

ARROWHEAD RESEARCH CORP  
Form 10-Q  
February 09, 2009  
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**UNITED STATES**  
**SECURITIES AND EXCHANGE COMMISSION**

Washington, DC 20549

**FORM 10-Q**

(Mark One)

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

For the quarterly period ended December 31, 2008.

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

Commission file number 000-21898

**ARROWHEAD RESEARCH CORPORATION**

(Exact name of registrant as specified in its charter)

**Delaware**  
(State of incorporation)

201 S. Lake Avenue, Suite 703

**46-0408024**  
(I.R.S. Employer Identification No.)

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Pasadena, California 91101

(626) 304-3400

(Address and telephone number of principal executive offices)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Exchange Act 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 is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of large accelerated filer, accelerated filer and smaller reporting company in Rule 12b-2 of the Exchange Act. (Checked one):

Large accelerated

Accelerated filer

Non-accelerated filer  (Do not check if a smaller reporting company)

Smaller reporting company

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

The number of shares outstanding of the issuer's classes of common equity, as of the latest practicable date is 42,934,517 shares of common stock as of February 9, 2009.

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**Table of Contents****Arrowhead Research Corporation and Subsidiaries****(A Development Stage Company)****Consolidated Balance Sheets****(unaudited)**

	(unaudited) December 31, 2008	September 30, 2008
<b>ASSETS</b>		
<b>CURRENT ASSETS</b>		
Cash and cash equivalents	\$ 7,636,842	\$ 10,093,585
Trade receivable, net of allowance for doubtful account of \$116,031 for 2009 and 2008	116,371	4,054
Grant receivable, net of allowance for doubtful account of \$0	139,669	54,436
Subscription receivable, <i>Note 16.</i>	750,000	
Other receivables	3,109	28,109
Prepaid sponsored research, <i>Note 11.</i>	9,319	
Other prepaid expenses	365,616	380,933
<b>TOTAL CURRENT ASSETS</b>	<b>9,020,926</b>	<b>10,561,117</b>
<b>PROPERTY AND EQUIPMENT</b>		
Computers, office equipment and furniture	575,036	571,616
Research equipment	2,010,796	1,986,117
Software	167,615	167,615
Leasehold improvements	115,871	115,871
	2,869,318	2,841,219
Less: Accumulated depreciation and amortization	(1,775,389)	(1,596,009)
<b>NET PROPERTY AND EQUIPMENT</b>	<b>1,093,929</b>	<b>1,245,210</b>
<b>INTANGIBLE AND OTHER ASSETS</b>		
Rent deposit	257,809	254,289
Patents, <i>Note 1.</i>	2,641,571	2,749,555
Investment in Nanotope Inc., equity basis	2,188,889	2,258,271
Investment in Leonardo Biosystems Inc., at cost	187,000	187,000
<b>TOTAL OTHER ASSETS</b>	<b>5,275,269</b>	<b>5,449,115</b>
<b>TOTAL ASSETS</b>	<b>\$ 15,390,124</b>	<b>\$ 17,255,442</b>
<b>LIABILITIES AND STOCKHOLDERS EQUITY</b>		
<b>CURRENT LIABILITIES</b>		
Accounts payable	\$ 1,911,489	\$ 1,342,000
Accrued expenses	1,386,861	844,549
Payroll liabilities	484,838	479,294
Accrued severance	250,000	250,000
Capital lease obligation short term, <i>Note 10.</i>	826,774	810,456
<b>TOTAL CURRENT LIABILITIES</b>	<b>4,859,962</b>	<b>3,726,299</b>
<b>LONG-TERM LIABILITIES</b>		
Notes payable, <i>Note 6.</i>	2,516,467	
Capital lease obligation long term, <i>Note 10.</i>	513,620	726,534

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Accrued severance, <i>Note 11.</i>	500,000	500,000
<b>TOTAL LONG-TERM LIABILITIES</b>	<b>3,530,087</b>	<b>1,226,534</b>
Minority interests		
Unidym Series C-1 Preferred Stock with liquidation preference and put option, <i>Note 7.</i>	2,000,000	
Commitment and contingencies, <i>Note 11.</i>		
<b>STOCKHOLDERS EQUITY, <i>Note 8.</i></b>		
Common stock	42,950	42,950
Preferred stock		
Additional paid-in capital	98,484,060	97,756,126
Accumulated deficit during the development stage	(93,526,935)	(85,496,467)
<b>TOTAL STOCKHOLDERS EQUITY</b>	<b>5,000,075</b>	<b>12,302,609</b>
<b>TOTAL LIABILITIES AND STOCKHOLDERS EQUITY</b>	<b>\$ 15,390,124</b>	<b>\$ 17,255,442</b>

*The accompanying notes are an integral part of these unaudited consolidated financial statements.*

**Table of Contents****Arrowhead Research Corporation and Subsidiaries****(A Development Stage Company)****Consolidated Statements of Operations****(unaudited)**

	Three Months Ended December 31, 2008	Three Months Ended December 31, 2007	May 7, 2003 (Inception) to December 31, 2008
<b>REVENUE, Note 1</b>	<b>\$ 701,723</b>	<b>\$ 402,861</b>	<b>\$ 4,451,215</b>
<b>OPERATING EXPENSES</b>			
Salaries	3,134,826	3,001,991	35,303,840
Consulting	598,757	583,032	7,204,913
General and administrative expenses	1,629,987	1,663,426	20,295,367
Research and development	3,923,304	1,778,875	48,897,372
Patent amortization	89,530	103,991	1,488,901
<b>TOTAL OPERATING EXPENSES</b>	<b>9,376,404</b>	<b>7,131,315</b>	<b>113,190,393</b>
<b>OPERATING LOSS</b>	<b>(8,674,681)</b>	<b>(6,728,454)</b>	<b>(108,739,178)</b>
<b>OTHER INCOME (EXPENSES)</b>			
Loss on equity of investment Nanotope	(69,382)		(184,111)
Gain on sale of stock in subsidiary			2,292,800
Gain on sale of equity of investment Ensysce	700,000		700,000
Realized and unrealized gain (loss) in marketable securities			382,264
Interest income (expense), net	13,535	328,649	3,030,472
Other income			3,637
<b>TOTAL OTHER INCOME (EXPENSES)</b>	<b>644,153</b>	<b>328,649</b>	<b>6,225,062</b>
<b>LOSS BEFORE MINORITY INTERESTS</b>	<b>(8,030,528)</b>	<b>(6,399,805)</b>	<b>(102,514,116)</b>
Minority interests	60	1,335,976	15,287,738
<b>LOSS FROM CONTINUING OPERATIONS</b>	<b>(8,030,468)</b>	<b>(5,063,829)</b>	<b>(87,226,378)</b>
Loss from operation of discontinued Nanotechnica, Inc.			(1,342,505)
Loss on disposal of Nanotechnica, Inc. (July 2005 September 2005)			(73,797)
Loss from operation of discontinued Aonex Technologies, Inc.		(169,945)	(5,188,999)
Gain on sale of Aonex Technologies, Inc.			306,344
Provision for income taxes			(1,600)
<b>LOSS FROM DISCONTINUED OPERATIONS</b>		<b>(169,945)</b>	<b>(6,300,557)</b>
<b>NET INCOME (LOSS)</b>	<b>\$ (8,030,468)</b>	<b>\$ (5,233,774)</b>	<b>\$ (93,526,935)</b>
Income (loss) from continuing operations per share, diluted and undiluted	\$ (0.19)	\$ (0.13)	
Loss from discontinued operations	\$	\$ (0.01)	
Net income (loss) per share, diluted and undiluted	\$ (0.19)	\$ (0.14)	
Weighted average shares outstanding, diluted and undiluted	42,934,517	38,626,023	

*The accompanying notes are an integral part of these unaudited consolidated financial statements.*

**Table of Contents****Arrowhead Research Corporation and Subsidiaries****(A Development Stage Company)****Consolidated Statement of Stockholders Equity****from inception through December 31, 2008****(unaudited)**

	Common Stock			Accumulated Deficit during the Development Stage	Totals
	Shares	Amount	Additional Paid-in-Capital		
<b>Initial Issuance of Stock:</b>					
Common stock & warrants issued for cash @ \$0.001 per unit	3,000,000	\$ 3,000	\$	\$	\$ 3,000
Common stock & warrants issued for cash @ \$1.00 per unit	1,680,000	1,680	1,678,320		1,680,000
Stock issuance cost charged to additional paid-in capital			(168,000)		(168,000)
Net loss for period from inception to September 30, 2003				(95,238)	(95,238)
<b>Balance at September 30, 2003</b>	<b>4,680,000</b>	<b>4,680</b>	<b>1,510,320</b>	<b>(95,238)</b>	<b>1,419,762</b>
Exercise of stock options @ \$0.20 per share	75,000	75	14,925		15,000
Common stock & warrants issued for cash @ \$1.00 per unit	475,000	475	474,525		475,000
Common stock & warrants issued for marketable securities @ \$1.00 per unit	500,000	500	499,500		500,000
Stock issuance cost charged to additional paid-in capital			(96,500)		(96,500)
Common stock and warrants issued for cash @ \$1.50 per unit	6,608,788	6,609	9,906,573		9,913,182
Common stock issued in reverse acquisition	705,529	706	(151,175)		(150,469)
Common stock issued as a gift for \$1.09 per share	150,000	163	162,587		162,750
Common stock and warrants issued as stock issuance cost @ \$1.50 per unit	356,229	356	533,988		534,344
Stock issuance cost charged to additional paid-in capital			(991,318)		(991,318)
Exercise of stock option @ \$0.20 per share	75,000	75	14,925		15,000
Exercise of stock options @ \$1.00 per share	6,000	6	5,994		6,000
Stock-based compensation			175,653		175,653
Net loss for the year ended September 30, 2004				(2,528,954)	(2,528,954)
<b>Balance at September 30, 2004</b>	<b>13,631,546</b>	<b>13,645</b>	<b>12,059,997</b>	<b>(2,624,192)</b>	<b>9,449,450</b>
Exercise of warrants @ \$1.50 per share	13,812,888	13,813	20,705,522		20,719,335
Exercise of stock options @ \$1.00 per share	25,000	25	24,975		25,000
Purchase of Insert Therapeutics shares @ \$0.28/share	502,260	502	1,999,498		2,000,000
Common stock issued for services	12,500	12	49,988		50,000
Stock-based compensation			508,513		508,513
Change in percentage of ownership in subsidiary			230,087		230,087
Net loss for the year ended September 30, 2005				(6,854,918)	(6,854,918)
<b>Balance at September 30, 2005</b>	<b>27,984,194</b>	<b>27,997</b>	<b>35,578,580</b>	<b>(9,479,110)</b>	<b>26,127,467</b>
Exercise of stock options	115,794	116	341,421		341,537
Common stock issued @ \$4.88 per share	204,854	205	999,795		1,000,000
Common stock issued @ \$3.84 per share to Dr. M. Moskovits as payment for application of patents	15,000	15	57,585		57,600
Common stock issued @ \$3.50 per share	5,590,000	5,590	19,539,410		19,545,000
Common stock issued to Caltech as payment for legal fees	25,364	25	149,975		150,000
Purchase of Calando Pharmaceuticals, Inc. @ \$5.17/share	208,382	208	1,077,125		1,077,333
Stock-based compensation			1,270,339		1,270,339
Accelerated stock options			99,139		99,139
Net loss for the year ended September 30, 2006				(18,997,209)	(18,997,209)

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<b>Balance at September 30, 2006</b>	<b>34,143,588</b>	<b>34,156</b>	<b>59,113,369</b>	<b>(28,476,319)</b>	<b>30,671,206</b>
Exercise of stock options	186,164	186	434,541		434,727
Common stock issued, net	2,849,446	2,849	15,149,366		15,152,215
Arrowhead's increase in proportionate share of Insert Therapeutics equity			2,401,394		2,401,394
Common stock issued for purchase of Carbon Nanotechnologies, Inc.	1,431,222	1,431	5,398,569		5,400,000
Stock-based compensation			2,175,544		2,175,544
Net loss for the year ended September 30, 2007				(29,931,118)	(29,931,118)
<b>Balance at September 30, 2007</b>	<b>38,610,420</b>	<b>38,622</b>	<b>84,672,783</b>	<b>(58,407,437)</b>	<b>26,303,968</b>
Exercise of stock options	105,357	106	289,921		290,027
Common stock issued, net	3,863,989	3,867	6,956,718		6,960,585
Arrowhead's increase in proportionate share of Unidym's equity			1,720,962		1,720,962
Common stock issued @ \$2.72 per share to Rice University as a gift	50,000	50	135,950		136,000
Common stock issued to purchase shares of Unidym, Inc.	70,547	71	199,929		200,000
Common stock issued to purchase MASA Energy, LLC	105,049	105	309,895		310,000
Common stock issued to Unidym for the acquisition of Nanoconduction	114,155	114	249,886		250,000
Common stock issued @ \$2.18/sh to Alan Gotcher	15,000	15	32,685		32,700
Stock-based compensation			3,187,397		3,187,397
Net loss for the year ended September 30, 2008				(27,089,030)	(27,089,030)
<b>Balance at September 30, 2008</b>	<b>42,934,517</b>	<b>42,950</b>	<b>97,756,126</b>	<b>(85,496,467)</b>	<b>12,302,609</b>
Stock-based compensation			727,934		727,934
Net loss for the three months ended December 31, 2008				(8,030,468)	(8,030,468)
<b>Balance at December 31, 2008</b>	<b>42,934,517</b>	<b>42,950</b>	<b>98,484,060</b>	<b>(93,526,935)</b>	<b>5,000,075</b>

*The accompanying notes are an integral part of these unaudited consolidated financial statements.*



**Table of Contents****Arrowhead Research Corporation and Subsidiaries****(A Development Stage Company)****Consolidated Statements of Cash Flows****For the three months ended December 31, 2008 and 2007 and from inception through December 31, 2008****(unaudited)**

	Three months ended December 31, 2008	Three months ended December 31, 2007	Period from May 7, 2003 (Date of inception) to December 30, 2008
<b>CASH FLOWS FROM OPERATING ACTIVITIES:</b>			
Net Loss	\$ (8,030,468)	\$ (5,233,774)	\$ (93,526,935)
Realized and unrealized (gain) loss on investment	(700,000)		(1,082,263)
Gain from sale of subsidiary			(306,344)
Stock issued as gift to Caltech			162,750
Stock issued as gift to Rice University			136,000
Stock issued for professional services			232,700
Stock issued for in-process research and development			10,874,338
Purchased-In-process research and development - Nanoconduction			2,685,208
Stock-based compensation	727,934	689,591	8,144,519
Depreciation and amortization	287,365	285,178	4,030,406
Gain on sale of stock in subsidiary			(2,292,800)
Non-cash loss from equity investment	69,382		184,111
Minority interests		(1,335,976)	(16,287,926)
Increase (decrease) of cash flow from:			
Receivables	(172,550)	(127,127)	(259,989)
Subscription receivable	(750,000)		(750,000)
Prepaid research expense	(9,319)	414,481	(9,320)
Other prepaid expenses	15,317	114,178	(368,093)
Deposits	(3,520)	(25,520)	(259,869)
Accounts payable	569,489	(468,162)	1,279,220
Accrued expenses	542,312	(149,006)	899,389
Deferred revenue		(60,571)	
Other liabilities	5,544	64,758	1,252,027
<b>NET CASH PROVIDED (USED) IN OPERATING ACTIVITIES</b>	<b>(7,448,514)</b>	<b>(5,831,950)</b>	<b>(85,262,871)</b>
<b>CASH FLOWS FROM INVESTING ACTIVITIES:</b>			
Purchase of marketable securities - US Treasury Bills			(18,575,915)
Purchase of property and equipment	(28,100)	(167,754)	(3,538,373)
Purchase of MASA Energy, LLC			(250,000)
Minority equity investment			(2,000,000)
Cash paid for interest in Nanotechnica			(4,000,000)
Cash paid for interest in Aonex			(5,000,000)
Cash paid for interest in Insert		(2,500,000)	(10,150,000)
Cash paid for interest in Calando			(8,000,000)
Cash paid for interest in Unidym		(3,000,000)	(12,001,000)
Cash paid for interest in Tego	1,700,000	(2,400,000)	(801,000)
Cash obtained from interest in Nanotechnica			4,000,000
Cash obtained from interest in Aonex			5,001,250
Cash obtained from interest in Insert		2,500,000	10,529,594
Cash obtained from interest in Calando			8,000,000
Cash obtained from interest in Unidym		3,000,000	12,001,000
Cash obtained from interest in Tego	(1,700,000)	2,400,000	801,000
Proceeds from sale of marketable securities - US Treasury Bills			18,888,265
Proceeds from sale of investments	700,000		1,269,913
Proceeds from sale of subsidiary (net)		7,013,897	359,375
Payment for patents			(303,440)

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Restricted cash				50,773
NET CASH USED IN INVESTING ACTIVITIES	671,900	6,846,143		(3,718,558)
<b>CASH FLOWS FROM FINANCING ACTIVITIES:</b>				
Payments of capital leases	(196,596)			(336,606)
Proceeds of issuance of Calando debt	2,516,467			2,516,467
Proceeds from sale of stock in subsidiary	2,000,000			18,575,168
Proceeds from issuance of common stock and warrants, net		290,027		75,863,242
NET CASH PROVIDED BY FINANCING ACTIVITIES	4,319,871	290,027		96,618,271
NET INCREASE (DECREASE) IN CASH	(2,456,743)	1,304,220		7,636,842
<b>CASH AT BEGINNING OF PERIOD</b>	10,093,585	24,120,097		
<b>CASH AT END OF PERIOD</b>	\$ 7,636,842	\$ 25,424,317	\$	7,636,842
Supplementary disclosures:				
Interest paid	\$ 28,124	\$	\$	38,371
Income tax paid	\$ 4,800	\$ 4,800	\$	9,600
<b>SUPPLEMENTAL NON CASH TRANSACTIONS</b>				

On March 23, 2005, Arrowhead purchased 7,375,000 shares of Insert Therapeutics, Inc. ( Insert ) common stock from two minority stockholders of Insert for 502,260 newly issued shares of Arrowhead Common Stock valued at \$2,000,000 based on the closing market price of Arrowhead Common Stock on NASDAQ on the date of the closing.

