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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**  
Washington, DC 20549

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**FORM 10-Q**

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(Mark One)

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

For the quarterly period ended March 31, 2010.

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

Commission file number 000-21898

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**ARROWHEAD RESEARCH CORPORATION**

(Exact name of registrant as specified in its charter)

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**Delaware**  
(State of incorporation)

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

**201 S. Lake Avenue, Suite 703  
Pasadena, California 91101  
(626) 304-3400**  
(Address and telephone number of principal executive offices)

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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 has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). 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

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

Accelerated filer

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 63,913,753 shares of Common Stock as of May 7, 2010.

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## PART I. FINANCIAL INFORMATION

## ITEM 1. FINANCIAL STATEMENTS

Arrowhead Research Corporation and Subsidiaries  
(A Development Stage Company)  
Consolidated Balance Sheets

	(unaudited) March 31, 2010	September 30, 2009
<b>ASSETS</b>		
<b>CURRENT ASSETS</b>		
Cash and cash equivalents	\$ 2,593,044	\$ 2,020,224
Trade receivable, net of allowance for doubtful accounts of \$90,789 at March 31, 2010 and \$30,789 at September 30, 2009	55,937	144,148
Other receivables	116,382	3,109
Prepaid expenses	225,107	316,074
<b>TOTAL CURRENT ASSETS</b>	<b>2,990,470</b>	<b>2,483,555</b>
<b>PROPERTY AND EQUIPMENT</b>		
Computers, office equipment and furniture	374,991	374,991
Research equipment	932,683	932,683
Software	150,445	150,445
Leasehold improvements	94,317	94,317
	1,552,436	1,552,436
Less: Accumulated depreciation and amortization	(1,214,306)	(1,025,392)
<b>NET PROPERTY AND EQUIPMENT</b>	<b>338,130</b>	<b>527,044</b>
<b>OTHER ASSETS</b>		
Rent deposit	104,725	109,648
Patents	2,204,648	2,362,460
Investment in Nanotope Inc., equity basis	1,933,230	2,032,467
Investment in Leonardo Biosystems Inc., at cost	187,000	187,000
<b>TOTAL OTHER ASSETS</b>	<b>4,429,603</b>	<b>4,691,575</b>
<b>TOTAL ASSETS</b>	<b>\$ 7,758,203</b>	<b>\$ 7,702,174</b>
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>		
<b>CURRENT LIABILITIES</b>		
Accounts payable	\$ 884,018	\$ 1,013,281
Accrued expenses	407,161	420,077
Accrued payroll and benefits	168,536	160,846
Accrued severance	23,500	23,500
Capital lease obligation	296,419	726,534
Note payable	500,000	—
<b>TOTAL CURRENT LIABILITIES</b>	<b>2,279,634</b>	<b>2,344,238</b>
<b>LONG-TERM LIABILITIES</b>		
Note payable	—	500,000
<b>TOTAL LONG-TERM LIABILITIES</b>	<b>—</b>	<b>500,000</b>
Commitments and contingencies		
<b>STOCKHOLDERS' EQUITY</b>		
Arrowhead Research Corporation shareholders' equity:		
Preferred stock, \$0.001 par value; 5,000,000 shares authorized; no shares issued or outstanding	—	—
Common stock, \$0.001 par value; 145,000,000 shares authorized; 63,913,753 and 56,411,774 shares issued and outstanding as of March 31, 2010 and September 30, 2009, respectively	63,929	56,428
Additional paid-in capital	114,181,556	110,070,327
Subscription receivable	—	(300,000)
Accumulated deficit during the development stage	(108,367,706)	(104,968,819)
Total Arrowhead Research Corporation stockholders' equity	5,877,779	4,857,936
Noncontrolling interest	(399,210)	—
<b>TOTAL STOCKHOLDERS' EQUITY</b>	<b>5,478,569</b>	<b>4,857,936</b>
<b>TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY</b>	<b>\$ 7,758,203</b>	<b>\$ 7,702,174</b>

