Schedule 4 (collectively, the "Subsidiaries"). Except as set forth in the Registration Statement and in the Prospectus, the Company owns, directly or indirectly, all of the equity interests of the Subsidiaries free and clear of any material lien, charge, security interest, encumbrance, right of first refusal, or other restriction, and all the equity interests of the Subsidiaries are validly issued and are fully paid, nonassessable, and free of preemptive and similar rights.

(h) No Violation or Default. Neither the Company nor any of its Subsidiaries is: (i) in violation of its charter or bylaws or similar organizational documents; (ii) in default, and no event has occurred that, with notice or lapse of time or both, would constitute such a default, in the due performance or observance of any term, covenant, or condition contained in any indenture, mortgage, deed of trust, loan agreement, or other agreement or instrument to which the Company or any of its Subsidiaries is a party, by which the Company or any of its Subsidiaries is bound, or to which any of the property or assets of the Company or any of its Subsidiaries are subject; or (iii) in violation of any law or statute or any judgment, order, rule, or regulation of any court, arbitrator, or governmental or regulatory authority, except, in the case of each of clauses (ii) and (iii) above, for any such violation or default that would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect. Except as described in the Prospectus, the Prospectus Supplement, or the Incorporated Documents, to the Company's knowledge, no other party under any material contract or other agreement to which it or any of its Subsidiaries is a party is in default in any respect thereunder where such default would reasonably be expected to have a Material Adverse Effect.

(i) No Material Adverse Change. Subsequent to the respective dates as of which information is given in the Registration Statement and the Prospectus (including any Incorporated Documents), there has not been: (i) any Material Adverse Effect, or any development involving a prospective Material Adverse Effect, in or affecting the business, properties, management, condition (financial or otherwise), results of operations, or prospects of the Company and the Subsidiaries taken as a whole; (ii) any transaction that is material to the Company and the Subsidiaries taken as a whole; (iii) any obligation or liability, direct or contingent (including any off-balance sheet obligations), incurred by the Company or any Subsidiary, that is material to the Company and the Subsidiaries taken as a whole; (iv) any material change in the capital stock (other than as a result of the sale of Placement Shares or other than as described in a proxy statement filed on Schedule 14A or a Registration Statement on Form S-4 and otherwise publicly announced) or outstanding long-term indebtedness of the Company or any of its Subsidiaries; or (v) any dividend or distribution of any kind declared, paid, or made on the capital stock of the Company or any Subsidiary, other than in each case above, in the ordinary course of business or as otherwise disclosed in the Registration Statement or Prospectus (including any document deemed incorporated by reference therein).

(j) Capitalization. The issued and outstanding shares of capital stock of the Company have been validly issued, and are fully paid, and nonassessable. The Company has an authorized, issued, and outstanding capitalization as set forth in the Registration Statement or the Prospectus as of the dates referred to therein (other than the grant of shares of Common Stock, options or restricted stock under the Company's existing equity incentive plans, or changes in the number of outstanding Common Stock of the Company due to the issuance of shares upon the exercise or conversion of securities exercisable for, or convertible into, Common Stock outstanding on the date hereof or as a result of the issuance of Placement Shares), and such authorized capital stock conforms to the description thereof set forth in the Registration Statement and the Prospectus. The description of the Common Stock in the Registration Statement and the Prospectus is complete and accurate in all material respects. Except as disclosed in or contemplated by the Registration Statement, the Prospectus, and the Incorporated Documents, as of the date referred to therein, the Company did not have reserved or available for issuance any shares of Common Stock in respect of options, any rights or warrants to subscribe for, any securities or obligations convertible into or exchangeable for, or any contracts or commitments to issue or sell, any shares of capital stock or other securities.

(k) Authorization; Enforceability. The Company has full legal right, power, and authority to enter into this Agreement and perform the transactions contemplated hereby. This Agreement has been duly authorized, executed, and delivered by the Company and is a legal, valid, and binding agreement of the Company enforceable in accordance with its terms, except to the extent that: (i) enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium, or similar laws affecting creditors' rights generally and by general equitable principles; and (ii) the indemnification and contribution provisions of Section 11 hereof may be limited by federal or state securities laws and public policy considerations in respect thereof.

(l) Authorization of Placement Shares. The Placement Shares, when issued and delivered pursuant to the terms approved by the board of directors of the Company or a duly authorized committee thereof, or a duly authorized executive committee, against payment therefor as provided herein, will be duly and validly authorized and issued and fully paid and nonassessable, free and clear of any pledge, lien, encumbrance, security interest, or other claim (other than any pledge, lien, encumbrance, security interest, or other claim arising from an act or omission of any Agent or a purchaser), including any statutory or contractual preemptive rights, resale rights, rights of first refusal, or other similar rights, and will be registered pursuant to Section 12 of the Exchange Act. The Placement Shares, when issued, will conform in all material respects to the description thereof set forth in or incorporated into the Prospectus.

(m) No Consents Required. No consent, approval, authorization, order, registration, or qualification of or with any court or arbitrator or any governmental or regulatory authority having jurisdiction over the Company is required for the execution, delivery, and performance by the Company of this Agreement, and the issuance and sale by the Company of the Placement Shares as contemplated hereby, except for such consents, approvals, authorizations, orders, and registrations or qualifications as may be required under applicable state securities laws or by the bylaws and rules of the Financial Industry Regulatory Authority ("FINRA") or the Exchange in connection with the sale of the Placement Shares by the Agent.

(n) No Preferential Rights. Except as set forth in the Registration Statement or the Prospectus: (i) no person, as such term is defined in Rule 1-02 of Regulation S-X promulgated under the Securities Act (each, a "Person"), has the right, contractual or otherwise, to cause the Company to issue or sell to such Person any Common Stock or shares of any other capital stock or other securities of the Company (other than upon the exercise of options or warrants to purchase Common Stock or upon the exercise of options that may be granted from time to time under the Company's stock option plans); (ii) no Person has any preemptive rights, rights of first refusal, or any other rights (whether pursuant to a "poison pill" provision or otherwise) to purchase any Common Stock or shares of any other capital stock or other securities of the Company from the Company that have not been duly waived respecting the offering contemplated hereby; (iii) no Person has the right to act as an underwriter or as a financial advisor to the Company in connection with the offer and sale of the Placement Shares; and (iv) no Person has the right, contractual or otherwise, to require the Company to register under the Securities Act any Common Stock or shares of any other capital stock or other securities of the Company, or to include any such shares or other securities in the Registration Statement or the offering contemplated thereby, whether as a result of the filing or effectiveness of the Registration Statement or the sale of the Placement Shares as contemplated thereby or otherwise, except for such rights as have been waived on or prior to the date hereof.

(o) Independent Public Accountant. Cherry Bekaert (the "Accountants"), whose reports on the consolidated financial statements of the Company are filed with the SEC as part of the Company's most recent Annual Report on Form 10-K and incorporated by reference into the Registration Statement, is and, during the periods covered by its report, was an independent registered public accounting firm within the meaning of the Securities Act and the Public Company Accounting Oversight Board (United States). To the Company's knowledge, the Accountants are not in violation of the auditor independence requirements of the Sarbanes-Oxley Act of 2002 (the "Sarbanes-Oxley Act") respecting the Company.

(p) Enforceability of Agreements. To the Company's knowledge, all agreements between the Company and third parties expressly referenced in the Prospectus, other than such agreements that have expired by their terms or whose termination is disclosed in documents filed by the Company on EDGAR, are legal, valid, and binding obligations of the Company enforceable in accordance with their respective terms, except to the extent that: (i) enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium, or similar laws affecting creditors' rights generally and by general equitable principles; and (ii) the indemnification provisions of certain agreements may be limited be federal or state securities laws or public policy considerations in respect thereof, except for any unenforceability that, individually or in the aggregate, would not reasonably be expected to have a Material Adverse Effect.

(q) No Litigation. Except as set forth in the Registration Statement or the Prospectus: (i) there are no legal, governmental, or regulatory actions, suits, or proceedings pending or, to the Company's knowledge, any legal, governmental, or regulatory investigations to which the Company, a Subsidiary, or any of their respective directors, officers, or controlling Persons is a party or to which any property of the Company or any of its Subsidiaries is the subject that, individually or in the aggregate, if determined adversely to the Company or any of its Subsidiaries, would reasonably be expected to have a Material Adverse Effect or materially and adversely affect the ability of the Company to perform its obligations under this Agreement; (ii) to the Company's knowledge, no actions, suits, or proceedings are threatened or contemplated by any governmental or regulatory authority or threatened by others against the Company, a Subsidiary, or any of their respective directors, officers, or controlling Persons that, individually or in the aggregate, if determined adversely to the Company or any of its Subsidiaries, would reasonably be expected to have a Material Adverse Effect; (iii) there are no current or pending legal, governmental, or regulatory, actions, suits, proceedings or, to the Company's knowledge, investigations that are required under the Securities Act to be described in the Prospectus that are not described in the Prospectus; and (iv) there are no contracts or other documents that are required under the Securities Act to be filed as exhibits to the Registration Statement that are not so filed.

(r) Licenses and Permits. Except as set forth in the Registration Statement or the Prospectus, the Company and each of its Subsidiaries possess or have obtained all licenses, certificates, consents, orders, approvals, permits, and other authorizations issued by, and have made all declarations and filings with, the appropriate federal, state, local, or foreign governmental or regulatory authorities that are necessary for the ownership or lease of their respective properties or the conduct of their respective businesses as described in the Registration Statement and the Prospectus (the "Permits"), except where the failure to possess, obtain, or make the same would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect. Except as disclosed in the Registration Statement or the Prospectus, neither the Company nor its Subsidiaries have received written notice of any proceeding relating to revocation or modification of any such Permit or have any reason to believe that such Permit will not be renewed in the ordinary course, except when the failure to obtain any such renewal would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect.