On March 31, 2006, Arrowhead purchased 964,000 shares of Calando Pharmaceuticals, Inc. ( Calando ) common stock from minority stockholders of Calando for \$1,928,000 consisting of 208,382 newly issued shares of Arrowhead Common Stock valued at \$1,077,333 plus \$850,667 in cash. The 208,382 shares of Arrowhead common stock were valued based on the average closing price of Arrowhead s Common Stock on NASDAQ the ten trading days immediately prior to the date of the closing.

On April 20, 2007, Arrowhead purchased the Series E Preferred Stock of Carbon Nanotechnologies, Inc. in exchange for 1,431,222 shares of Arrowhead Common Stock with an estimated fair market value of \$5,400,000 based on the average closing price of Arrowhead s Common Stock on NASDAQ the ten trading days immediately prior to March 24, 2007, as set forth in the Agreement and Plan of Merger among Unidym, Inc. ( Unidym ), Carbon Nanotechnologies, Inc., the Company, and others.

On April 23, 2008, Arrowhead purchased 200,000 shares of the Common Stock of Unidym, in exchange for 70,547 shares of Arrowhead Common Stock with an estimated fair market value of \$200,000 based on the average closing price of Arrowhead s Common Stock on NASDAQ the ten trading days immediately prior to the date of the closing.

On April 29, 2008, Arrowhead purchased all of the membership units of MASA Energy, LLC for \$560,000. The purchase price consisted of 105,049 shares of Arrowhead Common Stock with an estimated fair market value of \$310,000 based on the average closing price of Arrowhead s Common Stock on NASDAQ the ten trading days immediately prior to the date of the closing, plus \$250,000 in cash.

On August 8, 2008, Unidym acquired all of the outstanding stock of Nanoconduction, Inc. in exchange for 114,155 shares of Arrowhead stock with an estimated fair market value of \$250,000.

*The accompanying notes are an integral part of these unaudited consolidated financial statements*

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**Arrowhead Research Corporation**

**Notes to Consolidated Financial Statements**

**December 31, 2008**

*Unless otherwise noted, (1) the term **Arrowhead Research** refers to Arrowhead Research Corporation, a Delaware corporation, (2) the terms **Arrowhead**, **the Company**, **we**, **us** and **our** refer to the ongoing business operations of Arrowhead and its subsidiaries, whether conducted through Arrowhead Research or a subsidiary of the Company, (3) the term **Common Stock** refers to Arrowhead Research's Common Stock, (4) the term **Warrant** refers to warrants to purchase Company Common Stock, and (5) the term **stockholder(s)** refers to the holders of Common Stock, Warrants and any other security convertible into Common Stock.*

**NOTE 1. ORGANIZATION AND SIGNIFICANT ACCOUNTING POLICIES**

*Nature of Business and Going Concern*

Arrowhead is a development stage nanotechnology company commercializing new technologies in the areas of life sciences, electronics and energy. Arrowhead's mission is to build value through the identification, development and commercialization of nanotechnology-related products and applications. Arrowhead is active in the operation of its subsidiaries, providing key management responsibilities to the subsidiaries. Each subsidiary is staffed with its own technical team that focuses on its specific technology and markets, while Arrowhead provides services including initial management, operational support, business development and financing.

Arrowhead currently owns two majority-owned Subsidiaries and two wholly-owned subsidiaries (the Subsidiaries) and has minority investments in two early-stage nanotechnology companies. The Company's majority-owned Subsidiaries seek to commercialize a variety of nanotech products and applications, including anti-cancer drugs, RNAi therapeutics, carbon-based electronics and fullerene anti-oxidants. The Company also has minority interests in two other nanotech companies. The Company's minority investments are focused on developing advanced nanomaterials for spinal cord injury and wound healing and drug delivery technology. Arrowhead's business plan includes adding to its portfolio through selective acquisition and formation of new companies, as capital resources allow.

At December 31, 2008, the Company had two majority-owned, operating Subsidiaries, Calando Pharmaceuticals, Inc. (Calando) and Unidym, Inc. (Unidym, formerly NanoPolaris, Inc.), and two wholly-owned subsidiaries, Tego BioSciences Corporation (Tego) and Agonn Systems, Inc. (Agonn).

Arrowhead is incorporated in Delaware and its principal executive offices are located in Pasadena, California.

Arrowhead and its Subsidiaries fund research and operations from cash on hand, government grants and license royalties. Neither Arrowhead nor its Subsidiaries derived revenue from product sales from its inception until the acquisition of Carbon Nanotechnologies, Inc. (CNI) in April 2007 by Arrowhead's consolidated subsidiary, Unidym. Since the acquisition, Unidym has manufactured carbon nanotubes for the primary purpose of using them in research and development activities and derives minimal revenues from the sale of carbon nanotubes for research and commercial applications.

*Going Concern*

At December 31, 2008, the Company had approximately \$7.6 million in cash to fund operations. Since the September 30, 2008 fiscal year end, the Company has raised an additional \$4.5 million in capital through a combination of direct investments or convertible loans into its subsidiaries. Unidym also received \$700,000 from the sale of its ownership interest in Ensysce BioSciences Inc. (Ensysce), a Unidym affiliate. The Company is generating no significant revenue, and its fiscal 2008 operating losses and negative cash flows from operations raised doubts about its ability to continue as a going concern over the next 12 months and beyond. The accompanying financial statements do not reflect any adjustments that might result if the Company were unable to continue as a going concern.

For fiscal 2009 and beyond, the Company's Board of Directors has approved a strategy for the Company to conserve cash resources and seek sources of new capital. To execute on this strategy, the Board will seek to accomplish one or more of the following on favorable terms:

out-license of technology;

sale of a subsidiary;

sale of non-core assets or intellectual property of its subsidiaries;

funded joint development or partnership arrangements; and

sale of securities.

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The Company is actively involved in discussions with third parties regarding many of these alternatives. Until such time as one or more of these goals is accomplished, the Subsidiaries have scaled back their activities. Early in the first quarter of fiscal 2008, significant personnel cuts were made at Calando. The number of pipeline candidates was reduced and development of the remaining candidates slowed. In April 2008, Calando and Insert were merged as part of a process to reduce cost and conserve cash resources. In October of 2008, significant cuts in personnel began at Unidym. In January 2009, the decision was made to close Unidym's Texas operations and most of the employees in Texas were laid off. Unidym is in the process of consolidating its operations into one facility in Northern California. These cost-saving measures are designed to decrease Unidym's cash needs by more than 60% of 2008's fiscal year's cash requirements. Arrowhead does not intend to significantly fund Unidym's operations unless additional cash is obtained by the Company. Tego and Agonn have limited operations and currently require very little cash. No funding of new initiatives or further investment in minority positions is contemplated unless additional cash is obtained by the Company. As the year progresses, depending on cash inflows and outflows, the Company will scale back development efforts on Calando's clinical candidates and institute other cash conservation measures at Unidym and Arrowhead. Since the beginning of the current fiscal year our Subsidiaries have raised \$4.5 million.

*Summary of Significant Accounting Policies*

**Basis of Presentation** This report on Form 10-Q for the three months ended December 31, 2008, should be read in conjunction with the Company's Annual Report on Form 10-K for the year ended September 30, 2008 filed with the SEC on December 15, 2008. The accompanying unaudited consolidated financial statements have been prepared in accordance with generally accepted accounting principles for interim financial statements and with the instructions to Form 10-Q and Rule 10-01 of Regulation S-X. Accordingly, they do not include all the information and footnotes required by generally accepted accounting principles for complete financial statements. Certain prior period amounts have been reclassified to conform to the current period's presentation. In the opinion of management, all normal recurring adjustments considered necessary for a fair presentation have been included. Operating results for the three months ended December 31, 2008 are not necessarily indicative of the results that might be expected for the year ending September 30, 2009.

**Principles of Consolidation** The consolidated financial statements of the Company include the accounts of Arrowhead and its Subsidiaries. Arrowhead's subsidiaries include Insert and Calando, which merged in April 2008. The merged entity continues to operate under the name Calando. The other subsidiaries include Unidym, Tego, Agonn and Aonex. Aonex was sold in May 2008 and is included in the results as Loss from Discontinued Operations. Nanotechnica, Inc. (Nanotechnica) a majority-owned subsidiary dissolved in June 2005, is also included in the results as Loss from Discontinued Operations. All significant intercompany accounts and transactions are eliminated in consolidation, and minority interests are accounted for in the consolidated statements of operations and the balance sheets.

**Use of Estimates** The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the amounts reported in the accompanying financial statements. Significant estimates made in preparing these financial statements include valuing of the stock of the Subsidiaries, assumptions to calculate the value of stock options, stock-based compensation expense, allowance for doubtful accounts, deferred tax asset valuation allowance, patents, minority-interest Common Stock and useful lives for depreciable and amortizable assets. Actual results could differ from those estimates.

**Cash and Cash Equivalents** For purposes relating to the statement of cash flows, the Company considers all liquid debt instruments purchased with a maturity of three months or less to be cash equivalents.

**Credit Risk** The Company extends credit to its customers in the normal course of business and generally does not require collateral or other security. The Company performs ongoing credit evaluations of its customers' financial condition and historically has not incurred significant credit losses.

**Concentration of Credit Risk** The Company maintains checking accounts for Arrowhead and separate accounts for each Subsidiary at either of four financial institutions. These accounts are insured by the Federal Deposit Insurance Corporation (FDIC) for up to \$250,000 as of December 31, 2008. The Company has three wealth management accounts at the same financial institution that invest in higher yield money market accounts and in government securities. At December 31, 2008, the Company had uninsured cash deposits totaling \$7,130,718. The Company has not experienced any losses in such accounts.

**Property and Equipment** Property and equipment are recorded at cost. Depreciation of property and equipment is recorded on the straight-line method over the respective useful lives of the assets ranging from 3 to 7 years. Leasehold improvements are amortized over the initial term of the leases.



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**Intellectual Property** At December 31, 2008, intellectual property consisted of patents and patent applications licensed or purchased in the gross amount of \$792,434. A portion of the consideration paid for Calando (formerly Insert) has been allocated to the patents held by Calando. The Calando patents, in the gross amount of \$3,301,190, are being amortized over the life of these patents. The accumulated amortization of patents totaled \$1,452,053 at December 31, 2008. Patents are being amortized over 3 years to 20 years unless a patent is determined to have no foreseeable commercial value and is written down to \$1. The weighted average original amortization period is 13 years. The weighted average remaining amortization period is 9.9 years.

**Equity Investments** Arrowhead has a non-controlling equity investment in Nanotope, a privately held biotechnology company, that is classified as an other asset. This investment is carried at cost less Arrowhead's proportionate share of Nanotope's operating loss for the period since investment because Arrowhead owns more than 20% of the voting equity and has the ability to exercise significant influence over this company. This investment is inherently high risk as the markets for technologies or products manufactured by this company were in an early stage at the time of the investment by Arrowhead and such markets may never be significant. Arrowhead could lose its entire investment in Nanotope. Arrowhead monitors this investment for impairment and makes appropriate reductions in carrying values when necessary.

**Minority Equity Investments** The Company's minority equity investment in Leonardo, a privately held biotechnology company, is classified as an other asset. This investment is carried at cost because Arrowhead owns less than 20% of the voting equity and only has the ability to exercise nominal, not significant, influence over this company. This investment is inherently high risk as the market for technologies or products manufactured by this company were in an early stage at the time of the investment by Arrowhead and such markets may never be significant. Arrowhead could lose its entire investment in some or all of this company. Arrowhead monitors these investments for impairment and makes appropriate reductions in carrying values when necessary.

**Revenue Recognition** Revenue from product sales is recognized when the related goods are shipped and all significant obligations of the Company have been satisfied. The Company recognizes license fee revenue on a straight-line basis over the term of the license. Development fees, milestone fees, collaboration fees and grant revenues are recognized upon the completion and payment of services or achievement of the mutually agreed milestones.

The Company generated revenues of \$701,723 and \$402,861 for the three-month periods ended December 31, 2008, and 2007, respectively. The revenue for the three months ended December 31, 2008 consist of \$450,000 from license fees from Unidym technology, \$85,233 in grants to Unidym to fund research and \$166,490 from sales and delivery of carbon nanotubes by Unidym. The prior year revenues consist of \$191,016 in grants to Unidym to fund research and \$211,845 from sales and delivery of carbon nanotubes by Unidym.

**Cost of Goods Sold** Unidym produces nanotubes for the primary purpose of using them in research and development activities, therefore the nanotubes produced are not capitalized as inventory, nor is a cost of goods sold calculated, even though some of them eventually get sold to third parties.

**Research and Development** Costs and expenses that can be clearly identified as research and development are charged to expense as incurred in accordance with FASB statement No. 2, Accounting for Research and Development Costs.

**Earnings (Loss) per Share** Basic earnings (loss) per share is computed using the weighted-average number of common shares outstanding during the period. Diluted earnings (loss) per share are computed using the weighted-average number of common shares and dilutive potential common shares outstanding during the period. Dilutive potential common shares primarily consist of stock options issued to employees and consultants and warrants of the Company.

**Recently Issued Accounting Standards** Management does not believe that any recently issued, but not yet effective, accounting standards, if currently adopted, would have a material effect on the accompanying financial statements.

**NOTE 2. BASIS OF CONSOLIDATION**

The consolidated financial statements for the three months ended December 31, 2008 and 2007 respectively, include the accounts of Arrowhead and its Subsidiaries. All significant intercompany accounts and transactions are eliminated in consolidation and minority interests were accounted for in the consolidated statements of operations and the balance sheets.

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The Company accrues an allowance for doubtful accounts based on estimates of uncollectible revenues by analyzing historical collections, accounts receivable aging and other factors. Accounts receivable are written off when all collection attempts have failed. The allowance for doubtful accounts applicable to Unidym as of December 31, 2008, and 2007 is \$116,031 and \$46,031, respectively.

**NOTE 4. INVESTMENT IN SUBSIDIARIES**

*Calando Pharmaceuticals, Inc. (formerly known as Insert Therapeutics, Inc.)*

On April 17, 2008, Calando merged with and into Insert, with Insert as the surviving company. Following the common-control merger, Insert changed its name to Calando. Insert and Calando effectuated the merger (the Calando Merger) of Calando with and into Insert pursuant to the Agreement and Plan of Reorganization dated January 14, 2008 (the Calando Merger Agreement).

Prior to the merger, Arrowhead had financed the operations of Insert and Calando through a series of working capital loans. At the time of the merger, Arrowhead had a series of 6% simple-interest working capital loans outstanding to Insert totaling \$1,600,000. Arrowhead also had a series of 6% simple-interest working capital loans outstanding to Calando totaling \$4,450,000. As part of the merger, an Agreement to Provide Additional Capital, dated as of March 31, 2006, between Calando and the Company was amended and terminated to accelerate the payment of the remaining \$6,000,000 payable thereunder, against receipt of the repayment of the principal and interest on all loans extended by the Company to either Insert or Calando (\$6,187,663 principal and interest as of the date of the merger).

Among other things, the Calando Merger was conditioned upon the recapitalization of Insert and Calando to eliminate the preferred stock of each company. In the Insert recapitalization, immediately before the effective time of the Calando Merger, each share of Insert Series B Preferred Stock, Series C Preferred Stock and Series C-2 Preferred Stock was converted into one share of common stock, par value \$0.0001 per share, of Insert (the Insert Common Stock). All warrants outstanding for the purchase of Insert Series D Preferred Stock became exercisable for a like number of shares of Insert Common Stock. In the Calando recapitalization, immediately before the effective time of the Calando Merger, each share of Calando Series A Preferred Stock was converted into one share of Calando common stock, par value \$0.0001 per share (the Calando Common Stock).

At the time of the Calando Merger, each issued and outstanding share of Calando Common Stock was canceled and automatically converted into the right to receive shares of Insert Common Stock based on the relative enterprise valuation of Insert to Calando of 1 to 1.5, or a Calando Merger share exchange ratio of 5.974126 shares of Insert Common Stock issued for each share of Calando Common Stock. Outstanding options to acquire Calando Common Stock were converted into an option to acquire approximately 5.974126 shares of Insert Common Stock.

As a result of the Calando Merger, the following agreements to which the Company was a party terminated: (i) Insert's Right of First Refusal and Co-Sale Agreement, dated as of June 4, 2004, (ii) Insert's Voting Agreement, dated as of June 4, 2004, (iii) Calando's Amended and Restated Investors' Rights Agreement, dated as of March 31, 2006, (iv) Calando's Amended and Restated Voting Agreement, dated as of March 31, 2006, and (v) Calando's Right of First Refusal and Co-Sale Agreement, dated as of March 31, 2006. Upon the effective date, the license agreement between Insert and Calando, dated as of March 14, 2005, pursuant to which Insert granted Calando worldwide exclusive rights to Insert's intellectual property related technologies, and a broad patent application covering methods and uses for the therapeutic use of RNAi, including its linear cyclodextrin polymers, was terminated.