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

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

	Three Months Ended 3/31/2010	Three Months Ended 3/31/2009	Six Months Ended 3/31/2010	Six Months Ended 3/31/2009	May 7, 2003 (Inception) to March 31, 2010
<b>REVENUE</b>	<b>\$ 157,346</b>	<b>\$ 235,650</b>	<b>\$ 305,414</b>	<b>\$ 937,373</b>	<b>\$ 7,813,053</b>
<b>OPERATING EXPENSES</b>					
Salaries	1,045,121	2,434,489	2,149,224	5,561,154	42,183,762
Consulting	78,020	343,994	179,259	932,750	8,011,416
General and administrative expenses	733,713	1,026,353	1,479,963	2,611,105	24,544,790
Research and development	351,045	1,506,548	628,833	5,394,853	54,248,991
Patent amortization	78,906	118,556	157,812	208,086	1,944,278
<b>TOTAL OPERATING EXPENSES</b>	<b>2,286,805</b>	<b>5,429,940</b>	<b>4,595,091</b>	<b>14,707,948</b>	<b>130,933,237</b>
<b>OPERATING LOSS</b>	<b>(2,129,459)</b>	<b>(5,194,290)</b>	<b>(4,289,677)</b>	<b>(13,770,575)</b>	<b>(123,120,184)</b>
<b>OTHER INCOME (EXPENSE)</b>					
Loss on equity of investments—Nanotope	(50,599)	(60,032)	(99,238)	(129,412)	(439,771)
Gain on sale of stock in subsidiary	—	—	—	—	2,292,800
Gain on sale of equity of investments—Ensysce	—	—	—	700,000	700,000
Gain/(loss) on sale of fixed assets, net	50,000	52,457	50,000	52,457	(27,374)
Realized and unrealized gain in marketable securities	—	—	—	—	382,264
Interest income (expense), net	(14,777)	(65,382)	(36,802)	(56,513)	2,773,153
Other income	1,675	—	1,895	—	179,785
<b>TOTAL OTHER INCOME (EXPENSE)</b>	<b>(13,701)</b>	<b>(72,957)</b>	<b>(84,145)</b>	<b>566,532</b>	<b>5,860,857</b>
<b>LOSS FROM CONTINUING OPERATIONS</b>	<b>(2,143,160)</b>	<b>(5,267,247)</b>	<b>(4,373,822)</b>	<b>(13,204,043)</b>	<b>(117,259,327)</b>
Gain/(loss) from discontinued operations	563	(22,032)	(15,204)	(115,764)	(7,581,671)
Gain/(loss) on disposal of discontinued operations	—	—	430,000	—	789,375
<b>INCOME (LOSS) FROM DISCONTINUED OPERATIONS</b>	<b>563</b>	<b>(22,032)</b>	<b>414,796</b>	<b>(115,764)</b>	<b>(6,792,296)</b>
Provision for income taxes	—	—	—	—	—
<b>NET LOSS</b>	<b>(2,142,597)</b>	<b>(5,289,279)</b>	<b>(3,959,026)</b>	<b>(13,319,807)</b>	<b>(124,051,623)</b>
Less: Net loss attributable to noncontrolling interests	288,637	—	560,139	60	15,847,877
<b>NET LOSS ATTRIBUTABLE TO ARROWHEAD</b>	<b>\$ (1,853,960)</b>	<b>\$ (5,289,279)</b>	<b>\$ (3,398,887)</b>	<b>\$ (13,319,747)</b>	<b>\$(108,203,746)</b>
<b>Earnings per share—basic and diluted:</b>					
Income (loss) from continuing operations attributable to Arrowhead common shareholders	\$ (0.03)	\$ (0.12)	\$ (0.07)	\$ (0.31)	
Income (loss) from discontinued operations attributable to Arrowhead common shareholders	—	—	0.01	—	
Net income (loss) attributable to Arrowhead shareholders	<u>\$ (0.03)</u>	<u>\$ (0.12)</u>	<u>\$ (0.06)</u>	<u>\$ (0.31)</u>	
Weighted average shares outstanding—basic and diluted	62,922,539	42,934,517	60,774,007	42,934,517	

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

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**Arrowhead Research Corporation and Subsidiaries**  
**(A Development Stage Company)**  
**Consolidated Statement of Stockholders' Equity**  
**from inception through March 31, 2010**  
**(Unaudited)**