(s) S-3 Eligibility. (i) At the time of filing the Registration Statement; and (ii) if applicable, at the time of the most recent amendment thereto for the purposes of complying with Section 10(a)(3) of the Securities Act (whether such amendment was by post-effective amendment, incorporated report filed pursuant to Section 13 or 15(d) of the Exchange Act, or form of prospectus), the Company met the then-applicable requirements for use of Form S-3 under the Securities Act, including compliance with General Instruction I.B.6 of Form S-3, for the sale of up to the Maximum Amount of Placement Shares.

(t) No Material Defaults. Except as set forth in the Registration Statement and Prospectus, neither the Company nor any of the Subsidiaries has defaulted on any installment on indebtedness for borrowed money or on any rental on one or more long-term leases, which defaults, individually or in the aggregate, would reasonably be expected to have a Material Adverse Effect. Except as set forth in the Registration Statement and Prospectus, the Company has not filed a report pursuant to Section 13(a) or 15(d) of the Exchange Act since the filing of its last Annual Report on Form 10-K, indicating that it: (i) has failed to pay any dividend or sinking fund installment on preferred stock; or (ii) has defaulted on any installment on indebtedness for borrowed money or on any rental on one or more long-term leases, which defaults, individually or in the aggregate, could reasonably be expected to have a Material Adverse Effect.

(u) Certain Market Activities. Neither the Company or any of the Subsidiaries, nor, to the Company's knowledge, any of their respective directors, officers, or controlling Persons has taken, directly or indirectly, any action designed, or that has constituted or might reasonably be expected to cause or result in, under the Exchange Act or otherwise, the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Placement Shares.

(v) Broker-Dealer Relationships. Neither the Company nor any of the Subsidiaries or any related entities: (i) are required to register as a "broker" or "dealer" in accordance with the provisions of the Exchange Act; or (ii) directly or indirectly through one or more intermediaries, control or are a "person associated with a member" or "associated person of a member" (within the meaning set forth in the FINRA rules).

(w) No Reliance. The Company has not relied upon the Agent or legal counsel for the Agent for any legal, tax, or accounting advice in connection with the offering and sale of the Placement Shares.

(x) Taxes. The Company and each of its Subsidiaries have filed all federal, state, local, and foreign tax returns that have been required to be filed and paid all taxes shown thereon through the date hereof, to the extent that such taxes have become due and are not being contested in good faith, except when the failure to do so would not reasonably be expected to have a Material Adverse Effect. Except as otherwise disclosed in or contemplated by the Registration Statement or the Prospectus, no tax deficiency has been determined adversely to the Company or any of its Subsidiaries that has had, or would reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect. The Company has no knowledge of any federal, state, or other governmental tax deficiency, penalty, or assessment that has been or might be asserted or threatened against it that could reasonably be expected to have a Material Adverse Effect.

(y) Title to Real and Personal Property. The Company and each of its Subsidiaries have good title to all of their real and personal property owned by them that are material to the business of the Company and such Subsidiary, in each case, free and clear of all liens, encumbrances, and defects, except as described in the Registration Statement and Prospectus or that do not materially affect the value of the properties of the Company and its Subsidiaries, considered as one enterprise, and do not interfere in any material respect with the use made and proposed to be made of such properties by the Company and its Subsidiaries, considered as one enterprise; and all of the leases, subleases, and other rights under which the Company or any of its Subsidiaries holds or uses properties described in the Registration Statement and Prospectus are in full force and effect, with such exceptions as would not reasonably be expected to have a Material Adverse Effect, and neither the Company nor any of its Subsidiaries has received any written notice of any material claim of any sort that has been asserted by anyone adverse to the rights of the Company or its Subsidiaries under any of the leases, subleases, and other rights mentioned above, or affecting or questioning the rights of the Company or any Subsidiary thereof to the continued possession or use of the leased or subleased premises or the premises granted by leases, subleases, and other rights. The Company and each of its Subsidiaries have the consents, easements, rights-of-way, or licenses from any Person as are necessary to enable them to conduct their business in the manner described in the Registration Statement and the Prospectus, subject to such qualifications as may be set forth in the Registration Statement and the Prospectus, and except for the consents, easements, rights-of-way, or licenses the lack of which would not have, individually or in the aggregate, a Material Adverse Effect.

(z) Intellectual Property. Except as set forth in the Registration Statement or the Prospectus, to the Company's knowledge, the Company and its Subsidiaries own or possess adequate enforceable rights to use all patents, patent applications, trademarks (both registered and unregistered), service marks, trade names, trademark registrations, service mark registrations, copyrights, licenses, and know-how (including trade secrets and other unpatented and/or unpatentable proprietary or confidential information, systems, or procedures) (collectively, the "Intellectual Property"), necessary for the conduct of their respective businesses as conducted as of the date hereof, except to the extent that the failure to own or possess adequate rights to use such Intellectual Property would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect; except as disclosed in writing to the Agent, the Company and any of its Subsidiaries have not received any written notice of any claim of infringement or conflict that asserted Intellectual Property rights of others, which infringement or conflict, if the subject of an unfavorable decision, would result in a Material Adverse Effect; there are no pending, or to the Company's knowledge, threatened judicial proceedings or interference proceedings against the Company or its Subsidiaries challenging the Company's or its Subsidiaries' rights in or to or the validity of the scope of any of the Company's or its Subsidiaries' material patents, patent applications, or proprietary information; to the Company's knowledge, no other entity or individual has any right or claim in any of the Company's or its Subsidiaries' owned, material patents, patent applications, or any patent to be issued therefrom by virtue of any contract, license, or other agreement entered into between such entity or individual and the Company or a Subsidiary or by any non-contractual obligation of the Company or a Subsidiary, other than by written licenses granted by the Company or a Subsidiary; the Company and its Subsidiaries have not received any written notice of any claim challenging the rights of the Company or a Subsidiary in or to any Intellectual Property owned, licensed, or optioned by the Company or such Subsidiary that, if the subject of an unfavorable decision, would result in a Material Adverse Effect.

(aa) Environmental Laws. Except as set forth in the Registration Statement or the Prospectus, the Company and its Subsidiaries: (i) are in compliance with any and all applicable federal, state, local, and foreign laws, rules, regulations, decisions, and orders relating to the protection of human health and safety, the environment, hazardous or toxic substances or wastes, pollutants, or contaminants (collectively, "Environmental Laws"); (ii) have received and are in compliance with all permits, licenses, or other approvals required of them under applicable Environmental Laws to conduct their respective businesses as described in the Registration Statement and the Prospectus; (iii) have not received written notice of any actual or potential liability for the investigation or remediation of any disposal or release of hazardous or toxic substances or wastes, pollutants, or contaminants, except, in the case of any of clauses (i), (ii), or (iii) above, for any such failure to comply or failure to receive required permits, licenses, other approvals or liability as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect; and (iv) there are no costs or liabilities arising under Environmental Laws respecting the operation of the Company's and each of its Subsidiaries' properties (including any capital or operating expenditures required for clean-up or closure of the properties, compliance with Environmental Laws, any permit, license, or approval or any related legal constraints or operating activities, and any potential liabilities of third parties assumed under contract by the Company or any of its Subsidiaries) that would reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect.

(bb) Disclosure Controls. Except as set forth in the Registration Statement or the Prospectus, the Company and each of its Subsidiaries maintains a system of internal accounting controls designed to provide reasonable assurance that: (i) transactions are executed in accordance with management's general or specific authorizations; (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with generally accepted accounting principles and to maintain asset accountability; (iii) access to assets is permitted only in accordance with management's general or specific authorization; and (iv) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken respecting any differences. The Company is not aware of any material weaknesses in its internal control over financial reporting (other than as set forth in the Prospectus). Since the date of the latest audited financial statements of the Company included in the Prospectus, there has been no change in the Company's internal control over financial reporting that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting (other than as set forth in the Prospectus). Except as set forth in the Registration Statement or the Prospectus, the Company has established disclosure controls and procedures (as defined in Exchange Act Rules 13a-15 and 15d-15) for the Company and designed such disclosure controls and procedures to provide reasonable assurance that material information relating to the Company and each of its Subsidiaries is made known to the certifying officers by others within those entities, particularly during the period in which the Company's Annual Report on Form 10-K or Quarterly Report on Form 10-Q, as the case may be, is being prepared. The Company's certifying officers have evaluated the effectiveness of the Company's controls and procedures as of a date within 90 days prior to the filing date of the Form 10-K for the fiscal year most recently ended (such date, the "Evaluation Date"). The Company presented in its Form 10-K for the fiscal year most recently ended the conclusions of the certifying officers about the effectiveness of the disclosure controls and procedures based on their evaluations as of the Evaluation Date. Since the Evaluation Date, there have been no significant changes in the Company's internal controls (as such term is defined in Item 307(b) of Regulation S-K under the Securities Act).

(cc) Sarbanes-Oxley. There is and has been no failure on the part of the Company or, to the knowledge of the Company, any of the Company's directors or officers, in their capacities as such, to comply in all material respects with any applicable provisions of the Sarbanes-Oxley Act and the rules and regulations promulgated thereunder. Each of the principal executive officer and the principal financial officer of the Company (or each former principal executive officer of the Company and each former principal financial officer of the Company as applicable) has made all certifications required by Sections 302 and 906 of the Sarbanes-Oxley Act respecting all reports, schedules, forms, statements, and other documents required to be filed by it or furnished by it to the SEC. For purposes of the preceding sentence, "principal executive officer" and "principal financial officer" will have the meanings given to such terms in the Sarbanes-Oxley Act.

(dd) Finder's Fees. Neither the Company nor any of the Subsidiaries has incurred any liability for any finder's fees, brokerage commissions, or similar payments in connection with the transactions herein contemplated, except as may otherwise exist respecting the Agent pursuant to this Agreement.

(ee) Labor Disputes. No labor disturbance by or dispute with employees of the Company or any of its Subsidiaries exists or, to the knowledge of the Company, is threatened that would reasonably be expected to result in a Material Adverse Effect.

(ff) Investment Company Act. Neither the Company nor any of the Subsidiaries is or, after giving effect to the offering and sale of the Placement Shares, will be an "investment company" or an entity "controlled" by an "investment company," as such terms are defined in the Investment Company Act of 1940, as amended (the "Investment Company Act").