With the Calando Merger, Insert entered into an Amended and Restated Investors' Rights Agreement (the Restated Investors' Rights Agreement), restating Insert Investors' Rights Agreement, dated as of June 4, 2004, as amended by Amendment No. 1 to Investors' Rights Agreement, dated as of March 30, 2005, and as further amended by Amendment No. 2 to Investors' Rights Agreement, dated as of October 25, 2006.

On November 26, 2008, Calando entered into Unsecured Convertible Promissory Note Agreements (Notes) for \$2.5 million with accredited investors plus Arrowhead which invested \$200,000 in the Note offering. The Notes have a two-year maturity and bear 10% annual interest. Unpaid principal of the Notes and accrued but unpaid interest thereon is convertible into common stock of Calando at a conversion price of \$0.576647 per share (subject to adjustment) at any time in the sole discretion of the holder. In the event of a Calando Company Sale, each holder has the option to exchange the Notes for two times the then outstanding principal amount owed under the Notes plus accrued and unpaid interest thereon (Redemption Amount) or convert the outstanding principal and accrued and unpaid interest thereon into Calando common stock at the Conversion Price. A Company Sale is defined under the Notes as the earliest to occur of: (a) the sale, exchange, or other transfer by any shareholder(s) of Calando of capital stock representing, individually or in the aggregate, greater than fifty percent (50%) of the outstanding voting capital of Calando; (b) a merger, consolidation, reorganization, or other transaction approved by the shareholders that would directly or indirectly produce the results described in (a) above; (c) a sale of all or substantially all of Calando's assets approved by the shareholders; or



(d) the consummation of an exclusive license of i) substantially all of the Company's intellectual property assets; and/or to the ii) RONDEL

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siRNA delivery system, to a third party for a prepaid fee exceeding the Redemption Amount. At any time it is outstanding, Calando may redeem a Note for the Redemption Amount.

To facilitate the above investment in Calando, Arrowhead subordinated Calando's debt obligations to Arrowhead aggregating approximately \$5.3 million for principal plus interest thereon.

As December 31, 2008, the Company owns 67.8% of the outstanding shares of the combined company (63.6% on a fully diluted basis).

As of December 31, 2008, Arrowhead had a series of 6% simple-interest working capital loans and advances outstanding to Calando totaling \$5,347,665 plus accrued interest of \$121,661 payable upon demand.

*Unidym, Inc. (formerly NanoPolaris, Inc.)*

On April 4, 2005, Arrowhead founded NanoPolaris, Inc. ( NanoPolaris ) as a wholly-owned subsidiary of Arrowhead. NanoPolaris was initially capitalized with \$1,000.

On June 13, 2006, NanoPolaris acquired substantially all of the net assets and the name Unidym from Unidym's founding scientist. Unidym was a developer of carbon nanotube-based electronics. The net assets acquired included Unidym's intellectual property, prototypes and equipment, for a purchase price consisting of \$25,000 in cash, the assumption of \$75,000 of liabilities and shares of NanoPolaris common stock, with an estimated value of \$154,350. At the time of the purchase, the shares issued for the purchase represented 11.9% (10% on a fully diluted basis) of NanoPolaris' outstanding voting stock. Concurrently with the purchase, Arrowhead agreed to provide up to \$4,000,000 in additional capital contributions over the next two years. In August 2006, NanoPolaris changed its name to Unidym, Inc.

On April 20, 2007, a wholly-owned subsidiary of Unidym merged with CNI, a Texas-based company involved in the development, manufacture and marketing of carbon nanotubes (the CNI Merger ). In connection with the CNI Merger, Arrowhead agreed to accelerate the \$4,000,000 capital contribution to Unidym and made payment on April 23, 2007. In aggregate consideration for the acceleration of the additional capital to Unidym and the transfer from Arrowhead to Unidym of rights and obligations under two sponsored research agreements, Unidym issued 448,000 shares of Unidym common stock to Arrowhead.

Prior to the CNI Merger, certain shareholders of CNI assumed all of CNI's outstanding debt, a total of \$5,400,000, in exchange for 1,080,000 shares of Series E Preferred Stock of CNI. On the date of the CNI Merger, Arrowhead purchased the Series E Preferred Stock in exchange for 1,431,222 shares of Arrowhead Common Stock with an estimated fair market value of \$5,400,000. The CNI Series E Preferred Stock was exchanged in the merger for 2,784,252 shares of newly authorized Unidym Series B Preferred Stock. The 2,889,000 shares of Unidym Series A Preferred Stock owned by Arrowhead were exchanged for 2,889,000 shares of Unidym Series B Preferred Stock.

In exchange for all the outstanding shares of CNI common stock, Unidym issued 5,000,000 shares of newly authorized Unidym Series A Convertible Preferred Stock with an estimated total value of \$4,200,000. The Series A Preferred Stock is convertible into 8,400,482 shares of Unidym common stock under certain conditions. Unidym also assumed CNI's 2007 Restricted Stock Unit Plan subject to which 1,104,010 shares of Unidym common stock are issuable on the later of March 31, 2008, or an initial public offering by Unidym and also assumed was a warrant to purchase 64,000 shares of Unidym common stock.

The consolidated statement of operations includes the results of the merged companies since April 21, 2007.

Prior to the CNI Merger, Arrowhead owned 88.1% of the outstanding voting securities of Unidym. Immediately following the CNI Merger, Arrowhead's ownership of the outstanding voting securities was 60.1%. If all options were awarded and exercised, all common stock subject to restricted stock units was issued and all preferred stock was converted, Arrowhead's interest would have been 42.1% immediately following the CNI Merger.

In December 2007, Unidym completed a private financing with strategic and financial investors, pursuant to which Unidym issued and sold an aggregate of 5,764,778 shares of its Series C Preferred Stock for \$1.80 per share. The private placement generated net cash proceeds of \$10,013,897, including \$3,000,000 invested by Arrowhead.

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Immediately following the private financing, in December 2007, Arrowhead's ownership of the outstanding, voting securities was 51.2%. If at that point in time all options were awarded and exercised, all common stock subject to restricted stock units was issued and all preferred stock were converted, Arrowhead's interest would have been 39.2%.

On April 23, 2008, the Company entered into a stock purchase agreement whereby the Company purchased from a Unidym stockholder and director 550,000 shares of Unidym common stock in exchange for \$350,000 in cash and restricted Company common stock valued at \$200,000. As part of the agreement, the director resigned from his seat on the Unidym board and the Chief Executive Officer of the Company was appointed to the Unidym board.

On June 12, 2008 and June 16, 2008, Unidym entered into subscription agreements with Entegris, Inc. and Arrowhead Research Corporation, respectively, pursuant to which Unidym issued and sold an aggregate of 2,222,222 shares of its Series C Preferred Stock for aggregate cash proceeds of \$4,000,000 in a private financing transaction. Entegris' investment was made in connection with its expanded customer relationship with Unidym for carbon nanotubes. The Company purchased 1,111,111 shares of Series C Preferred Stock for a purchase price of \$2,000,000. After giving effect to the Shares issued in this private placement, Arrowhead retains majority ownership of Unidym.

On November 13, 2008, Unidym entered into a subscription agreement with Tokyo Electron Ventures, pursuant to which Unidym sold 1,111,112 shares of newly authorized Series C-1 Preferred Stock for cash proceeds of \$2 million in a private financing transaction. Shares of Series C-1 carry the same rights and preferences as the existing Series C Preferred Stock, except that the Series C-1 are senior to the Series C and all other outstanding stock of Unidym, and the Series C-1 have a \$2.16 per share liquidation preference, subject to increase to \$3.60 per share in the event Unidym fails to achieve a defined cash flow requirement by June 30, 2009 (as defined in Unidym's Certificate of Amendment of the Amended and Restated Certificate of Incorporation). The cash flow requirement is the receipt by Unidym of cash proceeds of at least \$7 million from the date of the Restated Certificate through June 30, 2009 from any combination of sales of Unidym equity (not counting the Series C-1 sold to TEL Ventures), the monetization by Unidym of some or all of its assets and/or business operations in materials for anti-static polymers and other applications such as carbon fibers, the sale by Unidym of its shares in any of its subsidiaries and net cash flow from operations during the measurement period. The Series C have a liquidation preference of \$1.80 with no adjustment for cash flow requirement. The liquidation preferences of the Series C-1 and Series C are subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the relevant series of stock.

Pursuant to the agreement, Tokyo Electron Ventures may in certain circumstances convert its Series C-1 Preferred stock into shares of preferred stock at a subsequent offering. TEL Ventures investment in Unidym was made in connection with an anticipated joint development program between TEL Ventures and Unidym. In the event the parties do not enter into a joint development agreement by June 30, 2009, TEL Ventures shall have until July 31, 2009 to exercise a put option pursuant to which Unidym will be obligated to repurchase the Series C-1 (or converted shares in the case of a qualified transaction) for an aggregate purchase price of \$2 million. Regardless of the joint development program, TEL Ventures shall have an additional put option if Unidym fails to meet the cash flow requirement (set forth above) by June 30, 2009. In this event, TEL Ventures may exercise this put option by July 31, 2009, and Unidym will be obligated to repurchase the Series C-1 held by TEL Ventures for \$2.16 per share, or an aggregate maximum of \$2.4 million. Unidym does not intend to escrow or reserve the \$2 million of investment proceeds until passage of these contingencies. Unidym's contingent buy back obligations are secured by a separate security agreement between Unidym and TEL Ventures, dated as of November 13, 2008.

In connection with this transaction, TEL Ventures, as a holder of Series C-1 shares, became a party to Unidym's Investor Rights Agreement, Right of First Refusal Agreement and Voting Agreement. TEL Ventures was previously a party to these agreements as a holder of Series C shares. Other than joining the Series C-1 shares, none of the Investor Rights Agreement, Right of First Refusal Agreement or Voting Agreement were amended.

### *Ensysce BioSciences Inc.*

On March 14, 2008, Unidym sub-licensed certain of its intellectual property to Ensysce that is focusing on research into the medical therapeutic applications of carbon nanotubes. Ensysce is both funded and effectively controlled by a related party to Unidym who also serves as a director of Unidym. Terms of the licensing arrangement between Unidym and Ensysce included a \$25,000 up-front sub-licensing fee, ongoing royalties, and an initial 50% equity position for Unidym in Ensysce. Unidym also provided contract services to Ensysce, including supplies of research grade nanotubes, back-office and accounting support.

On November 25, 2008, Unidym sold its 50% equity position to the controlling shareholder for \$700,000 in cash. Unidym no longer provides Ensysce back office and accounting support. The Company recognized a \$700,000 gain on the sale of its equity interest in Ensysce during the three month period ended December 31, 2008.



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*Tego BioSciences Corporation*

On April 20, 2007, Tego BioSciences Corporation, a newly formed, wholly-owned subsidiary of Arrowhead, acquired the assets of C-Sixty, Inc., a Texas-based company developing protective products based on the anti-oxidant properties of fullerenes for \$1,000. On July 3, 2007, Arrowhead capitalized Tego with a purchase of 5,000,000 shares of Tego Series A-1 Preferred Stock for \$100,000. On October 25, 2007, Arrowhead provided \$2.4 million in additional capital to Tego in exchange for 15,000,000 shares of Series A-2 Preferred Stock. A portion of the additional capital was used to develop and commercialize therapeutics and other products based on the antioxidant properties of modified fullerenes.

On November 21, 2008, Tego repurchased from the Company 5,000,000 shares of Tego Series A-1 Preferred Stock for \$1.7 million. The repurchase was effected to redirect funds from Tego to the Company in connection with Tego's revised business plan to focus on the out-license of its technology and to reduce its internal development activities. After the buyback, Arrowhead continues to own 100% of the outstanding stock of Tego and 85% of Tego's stock on a fully diluted basis.

As of December 31, 2008, the Company has incurred approximately \$836,000 of expenses related to Tego.

*Agonn Systems Inc.*

On May 1, 2008, the Company formed a wholly-owned subsidiary, Agonn Systems, Inc. to explore strategic opportunities in energy storage technologies and to develop prototypes. As of December 31, 2008, the Company has incurred less than \$430,000 of expenses related to Agonn.

*Nanotope, Inc.*

Through the acquisition of Masa Energy LLC a Delaware limited liability company for \$250,000 of cash and \$310,000 of Arrowhead common stock, the Company acquired a 5.78% minority position in Nanotope, Inc. ( Nanotope ) and a 6.13% minority position in Leonardo Biosystems, Inc. ( LBS ). Masa Energy LLC has no other assets or operations.

In July and September 2008, the Company acquired shares of Series B Preferred Stock of Nanotope for an aggregate investment of \$2 million, bringing the Company's ownership to approximately 22% of Nanotope.

Nanotope is developing advanced nanomaterials for the treatment of spinal cord injuries and wound healing. Nanotope is based on technology developed in the laboratories of Dr. Samuel Stupp at Northwestern University. Nanotope's lead product is a compound that, when injected or applied at a wound site, self-assembles to form a scaffold of nanofibers on which cells can grow and differentiate to heal the wound. The Company has no obligation for future funding of Nanotope.

*Leonardo Biosystems, Inc.*

Through the acquisition of Masa Energy LLC, Arrowhead acquired a 6.13% ownership interest in LBS. LBS is developing a drug-delivery platform technology based on novel methods of designing spheroid porous silicon microparticles that selectively accumulate in tumor vasculature. The microparticles are designed to be loaded with drug associated nanoparticles that LBS created to commercialize technology developed in the University of Texas laboratory of Dr. Mauro Ferrari. The Company has no obligation for future funding of LBS.

**NOTE 5. DISCONTINUED OPERATIONS AONEX**

On May 5, 2008, Aonex entered into an Agreement and Plan of Merger (the Aonex Merger Agreement ) by and among AmberWave Systems Corporation, a Delaware corporation in the business of research, development and licensing of advanced technologies for semiconductor manufacturing ( Amberwave ) and Aonex Acquisition Corporation, a California corporation and wholly-owned subsidiary of Amberwave formed for the purpose of acquiring Aonex's business ( Acquiror ). On May 6, 2008, the merger was consummated and the outstanding Company loans to Aonex of \$1,298,000 were converted to equity.

At the time of the Aonex Merger, all of the issued and outstanding shares of Aonex capital stock automatically converted into the right to receive an aggregate amount equal to (a) \$450,000 minus (b) the sum of the of Aonex transaction expenses and \$15,625. In addition, the stockholders of Aonex are entitled to receive future payments as follows:

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(i) Upon Acquiror's completion of a successful laminate substrate production at its facilities, Acquiror will pay the stockholders of Aonex capital stock ( Aonex Stockholders ) an additional amount equal to \$500,000;

(ii) For each agreement the Acquiror enters into with a customer during the 24-month period following the closing of the Merger (each a Customer Agreement ), the Acquiror will pay Aonex Stockholders an additional amount equal to \$500,000 (with the aggregate amount not to exceed \$2 million), subject to the satisfaction of certain procedural requirements set forth in the Aonex Merger Agreement;

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(iii) During the 42-month period beginning on the closing of the Aonex Merger, the Acquiror will pay Aonex Stockholders, on a quarterly basis, the sum of: (A) 20% of the cash gross margin contribution received by the Acquiror or its subsidiaries from its customers during such period for the sale of specified products, services or devices employing Aonex's intellectual property assets, and (B) 35% of the revenues from the licensing or sale of Aonex's intellectual property assets received by the Acquiror from its customers during such period; provided however, that (1) the aggregate payments under this subsection do not exceed \$7 million and (2) certain procedural requirements set forth in the Aonex Merger Agreement are satisfied; and

(iv) During the ten-year period following the Aonex Merger, the Acquiror will pay Aonex Stockholders royalty payments, payable on a quarterly basis, equal to one-half of one percent of the revenues associated with the sale of any product incorporating the Aonex's intellectual property assets for solar applications or the license of Aonex's intellectual property assets for solar applications; subject to the satisfaction of certain procedural requirements set forth in the Aonex Merger Agreement.

Notwithstanding the above, the aggregate Earn-out Payments made by the Acquiror (other than those payments under subsection (iv) above) to Aonex Stockholders shall not exceed \$7.95 million.

Arrowhead has preference to the first \$6,298,000 in future payments after which any additional payments will be split 64% to Arrowhead and 36% to the holders of the common stock of Aonex. As of December 31, 2008, only the initial payment due at the time of the merger has been received.

**NOTE 6. NOTES PAYABLES**

On November 26, 2008, Calando entered into Unsecured Convertible Promissory Note Agreements ( Notes ) for \$2.5 million with accredited investors, plus \$200,000 from Arrowhead. The Notes have a two-year maturity and bear 10% annual interest. Unpaid principal of the Notes and accrued but unpaid interest thereon is convertible into common stock of Calando at a conversion price of \$0.576647 per share (subject to adjustment) at any time in the sole discretion of the holder. In the event of a Calando Company Sale, each holder has the option to exchange the Notes for two times the then outstanding principal amount owed under the Notes plus accrued and unpaid interest thereon ( Redemption Amount ) or convert the outstanding principal and accrued and unpaid interest thereon into Calando common stock at the Conversion Price.