	Common Stock		Additional Paid-in- Capital	Subscription Receivable	Accumulated Deficit during the Development Stage	Noncontrolling interest	Totals
	Shares	Amount					
<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>—</b>	<b>(95,238)</b>	<b>—</b>	<b>1,419,762</b>
Exercise of stock options	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)	1,777,699	(751,255)
<b>Balance at September 30, 2004</b>	<b>13,631,546</b>	<b>13,645</b>	<b>12,059,997</b>	<b>—</b>	<b>(2,624,192)</b>	<b>1,777,699</b>	<b>11,227,149</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
Common stock issued to purchase Insert Therapeutics share @ \$3.98 per 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)	121,491	(6,733,427)
<b>Balance at September 30, 2005</b>	<b>27,984,194</b>	<b>27,997</b>	<b>35,578,580</b>	<b>—</b>	<b>(9,479,110)</b>	<b>1,899,190</b>	<b>28,026,657</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	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 @ \$5.91 per share	25,364	25	149,975	—	—	—	150,000
Common stock issued to purchase Calando Pharmaceuticals, Inc. @ \$5.17 per share	208,382	208	1,077,125	—	—	—	1,077,333
Stock-based compensation	—	—	1,369,478	—	—	—	1,369,478
Net loss for the year ended September 30, 2006	—	—	—	—	(18,997,209)	(964,752)	(19,961,961)
<b>Balance at September 30, 2006</b>	<b>34,143,588</b>	<b>34,156</b>	<b>59,113,369</b>	<b>—</b>	<b>(28,476,319)</b>	<b>934,438</b>	<b>31,605,644</b>
Exercise of stock options	186,164	186	434,541	—	—	—	434,727
Common stock issued @ \$5.78 per share, net Arrowhead's increase in proportionate share of Insert Therapeutics' equity	2,849,446	2,849	15,149,366	—	—	—	15,152,215
Common stock issued for purchase of Carbon Nanotechnologies, Inc. @ \$3.77 per share	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)	(781,829)	(30,712,947)
<b>Balance at September 30, 2007</b>	<b>38,610,420</b>	<b>38,622</b>	<b>84,672,783</b>	<b>—</b>	<b>(58,407,437)</b>	<b>152,609</b>	<b>26,456,577</b>
Exercise of stock options	105,357	106	289,921	—	—	—	290,027
Common stock issued at approximately \$1.80 per share, net Arrowhead's increase in proportionate share of Unidym's equity	3,863,989	3,867	6,956,718	—	—	—	6,960,585
Common stock issued @ \$2.72 per share to Rice University	50,000	50	135,950	—	—	—	136,000
Common stock issued @ \$2.83 per share to purchase shares of Unidym, Inc.	70,547	71	199,929	—	—	—	200,000
Common stock issued @ \$2.95 per share to purchase MASA Energy, LLC	105,049	105	309,895	—	—	—	310,000
Common stock issued @ \$2.19 per share to Unidym for the acquisition of Nanoconduction	114,155	114	249,886	—	—	—	250,000
Common stock issued @ \$2.18 per share	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)	(152,609)	(27,241,639)
<b>Balance at September 30, 2008</b>	<b>42,934,517</b>	<b>42,950</b>	<b>97,756,126</b>	<b>—</b>	<b>(85,496,467)</b>	<b>—</b>	<b>12,302,609</b>
Common Stock issued @ \$0.55 per share to Unidym stockholder in exchange for Unidym's shares	2,058,393	2,059	1,131,617	—	—	—	1,133,676
Common Stock issued @ \$0.52 per share to TEL Ventures in exchange for Unidym's shares	2,222,222	2,222	1,156,111	—	—	—	1,158,333
Reclassification of former Unidym mezzanine debt to equity	—	—	2,000,000	—	—	—	2,000,000
Arrowhead's increase in proportionate share of Calando's equity	—	—	2,120,250	—	—	—	2,120,250
Common stock issued @ \$0.30 per share	9,196,642	9,197	2,749,796	—	—	—	2,758,993
Change in percentage of ownership in subsidiary	—	—	16,297	—	—	—	16,297
Stock-based compensation	—	—	2,676,170	—	—	—	2,676,170
Issuance of Series D Preferred Stock for Subscription in Unidym	—	—	300,000	(300,000)	—	—	—
Amortization of discount on Unidym Series D Preferred Stock	—	—	163,960	—	(163,960)	—	—
Net loss for the year ended September 30, 2009	—	—	—	—	(19,308,392)	—	(19,308,392)
<b>Balance at September 30, 2009</b>	<b>56,411,774</b>	<b>56,428</b>	<b>110,070,327</b>	<b>(300,000)</b>	<b>(104,968,819)</b>	<b>—</b>	<b>4,857,936</b>
Issuance of Series D Preferred Stock for Subscription in Unidym	—	—	—	300,000	—	—	300,000
Common stock issued @ \$0.63 per share	5,083,430	5,083	3,217,813	—	—	—	3,222,896
Common Stock issued to Calando stockholders in	1,220,000	1,220	(160,667)	—	—	159,447	—