(gg) Operations. The operations of the Company and its Subsidiaries are and have been conducted at all times in compliance with applicable financial recordkeeping and reporting requirements of the Currency and Foreign Transactions Reporting Act of 1970, as amended, the money laundering statutes of all jurisdictions to which the Company or its Subsidiaries are subject, the rules and regulations thereunder, and any related or similar rules, regulations, or guidelines, issued, administered, or enforced by any governmental agency having jurisdiction over the Company (collectively, the "Money Laundering Laws"), except as would not reasonably be expected to result in a Material Adverse Effect; and no action, suit, or proceeding by or before any court or governmental agency, authority, or body or any arbitrator involving the Company or any of its Subsidiaries respecting the Money Laundering Laws is pending or, to the knowledge of the Company, threatened.

(hh) Off-Balance Sheet Arrangements. There are no transactions, arrangements, and other relationships between and/or among the Company, and/or, to the knowledge of the Company, any of its affiliates and any unconsolidated entity, including any structural finance, special purpose, or limited purpose entity (each, an "Off Balance Sheet Transaction") that could reasonably be expected to affect materially the Company's liquidity or the availability of or requirements for its capital resources, including those Off Balance Sheet Transactions described in the SEC's Statement about Management's Discussion and Analysis of Financial Conditions and Results of Operations (Release Nos. 33-8056; 34-45321; FR-61), required to be described in the Prospectus that have not been described as required.

(jj) Underwriter Agreements. The Company is not a party to any agreement with an agent or underwriter for any other "at-the-market" or continuous equity transaction.

(jj) ERISA. To the knowledge of the Company: (i) each material employee benefit plan, within the meaning of Section 3(3) of the Employee Retirement Income Security Act of 1974, as amended ("ERISA"), that is maintained, administered, or contributed to by the Company or any of its Subsidiaries (other than a Multiemployer Plan, within the meaning of Section 3(37) of ERISA) for employees or former employees of the Company and any of its Subsidiaries has been maintained in material compliance with its terms and the requirements of any applicable statutes, orders, rules, and regulations, including ERISA and the Internal Revenue Code of 1986, as amended (the "Code"); (ii) no prohibited transaction, within the meaning of Section 406 of ERISA or Section 4975 of the Code, has occurred respecting any such plan (excluding transactions effected pursuant to a statutory or administrative exemption); and (iii) for each such plan that is subject to the funding rules of Section 412 of the Code or Section 302 of ERISA, no "accumulated funding deficiency" as defined in Section 412 of the Code has been incurred, whether or not waived, and the fair market value of the assets of each such plan (excluding for these purposes accrued but unpaid contributions) equals or exceeds the present value of all benefits accrued under such plan determined using reasonable actuarial assumptions, other than, in the case of (i), (ii), and (iii) above, as would not reasonably be expected to have a Material Adverse Effect.

(kk) Margin Rules. Neither the issuance, sale, and delivery of the Placement Shares nor the application of the proceeds thereof by the Company as described in the Registration Statement and the Prospectus will violate Regulation T, U, or X of the Board of Governors of the Federal Reserve System or any other regulation of such Board of Governors.

(ll) Insurance. The Company and each of its Subsidiaries carry, or are covered by, insurance in such amounts and covering such risks as the Company and each of its Subsidiaries reasonably believe are adequate for the conduct of their properties and as is customary for companies of similar size engaged in similar businesses in similar industries.

(mm) No Improper Practices. (i) Neither the Company nor, to the Company's knowledge, the Subsidiaries or any of their respective executive officers has, in the past five years, made any unlawful contributions to any candidate for any political office (or failed fully to disclose any contribution in violation of law) or made any contribution or other payment to any official of, or candidate for, any federal, state, municipal, or foreign office or other Person charged with similar public or quasi-public duty in violation of any law or of the character required to be disclosed in the Prospectus; (ii) no relationship, direct or indirect, exists between or among the Company or, to the Company's knowledge, any Subsidiary or any affiliate of any of them, on the one hand, and the directors, officers and stockholders of the Company or, to the Company's knowledge, any Subsidiary, on the other hand, that is required by the Securities Act to be described in the Registration Statement and the Prospectus that is not so described; (iii) no relationship, direct or indirect, exists between or among the Company or any Subsidiary or any affiliate of them, on the one hand, and the directors, officers, stockholders, or directors of the Company or, to the Company's knowledge, any Subsidiary, on the other hand, that is required by the rules of FINRA to be described in the Registration Statement and the Prospectus that is not so described; (iv) except as described in the Prospectus, there are no material outstanding loans or advances or material guarantees of indebtedness by the Company or, to the Company's knowledge, any Subsidiary to or for the benefit of any of their respective officers or directors or any of the members of the families of any of them; and (v) the Company has not offered, or caused any placement agent to offer, Common Stock to any Person with the intent to influence unlawfully: (1) a customer or supplier of the Company or any Subsidiary to alter the customer's or supplier's level or type of business with the Company or any Subsidiary; or (2) a trade journalist or publication to write or publish favorable information about the Company or any Subsidiary or any of their respective products or services; and (vi) neither the Company nor any Subsidiary nor, to the Company's knowledge, any employee or agent of the Company or any Subsidiary has made any payment of funds of the Company or any Subsidiary or received or retained any funds in violation of any law, rule, or regulation (including the Foreign Corrupt Practices Act of 1977), which payment, receipt, or retention of funds is of a character required to be disclosed in the Registration Statement or the Prospectus.

(nn) Status under the Securities Act. The Company was not and is not an ineligible issuer as defined in Rule 405 under the Securities Act at the times specified in Rules 164 and 433 under the Securities Act in connection with the offering of the Placement Shares.

(oo) No Misstatement or Omission in an Issuer Free Writing Prospectus. Each Issuer Free Writing Prospectus, as of its issue date and as of each Applicable Time, did not, does not and will not include any information that conflicted, conflicts or will conflict with the information contained in the Registration Statement or the Prospectus, including any incorporated document deemed to be a part thereof that has not been superseded or modified. The foregoing sentence does not apply to statements in or omissions from any Issuer Free Writing Prospectus based upon and in conformity with written information furnished to the Company by the Agent specifically for its therein.

(pp) No Conflicts. None of the execution of this Agreement; the issuance, offering, or sale of the Placement Shares; the consummation of any of the transactions contemplated herein; or the compliance by the Company with the terms and provisions hereof will conflict with or result in a breach of any of the terms and provisions of; constitute or will constitute a default under; or has resulted in or will result in the creation or imposition of any lien, charge, or encumbrance upon any property or assets of the Company pursuant to the terms of any contract or other agreement to which the Company may be bound or to which any of the property or assets of the Company is subject, except: (i) such conflicts, breaches, or defaults as may have been waived; and (ii) such conflicts, breaches, and defaults that would not reasonably be expected to have a Material Adverse Effect; nor will such action result in any material violation of the provisions of the organizational or governing documents of the Company or in any material violation of the provisions of any statute or any order, rule, or regulation applicable to the Company or of any court or of any federal, state, or other regulatory authority or other government body having jurisdiction over the Company, except where such violation would not reasonably be expected to have a Material Adverse Effect.

(qq) Regulatory Compliance.

(i) Neither the Company nor any of its Subsidiaries (each, an "Entity") nor, to the Company's knowledge, any director, officer, employee, agent, affiliate, or representative of the Entity, is a government, individual, or entity that is owned or controlled by any director, officer, employee, agent, affiliate, or representative of the Entity that is:

(1) the subject of any sanctions administered or enforced by the U.S. Department of Treasury's Office of Foreign Assets Control, the United Nations Security Council, the European Union, His Majesty's Treasury, or other relevant sanctions authority (collectively, "Sanctions"); or

(2) located, organized, or resident in a country or territory that is the subject of Sanctions (including Burma/Myanmar, Cuba, Iran, North Korea, Sudan and Syria).

(ii) The Company, on behalf of each Entity, represents and covenants that it will not, directly or indirectly, knowingly use, lend, contribute, or otherwise make available the proceeds of the offering governed by this Agreement to any subsidiary, joint venture partner, or other director, officer, employee, agent, affiliate, or representative of the Entity:

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(1) to fund or facilitate any activities or business of or with any Person or in any country or territory that, at the time of such funding or facilitation, is the subject of Sanctions; or

(2) in any other manner that will result in a violation of Sanctions by any Person (including any Person participating in the offering, whether as underwriter, advisor, investor, or otherwise).

(iii) Except as detailed in the Prospectus, for the past five years, the Entity has not knowingly engaged in, is not now knowingly engaged in, and will not engage in, any dealings or transactions with any Person, or in any country or territory, that at the time of the dealing or transaction is or was the subject of Sanctions.

(rr) Stock Transfer Taxes. On each Settlement Date, all stock transfer or other taxes (other than income taxes) that are required to be paid in connection with the sale and transfer of the Placement Shares to be sold hereunder will be, or will have been, fully paid or provided for by the Company and all laws imposing such taxes will be or will have been fully complied with in all material respects.

Any certificate signed by an officer of the Company and delivered to the Agent or to counsel for the Agent pursuant to or in connection with this Agreement will be deemed to be a representation and warranty by the Company, as applicable, to the Agent as to the matters set forth therein.