**NOTE 7. MEZZANINE FINANCING**

Unidym sold 1,111,112 shares of Series C-1 Preferred Stock for cash proceeds of \$2 million in a private financing transaction with Tokyo Electron Ventures ( TEL ). The Series C-1 are senior all other outstanding stock of Unidym, and the Series C-1 have a \$2.16 per share liquidation preference, subject to increase to \$3.60 per share in the event Unidym fails to achieve a defined cash flow requirement by June 30, 2009. The cash flow requirement is the receipt by Unidym of cash proceeds of at least \$7 million from the date of the Restated Certificate through June 30, 2009. The Series C have a liquidation preference of \$1.80 with no adjustment for cash flow requirement.

TEL Ventures' investment in Unidym was made in connection with an anticipated joint development program between TEL Ventures and Unidym. In the event the parties do not enter into a joint development agreement by June 30, 2009, TEL Ventures shall have until July 31, 2009 to exercise a put option pursuant to which Unidym will be obligated to repurchase the Series C-1 (or converted shares in the case of a qualified transaction) for an aggregate purchase price of \$2 million. Regardless of the joint development program, TEL Ventures shall have an additional put option if Unidym fails to meet the cash flow requirement (set forth above) by June 30, 2009. In this event, TEL Ventures may exercise this put option by July 31, 2009, and Unidym will be obligated to repurchase the Series C-1 held by TEL Ventures for \$2.16 per share, or an aggregate maximum of \$2.4 million. Unidym does not intend to escrow or reserve the \$2 million of investment proceeds until passage of these contingencies. Unidym's contingent buy back obligations are secured by a separate security agreement between Unidym and TEL Ventures, dated as of November 13, 2008.

**NOTE 8. STOCKHOLDERS' EQUITY**

The number of authorized shares of the Company at December 31, 2008, is a total of 75,000,000 shares, consisting of 70,000,000 authorized shares of Common Stock, par value \$0.001, and 5,000,000 shares of authorized Preferred Stock.

At December 31, 2008, 42,934,517 shares of Common Stock were outstanding. At December 31, 2008, 1,559,000 shares and 4,738,310 shares were reserved for issuance upon exercise of options granted under Arrowhead's 2000 Stock Option Plan and 2004 Equity Incentive Plan, respectively. On December 3, 2007, an inducement grant of options to purchase 2,000,000 shares of Common Stock was made outside of Arrowhead's equity incentive plans to the Company's newly hired CEO. The terms of the inducement option are substantially similar to the terms of the Company's 2004 Equity Incentive Plan. Through December 31, 2008, options to purchase 1,559,000 shares were outstanding under the

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2000 Stock Option Plan and options to purchase 4,688,632 shares were outstanding under the 2004 Equity Incentive Plan.



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On January 24, 2006, the Company completed a private placement of 5,590,000 shares of restricted Common Stock at \$3.50 per share that generated \$19.6 million in total proceeds. The purchasers received warrants, exercisable after July 25, 2006, to purchase an additional 1,397,500 shares of restricted Common Stock at \$5.04 per share. The warrants may be called by the Company any time after July 25, 2006, if the closing price of the Company's Common Stock is \$6.50 or above for the previous 30 trading days.

On May 29, 2007, the Company completed a private placement of 2,849,466 shares of restricted Common Stock at \$5.78 per share that generated \$15.2 million in net proceeds. The purchasers received warrants to purchase an additional 712,362 shares of Common Stock at \$7.06 per share. The warrants may be called by the Company any time after May 29, 2008, if the closing price of the Company's Common Stock is \$8.47 or above for the previous 20 trading days.

In September 2008, Arrowhead completed a registered direct offering of a total of 3,863,989 units, with each unit consisting of one share of common stock and a warrant to purchase one share of common stock. Of the 3,863,989 units sold in the offering, 3,683,660 units were sold to investors at a purchase price of \$1.80 per unit and 180,329 units were sold to three members of the Company's management at a purchase price of \$1.83 per unit. The last reported sale price of the Company's common stock on the NASDAQ Global Market on August 15, 2008, the day the offering was launched, was \$1.70. The warrants, which represent the right to acquire a total of 3,863,989 shares of common stock, have an exercise price of \$2.00 per share and have a five-year term. The gross offering proceeds were approximately \$6.9 million and the net offering proceeds to the Company were approximately \$6.2 million. The offering was made directly by the Company without an underwriter or placement agent. The Company paid finders' fees of 7.5% on a portion of the gross proceeds.

The following table summarizes information about warrants outstanding at December 31, 2008:

Exercise prices	Number of Warrants	Weighted Average Remaining Life in Years	Weighted Average Exercise Price
\$5.04	1,397,500	7.1	\$5.04
\$7.06	712,362	8.4	\$7.06
\$2.00	3,863,989	4.7	\$2.00

On January 30, 2008, Arrowhead's Form S-3 Registration Statement, originally filed on December 20, 2007, and was declared effective. The prospectus allows Arrowhead to issue, from time to time in one or more offerings, shares of Common Stock and warrants to purchase common stock for an aggregate dollar amount of up to \$50 million of which approximately \$6.9 million was issued in the September 2008 registered direct offering described above.

It is the Company's intent to use the net proceeds from the sale of the securities and received upon exercise of the warrants for general corporate purposes, which may include one or more of the following: working capital, research and clinical development activities, potential future acquisitions of companies and/or technologies, and capital expenditures.

**NOTE 9. LEASES**

The Company leases the following facilities:

	Lab/Office Space	Monthly Rent	Lease Commencement	Lease Term
Arrowhead				
Pasadena(1)	7,388 sq ft	\$ 17,731	March 1, 2006	62 Months
New York(2)	130 sq ft	\$ 3,600	October 1, 2008	14 Months
Calando	4,354 sq ft	\$ 12,599	June 1, 2006	36 Months
Unidym				
Menlo Park, CA(3)	9,255 sq ft	\$ 14,345	February 1, 2007	36 Months
Sunnyvale, CA(3)	20,500 sq ft	\$ 25,625	October 1, 2008	60 Months
Springfield, MO	1,900 sq ft	\$ 2,533	December 1, 2007	24 Months
Houston, TX(4)	8,017 sq ft	\$ 13,362	February 1, 2007	Monthly

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Pasadena, TX(4)

28,500 sq ft \$ 18,200 September 1, 2008 120 Months

- (1) Arrowhead leases corporate office space in Pasadena, which it occupied beginning March 1, 2006. The lease agreement provides Arrowhead with two months free rent which was recorded as a deferred liability and is being amortized over the life of the lease.
- (2) In September 2005, Arrowhead opened an office in New York City and has one employee working out of that office. In September 2008, the lease was renewed for 12 months effective December 1, 2008.

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- (3) Unidym is in the process of relocating its Menlo Park, CA operations to Sunnyvale with the intent of subleasing the Menlo Park facility for the remainder of the current lease.
- (4) Unidym is in the process of relocating portions of its Houston, TX production operations to Sunnyvale, CA. At the current time, it is Unidym's intent to sublease the Pasadena, TX location for the remainder of the lease term. The Company has no plans to own any real estate and expects all facility leases will be operating leases.

At December 31, 2008, the future minimum commitments remaining under leases are as follows:

<b>Twelve months ending December 31,</b>	<b>Facilities Leases</b>	<b>Equipment Leases</b>
2009	\$ 1,013,151	\$ 10,054
2010	\$ 779,165	\$ 9,210
2011	\$ 632,587	\$ 2,268
2012	\$ 573,243	\$ 0
2013	\$ 495,550	\$ 0
2014 and thereafter	\$ 1,094,374	

Facility and equipment rent expense for the three months ended December 31, 2008 and 2007 was \$331,110 and \$283,510, respectively. From inception to date, rent expense has totaled \$3,309,241.

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At December 31, 2008, the future minimum commitments remaining under capitalized leases are as follows:

Capitalized lease payable in 19 monthly installments of \$75,343, due in July 2010, secured by equipment at Unidym.	\$ 1,431,534
12 Months Ending December 31,	
2009	\$ 678,095
2010	753,439
<b>Total minimum lease payments</b>	<b>1,431,534</b>
Less interest	91,140
<b>Present value of future minimum payments</b>	<b>1,340,394</b>
Less current portion	826,774
<b>Long term portion</b>	<b>\$ 513,620</b>

Research and development equipment under capitalized lease was allocated a cost of \$0 at the Nanoconduction acquisition by Unidym as the equipment has no alternative use.

**NOTE 11. COMMITMENTS AND CONTINGENCIES SUBSIDIARIES AND SPONSORED RESEARCH****Subsidiaries and Investments**

As of December 31, 2008, Arrowhead held a majority of the following four Subsidiaries (the Subsidiaries):

Subsidiary	%	Technology/Product Focus
Calando Pharmaceuticals, Inc. <i>acquired June 4, 2004</i>	67.8%	Nano-engineered RNAi therapeutics and drug delivery systems in clinical trials with first anti-cancer compound
Unidym, Inc. (formerly NanoPolaris) <i>founded April 4, 2005</i>	53.8%	Developing strategic opportunities for the commercialization of nanotube-based products
Tego Biosciences Corporation <i>acquired April 20, 2007</i>	100.0%	Development of protective products based on the anti-oxidant properties of buckminsterfullerenes
Agonn Systems, Inc. <i>founded May 1, 2008</i>	100.0%	Developing nanotechnology based energy storage devices for hybrid electric vehicles and other large format applications

- (1) Each Subsidiary has an option plan to help motivate and retain employees. Calando has 4,335,473 outstanding warrants, primarily issued in connection with a financing event that closed in October 2006. As of December 31, 2008, assuming all options in each Subsidiary plan were awarded and exercised and all warrants were exercised; the Company would own approximately 63.6% of Calando, 37.8% of Unidym and 85% of Tego. Agonn has not yet adopted an option plan and does not have any outstanding warrants.

<b>Investment</b>	<b>Ownership<sup>1</sup></b>	<b>Technology/Product Focus</b>
Nanotope, Inc.  <i>Acquired April 29, 2008</i>	22.0%	Developing nano-engineered, self-assembling, bioactive scaffolding for the treatment of spinal cord injury and peripheral artery disease
Leonardo Biosystems, Inc.  <i>Acquired April 29, 2008</i> <b><i>Sponsored Research</i></b>	6.1%	Developing an advanced set of nanotechnology tools to deliver anti-cancer therapeutics

In exchange for the exclusive right to license technology developed in sponsored laboratories, Arrowhead has worked with universities in areas such as stem cell research, carbon electronics and molecular diagnostics. By funding university research, Arrowhead has the opportunity to ascertain the technical success at low research cost and, if warranted, continue cost-effective development at the university by leveraging the already existing resources available to scientists at universities, such as laboratories and equipment and a culture that encourages the exchange of ideas. If sponsored research results in technology that appears to have commercial applications, the Company can form a majority-owned subsidiary to develop the technology. Should the technology prove

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to be too hard or too expensive to commercialize, Arrowhead may terminate the license agreement and return the licensed intellectual property to the university.

Sponsored Research expense for the three months December 31, 2008 and 2007 was \$110,681, and \$241,239, respectively. As of December 31, 2008, there were no active sponsored research agreements at the parent company and Unidym had only one agreement in place. In the future, Arrowhead may invest in nanoscience research and development at universities by entering into sponsored research agreements.

*Rice University Patents*

Unidym controls an intellectual property portfolio containing more than 200 foreign and domestic patents and patent applications, including more than 90 issued patents. The portfolio contains patent claims directed to fundamental carbon nanotube compositions of matter, as well as carbon nanotube synthesis, purification, dispersion and functionalization. Furthermore, the portfolio contains claims to the use of carbon nanotubes in many different application areas including fibers, electronics, composite materials, energy storage/generation, medical devices and drug delivery. Some patents are owned by Unidym but most are exclusively in-licensed from academic institutions, one of which is Rice University. Additionally, Unidym acquired the right to sublicense the basic patent claiming single-walled nanotube compositions of matter. Unidym also exclusively in-licenses Tego Biosciences' entire intellectual property, for nontherapeutic fields of use. Unidym has opted to focus its resources on electronic applications of carbon nanotubes. Unidym has out-licensed its portfolio to Ensysce Biosciences Inc., in the field of the therapeutics. Unidym is currently executing a plan to encourage third parties and competitors to enter non-exclusive licenses of its intellectual property outside of its core areas. To facilitate this plan, Unidym is also making options available to acquire non-exclusive licenses at a later date.

A material portion of Unidym's intellectual property portfolio is exclusively licensed from Rice University. If the sum of Unidym's debts, liabilities and other obligations is greater than all of Unidym's assets at fair valuation or if Unidym is generally not paying its debts, liabilities and other obligations as they come due; the Rice license would terminate.

*Sponsored Research Agreement Duke University*

The terms of the new sponsored research agreement between Unidym and Duke University ( Duke ) are summarized in the following table:

Research Project	Period Covered	Total Estimated Project Cost	Annual Cost	Amount Paid as of Dec. 31, 2008	Prepaid Amt as of Dec. 31, 2008
Electrical Conductivity of Carbon Nanotubes (Dr. Jie Liu)	Dec. 1, 2007 - Nov. 30, 2010 (3 years)	\$ 574,124	\$ 191,375	\$ 216,641	\$ 9,319

*Sponsored Research Agreement University of Florida*

The terms of the sponsored research agreement with the University of Florida ( UF ) are summarized in the following table:

Research Project	Period Covered	Total Estimated Project Cost	Annual Cost	Amount Paid as of Dec. 31, 2008	Prepaid Amt as of Dec. 31, 2008
Development of flexible electronic devices Thin film transistors (Dr. Andrew Rinzler)	Jul. 1, 2006 - Jun. 30, 2008 (2 years )	\$ 647,533	\$ 323,767	\$ 647,533	\$ 0

In connection with the merger between Unidym and CNI, the rights and obligations under the sponsored research agreement with UF were transferred to Unidym. All payments under this agreement had been made and the agreement had been concluded.

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In July of 2008, Calando made a contribution of \$50,000 to Caltech for laboratory research in the field of synthetic polymers for use primarily in drug delivery applications. Caltech has granted Calando an exclusive license to the patent rights in the field of synthetic polymers for drug delivery.

### ***Employment Agreements***

On May 24, 2007, the Company entered into a Severance Agreement with each of R. Bruce Stewart, the Company's Chairman and then Chief Executive Officer, and Joseph T. Kingsley, the Company's then Interim President and Chief Financial Officer, to provide for payments to the officers in the event of their retirement or the termination of their employment. The agreements provide that the executives will be entitled to receive severance payments and payments for any accrued and unused vacation time in the event

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that (i) the executive dies or voluntarily retires from the Company, (ii) the executive voluntarily terminates his employment other than for cause or (iii) the Company terminates the executive's employment other than for cause (each, a Termination Event). Upon the occurrence of a Termination Event, Mr. Stewart is entitled to receive as severance, during each of the first three years following the Termination Event, payments equal to his highest annual salary while employed by the Company, payable in equal monthly installments. Upon the occurrence of a Termination Event, Mr. Kingsley was entitled to receive as severance, during the first year following the Termination Event, payments equal, in the aggregate, to 100% of his highest annual salary while employed by the Company, payable in equal monthly installments, which payments would be reduced by any payments received by Mr. Kingsley or his estate from the Company's Long Term Disability Plan. Each agreement also provides that, if any payment to the executive is subject to excise tax under Section 4999 of the Internal Revenue Code of 1986, as amended (the Code), the Company will pay to the executive an amount sufficient, on an after-tax basis, to put the executive in the same position he would have been in if the excise tax was not imposed. The timing of payments under the agreements is also subject to adjustment to avoid any adverse tax treatment under Section 409A of the Code.

Mr. Kingsley stepped down from his positions as Interim President on December 1, 2007 and as Chief Financial Officer of the Company on January 14, 2008 and remained an employee of the Company. On March 10, 2008, the Company entered into an Employment Agreement with Mr. Kingsley. Under the Agreement, Mr. Kingsley served as Assistant to the President from January 14, 2008 through January 13, 2009 and he will be paid his previous base salary. Mr. Kingsley's previously granted stock options ceased vesting as of January 14, 2008 and all remaining unvested stock options were cancelled. The exercise period for the Executive's vested stock options was extended by the Employment Agreement from 90 days after retirement to one year after he terminates employment with the Company. As a condition to the Employment Agreement, the Severance Agreement between the Company and Mr. Kingsley, entered into on May 24, 2007 was terminated in its entirety.

As of December 31, 2008, the Company had accrued \$750,000 related to the Stewart Severance Agreement.

On June 11, 2008, the Company, entered into an Employment Agreement and a Stock Option Agreement with Dr. Christopher Anzalone, the Company's Chief Executive Officer and President as well as a Director of the Company. Dr. Anzalone commenced employment with the Company on December 1, 2007. Under the agreement, Dr. Anzalone is paid an annual base salary of \$400,000 and is eligible to receive bonuses based on the performance of the Company and individual performance objectives. Dr. Anzalone was also granted an option to purchase 2,000,000 shares of Arrowhead common stock with an exercise price of \$3.92 per share, which is equal to the closing price of Arrowhead's common stock on NASDAQ Global Market on the date of grant, December 3, 2007. The option will vest as follows: 250,000 shares vest on the six-month anniversary of Dr. Anzalone's date of hire and the balance of the shares vest in 42 equal installments on the first of each successive month. These options were granted outside of the Company's current equity incentive plans and are covered in an agreement with substantially similar terms as the Company's 2004 Equity Incentive Plan. Dr. Anzalone was reimbursed \$100,000 in relocation expenses and the Company provides supplemental life insurance to bring his life insurance benefit up to \$2,000,000. If the Company terminates Dr. Anzalone's employment without cause, the Company will pay Dr. Anzalone his base salary and benefits for twelve months.