exchange for Calando's shares							
Common Stock issued to Unidym stockholders in exchange for Unidym's shares	153,176	153	(1,435)	—	—	1,282	—
Stock-based compensation	—	—	598,230	—	—	—	598,230
Exercise of warrants	1,045,373	1,045	457,288	—	—	200	458,533
Net loss for the six month period ended March 31, 2010	—	—	—	—	(3,398,887)	(560,139)	(3,959,026)
<b>Balance at March 31, 2010</b>	<b>63,913,753</b>	<b>63,929</b>	<b>114,181,556</b>	<b>—</b>	<b>(108,367,706)</b>	<b>(399,210)</b>	<b>5,478,569</b>

**Arrowhead Research Corporation and Subsidiaries**  
**( A Development Stage Company )**  
**Consolidated Statements of Cash Flows**  
**(unaudited)**

	Six Months Ended 3/31/2010	Six Months Ended 3/31/2009	May 7, 2003 (Date of inception) to March 31, 2010
<b>CASH FLOWS FROM OPERATING ACTIVITIES:</b>			
Net Loss	\$ (3,959,026)	\$ (13,319,807)	\$ (124,051,623)
Plus: Net loss attributable to noncontrolling interests	560,139	60	15,847,877
Net loss attributable to Arrowhead	(3,398,887)	(13,319,747)	(108,203,746)
(Income)/loss from discontinued operation	(414,796)	115,764	6,792,296
Realized and unrealized gain on investment	—	(700,000)	(1,082,263)
Gain from sale of subsidiary	—	—	(306,344)
Loss on sale/donation of fixed assets	—	—	77,374
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	—	—	13,166,347
Change in percentage of ownership in subsidiary	—	—	16,297
Purchased in-process research and development—Nanoconduction	—	—	2,685,208
Stock-based compensation	598,230	1,423,209	10,690,985
Depreciation and amortization	346,726	526,852	5,084,371
Gain on sale of stock in subsidiary	—	—	(2,292,800)
Non-cash loss from equity investment	99,238	129,412	439,771
Noncontrolling interest	(560,139)	(60)	(16,848,065)
Gain on renegotiation of accrued severance	—	—	(726,500)
(Increase) decrease of cash flow from:			
Receivables	(25,063)	(82,195)	(173,160)
Prepaid research expense	—	—	(1)
Other prepaid expenses	90,967	(70,500)	(227,584)
Deposits	4,923	25,475	(106,785)
Accounts payable	(128,993)	659,886	252,019
Accrued expenses	(12,916)	198,103	17,625
Accrued severance and other liabilities	7,690	(168,450)	935,725
NET CASH USED IN OPERATING ACTIVITIES OF CONTINUING OPERATIONS	(3,393,020)	(11,262,251)	(89,277,780)
<b>CASH FLOWS FROM INVESTING ACTIVITIES OF CONTINUING OPERATIONS:</b>			
Purchase of marketable securities—US Treasury Bills	—	—	(18,575,915)
Purchase of property and equipment	—	(28,100)	(3,550,518)
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	—	—	(10,150,000)
Cash paid for interest in Calando	—	—	(8,800,000)
Cash paid for interest in Unidym	—	(225,000)	(14,138,003)
Cash paid/obtained for interest in Tego	—	1,700,000	(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	—	—	10,529,594
Cash obtained from interest in Calando	—	—	8,800,000
Cash obtained from interest in Unidym	—	225,000	14,138,003
Cash paid/obtained from interest in Tego	—	(1,700,000)	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)	—	—	359,375
Proceeds from sale of fixed assets	—	50,554	79,375
Payment for patents	—	—	(303,440)
Restricted cash	—	—	50,773
NET CASH PROVIDED BY (USED IN) INVESTING ACTIVITIES OF CONTINUING OPERATIONS	—	722,454	(3,651,328)
<b>CASH FLOWS FROM FINANCING ACTIVITIES OF CONTINUING OPERATIONS:</b>			
Payments of capital leases	(430,115)	(397,151)	(1,380,581)
Proceeds from 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	3,981,159	—	82,603,394
NET CASH PROVIDED BY FINANCING ACTIVITIES OF CONTINUING OPERATIONS	3,551,044	4,119,316	102,314,448
<b>Cash flows from discontinued operations:</b>			
Operating cash flows	(15,204)	(115,764)	(7,581,671)
Investing cash flows	430,000	—	789,375
Net cash provided by (used in) discontinued operations:	414,796	(115,764)	(6,792,296)
NET INCREASE (DECREASE) IN CASH	572,820	(6,536,245)	2,593,044
<b>CASH AT BEGINNING OF PERIOD</b>	<b>2,020,224</b>	<b>10,093,585</b>	<b>—</b>
<b>CASH AT END OF PERIOD</b>	<b>\$ 2,593,044</b>	<b>\$ 3,557,340</b>	<b>\$ 2,593,044</b>
Supplementary disclosures:			
Interest paid	\$ 21,948	\$ 52,264	\$ 120,462