7. Covenants of the Company. The Company covenants and agrees with the Agent that:

(a) Registration Statement Amendments. After the date of this Agreement and during any period in which a Prospectus relating to any Placement Shares is required to be delivered by the Agent under the Securities Act (including in circumstances when such requirement may be satisfied pursuant to Rule 172 under the Securities Act): (i) the Company will notify the Agent promptly of the time when any subsequent amendment to the Registration Statement, other than documents incorporated by reference, has been filed with the SEC and/or has become effective or any subsequent supplement to the Prospectus has been filed and of any request by the SEC for any amendment or supplement to the Registration Statement or Prospectus or for additional information; (ii) the Company will prepare and file with the SEC, promptly upon the Agent's reasonable request, any amendments or supplements to the Registration Statement or Prospectus that, in the Agent's reasonable opinion, may be necessary or advisable in connection with the distribution of the Placement Shares by the Agent (*provided, however*, that the failure of the Agent to make such request will not relieve the Company of any obligation or liability hereunder, or affect the Agent's right to rely on the representations and warranties made by the Company in this Agreement and provided, further, that the only remedy the Agent will have respecting the failure to make such filing will be to cease making sales under this Agreement until such amendment or supplement is filed); (iii) the Company will not file any amendment or supplement to the Registration Statement or Prospectus relating to the sale of Placement Shares or a security convertible into the Placement Shares unless a copy thereof has been submitted to the Agent within a reasonable period of time before the filing and the Agent has not reasonably objected thereto within two (2) Business Days (*provided*, *however*, that (A) the failure of the Agent to make such objection will not relieve the Company of any obligation or liability hereunder, or affect the Agent's right to rely on the representations and warranties made by the Company in this Agreement and provided, further, that the only remedy the Agent will have respecting the failure by the Company to provide the Agent with such copy will be to cease making sales under this Agreement and (B) the Company will have no obligation to provide the Agent any advance copy of such filing or provide to the Agent an opportunity to object to such filing if (i) the filing does not name the Agent and does not relate to the transactions pursuant hereto or (ii) relates to the termination of this Agreement or the Prospectus Supplement) and the Company will furnish to the Agent at the time of filing thereof a copy of any document that upon filing is deemed to be incorporated by reference into the Registration Statement or Prospectus, except for those documents available via EDGAR; and (iv) the Company will cause each amendment or supplement to the Prospectus to be filed with the SEC as required pursuant to the applicable paragraph of Rule 424(b) of the Securities Act or, in the case of any document to be incorporated therein by reference, to be filed with the SEC as required pursuant to the Exchange Act, within the period prescribed (the determination to file or not file any amendment or supplement with the SEC under this Section 7(a), based on the Company's reasonable opinion or reasonable objections, will be made exclusively by the Company).

(b) Notice of SEC Stop Orders. The Company will advise the Agent, promptly after it receives notice or obtains knowledge thereof, of the issuance or threatened issuance by the SEC of any stop order suspending the effectiveness of the Registration Statement, of the suspension of the qualification of the Placement Shares for offering or sale in any jurisdiction, or of the initiation or threatening of any proceeding for any such purpose; and it will promptly use its commercially reasonable efforts to prevent the issuance of any stop order or to obtain its withdrawal if such a stop order should be issued. The Company will advise the Agent promptly after it receives any request by the SEC for any amendments to the Registration Statement or any amendment or supplements to the Prospectus or any Issuer Free Writing Prospectus or for additional information related to the offering of the Placement Shares or for additional information related to the Registration Statement, the Prospectus or any Issuer Free Writing Prospectus in connection with the offering of the Placement Shares.

(c) Delivery of Prospectus; Subsequent Changes. During any period in which a Prospectus relating to the Placement Shares is required to be delivered by the Agent under the Securities Act respecting the offer and sale of the Placement Shares (including in circumstances where such requirement may be satisfied pursuant to Rule 172 under the Securities Act) (the "Prospectus Delivery Period"), the Company will comply with all requirements imposed upon it by the Securities Act, as from time to time in force, and to file on or before their respective due dates all reports and any definitive proxy or information statements required to be filed by the Company with the SEC pursuant to Sections 13(a), 13(c), 14, 15(d), or any other provision of or under the Exchange Act. If the Company has omitted any information from the Registration Statement pursuant to Rule 430A under the Securities Act, it will use its commercially reasonable efforts to comply with the provisions of and make all requisite filings with the SEC pursuant to said Rule 430A and to notify the Agent promptly of all such filings. If during the Prospectus Delivery Period any event occurs as a result of which the Prospectus as then amended or supplemented would include an untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances then existing, not misleading, or if during the Prospectus Delivery Period it is necessary to amend or supplement the Registration Statement or Prospectus to comply with the Securities Act, the Company will promptly notify the Agent to suspend the offering of Placement Shares during such period and the Company will promptly amend or supplement the Registration Statement or Prospectus (at the expense of the Company) so as to correct such statement or omission or effect such compliance; provided, however, that the Company may delay any amendment or supplement, if in the sole discretion of the Company, it is in the Company's best interest to do so.

(d) Listing of Placement Shares. During the Prospectus Delivery Period, the Company will use its commercially reasonable efforts to cause the Placement Shares to be listed on the Exchange.

(e) Delivery of Registration Statement and Prospectus. The Company will furnish to the Agent and its counsel (at the expense of the Company) copies of the Registration Statement, the Prospectus (including all documents incorporated by reference therein) and all amendments and supplements to the Registration Statement or Prospectus that are filed with the SEC during the Prospectus Delivery Period (including all documents filed with the SEC during such period that are deemed to be incorporated by reference therein), in each case as soon as reasonably practicable and in such quantities as the Agent may from time to time reasonably request and, at the Agent's request, will also furnish copies of the Prospectus to each exchange or market on which sales of the Placement Shares may be made; provided, however, that the Company will not be required to furnish any document (other than the Prospectus) to the Agent to the extent such document is available on EDGAR.

(f) Earnings Statement. The Company will make generally available to its security holders as soon as practicable, but in any event not later than 15 months after the end of the Company's current fiscal quarter, an earnings statement covering a 12-month period that satisfies the provisions of Section 11(a) and Rule 158 of the Securities Act. The Company's compliance with the reporting requirements of the Exchange Act shall be deemed to satisfy this Section 7(f).

(g) Use of Proceeds. The Company will use the Net Proceeds as described in the Prospectus in the section entitled "Use of Proceeds."

(h) Notice of Other Sales. Without the prior written notice to the Agent, the Company will not, directly or indirectly, offer to sell, sell, contract to sell, grant any option to sell or otherwise dispose of any Common Stock (other than the Placement Shares offered pursuant to this Agreement) or securities convertible into or exchangeable for Common Stock, warrants or any rights to purchase or acquire, Common Stock during the period beginning on the second Trading Day immediately prior to the date on which any Placement Notice is delivered to the Agent hereunder and ending on the fifth Trading Day immediately following the final Settlement Date respecting Placement Shares sold pursuant to such Placement Notice (or, if the Placement Notice has been terminated or suspended prior to the sale of all Placement Shares covered by a Placement Notice, the date of such suspension or termination); and will not directly or indirectly in any other "at-the-market" offering sell, contract to sell, grant any option to sell or otherwise dispose of any Common Stock (other than the Placement Shares offered pursuant to this Agreement) or securities convertible into or exchangeable for Common Stock, warrants or any rights to purchase or acquire, Common Stock prior to the termination of this Agreement; *provided*, *however*, that such restrictions will not be required in connection with the Company's issuance or sale of: (1) Common Stock, options to purchase Common Stock or Common Stock issuable upon the exercise of options or restricted stock units granted pursuant to any employee or director stock option or benefits plan, stock ownership plan or dividend reinvestment plan (but not Common Stock subject to a waiver to exceed plan limits in its dividend reinvestment plan) of the Company whether now in effect or hereafter implemented; (2) Common Stock issuable upon conversion of securities or in respect of dividends accruing thereon or the exercise of warrants, options or other rights in effect or outstanding, and disclosed in filings by the Company available on EDGAR or otherwise in writing to the Agent; and (3) Common Stock, or securities convertible into or exercisable for Common Stock, as consideration for mergers, acquisitions, other business combinations, licensing agreements or strategic alliances, or offered and sold in a privately negotiated transaction to vendors, customers, or strategic partners and otherwise conducted in a manner so as not to be integrated with the offering of Common Stock hereby.

(i) Change of Circumstances. The Company will, at any time that a Placement Notice has been issued, advise the Agent promptly after it will have received notice or obtained knowledge thereof, of any information or fact that would alter or affect in any material respect any opinion, certificate, letter or other document required to be provided to the Agent pursuant to this Agreement.

(j) Due Diligence Cooperation. The Company will cooperate with any reasonable due diligence review conducted by the Agent or its representatives in connection with the transactions contemplated hereby, including providing information and making available documents and senior corporate officers, during regular business hours and at the Company's principal offices or such other location mutually agreed to by the parties, as the Agent may reasonably request.

(k) Disclosure of Shares Sold. The Company will disclose information regarding the sale of the Placement Shares in compliance with the requirements of the Exchange Act.

(l) Representation Dates; Certificate. On or prior to the date of the first Placement Notice given hereunder and each time the Company:

(i) files the Prospectus relating to the Placement Shares or amends or supplements (other than a prospectus supplement relating solely to an offering of securities other than the Placement Shares) the Registration Statement or the Prospectus relating to the Placement Shares by means of a post-effective amendment, sticker, or supplement but not by means of incorporation of documents by reference into the Registration Statement or the Prospectus relating to the Placement Shares;

(ii) files an annual report on Form 10-K under the Exchange Act (including any Form 10-K/A that contains restated financial statements);

(iii) files a quarterly report on Form 10-Q under the Exchange Act; or

(iv) files a current report on Form 8-K containing amended audited financial information (other than information "furnished" pursuant to Items 2.02 or 7.01 of Form 8-K or to provide disclosure pursuant to Item 8.01 of Form 8-K relating to the reclassification of certain properties as discontinued operations in accordance with Statement of Financial Accounting Standards No. 144) under the Exchange Act (each date of filing of one or more of the documents referred to in clauses (i) through (iv) will be a "Representation Date");

the Company will furnish the Agent (but in the case of clause (iv) above only if the Agent reasonably determines that the information contained in such Form 8-K is material) with a certificate, in the form attached hereto as Exhibit A. The requirement to provide a certificate under this Section 7(l) will be waived for any Representation Date occurring at a time at which no Placement Notice is pending, which waiver will continue until the earlier to occur of the date the Company delivers a Placement Notice hereunder (which for such calendar quarter will be considered a Representation Date) and the next occurring Representation Date. Notwithstanding the foregoing, if the Company subsequently decides to sell Placement Shares following a Representation Date when the Company relied on such waiver and did not provide the Agent with a certificate under this Section 7(l), then before the Company delivers the Placement Notice or the Agent sells any Placement Shares, the Company will provide the Agent with a certificate, in the form attached hereto as Exhibit A, dated the date of the Placement Notice.