**NOTE 12. STOCK OPTIONS**

**Stock-Based Compensation** Arrowhead has two plans that provide for equity-based compensation. Under the 2000 Stock Option Plan, 1,559,000 shares of Arrowhead's Common Stock are reserved for issuance upon exercise of non-qualified stock options. No further grants can be made under the 2000 Stock Option Plan. The 2004 Equity Incentive Plan reserves 4,738,310 shares for the grant of stock options, stock appreciation rights, restricted stock awards and performance unit/share awards by the Board of Directors to employees, consultants and others expected to provide significant services to Arrowhead. As of December 31, 2008, there were options granted and outstanding to purchase 1,559,000 and 4,688,632 shares of common stock under the 2000 Stock Option Plan and the 2004 Equity Incentive Plan, respectively. During the three months ended December 31, 2008, 240,000 options were granted under the 2004 Equity Incentive Plan.

On December 3, 2007, an inducement grant of an option to purchase two million shares of Common Stock was made outside of Arrowhead's equity incentive plans to Dr. Christopher Anzalone, the Company's new Chief Executive Officer. The option vests over 48 months with the first 250,000 shares vesting six months from the date of original grant and 41,667 shares vesting on the first of each month in 42 successive equal installments thereafter. The option price is \$3.92 per share, the closing price of Arrowhead's stock on the date of grant. The estimated fair value at the date of grant was \$4,692,207.

The following tables summarize information about stock options:



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	Number of Options Outstanding	Weighted- Average Exercise Price Per Share
Balance at May 7, 2003		
Granted	150,000	0.20
Canceled		
Exercised		
Balance at September 30, 2003	150,000	0.20
Granted	1,570,000	1.00
Canceled	(25,000)	1.00
Exercised	(156,000)	0.23
Balance at September 30, 2004	1,539,000	1.00
Granted	2,095,000	2.53
Canceled	(170,000)	1.00
Exercised	(25,000)	1.00
Balance at September 30, 2005	3,439,000	1.93
Granted	2,235,000	4.79
Canceled	(1,161,167)	4.27
Exercised	(115,794)	2.95
Balance at September 30, 2006	4,397,039	2.74
Granted	945,000	4.97
Canceled	(160,952)	5.32
Exercised	(186,164)	2.34
Balance At September 30, 2007	4,994,923	3.07
Granted	3,445,000	3.49
Canceled	(326,934)	3.74
Exercised	(105,357)	2.75
Balance At September 30, 2008	8,007,632	3.24
Granted	240,000	1.11
Canceled		
Exercised		
Balance At December 31, 2008	8,247,632	3.18
Exercisable At December 31, 2008	4,826,168	3.02

Exercise Prices	Number of Options	Weighted Average Remaining Life in Years	Weighted Average Exercise Price
\$1.00 6.89	8,247,632	7.7	\$ 3.18

At December 31, 2008, there were 49,678 options available for future grants under Arrowhead's 2004 Equity Incentive Plan. The intrinsic value of the options exercised during the three months ended December 31, 2008 and 2007 was approximately \$0 and \$69,000 respectively.

The fair value of the options granted by Arrowhead for the three months ended December 31, 2008 is estimated at \$188,376.

No options were granted by Unidym, Calando, Tego or Agonn for the three months ended December 31, 2008. As of December 31, 2008, the estimated fair value of the unvested options for Arrowhead is \$6,840,483 with a weighted average remaining amortization period of 2.8 years.

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As of December 31, 2008, the estimated aggregate fair value of the unvested options for Unidym, Calando and Tego is \$1,159,000 with a weighted average remaining amortization period of 2.7 years.

The fair value of options is estimated at the date of grant using the Black-Scholes option-pricing model with the following weighted-average assumptions: dividend yield of 0%, expected volatility of 49% to 81% (0% to 81% for Subsidiaries), risk-free interest rate of 2.99% to 5.10%, and expected life of five to six years. The weighted-average fair value of options granted by Arrowhead for the three months ended December 31, 2008 and 2007 is estimated at \$0.78 and \$2.34 and the weighted-average exercise price is estimated at \$1.11 and \$3.95, respectively.

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The Black-Scholes option valuation model was developed for use in estimating the fair value of traded options, which do not have vesting restrictions and are fully transferable. In addition, option valuation models require the input of highly subjective assumptions, including the expected stock price volatility. Because the Company's employee stock options have characteristics significantly different from those of traded options, and because changes in the subjective input assumptions can materially affect the fair value estimate, in management's opinion, the existing models do not necessarily provide a reliable single measure of the fair value of its employee stock options.

### **NOTE 13. INCOME TAXES**

The Company utilizes SFAS No. 109, *Accounting for Income Taxes* which requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been included in the financial statements or tax returns.

Under this method, deferred income taxes are recognized for the tax consequences in future years of differences between the tax bases of assets and liabilities and their financial reporting amounts at each year-end based on enacted tax laws and statutory tax rates applicable to the periods in which the differences are expected to affect taxable income. Valuation allowances are established, when necessary, to reduce deferred tax assets to the amount expected to be realized. The provision for income taxes represents the tax payable for the period and the change during the period in deferred tax assets and liabilities.

For the three months ended December 31, 2008 and 2007, the Company had consolidated net losses of \$8,030,000 and \$5,234,000, respectively. The losses result in a deferred income tax benefit of approximately \$3,172,000 and \$2,067,000 for the three months ended December 31, 2008 and 2007, respectively, offset by an increase in the valuation allowance for the same amount for Arrowhead. Because the Company is a development stage company, management has chosen to take a 100% valuation allowance against the tax benefit until such time as management believes that its projections of future profits as well as expected future tax rates make the realization of these deferred tax assets more-likely-than-not. Significant judgment is required in the evaluation of deferred tax benefits, and differences in future results from our estimates could result in material differences in the realization of these assets.

### **NOTE 14. SEGMENT AND GEOGRAPHIC REPORTING**

The Company accounts for segments and geographic product and licensing revenues in accordance with SFAS No. 131, *Disclosure about Segments of an Enterprise and Related Information*. The Company operates in a single segment, nanotechnology.

Grant and collaborations agreements are not considered to be product or licensing revenue, as the Plan of Operations for the Company is to sell products and/or license technology. The grant revenue is a way to fund and to offset development costs.

### **NOTE 15. RELATED PARTY TRANSACTIONS**

During the three months ended December 31, 2008 and 2007, the Company's majority-owned subsidiary, Unidym had product sales of \$42,150 and \$47,218, respectively, to one of its stockholders, Sumitomo.

During the three months ended December 31, 2008 and 2007 the Company's majority-owned subsidiary Calando paid \$30,000 and \$45,000, respectively, in consulting fees to Dr. Mark Davis at Caltech. Dr. Davis was a director and consultant for Calando.

During the three months ended December 31, 2008, Calando raised \$2.5 million through the sale of senior unsecured convertible promissory notes ( *New Notes* ), to accredited investors, plus \$200,000 from Arrowhead. Dr. Anzalone, Arrowhead's CEO personally participated by buying \$100,000 of the *New Notes*.

### **NOTE 16. SUBSEQUENT EVENTS**

On January 19, 2009, the Company's majority-owned subsidiary, Unidym, authorized a plan to close its operations in Houston, Texas and consolidate its operations in its Northern California facilities. Unidym currently leases two facilities in the Houston, Texas area. Unidym will continue to incur rent expense for the Houston facility it currently occupies under a month-to-month lease until the facilities are vacated and returned to the landlord. Unidym leases another facility in Pasadena, TX where it was previously planning to relocate its Houston operations. Unidym is seeking to sublease this facility and will incur rent expense until it enters into a sublease. On January 21, 2009, Unidym implemented a reduction in work force, which eliminated most of its employees and contractors in Houston.

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In connection with this consolidation of operations, Unidym estimates aggregate charges of approximately \$300,000 to \$500,000 will be incurred over the next 120 days, which consist of employee-related expenses, costs related to the cessation of use of the current facility, sublease of the second facility, and relocation expense. The Company expects to save over \$1.0 million in the aggregate in operating expenses in remainder of the fiscal year ending September 30, 2009 through the consolidation plan. Capital

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expenditures related to installation of Unidym's carbon nanotube production capability in Northern California are projected to amount to approximately \$500,000.

Subsequent to December 31, 2008, all \$750,000 of the Calando subscriptions receivable as of the December 31, 2008 were collected.

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

This Quarterly Report on Form 10-Q contains forward-looking statements concerning future events and performance of the Company. When used in this report, the words intends, estimates, anticipates, believes, plans, may, will, should, projects or expects and similar included to identify forward-looking statements. These forward-looking statements are based on our current expectations and assumptions and many factors could cause our actual results to differ materially from those indicated in these forward-looking statements. You should review carefully the factors identified in this report under the caption Risk Factors and in our most recent Annual Report on Form 10-K filed with the Securities and Exchange Commission (SEC). We disclaim any intent to update or announce revisions to any forward-looking statements to reflect actual events or developments. Except as otherwise indicated herein, all dates referred to in this report represent periods or dates fixed with reference to the calendar year, rather than our fiscal year ending September 30. The three-month period ended December 31, 2008, may also be referred to as the first quarter of fiscal 2009.

***Overview***

Arrowhead is a nanotechnology holding company striving to bring new products to market via its subsidiaries and investments in the healthcare, electronics, and clean energy industries. Our mission is to create shareholder value by building Subsidiaries that may be monetized in one of three primary ways: (1) Subsidiaries may be sold to other companies with proceeds flowing back to Arrowhead; (2) Subsidiaries may execute an IPO, with proceeds flowing back to Arrowhead and/or providing Arrowhead with tradable stock; and (3) Subsidiaries may become mature operating units with earnings consolidated with Arrowhead. In the near-term, the Company is focused on maximizing the value of the most mature Subsidiaries, Calando Pharmaceuticals, Inc. and Unidym, Inc., through internal development, partnership and license arrangements, as well as pursuing new sources of cash investments. The longer-term strategy for development and investment in existing Subsidiaries and minority investments will be determined by cash availability, strength of the technologies and market opportunity. Arrowhead continually works to identify and develop business opportunities for new areas of investment which may be pursued based upon available capital resources.

***Cash Resources***

As a development-stage company, Arrowhead has historically financed its operations through the sale of securities of Arrowhead and its Subsidiaries. Development of products at our Subsidiaries, in particular Calando and Unidym, has required significant capital investment since the Company's inception in 2003 and will continue to require significant cash investment in fiscal 2009 for the Company to fund operations at historical levels. At December 31, 2008, Arrowhead had cash on hand of approximately \$7.6 million on a consolidated basis. Arrowhead is focused on pursuing a strategy to improve the Company's cash position in order to remain a going concern.

In December 2008, the Board approved a strategy for the Company to focus on conserving cash resources while also seeking sources of new capital. To execute on this strategy, the Company will seek to accomplish one or more of the following:

out-license of technology;

sale of a subsidiary;

sale of non-core assets;

funded joint development or partnership arrangements; and

sale of securities.

The Company is actively involved in discussions with third parties regarding several of these alternatives. Until such time as one or more of these goals is accomplished, the Company will continue to implement streamlining and cash conservation measures begun in fiscal 2008 and defer major investment in new initiatives. If additional cash is not secured by mid-second second quarter 2009, the Company has a plan to make additional cuts in its development efforts at Calando and Unidym and reduce expenses at Arrowhead in an effort to insure that the Company has sufficient resources to fund operations in a limited manner through fiscal 2009 and into 2010.

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### *Majority-owned Subsidiaries*

Arrowhead is active in the operation of its Subsidiaries, providing key management functions. Each Subsidiary is staffed with its own technical team that focuses on its specific technology and markets, while Arrowhead provides initial management and services including operational support, business development and financing. We believe this provides our Subsidiaries with significant competitive advantages. Our board of directors determined that having large management teams at Calando and Unidym required significant cash and reduced the overall operational efficiency of each subsidiary and the Company on a consolidated basis. During fiscal 2008 and in the first quarter of fiscal 2009, Calando and Unidym terminated their respective senior management teams to conserve cash. As a result, greater managerial responsibilities have been delegated by the Subsidiaries to Arrowhead.

Arrowhead currently has two majority-owned Subsidiaries, two wholly-owned subsidiaries (the Subsidiaries), and has minority investments in two development stage nanotechnology companies. The Company's Subsidiaries are seeking to commercialize a variety of nanotech products and applications, including anti-cancer drugs, RNAi therapeutics, carbon-based electronics and fullerene anti-oxidants. The Company's minority investments are focused on developing advanced nanomaterials for spinal cord injury and wound healing and drug delivery technology. In fiscal 2008, the Company encouraged steps to streamline operations at each of its majority-owned subsidiaries and to delegate additional managerial responsibilities back to the Arrowhead level. The Company expects to continue this trend into fiscal 2009.

### *Calando*

In the second quarter of fiscal 2008, Insert and Calando merged to bring both drug delivery platforms into the same company. The merged company is operating under the name Calando Pharmaceuticals, Inc. At the same time, the combined company shifted focus from preclinical and pipeline development to emphasize its clinical program. Consequently, Calando's operations were streamlined by reductions in executive and technical staff and the two facilities were consolidated into one facility. In connection with the reduction in Calando's executive management, Calando's board delegated executive management to Arrowhead personnel. These actions reduced the consumption of cash for salaries and facilities. However, significant cash was consumed in fiscal 2008 for preparations to enter a second clinical trial, clinical trial expenses for Calando's Phase I study, and the development of a second RNAi therapeutic. Since the merger in April 2008, Arrowhead has made a series of cash advances totaling approximately \$5.3 million to fund Calando's operations. Calando's cash consumption fluctuates from quarter to quarter depending on the progress of its projects. In fiscal 2008, cash consumption ranged between \$2.2 million and \$2.6 million per quarter. If Calando is unsuccessful in attracting additional capital and Arrowhead does not have sufficient cash resources to support Calando's operations, some or all of Calando's development projects will have to be scaled back, interrupted, or abandoned in order to manage cash so that Calando can conduct limited operations through fiscal 2009 and into 2010. Arrowhead owns approximately 68% of the outstanding stock of Calando. If Calando raises substantial outside capital to fund operations, Arrowhead's ownership interest would be diluted.

During the three months ended December 31, 2008, Calando raised \$2.5 million from qualified investors through the sale of senior unsecured convertible promissory notes (New Notes), plus Arrowhead participated by buying an additional \$200,000 of the New Notes and agreeing to subordinate principal and interest on Arrowhead's approximately \$5.3 million of demand notes to the New Notes. The New Notes have a two-year maturity and bear 10% interest compounded annually. Unpaid principal on the New Notes and accrued but unpaid interest is convertible into common stock of Calando at a conversion price of \$0.576647 per share, subject to adjustment, at any time in the sole discretion of the holder. In the event of a defined sale event, holders of New Notes have other exchange and conversion options.

Calando is Arrowhead's most mature biopharmaceutical subsidiary. Based on technology developed at the California Institute of Technology, Calando's proprietary linear cyclodextrin nanoparticle technology is designed to deliver small molecule drugs using Calando's CycloSert system and RNAi therapeutics using the RONDEL™ system. Using these platform systems, Calando has developed two anti-cancer drug candidates that are currently undergoing human clinical trials. Calando is in ongoing discussions with multiple potential partners and acquirers although there can be no assurance regarding if or when a transaction might be concluded.

Calando's RONDEL-enabled siRNA-based therapeutic, CALAA-01, is currently undergoing a phase I clinical trial in patients with solid tumors at the UCLA Jonsson Cancer Center in Los Angeles, California, and at South Texas Accelerated Research Therapeutics (START) in San Antonio, Texas. CALAA-01 targets the expression of the M2 subunit of ribonucleotide reductase, a clinically validated cancer target. To our knowledge, Calando is the first and only company with a clinical-stage systemic delivery system enabled siRNA therapeutic. Systemic delivery has posed a major hurdle to the clinical development of siRNA therapeutics. Further, we believe CALAA-01 is also the only clinical-stage siRNA therapeutic candidate for the treatment of cancer. This study has progressed without complications. Additionally, Calando is performing preclinical studies on CALAA-02, a second RONDEL-enabled anti-cancer siRNA therapeutic candidate targeting expression of the hypoxia inducible factor-2 alpha gene.

Calando's other nano-engineered polymer delivery system, CycloSert, is designed to deliver small molecule drugs and peptides. IT-101, Calando's first clinical small molecule candidate, is a combination of CycloSert and Camptothecin, a potent anti-cancer





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therapeutic. A Phase I trial for IT-101 was completed in October 2008. All Phase I trial endpoints were successfully achieved. The drug was found to be well tolerated in both the Phase Ia and Ib studies of the trial. In addition, a high proportion of patients displayed stable disease following treatment. Based on these encouraging Phase I results, Calando has opened a Phase II trial for ovarian cancer.

We believe there is an opportunity to derive additional value from the further development of Cycloset and RONDEL systems, as they have been demonstrated to enhance and enable the delivery of diverse pharmaceutical entities, including peptides and small molecules as well as other RNA and DNA-based oligonucleotides. CALAA-02 is being developed to demonstrate the fast track to the clinic for siRNA therapeutic candidates that can be provided by the RONDEL system. Also, Calando is applying its library of Cycloset linkers to develop new conjugate oncology therapeutics with the goal of improving the efficacy and side effect profile of generic and in-licensed compounds. Ultimately, the Company believes Calando provides a platform opportunity that could enable the creation of multiple new drug candidates. Continuation of Calando clinical and pipeline candidates could be limited by the capital resources available.