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

## SUPPLEMENTAL NON-CASH TRANSACTIONS

On March 23, 2005, Arrowhead Research Corporation (“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., Arrowhead 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 114,115 shares of Arrowhead Common Stock with an estimated fair market value of \$250,000.

On June 11, 2009, Arrowhead issued 1,324,625 shares of Common Stock with an estimated fair market value of \$688,802 in exchange for an equal number of Series A Preferred Stock of Unidym, with minority stockholders of Unidym.

On June 25, 2009, Arrowhead issued 1,944,444 shares of Common Stock with an estimated fair market value of \$972,222 in exchange for an equal number of Series C Preferred Stock of Unidym, with a minority stockholder of Unidym.

On September 22, 2009, Arrowhead issued 91,495 shares of Common Stock with an estimated fair market value of \$46,662 in exchange for an equal number of Series A Preferred Stock of Unidym with a minority stockholder of Unidym.

On September 28, 2009, Arrowhead issued 642,273 shares of Common Stock with an estimated fair market value of \$398,209 in exchange for 5,574 shares of Series A Preferred Stock and 636,699 shares of Series C Preferred Stock of Unidym, with several minority stockholders of Unidym.

On September 30, 2009, Arrowhead issued 277,778 shares of Common Stock with an estimated fair market value of \$186,111 in exchange for an equal number of shares of Series C-1 Preferred Stock of Unidym, with a minority stockholder of Unidym.

In October and November 2009, Arrowhead issued 153,176 shares of Common Stock with an estimated fair market value of \$47,485 in exchange for an equal number of shares of Series C Preferred Stock of Unidym, with several minority stockholders of Unidym.

In October and November 2009, Arrowhead issued 1,140,000 shares of Common Stock with an estimated fair market value of \$706,800 in exchange for 2,850,000 shares of Calando common stock, with several minority stockholders of Calando. In conjunction with the exchange, Arrowhead also issued 240,000 Warrants to purchase Arrowhead Common Stock in exchange for 600,000 Warrants to purchase Calando Common Stock.

In March 2010, a warrant holder exercised 247,880 warrants to purchase Arrowhead Common Stock, in a cashless exercise, whereby Arrowhead issued to the warrant holder 128,707 shares of Arrowhead Common Stock.

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



**Arrowhead Research Corporation**  
**Notes to Consolidated Financial Statements**  
**(Unaudited)**

Unless otherwise noted, (1) the term “Arrowhead” refers to Arrowhead Research Corporation, a Delaware corporation formerly known as InterActive Group, Inc., (2) the terms the “Company,” “we,” “us,” and “our” refer to the ongoing business operations of Arrowhead and its Subsidiaries, whether conducted through Arrowhead or a subsidiary of Arrowhead, (3) the term “ARC” refers to Arrowhead Research Corporation, a privately-held California corporation with which Arrowhead consummated a stock exchange transaction in January 2004, (4) the term “Subsidiaries” refers collectively to Calando Pharmaceuticals, Inc. (“Calando”), Unidym, Inc. (“Unidym”), Agonn Systems, Inc. (“Agonn”), and Tego Biosciences Corporation (“Tego”) and (5) the term “Common Stock” refers to Arrowhead’s Common Stock, \$0.001 par value per share, and the term “stockholder(s)” refers to the holders of Common Stock or securities exercisable for Common Stock.