(m) Legal Opinion. On or prior to the date of the first Placement Notice given hereunder and within five Trading Days of each Representation Date, other than pursuant to Section 7(l)(iii), for which the Company is obligated to deliver a certificate in the form attached hereto as Exhibit A for which no waiver is applicable, the Company will cause to be furnished to the Agent written opinions of Shumaker, Loop & Kendrick, L.L.P. ("Company Counsel"), or other counsel reasonably satisfactory to the Agent, in form and substance reasonably satisfactory to the Agent and its counsel; *provided*, *however*, the Company will be required to furnish to the Agent no more than one opinion hereunder per calendar quarter; *provided*, further, that in lieu of such opinions for subsequent periodic filings under the Exchange Act, Company Counsel may furnish the Agent with a letter (a "Reliance Letter") to the effect that the Agent may rely on a prior opinion delivered under this Section 7(m) to the same extent as if it were dated the date of such letter (except that statements in such prior opinion will be deemed to relate to the Registration Statement and the Prospectus as amended or supplemented as of the date of the Reliance Letter).

(n) Comfort Letters. On or prior to the date of the first Placement Notice given hereunder and within five Trading Days of each Representation Date, other than pursuant to Section 7(l)(iii), for which the Company is obligated to deliver a certificate in the form attached hereto as Exhibit A for which no waiver is applicable, the Company will cause its Accountants to furnish the Agent letters (the "Comfort Letters"), dated the date the Comfort Letters are delivered, which will meet the requirements set forth in this Section 7(n). The Comfort Letter from each of the Accountants will be in a form and substance reasonably satisfactory to the Agent: (i) confirming that they are an independent public accounting firm within the meaning of the Securities Act and the PCAOB; (ii) stating, as of such date, the conclusions and findings of such firm respecting the financial information and other matters ordinarily covered by accountants' "comfort letters" to underwriters in connection with registered public offerings (the first such letter, the "Initial Comfort Letter"); and (iii) updating the Initial Comfort Letter with any information that would have been included in the Initial Comfort Letter had it been given on such date and modified as necessary to relate to the Registration Statement and the Prospectus, as amended and supplemented to the date of such letter.

(o) Market Activities. The Company will not, directly or indirectly: (i) take any action designed to cause or result in, or that constitutes or might reasonably be expected to constitute, the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of Common Stock; or (ii) sell, bid for, or purchase Common Stock in violation of Regulation M, or pay anyone any compensation for soliciting purchases of the Placement Shares other than the Agent.

(p) Investment Company Act. The Company will conduct its affairs in such a manner so as to reasonably ensure that neither it nor any of its Subsidiaries will be or become, at any time prior to the termination of this Agreement, required to register as an "investment company," as such term is defined in the Investment Company Act.

(q) No Offer to Sell. Other than an Issuer Free Writing Prospectus approved in advance by the Company and the Agent in its capacity as agent hereunder, neither the Agent nor the Company (including its agents and representatives, other than the Agent in its capacity as such) will make, use, prepare, authorize, approve, or refer to any written communication (as defined in Rule 405 under the Securities Act), required to be filed with the SEC, that constitutes an offer to sell or solicitation of an offer to buy Placement Shares hereunder.

(r) Sarbanes-Oxley Act. The Company and the Subsidiaries shall comply with the applicable provisions of the Sarbanes-Oxley Act in all material respects.

8. Representations and Covenants of the Agent. The Agent represents and warrants that it is duly registered as a broker-dealer under FINRA, the Exchange Act, and the applicable statutes and regulations of each state in which the Placement Shares will be offered and sold, except such states in which such Agent is exempt from registration or such registration is not otherwise required. The Agent will continue, for the term of this Agreement, to be duly registered as a broker-dealer under FINRA, the Exchange Act, and the applicable statutes and regulations of each state in which the Placement Shares will be offered and sold, except such states in which such Agent is exempt from registration or such registration is not otherwise required, during the term of this Agreement. The Agent will comply with all applicable law and regulations in connection with the Placement Shares, including Regulation M.

9. Payment of Expenses. The Company will pay all expenses incident to the performance of its obligations under this Agreement, including: (i) the preparation, filing, including any fees required by the SEC, and printing of the Registration Statement (including financial statements and exhibits) as originally filed and of each amendment and supplement thereto and each Free Writing Prospectus, in such number as the Agent will reasonably deem necessary; (ii) the printing and delivery to the Agent of this Agreement and such other documents as may reasonably be required in connection with the offering, purchase, sale, issuance, or delivery of the Placement Shares; (iii) the preparation, issuance, and delivery of the certificates, if any, for the Placement Shares to the Agent, including any stock or other transfer taxes and any capital duties, stamp duties, or other duties or taxes payable upon the sale, issuance, or delivery of the Placement Shares to the Agent; (iv) the fees and disbursements of the counsel, accountants, and other advisors to the Company; (v) the fees and expenses of the transfer agent and registrar for the Common Stock; (vi) the filing fees incident to any review by FINRA of the terms of the sale of the Placement Shares; (vii) the fees and expenses incurred in connection with the listing of the Placement Shares on the Exchange; (viii) route and exchange fees and usual and customary transaction, ticket, and similar charges; and (ix) the due diligence fees and expenses of the Agent, including the reasonable legal fees and expense of Agent's legal counsel, in an amount up to $30,000 in connection with the execution of this Agreement, and, thereafter, the reasonable fees and expenses of the Agent's legal counsel in connection with quarterly and annual bring-downs required hereunder up to a maximum amount of $2,500 for each such bring-down.

10. Conditions to the Agent's Obligations. The obligations of the Agent hereunder respecting a Placement will be subject to the continuing accuracy and completeness of the representations and warranties made by the Company herein in all material respects (except for representations and warranties qualified by materiality which are required to be accurate and complete in all respects), to the due performance by the Company of its obligations hereunder in all material respects, to the completion by such Agent of a due diligence review satisfactory to it in its reasonable judgment, and to the continuing satisfaction (or waiver by such Agent in its sole discretion) of the following additional conditions:

(a) Registration Statement Effective. The Company shall at all times maintain in effect the Registration Statement, which will be available for the sale of all Placement Shares contemplated to be issued by any Placement Notice.

(b) No Material Notices. None of the following events will have occurred and be continuing: (i) receipt by the Company of any request for additional information from the SEC or any other federal or state governmental authority during the period of effectiveness of the Registration Statement the response to which would require any post-effective amendments or supplements to the Registration Statement or the Prospectus which have not, as of the time of such Placement, been so made; (ii) the issuance by the SEC or any other federal or state governmental authority of any stop order suspending the effectiveness of the Registration Statement or the initiation of any proceedings for that purpose; (iii) receipt by the Company of any notification respecting the suspension of the qualification or exemption from qualification of any of the Placement Shares for sale in any jurisdiction or the initiation or threatening of any proceeding for such purpose; or (iv) the occurrence of any event that requires the making of any changes in the Registration Statement, the Prospectus or documents so that, in the case of the Registration Statement, it will not contain any materially untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein not misleading and, that in the case of the Prospectus, it will not contain any materially untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading.

(c) No Misstatement or Material Omission. Such Agent will not have advised the Company that the Registration Statement or Prospectus, or any amendment or supplement thereto, contains an untrue statement of fact that in the Agent's reasonable opinion is material, or omits to state a fact that in the Agent's opinion is material and is required to be stated therein or is necessary to make the statements therein not misleading, which changes shall not, as of the time of the Placement, have been so made.

(d) Material Changes. Except as contemplated in the Prospectus, or disclosed in the Company's reports filed with the SEC, there will not have been any material adverse change, on a consolidated basis, in the authorized capital stock of the Company or any Material Adverse Effect, or any development that could reasonably be expected to cause a Material Adverse Effect.

(e) Legal Opinion. Such Agent will have received the opinion of Company Counsel required to be delivered pursuant Section 7(m) on or before the date on which such delivery of such opinion is required pursuant to Section 7(m).

(f) Comfort Letters. Such Agent will have received the Comfort Letter required to be delivered pursuant Section 7(n) on or before the date on which such delivery of such letter is required pursuant to Section 7(n).

(g) Representation Certificate. Such Agent will have received the certificate required to be delivered pursuant to Section 7(l) on or before the date on which delivery of such certificate is required pursuant to Section 7(l).

(h) No Suspension. Trading in the Common Stock will not have been suspended on the Exchange and the Common Stock will not have been delisted from the Exchange.

(i) Other Materials. On each date on which the Company is required to deliver a certificate pursuant to Section 7(l), the Company will have furnished to such Agent such appropriate further information, certificates, and documents as such Agent may reasonably request and that are usually and customarily furnished by an issuer of securities in connection with a securities offering. All such opinions, certificates, letters, and other documents will be in compliance with the provisions hereof. The Company will furnish such Agent with such conformed copies of such opinions, certificates, letters, and other documents as such Agent will reasonably request.

(j) Securities Act Filings Made. All filings with the SEC required by Rule 424 under the Securities Act to have been filed prior to the issuance of any Placement Notice hereunder will have been made within the applicable period prescribed for such filing by Rule 424.

(k) Approval for Listing. To the extent required by continued listing rules of the Exchange, the Placement Shares will either have been approved for listing on the Exchange, subject only to notice of issuance, or the Company will have filed an application for listing of the Placement Shares on the Exchange at, or prior to, the issuance of any Placement Notice.

(l) No Termination Event. No event will have occurred that would permit such Agent to terminate this Agreement pursuant to Section 13(a).