Calando's efforts on CALAA-01, IT-101 and its other pipeline candidates are preliminary, and there is no assurance that they will be successful. There are numerous technical, regulatory and marketing challenges that must be overcome to successfully commercialize Calando's products, including, but not limited to the following:

Advancing Calando's pipeline candidates requires extensive preclinical testing and approval by the FDA is required before clinical testing can commence.

Advancing Calando's therapeutic candidates through preclinical and clinical testing is expensive and takes a long time.

Complications may arise that would cause the clinical testing to be interrupted or stopped. FDA approval is required before Calando's products could be sold.

Even if FDA approval is eventually obtained, there is no assurance that it will be accepted by the medical community.

It is not possible at this time to accurately determine the final cost of Calando's development projects, the completion dates, or when or if revenue will commence.

*Unidym*

Unidym raised a total of \$14 million of equity financing in fiscal 2008. In fiscal 2008, Unidym consumed large amounts of cash to: (i) scale up the production of carbon nanotubes, (ii) scale up for the production and sale of its first carbon nanotube based film product, (iii) acquire another nanotech company, (iv) expand its business development activities, and (v) prepare for an initial public offering. In the first and second quarters of fiscal 2008, Unidym expanded its executive, technical and administrative staff for these activities. Unidym's cash burn increased from \$2 million in the second quarter, to \$3.6 million in the third quarter and to \$4.2 million in the fourth quarter of fiscal 2008. During the fourth quarter of fiscal 2008, it became clear that Unidym would be unable to meet its fund raising goals to support its fiscal 2009 cash needs. Moreover, technical development took longer than expected. Additionally, it became evident that dramatic changes in the financial markets would not allow a near-term initial public offering. Starting in first month of fiscal 2009 (October 2008), several general and administrative positions were eliminated. Approximately half of Unidym's team in its Houston, TX facility was put on unpaid leave in November and terminated in December 2008. Subsequent to quarter end, the decision was made to close the Texas facility and most of the remaining Texas employees were terminated. Unidym will still need to obtain additional cash to fund its operations and obligations through fiscal 2009.

During the three months ended December 31, 2008, Unidym raised \$2 million from the sale of Series C-1 Preferred Stock to TEL Ventures. The sale of these securities was associated with Unidym's entry into a Security Agreement granting TEL a security interest in Unidym's physical and intellectual property (the Collateral), which, however, excludes Unidym's rights under the Rice license and shares of Ensycse Biosciences, Inc. The Subscription Agreement provides TEL with two put options. TEL may exercise the first put option if Unidym fails to enter into a Joint Development Agreement with TEL by June 30, 2009. In that case, Unidym must buy back TEL's Unidym shares for \$2 million before March 2010. TEL may exercise the second put option if Unidym fails to meet certain cash requirements by June 30, 2009. Those requirements would be met if Unidym raises \$7 million through any combination of a sale of its equity; the sale or license of some or all of its assets and businesses including positions in Ensycse Biosciences, Nexeon MedSystems or Nanoconduction; or sales of products. Only if TEL exercises this put option

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between June 30 and July 31, 2009 shall Unidym be obligated to repurchase the Series C-1 Preferred Stock for \$2.4 million within ten days notification of exercise. In the event of a default under the Security Agreement, (e.g. inability to pay either of the put options, bankruptcy, admission of inability to pay its bills), TEL can take possession of the Collateral and keep the net proceeds of any sale thereof.

A material portion of Unidym's intellectual property portfolio is exclusively licensed from Rice University. If the sum of Unidym's debts, liabilities and other obligations were greater than all of Unidym's assets at fair valuation or if Unidym were generally not paying its debts, liabilities and other obligations as they come due; the Rice license would terminate.

Unidym is the Company's most mature nanomaterials company and provides an example of a company-building strategy that Arrowhead plans to replicate in other areas of nanotechnology. Through the acquisition of a foundational intellectual property portfolio in the manufacture and applications of carbon nanotubes (CNTs), Unidym has developed a strong technology base in CNT

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technology that we believe can serve as a platform for innovation and new products. Unidym has already developed world-leading high performance carbon nanotube materials manufactured by scalable processes. Unidym's product development efforts are focused on the electronics industry, where there is continuing demand for higher performance materials. Unidym's product development has been focused on thin, transparent film of carbon nanotubes on a flexible substrate. Unidym is also working with leading LCD companies, including a joint development agreement with Samsung Electronics, to incorporate CNT films into their display devices. Through its various collaborations, Unidym has also fabricated prototype LCD and electrophoretic displays incorporating CNT-based films.

The capital expenditures associated with CNT synthesis are kept low by both the scalability of Unidym's CNT synthesis process and the fact that only trace amounts of CNTs are required per unit area of film. Additionally, Unidym plans to leverage the substantial excess capacity left in the coating industry by the decrease in demand for photographic film. For its initial product offering to touch panel makers, Unidym is currently evaluating the most favorable business model to pursue. In one model, Unidym would synthesize CNTs, formulate those CNTs into a coating ink, and outsource production of the films to a toll coater to produce the film. Unidym would pay for production of the films on a time and materials basis, and Unidym would directly market and sell the films to touch panel makers. Under a second model that is less capital intensive, Unidym would synthesize CNTs and CNT inks, and then ship the inks to company that would manufacture and sell films to customers.

On January 19, 2009, Unidym, authorized a plan to close its operations in Houston, Texas and consolidate its operations in its Northern California facilities. Unidym currently leases two facilities in the Houston, Texas area. Unidym will continue to incur rent expense for the Houston facility it currently occupies under a month-to-month lease until the facilities are vacated and returned to the landlord. Unidym leases another facility in Pasadena, TX where it was previously planning to relocate its Houston operations. Unidym is seeking to sublease this facility and will incur rent expense until it enters into a sublease. On January 21, 2009, Unidym implemented a reduction in work force, which eliminated most of its remaining employees and contractors in Houston.

In connection with this consolidation of operations, Unidym estimates aggregate charges of approximately \$300,000 to \$500,000 will be incurred over the next 120 days, which consist of employee-related expenses, costs related to the cessation of use of the current facility, sublease of the second facility, and relocation expense. The Company expects to save over \$1.0 million in the aggregate in operating expenses in remainder of the fiscal year ending September 30, 2009 through the consolidation plan. Capital expenditures related to installation of Unidym's carbon nanotube production capability in Northern California are projected to amount to approximately \$500,000.

Development, production and sale of Unidym's products has required and is expected to continue to require significant investment and to take a long time. There are a variety of technical, cost, and marketing barriers that must be overcome. It is not possible at this time to predict the final cost of developing Unidym's transparent conductive film or other CNT products, the final cost of scaling up the production process, when or if Unidym will generate significant licensing revenue, or when or if Unidym will become profitable.

In July 2008, Unidym acquired Nanoconduction, Inc., a Sunnyvale, CA company developing nano-based electronic cooling technology. The merger provided Unidym with access to Nanoconduction's patent portfolio, which will supplement Unidym's existing patent portfolio and offer Unidym with additional opportunities to out-license and leverage its technology. In addition, through the merger, Unidym gained access to research facilities and equipment.

Unidym accomplished the acquisition of Nanoconduction through an equity exchange, as follows. Arrowhead invested \$250,000 in Unidym through a cashless investment by issuing 114,155 shares of unregistered Common Stock to the owners of Nanoconduction. In exchange for this investment, Arrowhead received 138,889 additional shares of Series C Preferred Stock of Unidym. As additional consideration, Unidym agreed to assume and discharge Nanoconduction's assets and liabilities. Assets included equipment and leasehold improvements with an estimated net book value of approximately \$2.9 million including intellectual property related to the use of carbon nanotubes for thermal management. Liabilities included approximately \$1.0 million of accounts payable and accrued liabilities and approximately \$1.7 million in capital equipment loans. The equipment loans are guaranteed by Unidym and secured by a lien on Nanoconduction's assets. Unidym entered into a new five-year lease for the facilities currently occupied by Nanoconduction in Sunnyvale, California, with the intention of moving Unidym's existing Menlo Park operations to the Nanoconduction facility.

In March 2008, Unidym sub-licensed certain of its intellectual property to Ensysce BioSciences Inc. ( Ensysce ) whose focus is research into the medical therapeutic applications of carbon nanotubes. From March 2008 to November 2008, Ensysce was both funded and effectively controlled by a party related to Unidym who also serves as a director of Unidym. In November 2008, Unidym sold its 50 percent interest in Ensysce to the controlling shareholder for \$700,000, and is recognizing a gain on the sale of its equity interest in the first quarter of fiscal 2009.

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### *Tego*

Tego's primary asset is an intellectual property portfolio that includes key patents for the modification of fullerenes. Tego does not control the intellectual property relating to making fullerenes, however we believe that it does control key patents that are critical in making fullerenes into useable products. We believe Tego is in a position to monetize its proprietary compounds and enabling patents through a licensing and partnership model. Currently, Tego has no employees or facilities and its technical and business development is handled at the Arrowhead level. Tego is in discussions with other companies regarding potential partnerships and licenses which could enable Arrowhead to capture value via near-term revenue, and long-term royalties. Tego's development and licensing activities are preliminary, and there is no assurance that they will be successful. It is not possible at this time to accurately determine the final cost of developing or licensing Tego's technology, the completion date, or when or if revenue will commence.

### *Agonn*

Agonn Systems Corporation was formed in 2008 to develop and commercialize nanotechnology-based energy storage devices for electric vehicles and other large format applications. Agonn is pursuing a strategy to acquire energy storage technologies based on nanoscale engineering from research institutions. Agonn has outsourced the development of prototype ultracapacitors based on carbon nanomaterials and other advanced materials. We believe the markets for energy storage products are substantial, ranging from consumer electronics to vehicles to heavy industry and that emerging clean technology platforms offer significant market opportunities for new energy storage devices, in part because traditional batteries do not meet many of the key requirements for energy density, lifetime and efficiency.

Agonn has no facilities or employees and is managed entirely by Arrowhead. At December 31, 2008, Agonn was a wholly-owned subsidiary of the Company. The Company expects that this ownership interest may be diluted in the future with the issuance of equity to strategic partners. Agonn's research and development activities are preliminary, and there is no assurance that they will be successful. It is not possible at this time to accurately determine the final cost of developing Agonn's technology, the completion date, or when or if revenue will commence.

## **Minority Investments**

### *Nanotope*

Nanotope is a company in the field of regenerative medicine developing a suite of products customized to regenerate specific tissues; including neuronal, vascular, bone, myocardial, and cartilage. Its two lead candidates are focused on spinal cord regeneration and treatment of peripheral artery disease.

The Company acquired its initial stake in Nanotope from a Nanotope shareholder in April 2008 and increased its position through a direct investment of \$2 million in two tranches of \$1 million each in July and September 2008. At December 31, 2008, the Company owned 22% of Nanotope's outstanding securities. The Company may increase its stake in Nanotope if the opportunity arises, the Company has the capital resources to do so and Nanotope's technology development continues to move forward. The Company's investment in Nanotope is accounted for using the equity method of accounting.

## **Related-Party Interests**

Nanotope was co-founded by the Company's President and Chief Executive Officer, Dr. Christopher Anzalone, through the Benet Group, a private investment entity solely owned and managed by Dr. Anzalone. Through the Benet Group Dr. Anzalone owns 1,395,900 shares of Nanotope common stock, or approximately 14.2% (after giving effect to the sale of stock to Arrowhead in its investments in Nanotope) of Nanotope's outstanding voting securities. Dr. Anzalone does not hold options, warrants or any other rights to acquire securities of Nanotope directly or through the Benet Group. The Benet Group has the right to appoint a representative to the board of directors of Nanotope. Dr. Anzalone currently serves on the Nanotope board in a seat reserved for Nanotope's CEO and another individual holds the seat designated by the Benet Group. Dr. Anzalone has served as President and Chief Executive Officer of Nanotope since its formation and continues to serve in these capacities. Dr. Anzalone has not received any compensation for his work on behalf of Nanotope since joining the Company on December 1, 2007. Dr. Anzalone has also waived his right to any unpaid compensation accrued for work done on behalf of Nanotope before he joined the Company.

### *Leonardo Biosystems, Inc.*

Leonardo is a drug delivery company that employs a novel strategy aimed at dramatically increasing targeting efficiency. Leonardo has licensing agreements and contract research agreements with University of Texas - Houston for production of preclinical amounts of nanoparticles. Animal

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testing suggests that Leonardo's platform enables significantly increased targeting. The Company currently owns approximately 6% of Leonardo. The Company is interested in increasing its stake in Nanotope if the opportunity arises, the Company has the capital resources and Leonardo's technology development continues to move forward. The Company's investment in Leonardo of \$187,000 is accounted for using the cost method of accounting.

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### **Related-Party Interests**

Like Nanotope, Leonardo was co-founded by the Company's President and Chief Executive Officer, Dr. Christopher Anzalone, through the Benet Group, a private investment entity solely owned and managed by Dr. Anzalone. Through the Benet Group Dr. Anzalone owns 918,750 shares of Leonardo common stock, or approximately 17% of the outstanding stock of Leonardo. Dr. Anzalone does not hold options, warrants or any other rights to acquire securities of Leonardo directly or through the Benet Group. The Benet Group has the right to appoint a representative to the board of directors of Leonardo. Dr. Anzalone currently serves on the Leonardo board in a seat reserved for Leonardo's CEO and another individual holds the seat designated by the Benet Group. Dr. Anzalone has served as President and Chief Executive Officer of Leonardo since its formation and continues to serve in these capacities. Dr. Anzalone has not received any compensation for his work on behalf of Leonardo since joining the Company on December 1, 2007. Dr. Anzalone has also waived his right to any unpaid compensation accrued for work done on behalf of Leonardo before he joined the Company.

### **Aonex Discontinued Operation**

In 2007, Arrowhead determined that in order to monetize its investment in majority-owned subsidiary Aonex Technologies, Inc., it should seek to partner its technology with another company with greater financial resources and market reach. In May 2008, Arrowhead sold its stake in Aonex to New Hampshire-based Amberwave Systems, Inc. for upfront and milestone payments of up to \$7.5 million plus a royalty on solar products or licenses. Amberwave took over Aonex's Pasadena, California operations and is continuing to develop Aonex's technology. The losses incurred by Aonex are segregated in the Consolidated Statement of Operations as Loss from Discontinued Operation Aonex.

Arrowhead has preference to the first \$6,298,000 in future payments after which any additional payments will be split 64% to Arrowhead and 36% to the holders of the common stock of Aonex. As of December 31, 2008, only the payment payable at the time of the merger has been received.

### **Academic Partnerships**

In prior years, Arrowhead devoted significant capital resources to sponsored research. As the Subsidiaries have matured, the Company has decreased its reliance on sponsored research for technology development and sponsored research expense has decreased. As of December 31, 2008, Unidym had one active sponsored research agreement at Duke University. Depending on capital resources, Arrowhead and/or its Subsidiaries expect to continue to invest in nanoscience research and development through sponsored research agreements at universities.

### **Factors Affecting Further R&D Expenses**

On December 12, 2008, the Company's Board of Directors approved a plan to reduce expenses at Arrowhead and to support steps to reduce expenses at the Company's Subsidiaries. In particular, Unidym has streamlined operations to reduce its cash burn by 60%. In addition, subsequent to December 31, 2008, Unidym closed its operations in Houston, Texas. Calando has also taken steps to reduce its cash burn. Until the Company obtains additional cash resources, R&D expenditures will be limited to available cash.

Research and development expenses are expected to fluctuate in the foreseeable future as the Company's product development efforts move through various phases of development and as capital resources allow. Each phase of development requires different resources. Also, the pace of development can affect the resources required. Over the past five years, as the Company has added Subsidiaries and products to its pipeline, added research and development personnel, engineers, business development and marketing personnel; expanded its pre-clinical research, begun clinical trial activities, increased its regulatory compliance capabilities, purchased capital equipment and laboratory supplies. The timing and amount of these fluctuations in expenses is difficult to predict due to the uncertainty inherent in the timing and extent of progress in the Company's research programs. As the Company's research efforts mature, it will continue to review the direction of its research based on an assessment of the value of possible commercial applications emerging from these efforts.

In addition to these general factors, specific factors that will determine the eventual cost to complete the current projects at Calando include the following:

the number, size and duration of clinical trials required to gain FDA approval;

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the costs of producing supplies of the drug candidates needed for clinical trials and regulatory submissions;

the efficacy and safety profile of the drug candidate; and

the costs and timing of, and the ability to secure, regulatory approvals.

It is possible that the completion of studies could be delayed for a variety of reasons, including difficulties in enrolling patients, delays in manufacturing, incomplete or inconsistent data from the pre-clinical or clinical trials, difficulties evaluating the trial results and lack of funding. Any delay in completion of a trial would increase the cost of that trial, which would harm the Company's results of operations. Due to these uncertainties, the Company cannot reasonably estimate the size, nature nor timing of the costs to complete, or the amount or timing of the net cash inflows from Calando's current activities. Until the Company obtains further relevant pre-

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clinical and clinical data from Calando clinical trials, it will not be able to estimate its future expenses related to the Calando's programs or when, if ever, and to what extent, the Company will receive cash inflows from resulting products.