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

*Nature of Business*

Arrowhead Research Corporation is a development stage nanotechnology holding company that forms, acquires and operates subsidiaries commercializing innovative nanotechnologies. By working closely with leading scientists and universities, Arrowhead identifies advances in nanotechnology and matches them with product development opportunities in high-growth markets. The Company is currently focused on the electronics and biotech industries. Arrowhead owns two majority-owned subsidiaries, Unidym and Calando, and has minority investments in two early-stage nanotechnology companies, Nanotope, Inc. (“Nanotope”) and Leonardo Biosystems, Inc. (“Leonardo”).

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

The Company was originally incorporated in South Dakota in 1989, and was reincorporated in Delaware in 2000. The Company’s principal executive offices are located at 201 South Lake Avenue, Suite 703, Pasadena, California 91101, and its telephone number is (626) 304-3400. As of March 31, 2010, Arrowhead Research Corporation had eleven full-time employees at the corporate office and eight full-time employees at its Subsidiary companies.

*Financing and Liquidity*

At March 31, 2010, the Company had approximately \$2.6 million in cash to fund operations. Arrowhead has historically financed its operations through the sale of securities of Arrowhead and its Subsidiaries. During fiscal 2009, the Company obtained \$7.3 million in cash through equity and debt financing, including \$2.5 million raised by Calando through the sale of senior unsecured convertible promissory notes, and \$2.0 million raised by Unidym through the sale of newly issued shares of Series C-1 Preferred Stock. Also during fiscal 2009, the Company obtained an additional \$4.4 million from the sales of assets, products and license fees, including the sale by Unidym of its equity interest in Ensysce BioSciences Inc. for \$700,000. During the first half of fiscal 2010, the Company received \$3.5 million in cash through an equity financing, \$0.5 million from the exercise of warrants, and \$0.7 million from revenue and asset sales, including the sale of the Tego IP. The company anticipates that further equity financings, and/or asset sales and license agreements will be necessary to continue to fund operations.

The Company’s strategic plan includes focusing on near term revenue opportunities, conserving cash and seeking sources of new capital. To execute this plan, the Company will seek to accomplish one or more of the following on favorable terms: 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 likelihood that any of these events will occur is uncertain, especially 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, the Company has scaled back the activities at its Subsidiaries.

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### *Summary of Significant Accounting Policies*

**Principles of Consolidation**—The consolidated financial statements of the Company include the accounts of Arrowhead and its wholly-owned and majority-owned Subsidiaries. Prior to April 2008, Arrowhead’s Subsidiaries included Insert Therapeutics, Inc. (“Insert”), which was merged with Calando in April 2008. The merged entity is majority-owned by Arrowhead and continues to operate under the name of Calando. At March 31, 2010, other Subsidiaries included Unidym, Tego, and Agonn. On December 23, 2009, Tego completed a sale of its assets to Luna Innovations, Inc. and is included in the results as Loss from Discontinued Operations. Loss from Discontinued Operations also includes Aonex Technologies, Inc. (“Aonex”), sold in May 2008 and Nanotechnica, Inc. (“Nanotechnica”), dissolved in June 2005. All significant intercompany accounts and transactions are eliminated in consolidation, and noncontrolling interests are accounted for in the consolidated statements of operations and the balance sheets.

**Basis of Presentation and 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 stock-based compensation expense, allowance for doubtful accounts, deferred tax asset valuation allowance, derivative liabilities, noncontrolling interest and useful lives for depreciable and amortizable assets. Actual results could differ from those estimates. Additionally, certain reclassifications have been made to prior period financial statements to conform to the current period presentation. In the opinion of management, all adjustments, including normal recurring accruals considered necessary for a fair presentation, have been included.

**Cash and Cash Equivalents**—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 any of three financial institutions. These accounts are insured by the Federal Deposit Insurance Corporation (FDIC) for up to \$250,000 per account. The Company has two wealth management accounts at the same financial institutions that invest in higher yield money market accounts and in government securities. At March 31, 2010, the Company had uninsured cash deposits totaling \$2,275,464. 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 using the straight-line method over the respective useful lives of the assets ranging from three to seven years. Leasehold improvements are amortized over the lesser of the expected useful life or the remaining lease term.