11. Indemnification and Contribution.

(a) Company Indemnification. The Company agrees to indemnify and hold harmless the Agent, its partners, members, directors, officers, employees, and agents and each Person, if any, who controls any Agent within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act as follows:

(i) against any and all loss, liability, claim, damage, and expense whatsoever, as incurred, joint or several, arising out of or based upon any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement (or any amendment thereto), or the omission or alleged omission therefrom of a material fact required to be stated therein or necessary to make the statements therein not misleading, or arising out of any untrue statement or alleged untrue statement of a material fact included in any related Issuer Free Writing Prospectus or the Prospectus (or any amendment or supplement thereto), or the omission or alleged omission therefrom of a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading;

(ii) against any and all loss, liability, claim, damage and expense whatsoever, as incurred, joint or several, to the extent of the aggregate amount paid in settlement of any litigation, or any investigation or proceeding by any governmental agency or body, commenced or threatened, or of any claim whatsoever based upon any such untrue statement or omission, or any such alleged untrue statement or omission; provided that any such settlement is effected with the written consent of the Company, which consent will not unreasonably be delayed or withheld; and

(iii) against any and all expense whatsoever, as incurred (including the reasonable fees and disbursements of counsel), reasonably incurred in investigating, preparing or defending against any litigation, or any investigation or proceeding by any governmental agency or body, commenced or threatened, or any claim whatsoever based upon any such untrue statement or omission, or any such alleged untrue statement or omission, to the extent that any such expense is not paid under (i) or (ii) above;

provided, *however*, that this indemnity agreement will not apply to any loss, liability, claim, damage, or expense to the extent arising out of any untrue statement or omission or alleged untrue statement or omission made solely in reliance upon and in conformity with written information furnished to the Company by the Agent expressly for use in the Registration Statement (or any amendment thereto), or in any related Issuer Free Writing Prospectus or the Prospectus (or any amendment or supplement thereto).

(b) Agent Indemnification. The Agent agrees, jointly and severally, to indemnify and hold harmless the Company and its directors and each officer of the Company who signed the Registration Statement, and each Person, if any, that: (i) controls the Company within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act; or (ii) is controlled by or is under common control with the Company against any and all loss, liability, claim, damage, and expense described in the indemnity contained in Section 11(c), as incurred, but only respecting untrue statements or omissions, or alleged untrue statements or omissions, made in the Registration Statement (or any amendments thereto), the Prospectus (or any amendment or supplement thereto) or any Free Writing Prospectus in reliance upon and in conformity with information furnished to the Company in writing by the Agent expressly for use therein.

(c) Procedure.

(i) Any party that proposes to assert the right to be indemnified under this Section 11 will, promptly after receipt of notice of commencement of any action against such party in respect of which a claim is to be made against an indemnifying party or parties under this Section 11, notify each such indemnifying party of the commencement of such action, enclosing a copy of all papers served, but the omission so to notify such indemnifying party will not relieve the indemnifying party from: (1) any liability that it might have to any indemnified party otherwise than under this Section 11; and (2) any liability that it may have to any indemnified party under the foregoing provision of this Section 11 unless, and only to the extent that, such omission results in the forfeiture or material impairment of substantive rights or defenses by the indemnifying party.

(ii) If any such action is brought against any indemnified party and it notifies the indemnifying party of its commencement, the indemnifying party will be entitled to participate in and, to the extent that it elects by delivering written notice to the indemnified party promptly after receiving notice of the commencement of the action from the indemnified party, jointly with any other indemnifying party similarly notified, to assume the defense of the action, with counsel reasonably satisfactory to the indemnified party, and after notice from the indemnifying party to the indemnified party of its election to assume the defense, the indemnifying party will not be liable to the indemnified party for any legal or other expenses except as provided below and except for the reasonable costs of investigation subsequently incurred by the indemnified party in connection with the defense.

(iii) The indemnified party will have the right to employ its own counsel in any such action, but the fees, expenses and other charges of such counsel will be at the expense of such indemnified party unless: (1) the employment of counsel by the indemnified party has been authorized in writing by the indemnifying party; (2) the indemnified party has reasonably concluded (based on advice of counsel) that there may be legal defenses available to it or other indemnified parties that are different from or in addition to those available to the indemnifying party; (3) a conflict or potential conflict exists (based on advice of counsel to the indemnified party) between the indemnified party and the indemnifying party (in which case the indemnifying party will not have the right to direct the defense of such action on behalf of the indemnified party); or (4) the indemnifying party has not in fact employed counsel to assume the defense of such action within a reasonable time after receiving notice of the commencement of the action, in each of which cases the reasonable fees, disbursements and other charges of counsel will be at the expense of the indemnifying party or parties.

(iv) It is understood that the indemnifying party or parties will not, in connection with any proceeding or related proceedings in the same jurisdiction, be liable for the reasonable fees, disbursements and other charges of more than one separate firm admitted to practice in such jurisdiction at any one time for all such indemnified party or parties. All such fees, disbursements, and other charges will be reimbursed by the indemnifying party promptly after the indemnifying party receives a written invoice relating to fees, disbursements and other charges in reasonable detail.

(v) An indemnifying party will not, in any event, be liable for any settlement of any action or claim effected without its written consent. No indemnifying party will, without the prior written consent of each indemnified party, settle or compromise or consent to the entry of any judgment in any pending or threatened claim, action, or proceeding relating to the matters contemplated by this Section 11 (whether or not any indemnified party is a party thereto), unless such settlement, compromise or consent: (i) includes an unconditional release of each indemnified party from all liability arising out of such litigation, investigation, proceeding, or claim; and (ii) does not include a statement as to or an admission of fault, culpability, or a failure to act by or on behalf of any indemnified party.

(d) Contribution. In order to provide for just and equitable contribution in circumstances in which the indemnification provided for in the foregoing paragraphs of this Section 11 is applicable in accordance with its terms but for any reason is held to be unavailable from the Company or the Agent, the Company and the Agent will contribute to the total losses, claims, liabilities, expenses, and damages (including any investigative, legal and other expenses reasonably incurred in connection with, and any amount paid in settlement of, any action, suit or proceeding or any claim asserted, but after deducting any contribution received by the Company from Persons other than the Agent, such as Persons that control the Company within the meaning of the Securities Act, officers of the Company who signed the Registration Statement and directors of the Company, who also may be liable for contribution) to which the Company and the Agent may be subject in such proportion as is appropriate to reflect the relative benefits received by the Company, on the one hand, and the Agent, on the other hand. The relative benefits received by the Company, on the one hand, and the Agent, on the other hand, will be deemed to be in the same proportion as the total net proceeds from the sale of the Placement Shares (before deducting expenses) received by the Company bear to the total compensation received by the Agent (before deducting expenses) from the sale of Placement Shares on behalf of the Company. If, but only if, the allocation provided by the foregoing sentence is not permitted by applicable law, the allocation of contribution will be made in such proportion as is appropriate to reflect not only the relative benefits referred to in the foregoing sentence but also the relative fault of the Company, on the one hand, and the Agent, on the other hand, respecting the statements or omission that resulted in such loss, claim, liability, expense or damage, or action in respect thereof, as well as any other relevant equitable considerations respecting such offering. Such relative fault will be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or omission or alleged omission to state a material fact relates to information supplied by the Company or the Agent, the intent of the parties and their relative knowledge, access to information and opportunity to correct or prevent such statement or omission. The Company and the Agent agree that it would not be just and equitable if contributions pursuant to this Section 11(d) were to be determined by pro rata allocation or by any other method of allocation that does not take into account the equitable considerations referred to herein. The amount paid or payable by an indemnified party as a result of the loss, claim, liability, expense, or damage, or action in respect thereof, referred to above in this Section 11(d) will be deemed to include, for the purpose of this Section 11(d), any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any such action or claim to the extent consistent with Section 11(c) hereof. Notwithstanding the foregoing provisions of this Section 11(d), the Agent will not be required to contribute any amount in excess of the commissions received by it under this Agreement and no Person found guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) will be entitled to contribution from any Person who was not guilty of such fraudulent misrepresentation. For purposes of this Section 11(d), any Person who controls a party to this Agreement within the meaning of the Securities Act, and any officers, directors, partners, employees or agents of the Agent, will have the same rights to contribution as that party, and each officer and director of the Company who signed the Registration Statement will have the same rights to contribution as the Company, subject in each case to the provisions hereof. Any party entitled to contribution, promptly after receipt of notice of commencement of any action against such party in respect of which a claim for contribution may be made under this Section 11(d), will notify any such party or parties from whom contribution may be sought, but the omission to so notify will not relieve that party or parties from whom contribution may be sought from any other obligation it or they may have under this Section 11(d) except to the extent that the failure to so notify such other party materially prejudiced the substantive rights or defenses of the party from whom contribution is sought. Except for a settlement entered into pursuant to the last sentence of Section 11(c) hereof, no party will be liable for contribution respecting any action or claim settled without its written consent if such consent is required pursuant to Section 11(c) hereof.

12. Representations and Agreements to Survive Delivery. The indemnity and contribution agreements contained in Section 11 of this Agreement and all representations and warranties of the Company herein or in certificates delivered pursuant hereto will survive, as of their respective dates, regardless of: (a) any investigation made by or on behalf of the Agent, any controlling Persons, or the Company (or any of their respective officers, directors, or controlling Persons); (b) delivery and acceptance of the Placement Shares and payment therefor; or (c) any termination of this Agreement.

13. Termination.

(a) The Agent may terminate this Agreement, by written notice to the Company, as hereinafter specified at any time: (i) if there has been, since the time of execution of this Agreement or since the date as of which information is given in the Prospectus, any Material Adverse Effect, or any development has occurred that is reasonably likely to have a Material Adverse Effect or in the reasonable judgment of the Agent makes it impractical or inadvisable to market the Placement Shares or to enforce contracts for the sale of the Placement Shares; (ii) if there has occurred any material adverse change in the financial markets in the United States or the international financial markets, any outbreak of hostilities or escalation thereof or other calamity or crisis or any change or development involving a prospective change in national or international political, financial or economic conditions, in each case the effect of which is such as to make it, in the judgment of the Agent, impracticable or inadvisable to market the Placement Shares or to enforce contracts for the sale of the Placement Shares; (iii) if trading in the Common Stock has been suspended or limited by the SEC or the Exchange, or if trading generally on the Exchange has been suspended or limited, or minimum prices for trading have been fixed on the Exchange; (iv) if a major disruption of securities settlements or clearance services in the United States will have occurred and be continuing; or (v) if a banking moratorium has been declared by either U.S. Federal or New York authorities. Any such termination will be without liability of any party to any other party except that the provisions of Section 9 (Expenses), Section 11 (Indemnification), Section 12 (Survival of Representations), Section 18 (Applicable Law; Waiver of Jury Trial), Section 19 (Consent to Jurisdiction), and Section 20 (Use of Information) hereof will remain in full force and effect notwithstanding such termination. If the Agent elects to terminate this Agreement as provided in this Section 13(a), the Agent will provide the required notice as specified in Section 14 (Notices).