### ***Critical Accounting Policies and Estimates***

Management makes certain judgments and uses certain estimates and assumptions when applying accounting principles generally accepted in the United States in the preparation of our Consolidated Financial Statements. We evaluate our estimates and judgments on an ongoing basis and base our estimates on historical experience and on assumptions that we believe to be reasonable under the circumstances. Our experience and assumptions form the basis for our judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may vary from what we anticipate and different assumptions or estimates about the future could change our reported results. We believe the following accounting policies are the most critical to us, in that they are important to the portrayal of our consolidated financial statements and require our most difficult, subjective or complex judgments in the preparation of our consolidated financial statements. For further information, see *Note 1, Organization and Significant Accounting Policies*, to our Consolidated Financial Statements which outlines our application of significant accounting policies and new accounting standards.

### ***Revenue Recognition***

Revenue from product sales are recorded when persuasive evidence exists that an arrangement exists, title had passed and delivery has occurred, a price is fixed and determinable, and collection was reasonably assured.

We may generate revenue from product sales, technology licenses, collaborative research and development arrangements, and research grants. Revenue under technology licenses and collaborative agreements typically consists of nonrefundable and/or guaranteed technology license fees, collaborative research funding, and various milestone and future product royalty or profit-sharing payments.

Revenue associated with up-front license fees and research and development funding payments, under collaborative agreements, is recognized ratably over the relevant periods specified in the agreement, generally the research and development period. Revenue from substantive milestones and future product royalties is recognized as earned based on the completion of the milestones and product sales, as defined in the respective agreements. Payments received in advance of recognition as revenue are recorded as deferred revenue.

### ***Research and Development Expenses***

Research and development expenses include salaries and benefits, trial (including pre-clinical, clinical and other) and production costs, purchased in-process research expenses, contract and other outside service fees, and facilities and overhead costs related to research and development efforts. Research and development expenses also consist of costs incurred for proprietary and collaborative research and development. Research and development costs are expensed as incurred.

### ***Impairment of Long-lived Assets***

We review long-lived assets for impairment whenever events or changes in business circumstances indicate that the carrying amount of assets may not be fully recoverable or that our assumptions about the useful lives of these assets are no longer appropriate. If an impairment is indicated, the asset is written down to its estimated fair value based on quoted fair market values.

### ***Intellectual Property***

Intellectual property consists of patents and patent applications internally developed, licensed from universities or other third parties or obtained through acquisition. Patents and patent applications are reviewed for impairment whenever events or circumstances indicate that the carrying amount may not be recoverable, and any impairment found is written off. Licensed or internally developed patents are written off over the life of the patent unless impairment occurs. Purchased patents are written off over three years, unless an impairment occurs sooner.

## **Results of Operations**

The Company had a consolidated net loss of approximately \$8.0 million for the three months ended December 31, 2008, compared to a consolidated net loss of \$5.2 million for same three months in the prior year.



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During the first quarter of 2009, the Company has focused the various development efforts and resources on those projects with the highest probability of creating value over the shorter term and streamlining the organization to reduce cash consumption on a consolidated basis. The Company obtained \$5.2 of additional cash on a consolidated basis through a combination of debt and equity financing and sale of non-core assets. Each Calando, Unidym and Tego is in discussions with potential partners, acquirers and

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licensees with the goal of bringing additional capital into the Company to continue to fund operations on a streamlined basis. Many of the positions and projects added previously in pursuit of larger, longer-term efforts have been scaled back or suspended in response to the changing capital markets. Cost savings from the various scale back activities are expected to be more fully reflected operating results in the remaining quarters of 2009.

**Revenues**

The Company generated revenues of \$701,723 and \$402,861 for the three-month periods ended December 31, 2008, and 2007, respectively. The revenue for the three months ended December 31, 2008 consist of \$450,000 from license fees from Unidym technology, \$85,233 in grants to Unidym to fund research and \$166,490 from sales and delivery of carbon nanotubes by Unidym. The prior year revenues consist of \$191,016 in grants to Unidym to fund research and \$211,845 from sales and delivery of carbon nanotubes by Unidym.

***Operating Expenses***

The Company had operating expenses of \$9.4 million during the three months ended December 31, 2008, compared to \$7.1 million in the same three months in the prior year, a \$2.3 million increase.

***Three Months ended December 31, 2008***

The Company has undertaken a program to reduce its cash consumption on a consolidated basis. The cost savings were not fully realized in the results of operations for the quarter because many of the actions were taken in the middle and toward the end of the period. Also, some expenses attributable to projects in progress could not be immediately reduced. Certain expenses, such as license fees, legal and accounting expenses and capital expenses are incurred on a variable and project by project basis over time and result in fluctuations in expenses as periods are compared. Further actions subsequent to quarter end have also been implemented and it is expected that the reductions in cash consumption will be more fully realized beginning in the second quarter of 2009.

Calando's cash consumed by operations was approximately \$3.3 million in the first quarter. Calando incurred expenses related to the ongoing clinical trials for its two clinical candidates, IT-101 and CALAA-01, as well as significant non-recurring preclinical expenses related to its next clinical candidate, CALAA-02. These expenses include payments for clinical consulting, clinical trial maintenance, and manufacturing costs of the components for CALAA-02 totaling \$2.3 million. The combination of these activities resulted in approximately \$1.9 of additional expense for consulting, outside lab, and contract services in the first three months of this fiscal year compared to the prior year. Expenses incurred in the first quarter include salary expenses of approximately \$500,000, general and administrative expenses of approximately \$300,000. Calando has stopped work on other preclinical candidates and has reduced headcount subsequent to quarter end. Calando raised \$2.5 million in debt financing with accredited investors, plus \$200,000 from Arrowhead during the quarter and is actively pursuing partnership and licensing discussions with other pharmaceutical and biotech companies. Continued clinical and preclinical development of Calando's drug candidates will depend on the cash resources available to Calando. If Calando is unsuccessful in obtaining sufficient capital to fund its operations, further development of Calando's products may have to be slowed, interrupted or ceased altogether.

Unidym's cash consumed by operations was approximately \$3.4 million in the first quarter. Unidym continued business development efforts sampling films to customers in the touch panel and LCD industries and continuing its joint development with Samsung. Product development efforts were focused on carbon nanotube inks and films as well as improving its processes for high quality carbon nanotube production. In December, Unidym took aggressive steps to reduce its cash consumption beginning in the quarter. Reductions in management headcount made during the quarter included the CFO, CTO, VP of Finance, Corporate Controller, Vice President of Sales and Marketing, Vice President of Business Development and Plant Controller position. The CEO was terminated in December 2008 and executive management responsibility was delegated by the Unidym board to Arrowhead personnel. In addition, several employees at Unidym's Texas facilities were put on unpaid furlough in November 2009 and terminated in December 2009. Subsequent to quarter end, the decision was made to close Unidym's Texas facility and most of the remaining employees were terminated. Expenses incurred in the quarter include approximately \$1.3 million in salaries and related expenses, approximately \$1.3 million in research and development expenses, and approximately \$800,000 in general, administrative and consulting expenses. Expenses are expected to decrease in the coming quarters as the streamlining measures take effect. It is expected that the closure of the Texas plant will result in significant savings that will be partially offset by near term close down costs estimated at \$300,000 to \$500,000 and build out of carbon nanotube production capability in Northern California estimated at \$500,000. Unidym raised \$2 million in equity financing in during the quarter and obtained \$700,000 through the sale of its equity interest in Ensyce, a spinoff focused on therapeutic uses of carbon nanotubes. Unidym is seeking additional capital to continue to fund development of its products. The pace of development in fiscal 2009 will depend on the cash resources available to Unidym. If Unidym is unsuccessful in obtaining sufficient capital to fund its operations, further development of Unidym's products may have to be slowed, interrupted or ceased altogether.



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Expenses related to Tego and Agonn were ramped down during the quarter. Management of Tego was transferred to Arrowhead and efforts were focused on an out-licensing program rather than product development. Development and testing of Agonn's prototypes was reduced to a minimal level. A total combined expense of approximately \$300,000 was incurred by Tego and Agonn in the continued development of their respective technologies.

*Three Months ended December 31, 2007*

In the first quarter of fiscal 2008, Unidym was focused on ramping up for an initial public offering and pilot scale manufacturing and marketing of its products, and Calando and Insert were preparing to merge, continuing clinical development of IT-101 and preparing for clinical development of CALAA-01. Salary expense reflects only one month of cost related to Arrowhead's new CEO who was hired on December 1, 2007 and two months of cost related to a new CEO for Calando. During the quarter, Unidym completed a \$10 million equity financing and added a CFO and a Vice President of Finance to prepare for an initial public offering. Unidym also hired other executive level personnel and consulting expertise in this period to rapidly expand its capability to produce its transparent conductive film and adding to its carbon nanotube production capacity. Unidym was continuing to ramp up its research and development efforts. Expenses incurred at Unidym in first quarter 2008 include \$1.2 million in salaries and related expense, \$800,000 in research and development expenses and \$800,000 in general, administrative and salary expense.

The increase in salary expenses at Unidym was partially offset on a consolidated basis by the reduction of headcount by 10 full-time employees and consolidating two facilities into one at the end of November 2007 in anticipation of the merger of Insert and Calando. Development expenses at Calando consisted of expenses related to the ongoing Phase 1 trial for IT-101, completion of the final studies in preparation for its Investigational New Drug Application for CALAA-01, and expenses related to expanding Insert's pipeline. Expenses incurred at Calando in first quarter 2008 include approximately \$850,000 in salary and related expense, \$800,000 in clinical and preclinical research and development expenses and \$650,000 in general and administrative expenses.

For purposes of comparison, the amounts for the three months ended December 31, 2008 and 2007, respectively, are shown in the tables below. Prior period amounts have been reclassified to conform to the current period presentation. Historical amounts have been adjusted to eliminate any Aonex related activities as a result of its sale in May 2008. Aonex is now reflected as Discontinued Operations in the financial statements.

**Salary & Wage Expenses**

The Company employs management, administrative and technical staff at Arrowhead and the Subsidiaries. Salary and wage expense consists of salary, benefits, and non-cash charges related to equity based compensation in the form of stock options. Salary and benefits are allocated to two major categories: general and administrative compensation related expense and research and development compensation related expense depending on the primary activities of each employee. The following table details salary and related expenses for three months ended December 31, 2008 and 2007.

**For the Three Months ended December 31, 2008 and 2007***(in thousands)*

	Three Months		Three Months		Increase (Decrease)	
	Ended Dec 31, 2008	% of Expense Category	Ended Dec 31, 2007	% of Expense Category	\$	%
G&A compensation-related	\$ 1,315	42%	\$ 1,124	37%	\$ 191	17%
Stock-based compensation	\$ 728	23%	\$ 690	23%	\$ 38	6%
R&D compensation-related	\$ 1,092	35%	\$ 1,188	40%	\$ (96)	(8)%
Total	\$ 3,135	100%	\$ 3,002	100%	\$ 133	5%

General and Administrative (G&A) compensation expense increased 17% compared to the same period in the prior year due to the hiring to fill several new positions at Arrowhead. Positions filled included the Chief Executive Officer at Arrowhead (December 2007), a Vice President, Medical Technologies (February 2008), a Chief Patent Officer (April 2008) and a Vice President, Advanced Materials (May 2008). Comparing periods on a consolidated basis, the cost of the new positions at Arrowhead is partially offset by the termination of several senior management

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positions at Unidym made during the three months ended December 31, 2008. The terminations were done to reduce Unidym's rate of cash consumption by reducing Unidym's administrative overhead. The Unidym reductions included the CEO, CFO, VP of Finance, Corporate Controller, Vice President of Sales and Marketing and Plant Controller positions. These responsibilities have been absorbed by remaining Unidym employees or existing Arrowhead administrative and finance personnel. Additional terminations were made at Unidym in late December 2008 however; the effect of these terminations had little impact on the period ended December 31, 2008.

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The increase in G&A salaries also includes the impact of the annual pay increases for existing staff. The Company and its Subsidiaries may selectively hire additional executives and administrative staff consistent with its business strategies and operational needs.

Stock-based compensation is a non-cash charge related to the issuance and vesting of stock options to new and existing employees. This expense is recorded pursuant to the adoption of SFAS 123R, which requires expensing of stock-based compensation for all options vested. Stock options are awarded to new full time employees and to existing employees. While the number of options has increased overall, this number will vary from period to period depending on hiring, on terminations and on awards to new and existing employees. The inducement grant of 2 million options to Arrowhead's new CEO resulted in approximately \$199,000 in additional stock based compensation expense in the current period compared to the same period in the prior year.

Research and development (R&D) compensation expense decreased in the three months ended December 31, 2008 compared to the same period the prior year due primarily to Unidym's reduction in research scientists and process engineers. In late November 2007, Calando's R&D staff was reduced by eight employees. On a consolidated basis, the Company expects that the salaries and wages expense will continue to decrease compared to the prior year as a result of the recent reductions in headcounts throughout the organization.

**General & Administrative Expenses**

The following table details G&A expenses for the three month periods ended December 31, 2008 and 2007.

**For the Three Months ended December 31, 2008 and 2007**

(in thousands)

	Three Months		Three Months		Increase (Decrease)	
	Ended Dec 31, 2008	% of Expense Category	Ended Dec 31, 2007	% of Expense Category	\$	%
Professional/outside services	\$ 660	40%	\$ 563	33%	\$ 97	17%
Recruiting	\$ 24	1%	\$ 88	5%	\$ (64)	(73)%
Patent expense	\$ 321	20%	\$ 417	25%	\$ (96)	(23)%
Facilities and related	\$ 73	5%	\$ 68	4%	\$ 5	7%
Travel	\$ 207	13%	\$ 109	6%	\$ 98	90%
Business insurance	\$ 115	7%	\$ 192	12%	\$ (77)	(40)%
Depreciation	\$ 37	2%	\$ 43	3%	\$ (6)	(14)%
Communications and technology	\$ 88	6%	\$ 76	5%	\$ 12	16%
Office expenses	\$ 65	4%	\$ 75	5%	\$ (10)	(13)%
Other	\$ 39	2%	\$ 32	2%	\$ 7	22%
<b>Total</b>	<b>\$ 1,629</b>	<b>100%</b>	<b>\$ 1,663</b>	<b>100%</b>	<b>\$ (34)</b>	<b>(2)%</b>

Professional/outside services include general legal, accounting and other outside services retained by the Company and its Subsidiaries. All periods include normally occurring legal and accounting expenses related to SEC compliance and other corporate matters. In 2008, legal fees for general and SEC compliance matters were \$100,000 higher than the same period in the prior year. Public relations expenses were approximately \$77,000 higher than the same period in the prior year. The combined financial audit and SOX compliance related fees were approximately \$19,000 higher compared to the same period in the prior year. The prior year's results include legal costs associated with the proposed merger of Calando and Insert amounting to approximately \$181,000, and legal work for Unidym for a private placement amounting to approximately \$77,000.

Recruiting expense was higher during the first three months of fiscal 2008 due to the recruiting fees and relocation fees to hire a CEO for Calando and a polymer chemist for Unidym. The current year expense results primarily from relocation costs and interim living expenses of an Arrowhead senior executive. Recruiting fees are not expected to change significantly in the future as there are no plans to make significant changes to the Company's management team or those of its Subsidiaries.

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Patent expense decreased as a result of Arrowhead hiring a Chief Patent Officer to manage the patent portfolio and as a result of decreased patent activity by Calando and Unidym. Patent expenses of approximately \$130,000 for Unidym in the current period includes payments to Rice University and UCLA for legal fees related to Unidym's licensed technology as well as legal fees on patents filed by Unidym. Patent expenses incurred by Calando of approximately \$159,000 relate primarily to extending intellectual property protection for Calando products to Europe. The Company expects to continue to invest in patent protection as the Company extends and maintains protection for its current portfolios and files new patent applications as its products applications are improved. The cost will vary depending on the needs to the Company.

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The increase G&A facilities and related expense during the three months ended December 31, 2008, compared to the prior period, reflects the rent increases for office space in Pasadena and New York. Facilities expense related to the Arrowhead corporate office has been allocated to G&A and facilities expense related to the Subsidiaries has been allocated to R&D. See below.

Travel expense includes recurring expenses related to travel by the Company as management travels to and from Company locations in Pasadena and Menlo Park, California and Houston, Texas. Travel expense is also incurred as Company management pursues business initiatives and collaborations throughout the world with other companies and for marketing, investor relations and public relations. The current period's expenses are higher than the prior period as travel expense increased with activities in Europe and Asia. Travel expense fluctuates from quarter to quarter depending on current projects. This expense is expected to decrease as a result of the recent reductions in head count and consolidation of Unidym's Houston, Texas operations into Menlo Park.

Insurance expense has decreased due to a softening in insurance markets despite the increase in limits and coverage for new clinical trials and the expansion of Unidym's operations since the same period in the prior year. This expense is expected to fluctuate as a result of changes in the market and the status of clinical trials.

The increase in communications and technology expense is primarily related to the addition of two Unidym locations, the purchase of equipment for new employees, and configuration of data networks among Menlo Park, California, and Pasadena, California, and Houston, Texas.

**Research and Development Expenses**

Most of Arrowhead's R&D expenses during the three months ended December 31, 2008, approximately \$3.9 million, were related to research and development activities by Arrowhead's Subsidiaries. Currently, Arrowhead owns positions in two majority-owned Subsidiaries, two wholly-owned subsidiaries and two minority investments, each focused on development and commercialization of nanotechnology products or applications.