(b) (i) The Company will have the right, by giving 10 days' notice as hereinafter specified, to terminate this Agreement in its sole discretion at any time after the date of this Agreement.

(ii) If any Agent declines any commercially reasonable placement notice pursuant to Section 2(a) of this Agreement, then the Company will have the right to terminate this Agreement with respect to such Agent by giving written notice of termination to such Agent. Any such termination will be effective immediately upon a delivery of a termination notice by the Company to such Agent.

Any termination pursuant to Section 13(b) will be without liability of any party to any other party except that the provisions of Section 9, Section 11, Section 12, Section 18, Section 19, and Section 20 hereof will remain in full force and effect notwithstanding such termination.

(c) The Agent will have the right, by giving 10 days' notice as hereinafter specified to terminate this Agreement in its discretion at any time after the date of this Agreement. Any such termination will be without liability of any party to any other party except that the provisions of Section 9, Section 11, Section 12, Section 18, Section 19, and Section 20 hereof will remain in full force and effect notwithstanding such termination.

(d) Unless earlier terminated pursuant to this Section 13, this Agreement will automatically terminate upon the earlier to occur of: (i) the two-year anniversary of the date hereof; or (ii) the issuance and sale of all of the Placement Shares through the Agent on the terms and subject to the conditions set forth herein, except that, in either such case, the provisions of Section 9, Section 11, Section 12, Section 18, Section 19, and Section 20 hereof will remain in full force and effect notwithstanding such termination.

(e) This Agreement will remain in full force and effect unless terminated pursuant to Sections 13(a), (b), (c), or (d) above or otherwise by mutual agreement of the parties. Upon termination of this Agreement, the Company will not have any liability to any Agent for any discount, commission, or other compensation respecting any Placement Shares not otherwise sold by an Agent under this Agreement.

(f) Any termination of this Agreement will be effective on the date specified in such notice of termination; *provided*, *however*, that such termination will not be effective until the close of business on the date of receipt of such notice by the Agent or the Company, as the case may be; provided further, that the Agent shall suspend any ongoing Placement as soon as practicable following receipt of the notice of termination (and in any event by the close of business on the date of receipt). If such termination will occur prior to the Settlement Date for any sale of Placement Shares, such Placement Shares will settle in accordance with the provisions of this Agreement.

14. Notices.

(a) All notices or other communications required or permitted to be given by any party to any other party pursuant to the terms of this Agreement will be in writing, unless otherwise specified, and if sent to Ascendiant Capital Markets, LLC, will be delivered to:

Ascendiant Capital Markets, LLC
Attention: Managing Partner
110 Front Street, Suite 300
Jupiter, FL 33477

with a copy to:

Clyde Snow & Sessions, P.C.
Attention: Brian Lebrecht
201 South Main Street, Suite 2200
Salt Lake City, UT 84111

and if to the Company, will be delivered to:

Oragenics, Inc.
1990 Main St Suite 750 Sarasota, FL 34236
Attn: Michael Redmond, President

with a copy to:

Shumaker, Loop & Kendrick, LLP
101 East Kennedy Boulevard, Suite 2800
Tampa, FL 33602
Attn: Mark Catchur

Notice to any other Agent shall be sent to its address set forth in Annex 1 hereto.

(b) Each such notice or other communication will be deemed given: (i) when delivered personally on or before 4:30 p.m., New York City time, on a Business Day or, if such day is not a Business Day, on the next succeeding Business Day; or (ii) on the next Business Day after timely delivery to a nationally recognized overnight courier. For purposes of this Agreement, "Business Day" will mean any day on which the Exchange and commercial banks in the City of New York are open for business.

(c) An electronic communication ("Electronic Notice") will be deemed written notice for purposes of this Section 14 if sent to the electronic mail address set forth above or specified by the receiving party under separate cover. Electronic Notice will be deemed received at the time the party sending Electronic Notice receives confirmation of receipt by the receiving party. Any party receiving Electronic Notice may request and will be entitled to receive the notice on paper, in a nonelectronic form ("Nonelectronic Notice"), which will be sent to the requesting party within 10 days of receipt of the written request for Nonelectronic Notice.

(d) Each party to this Agreement may change such address for notices by sending to the parties to this Agreement written notice of a new address for such purpose.

15. Successors and Assigns. This Agreement will inure to the benefit of and be binding upon the Company and the Agent and their respective successors and the affiliates, controlling persons, partners, members, officers, directors, employees, and agents referred to in Section 11 hereof. References to any of the parties contained in this Agreement will be deemed to include the successors and permitted assigns of such party. Nothing in this Agreement, express or implied, is intended to confer upon any party other than the parties hereto or their respective successors and permitted assigns any rights, remedies, obligations or liabilities under or by reason of this Agreement, except as expressly provided in this Agreement. Neither party may assign its rights or obligations under this Agreement without the prior written consent of the other party.

16. Adjustments for Stock Splits. The parties acknowledge and agree that all share-related numbers contained in this Agreement will be adjusted to take into account any share consolidation, stock split, stock dividend, corporate domestication or similar event effected respecting the Placement Shares.

17. Entire Agreement; Amendment; Severability. This Agreement (including all schedules and exhibits attached hereto and Placement Notices issued pursuant hereto), by and between the Company and the Agent constitutes the entire agreement of the parties respecting the subject matter hereof and thereof and supersedes all other prior and contemporaneous agreements and undertakings, both written and oral, among the parties hereto with regard to the subject matter hereof and thereof. Neither this Agreement nor any term hereof may be amended except pursuant to a written instrument executed by the Company and the Agent. In the event that any one or more of the provisions contained herein, or the application thereof in any circumstance, is held invalid, illegal, or unenforceable as written by a court of competent jurisdiction, then such provision will be given full force and effect to the fullest possible extent that it is valid, legal, and enforceable, and the remainder of the terms and provisions herein will be construed as if such invalid, illegal, or unenforceable term or provision was not contained herein, but only to the extent that giving effect to such provision and the remainder of the terms and provisions hereof will be in accordance with the intent of the parties as reflected in this Agreement.

18. **APPLICABLE LAW; WAIVER OF JURY TRIAL. THIS AGREEMENT WILL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK WITHOUT REGARD TO THE PRINCIPLES OF CONFLICTS OF LAWS. SPECIFIED TIMES OF DAY REFER TO NEW YORK CITY TIME. THE COMPANY HEREBY IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY LEGAL PROCEEDING ARISING OUT OF OR RELATING TO THIS AGREEMENT OR THE TRANSACTIONS CONTEMPLATED HEREBY.**

19. **CONSENT TO JURISDICTION. EACH PARTY HEREBY IRREVOCABLY SUBMITS TO THE NON-EXCLUSIVE JURISDICTION OF THE STATE AND FEDERAL COURTS SITTING IN THE CITY OF NEW YORK, BOROUGH OF MANHATTAN, FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR IN CONNECTION WITH ANY TRANSACTION CONTEMPLATED HEREBY, AND HEREBY IRREVOCABLY WAIVES, AND AGREES NOT TO ASSERT IN ANY SUIT, ACTION OR PROCEEDING, ANY CLAIM THAT IT IS NOT PERSONALLY SUBJECT TO THE JURISDICTION OF ANY SUCH COURT, THAT SUCH SUIT, ACTION OR PROCEEDING IS BROUGHT IN AN INCONVENIENT FORUM OR THAT THE VENUE OF SUCH SUIT, ACTION OR PROCEEDING IS IMPROPER. EACH PARTY HEREBY IRREVOCABLY WAIVES PERSONAL SERVICE OF PROCESS AND CONSENTS TO PROCESS BEING SERVED IN ANY SUCH SUIT, ACTION OR PROCEEDING BY MAILING A COPY THEREOF (CERTIFIED OR REGISTERED MAIL, RETURN RECEIPT REQUESTED) TO SUCH PARTY AT THE ADDRESS IN EFFECT FOR NOTICES TO IT UNDER THIS AGREEMENT AND AGREES THAT SUCH SERVICE WILL CONSTITUTE GOOD AND SUFFICIENT SERVICE OF PROCESS AND NOTICE THEREOF. NOTHING CONTAINED HEREIN WILL BE DEEMED TO LIMIT IN ANY WAY ANY RIGHT TO SERVE PROCESS IN ANY MANNER PERMITTED BY LAW.**

20. Use of Information. The Agent may not use or disclose any information gained in connection with this Agreement and the transactions contemplated by this Agreement, including due diligence, for any purpose except in connection with entering into this Agreement and providing services as distribution agent hereunder.

21. Counterparts. This Agreement may be executed in two or more counterparts, each of which will be deemed an original, but all of which together will constitute one and the same instrument. Delivery of an executed Agreement by one party to the other may be made by facsimile transmission.

22. Effect of Headings. The section and exhibit headings herein are for convenience only and will not affect the construction hereof.

23. Permitted Free Writing Prospectuses. The Company represents, warrants, and agrees that, unless it obtains the prior consent of the Agent, which consent shall not be unreasonably withheld, conditioned or delayed, and each Agent represents, warrants and agrees that, unless it obtains the prior consent of the Company, which consent shall not be unreasonably withheld, conditioned or delayed, it has not made and will not make any offer relating to the Placement Shares that would constitute an Issuer Free Writing Prospectus, or that would otherwise constitute a "free writing prospectus," as defined in Rule 405, required to be filed with the SEC. Any such free writing prospectus consented to by the Agent or by the Company, as the case may be, is hereinafter referred to as a "Permitted Free Writing Prospectus." The Company represents and warrants that it has treated and agrees that it will treat each Permitted Free Writing Prospectus as an "issuer free writing prospectus," as defined in Rule 433, and has complied and will comply with the requirements of Rule 433 applicable to any Permitted Free Writing Prospectus, including timely filing with the SEC where required, legending, and recordkeeping. For the purposes of clarity, the parties hereto agree that all free writing prospectuses, if any, listed in Exhibit B hereto are Permitted Free Writing Prospectuses.