The following table details R&D expenses for the three months ended December 31, 2008 and 2007.

**For the Three Months ended December 31, 2008 and 2007**

(in thousands)

	Three Months		Three Months		Increase (Decrease)	
	Ended Dec 31, 2008	% of Expense Category	Ended Dec 31, 2007	% of Expense Category	\$	%
Outside labs & contract services	\$ 2,670	68%	\$ 754	42%	\$ 1,916	254%
License, royalty & milestones	\$ 249	6%	\$ 103	6%	\$ 146	142%
Laboratory supplies & services	\$ 186	5%	\$ 200	11%	\$ (14)	(7)%
Facilities related	\$ 347	9%	\$ 258	15%	\$ 89	35%
Sponsored research	\$ 111	3%	\$ 241	14%	\$ (130)	(54)%
Depreciation-R&D-related	\$ 143	4%	\$ 107	6%	\$ 36	34%
Other research expenses	\$ 217	5%	\$ 116	6%	\$ 101	87%
<b>Total</b>	<b>\$ 3,923</b>	<b>100%</b>	<b>\$ 1,779</b>	<b>100%</b>	<b>\$ 2,144</b>	<b>121%</b>

Outside labs & contract services increased significantly as the types of expenses incurred has changed between periods. The process development and preclinical expenses for Calando's drug candidate CALAA-02, together with the clinical trial expenses for CALAA-01 (Phase I) and IT-101 (Phase I and II) total approximately \$1.96 million during the quarter compared to approximately \$471,000 in the prior year. Current year expenses include the preclinical studies and manufacture of components for CALAA-02. Although this expense is expected to continue through 2009, as capital resources allow, the growth rate will not be as great as experienced in the three months ended December 31, 2008. The current year expense also included approximately \$143,000 for Agonn's ultra capacitor development efforts. The prior year's outside labs & contract services expense included approximately \$471,000 for outsourced preclinical studies in preparation for an INDA filing by Calando, and outsourced manufacture of Calando's therapeutic candidate for clinical studies and \$100,000 for Tego's beginning operations.



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Unidym incurred approximately \$536,000 of outside lab and contract services during the first three months of the current fiscal year compared to approximately \$184,000 during the same period in the prior year. The increase in Unidym's expenses relates to the scale up of its operations to produce thin film conductive materials and to improve the manufacturing processes for carbon nanotubes. Development expenses for Unidym are expected to decrease in 2009 as Unidym develops a less costly source of CNT materials than operating the Houston facility. Efforts are also focused on the sale of Unidym's carbon nanotube based inks rather than the

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manufacture of film which is expected to be less expensive. A partner will be sought for the manufacture of Unidym's film. Outside laboratory & contract services expenses will continue to fluctuate depending upon where a particular project is in its development, approval or trial process.

Licensing fees, milestones & royalties consist primarily of amounts incurred by Unidym under the terms of its license agreement with Rice University and Calando for the license for siRNA targets from Alnylam.

Laboratory supplies and services consist primarily of materials, supplies and services consumed in the laboratory. Of the approximately \$186,000 shown above, \$170,000 relates to materials and small tools used in the R&D of carbon nanotube manufacturing processes and conductive thin film applications. Of the prior year amounts approximately \$148,000 were incurred for similar activities at Unidym.

Facilities related expenses increased in the three months ended December 31, 2008 over the prior year period due primarily to the addition of two facilities in Houston, TX and in Sunnyvale, CA for Unidym. The intent is to relocate the Menlo Park facility to the larger Sunnyvale, CA location and to sublease the new facility in Houston, TX rather than relocate to that facility. These expenses are expected to fluctuate as the size, configuration and number of facilities is adjusted in the future to adapt to needs and opportunities.

Sponsored research expense decreased for the three months ended December 31, 2008, compared to the same period for the prior year, as projects were completed (University of Florida) or terminated (Caltech). No new research projects were added during the three months ended December 31, 2008. The only sponsored research agreement currently in place is Unidym's agreement with Duke University.

Increased depreciation expense is primarily due to the addition of depreciable equipment at Unidym's Houston and Menlo Park facilities.

The table below sets forth the approximate amount of Arrowhead's cash expenses for research and development at each Subsidiary for the periods described below.

Name of Subsidiary / Project	Project cash expenses for the three months ended December 31, 2008	Project cash expenses for three months ended December 31, 2007	Project cash expenses from inception of Project through December 31, 2008
Calando Pharmaceuticals, Inc. / CALAA-01 & IT 101	\$ 2.4 Million	\$ 2.7 Million	\$ 36.0 Million
Unidym, Inc. / Thin Film Carbon Nanotubes	\$ 2.9 Million	\$ 2.6 Million	\$ 21.9 Million
Tego Biosciences Corp. / Fullerene Anti-oxidants	\$ 0.1 Million	\$ 0.2 Million	\$ 0.8 Million
Agonn Systems, Inc. / Fullerene Anti-oxidants	\$ 0.2 Million		\$ 0.5 Million
Total of all listed Subsidiaries	\$ 5.6 Million	\$ 5.5 Million	\$ 59.2 Million
<b>Consulting</b>			

During the three months ended December 31, 2008, consulting fees and related travel totaled approximately \$599,000 compared to \$583,000 the same period in the prior year. Total consulting fees in the current three month period consisted of \$432,000 for Calando and \$94,000 for Unidym, \$10,000 for Tego, \$52,000 for Arrowhead and \$10,000 for Agonn.

The consulting fees incurred by Calando consisted of \$326,000 for clinical and regulatory consulting fees during the three months ended December 31, 2008 compared to \$68,000 for similar items in the same period in the prior year. The current year consulting expense is for administration of the various clinical trials in process and the prior year expenses relate to preclinical research, preparation for the filing of its IND with the U.S. Food and Drug Administration, ( FDA ).

The consulting fees incurred by Unidym consisted of \$74,000 for consulting related to the process to manufacture sheets of thin film nanotubes and performance testing of those sheets. In same period in the prior year, there was approximately \$219,000 of consulting fees incurred in similar projects.

*Leveraged Technology and Revenue Strategy*

Arrowhead continues to pursue its strategy to leverage technology that is being or has been developed at universities. By doing so, Arrowhead benefits from work done at those universities and through majority-owned Subsidiaries, which are seeking to commercialize the most promising technologies developed from sponsored research and other sources. The Subsidiaries are likely to

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produce prototypes to advance their strategies. The Subsidiaries have three primary strategies to potentially generate product sales revenue:

License the products and processes to a third party for a royalty or other payment. By licensing, the Company would not be required to allocate resources to build a sales or a production infrastructure and could use those resources to develop additional products.

Retain the rights to the products and processes, but contract with a third party for production. The Company would then market the finished products. This approach would require either the establishment of a sales and distribution network or collaboration with a supplier who has an established sales and distribution network, but would not require investment in production equipment.

Build production capability in order to produce and market the end products. This last approach would likely require the most capital to build the production, sales and distribution infrastructure.

On a case-by-case basis, the Company and each Subsidiary will choose the strategy which, in the opinion of management, can be supported by available capital resources and is likely to generate the most favorable return.

On April 20, 2007, Unidym and CNI merged. Unidym then had the production capability to make carbon nanotubes that it uses internally for product development and sells externally to third parties. Prior to this merger, the only revenue generated by the Company was through grants from public and private entities and through one licensing deal. While the ultimate goal of the Company is to generate revenue through the sale of products and/or the licensing of technology, the Company does record revenue from license fees, grants and from development fees. Revenue from grants and development fees are considered to be reimbursements for efforts performed on behalf of third parties and not part of the Company's primary strategy to generate revenue.

The Company does not expect substantial product sales in fiscal 2009. Therefore, losses can be expected to increase before any substantial revenue is generated. To partially offset these losses, the Company is pursuing other means of funding such as licenses, contracts and collaborations with third parties. The award of such grants and contracts depends on numerous factors, many of which are not in the Company's control and, therefore, it is difficult to predict if this strategy will be successful.

## **Liquidity and Capital Resources**

### ***Cash Flow Position***

Since inception in May 2003, the Company has incurred significant losses. Cash and cash equivalents decreased during the quarter by \$2.5 million to \$7.6 million from \$10.1 million at September 30, 2008. It is anticipated that cash consumption will decrease sequentially over the next several quarters, depending on the cash resources available to Arrowhead and each of its subsidiaries. The Company invests available cash in certificates of deposit, U.S. government obligations and high grade commercial paper. The Company's investment objectives are primarily to preserve capital and liquidity and secondarily to obtain investment income.

The Company has historically financed its operation through the sale of securities of Arrowhead and its Subsidiaries. Net cash from financing activities totaled \$16.1 million in fiscal 2008 for Arrowhead and its Subsidiaries. Arrowhead invested \$2.0 million in Nanotope in fiscal 2008. During the three months ended December 31, 2008, Calando raised an additional \$2.5 million through an offering of senior unsecured convertible promissory notes and Arrowhead purchased \$200,000 of the notes, and Unidym raised \$2 million through the sale of newly issued shares of Series C-1 Preferred Stock to TEL Ventures. Also in the first quarter of fiscal 2009, Unidym sold its equity interest in Ensysce BioSciences Inc. for \$700,000.

The Company has an effective shelf registration statement on file with the SEC covering the public sale by the Company of up to approximately \$35 million in common stock and warrants to purchase common stock.

The Board has approved a strategy for the Company to conserve cash and seek sources of new capital. To execute this strategy, the Company will seek to accomplish one or more of the following: the out-license of technology, sale of a subsidiary, sale of non-core assets, scaling down development efforts, funded joint development or partnership arrangements, and sale of securities. The probability that any of these events will occur is uncertain, in light of the lack of liquidity in the current capital and credit markets. Until such time as one or more of these goals is accomplished, Arrowhead has supported steps to scale back the activities of its Subsidiaries. If we are unable to raise needed capital through any

of these means, we may be forced to curtail or cease operations at the Company or one or more of the Subsidiaries. See Note 1 regarding our ability to continue as a Going Concern.

***Contractual Obligations and Commercial Commitments***

Unidym incurred various contractual obligations and commercial commitments in connection with the acquisition of Nanoconduction. In addition, our Subsidiaries incurred contractual obligations and commercial commitments in the normal course of their businesses. They consist of the following:

*Operating Lease Obligations*

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In connection with its acquisition of Nanoconduction, Unidym guaranteed an equipment lease of \$1,677,000, bearing interest at 8% with a remaining principal balance of \$1,340,394 as of December 31, 2008. The lease requires 19 monthly payments of principal and interest of \$75,344 each through July 1, 2010. The equipment lease is secured by research and development assets at Nanoconduction.

*Patents and Licenses*

Our Subsidiaries have entered into various licensing agreements requiring royalty payments of specified product sales. Some of these agreements contain provisions for the payment of guaranteed or minimum royalty amounts. Typically, the licensor can terminate our license if we fail to pay minimum annual royalties.

*Purchase Commitments*

In connection with conducting Phase Ia and Ib trials, in the normal course of business, Calando incurred purchase obligations with vendors and suppliers for materials and supplies or for manufacture of /therapeutic agents, as well as other goods and services. These obligations are generally evidenced by purchase orders that contain the terms and conditions associated with the purchase arrangements. Calando is committed to accept delivery of such material pursuant to the purchase orders subject to various contract provisions which allow it to delay receipt of such orders or cancel orders beyond certain agreed upon lead times. Cancellations may result in cancellation costs payable by Calando.

*Note Commitments*

Calando entered into Unsecured Convertible Promissory Note Agreements for \$2.5 million with accredited investors and for \$200,000 with Arrowhead. The Notes have a 2 year maturity and bear 10% annual interest. Unpaid principal of the Note and accrued but unpaid interest thereon is convertible into common stock of Calando at any time in the sole discretion of the holder. In the event of a Calando Company Sale, each holder has the option to exchange the Note for two times the then outstanding principal amount owed under to the Note plus accrued and unpaid interest thereon ( Redemption Amount ) or convert the outstanding principal and accrued and unpaid interest thereon, into Calando common stock. A Company Sale is defined in the Note.

Calando may redeem a Note at any time for the Redemption Amount. To facilitate the above investment in Calando, Arrowhead subordinated to the Notes Calando s debt obligations aggregating \$5.3 million for principal plus interest thereon. These debt obligations result from \$5.3 million in principal loaned to Calando under a series of demand notes for capital Arrowhead has advanced to Calando since March 2008. Arrowhead invested \$200,000 in the note offering.

**Off-Balance Sheet Arrangements**

We do not have and have not had any off-balance sheet arrangements or relationships.

**Inflation and Changing Prices**

Inflation has not generally been a material factor affecting our financial condition, results of operations or cash flows in the periods shown. Management does not believe that inflation will be a material factor in fiscal 2009, even though our general operating expenses, such as salaries, employee benefits and facilities costs are subject to normal inflationary pressures.

**Contractual Obligations and Commitments**

Our contractual commitments as of December 31, 2008 are summarized below by category in the following table:

	Total	Less than 1 year	1-3 Years	3-5 Years	More than 5 Years
Operating Lease Obligation	\$ 4,587,602	\$ 1,001,205	\$ 1,423,230	\$ 1,068,793	\$ 1,094,374
Capital Lease Obligation	\$ 1,431,534	\$ 904,127	\$ 527,407	\$	\$

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Sponsored Research(1)	\$ 357,483	\$ 191,375	\$ 166,108	\$	\$
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(1) The sponsored research obligations in the table above include our commitments to Duke University.

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### **ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.**

We manage our fixed income investment portfolio in accordance with our Investment Policy that has been approved by our Board of Directors. The primary objectives of our Investment Policy are to preserve principal, maintain a high degree of liquidity to meet operating needs, and obtain competitive returns subject to prevailing market conditions. Investments are made primarily in certificates of deposit, U.S. government agency debt securities and high grade commercial paper. Management may use additional investment vehicles as long as the vehicle meets the Investment Objectives and Minimum Acceptable Credit Quality. Our Investment Policy specifies credit quality standards for our investments. We do not own derivative financial instruments in our investment portfolio.

As of December 31, 2008, we had no debt, no derivative instruments outstanding and no financing arrangements that were not reflected in our consolidated balance sheet.

### **ITEM 4. DISCLOSURE CONTROLS AND PROCEDURES.**

Our chief executive officer and our chief financial officer, after evaluating our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15-d-15(e) of the Securities Exchange Act of 1934, as amended (the Exchange Act)) as of the end of the period covered by this Quarterly Report on Form 10-Q, have concluded that as of December 31, 2008, our disclosure controls and procedures are effective to ensure that information we are required to disclose in reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in Securities and Exchange Commission rules and forms, and to ensure that information required to be disclosed by us in such reports is accumulated and communicated to our management, including our chief executive officer and chief financial officer where appropriate, to allow timely decisions regarding required disclosure.

No change in the Company's internal controls over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act) occurred during the Company's most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, these controls subsequent to the date this evaluation was carried out.

## **PART II OTHER INFORMATION**

### **ITEM 1. LEGAL PROCEEDINGS.**

None.

### **ITEM 1A. RISK FACTORS**

An investment in our common stock involves a high degree of risk. You should consider carefully the risks and uncertainties described under Item 1A of Part I of our Annual Report on Form 10-K for the year ended September 30, 2008 together with all other information contained or incorporated by reference in this report before you decide to invest in our common stock. The risks described in our annual report have not materially changed since that report was filed. If any of the risks described in our annual report actually occurs, our business, financial condition, results of operations and our prospects could be materially and adversely affected.

### **ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS.**

None.

### **ITEM 3. DEFAULTS UPON SENIOR SECURITIES.**

None.



**ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS.**

None

**ITEM 5. OTHER INFORMATION.**

None.

**ITEM 6. EXHIBITS.**

<b>Exhibit Number</b>	<b>Document Description</b>
3.1	Certificate of Incorporation of InterActive, Inc. (1)

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<b>Exhibit Number</b>	<b>Document Description</b>
3.2	Certificate of Amendment of Certificate of Incorporation of InterActive Group, Inc. (2)
3.3	Certificate of Amendment to Certificate of Incorporation (3)
3.4	Bylaws (1)
4.1	Form of Registration Rights Agreement (4)
4.2	Form of Warrant to Purchase Common Stock (4)
4.3	Form of Warrant to Purchase Common Stock (5)
31.1	Section 302 Certification of Chief Executive Officer*
31.2	Section 302 Certification of Chief Financial and Accounting Officer *
32.1	Section 1350 Certification by Principal Executive Officer*
32.2	Section 1350 Certification by Principal Financial and Accounting Officer*

\* Filed herewith

- (1) Incorporated by reference from the Schedule 14C filed by the registrant on December 22, 2000.
- (2) Incorporated by reference from the Schedule 14C filed by the registrant on December 22, 2003.
- (3) Incorporated by reference from the Quarterly Report on Form 10-QSB filed by the registrant on February 11, 2005.
- (4) Incorporated by reference from the Current Report on Form 8-K filed by the registrant on January 18, 2006.
- (5) Incorporated by reference from the Current Report on Form 8-K filed by the registrant on May 30, 2007.

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**SIGNATURES**

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Issuer has caused this Quarterly Report on Form 10-Q to be signed on its behalf by the undersigned, thereunto duly authorized.

Dated: February 9, 2009

ARROWHEAD RESEARCH CORPORATION

By: /s/ PAUL C. McDONNELL  
Paul C. McDonnell  
Chief Financial Officer