24. Absence of Fiduciary Relationship. The Company acknowledges and agrees that:

(a) Each Agent is acting solely as agent in connection with the public offering of the Placement Shares and in connection with each transaction contemplated by this Agreement and the process leading to such transactions, and no fiduciary or advisory relationship between the Company or any of its respective affiliates, stockholders (or other equity holders), creditors or employees or any other party, on the one hand, and such Agent, on the other hand, has been or will be created in respect of any of the transactions contemplated by this Agreement, irrespective of whether or not such Agent has advised or is advising the Company on other matters, and such Agent has no obligation to the Company respecting the transactions contemplated by this Agreement except the obligations expressly set forth in this Agreement;

(b) it is capable of evaluating and understanding, and understands and accepts, the terms, risks and conditions of the transactions contemplated by this Agreement;

(c) the Agent has not provided any legal, accounting, regulatory or tax advice respecting the transactions contemplated by this Agreement and it has consulted its own legal, accounting, regulatory and tax advisors to the extent it has deemed appropriate;

(d) it is aware that the Agent and its affiliates are engaged in a broad range of transactions that may involve interests that differ from those of the Company and the Agent has no obligation to disclose such interests and transactions to the Company by virtue of any fiduciary, advisory or agency relationship or otherwise; provided that the Agent hereby agrees not to engage in any such transaction that would cause its interests to be in direct conflict with the best interests of the Company; and

(e) it waives, to the fullest extent permitted by law, any claims it may have against any Agent for breach of fiduciary duty or alleged breach of fiduciary duty in connection with the sale of Placement Shares under this Agreement and agrees that no Agent will have any liability (whether direct or indirect, in contract, tort or otherwise) to it in respect of such a fiduciary duty claim or to any Person asserting a fiduciary duty claim on its behalf or in right of it or the Company, employees or creditors of Company, other than in respect of such Agent's obligations under this Agreement and to keep information provided by the Company to the Agent's and the Agents' counsel confidential to the extent not otherwise publicly available.

25. Definitions. As used in this Agreement, the following terms have the respective meanings set forth below:

(a) "Applicable Time" means: (i) each Representation Date; and (ii) the time of each sale of any Placement Shares pursuant to this Agreement.

(b) "Company's knowledge," "knowledge of the Company" and similar expressions mean the actual knowledge of an executive officer of the Company as of the date to which the expression relates.

(c) "Agent" means, as of any given time, an Agent that the Company has designated as sales agent to sell Placement Shares pursuant to the terms of this Agreement, which shall initially be Ascendiant Capital Markets, LLC.

(d) "Issuer Free Writing Prospectus" means any "issuer free writing prospectus," as defined in Rule 433, relating to the Placement Shares.

(e) "Rule 164," "Rule 172," "Rule 405," "Rule 415," "Rule 424," "Rule 424(b)," "Rule 430A," "Rule 430B," and "Rule 433" refer to such rules under the Securities Act Regulations.

(f) All references in this Agreement to financial statements and schedules and other information that is "contained," "included," or "stated" in the Registration Statement or the Prospectus (and all other references of like import) will be deemed to mean and include all such financial statements and schedules and other information that is incorporated by reference in the Registration Statement or the Prospectus, as the case may be.

(g) All references in this Agreement to the Registration Statement, the Prospectus or any amendment or supplement to any of the foregoing will be deemed to include the copy filed with the SEC pursuant to EDGAR; all references in this Agreement to any Issuer Free Writing Prospectus (other than any Issuer Free Writing Prospectuses that, pursuant to Rule 433, are not required to be filed with the SEC) will be deemed to include the copy thereof filed with the SEC pursuant to EDGAR; and all references in this Agreement to "supplements" to the Prospectus will include any supplements, "wrappers," or similar materials prepared in connection with any offering, sale, or private placement of any Placement Shares by Ascendiant outside of the United States.

[*Signature Page Follows*]

If the foregoing correctly sets forth the understanding between the Company and the Agent, please so indicate in the space provided below for that purpose, whereupon this letter will constitute a binding agreement between the Company and the Agent.

Very truly yours,

ORAGENICS, INC.

By: _____
Name: [●]
Title: [●]

ACCEPTED as of the date first-above written:

ASCENDIANT CAPITAL MARKETS, LLC

By: _____
Name: Bradley J. Wilhite
Title: Managing Partner

SCHEDULE 1

FORM OF PLACEMENT NOTICE

From: Oragenics, Inc.

To: Ascendiant Capital Markets, LLC
Attention: Bradley J. Wilhite

Subject: At-The-Market Issuance—Placement Notice

Gentlemen:

Pursuant to the terms and subject to the conditions contained in the At-The-Market Issuance Sales Agreement between Oragenics, Inc., a Florida corporation (the "Company") and the Agent party thereto ("[Ascendiant]"), dated [●], 2024, the Company hereby requests that [Ascendiant] sell up to $_____ of the Company's Common Stock, par value $0.001 per share, at a minimum market price of $_____ per share, during the period beginning [month, day, time] and ending [month, day, time], not to exceed $_____ in a single Trading Day.

SCHEDULE 2

Compensation

The Company will pay to the Agent in cash, upon each sale of Placement Shares pursuant to this Agreement, an amount equal to up to three percent (3.0%) of the gross proceeds from each sale of Placement Shares.

SCHEDULE 3

Notice Parties

The Company:

Name	**Title**	**Email**

Ascendiant:

Bradley J. Wilhite	bwilhite@ascendiant.com

SCHEDULE 4

Subsidiaries

Exhibit A

Form of Representation Date Certificate

This Officer's Certificate (this "Certificate") is executed and delivered in connection with Section 7(l) of the At-The-Market Issuance Sales Agreement (the "Agreement"), dated [●], 2024, and entered into between Oragenics, Inc. (the "Company") and the Agent party thereto. All capitalized terms used but not defined herein shall have the meanings given to such terms in the Agreement

The undersigned, a duly appointed and authorized officer of the Company, having made all necessary inquiries to establish the accuracy of the statements below and having been authorized by the Company to execute this certificate, hereby certifies, in his capacity as such officer and not in his individual capacity, as follows:

1. As of the date of this Certificate, neither the Registration Statement nor the Prospectus contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading and no event has occurred as a result of which it is necessary to amend or supplement the Prospectus in order to make the statements therein not untrue or misleading.

2. Each of the representations and warranties of the Company contained in Section 6 of the Agreement:

   (a) to the extent such representations and warranties are subject to qualifications and exceptions contained therein relating to materiality or Material Adverse Effect, are true and correct on and as of the date hereof with the same force and effect as if expressly made on and as of the date hereof, except for those representations and warranties that speak solely as of a specific date, which were true and correct as of such date; and

   (b) to the extent such representations and warranties are not subject to any qualifications or exceptions, are true and correct in all material respects as of the date hereof as if made on and as of the date hereof with the same force and effect as if expressly made on and as of the date hereof, except for those representations and warranties that speak solely as of a specific date, which were true and correct as of such date.

3. Each of the covenants required to be performed by the Company in the Agreement on or prior to the date of the Agreement, this Representation Date, and each such other date as set forth in the Agreement, has been duly, timely and fully performed in all material respects and each condition required to be complied with by the Company on or prior to the date of the Agreement, this Representation Date, and each such other date as set forth in the Agreement has been duly, timely and fully complied with in all material respects.

4. Subsequent to the date of the most recent financial statements included in or incorporated by reference into the Prospectus, there has been no Material Adverse Effect.

5. No stop order suspending the effectiveness of the Registration Statement or of any part thereof has been issued, and, to the Company's knowledge, no proceedings for that purpose have been instituted or are pending or threatened by any securities or other governmental authority (including, without limitation, the SEC).

Cherry Bekaert is entitled to rely on this Certificate in connection with any opinion such firm is rendering pursuant to the Agreement.

The undersigned has executed this Officer's Certificate as of the date first written above.

ORAGENICS, INC.

By: _____
Name:
Title:

Exhibit 31.1

CERTIFICATION

I, J. Micheal Redmond, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Oragenics, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's Board of Directors:

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 9, 2024

By: */s/ J. Michael Redmond*

J. Michael Redmond
President and Interim Principal Executive Officer

Exhibit 31.2

CERTIFICATION

I, Janet Huffman, certify that:

b. I have reviewed this Quarterly Report on Form 10-Q of Oragenics, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15I and 15d-15I) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(b) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

I Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's Board of Directors:

(b) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 9, 2024

By: */s/ Janet Huffman*
Janet Huffman
Principal Financial Officer

Exhibit 32.1

Certification of Principal Executive Officer

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (18 U.S.C. Section 1350)

In connection with the Quarterly Report on Form 10-Q for the quarter ended June 30, 2024 (the "Report") of Oragenics, Inc. (the "Registrant"), as filed with the Securities and Exchange Commission on the date hereof, I, J. Michael Redmond, hereby certify, to the best of my knowledge, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Registrant.

/s/ J. Michael Redmond

Name: J. Michael Redmond
President and Interim Principal Executive Officer

Date: August 9, 2024

Exhibit 32.2

Certification of Principal Financial Officer

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (18 U.S.C. Section 1350)

In connection with the Quarterly Report on Form 10-Q for the quarter ended June 30, 2024 (the "Report") of Oragenics, Inc. (the "Registrant"), as filed with the Securities and Exchange Commission on the date hereof, I, Janet Huffman, hereby certify, to the best of my knowledge, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Registrant.

/s/ Janet Huffman

Name: Janet Huffman
Principal Financial Officer

Date: August 9, 2024