**Intellectual Property**—At March 31, 2010, intellectual property consisted of patents and patent applications licensed or purchased in the gross amount of \$4,093,624. The accumulated amortization of patents totaled \$1,888,976 at March 31, 2010. Patents are amortized over three years to twenty years. The weighted average original amortization period is twelve years. The weighted average remaining amortization period is eight years. Amortization is expected to be \$157,812 for the remainder of fiscal 2010, \$315,624 in fiscal 2011, and \$241,808 for fiscal years 2012, 2013, and 2014. Long-lived assets, such as property, equipment and intangible assets subject to amortization, are reviewed for impairment whenever events or circumstances indicate that the carrying amount of these assets may not be recoverable. In reviewing for impairment, we compare the carrying value of such assets to the estimated undiscounted future cash flows expected from the use of the assets and their eventual disposition. When the estimated undiscounted future cash flows are less than their carrying amount, an impairment loss is recognized equal to the difference between the assets’ fair value and their carrying value.

**Equity Investments**—Arrowhead has a non-controlling equity investment in Nanotope, a privately held biotechnology company, which is recorded in Other Assets. 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 high-risk as the markets for technologies or products of Nanotope are still in the development stage 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 value when necessary.

**Minority Equity Investments**—The Company’s minority equity investment in Leonardo, a privately held biotechnology company, is recorded in Other Assets. This investment is accounted for under the cost method of accounting, 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 high risk as the markets for technologies or products of Leonardo are still in the development stage and such markets may never be significant. Arrowhead could lose its entire investment in some or all of this company. Arrowhead monitors this investment for impairment and makes appropriate reductions in carrying value when necessary.

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Noncontrolling Interests in Majority-Owned Subsidiaries—Operating losses applicable to majority-owned Calando and Unidym have periodically exceeded the noncontrolling interests in the equity capital of either subsidiary. Such excess losses applicable to the noncontrolling interests have been and are borne by the Company as there is no obligation of the noncontrolling interests to fund any losses in excess of their original investment. There is also no obligation or commitment on the part of the Company to fund operating losses of any subsidiary whether wholly-owned or majority-owned. The Company allocates the noncontrolling interest's share of net loss in excess of the noncontrolling interest's initial investment in accordance with FASB ASC 810-10, which was effective for the Company on October 1, 2009.

When there is a change in the Company's proportionate share of a development-stage subsidiary resulting from additional equity raised by the subsidiary, the change is accounted for as an equity transaction in consolidation. To the extent that the increase in the calculated value of the Company's interest in the equity of the subsidiary exceeds the Company's investment in the offering, that increase in value is referred to as the Company's "increase in its proportionate share of the subsidiary's equity" and the amount is recorded as an increase in the Company's Additional Paid-in Capital.

When Insert raised \$10.1 million in October 2006, Arrowhead participated by investing \$5.0 million in the offering. In comparison, the value of Arrowhead's equity in Insert increased by \$7,401,394. Consistent with the guidance found in Staff Accounting Bulletin Topic 5H, as codified in FASB ASC 505-10-S99-6, the difference between the amount invested by Arrowhead and the increase in Arrowhead's equity value in the subsidiary, or \$2,401,394, was recorded as an "increase in Arrowhead's proportionate share of the subsidiary's equity" and is shown as an increase in the Company's Additional Paid-in Capital. A similar calculation was made for the Unidym \$10.0 million offering in the fall of 2007. Arrowhead contributed \$3.0 million but the value of its interest in the equity of Unidym increased by \$4,720,962. The \$1,720,962 difference was recorded as an "increase in Arrowhead's proportionate share of the subsidiary's equity" and is shown as an increase in the Company's Additional Paid-in Capital.

Revenue Recognition—Revenue from product sales are recorded when persuasive evidence of an arrangement exists, title has passed and delivery has occurred, a price is fixed and determinable, and collection is 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 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 up-front license fees and milestones and product royalties are 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.

Cost of Goods Sold—The production of nanotubes by Unidym has been primarily for research and development activities. Therefore, the nanotubes produced are not capitalized as inventory, nor is a cost of goods sold calculated, even though some nanotubes are eventually sold to third parties.

Allowance for Doubtful Accounts—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.

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 ASC 718-10.

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 to purchase Common Stock of the Company. These items have been excluded from the loss per share because their effect is anti-dilutive.

Stock-Based Compensation—The Company accounts for share-based compensation arrangements in accordance with FASB ASC 718, which requires the measurement and recognition of compensation expense for all share-based payment awards to be based on estimated fair values. We use the Black-Scholes option valuation model to estimate the fair value of our stock options at the date of grant. The Black-Scholes option valuation model requires the input of subjective assumptions to calculate the value of stock options. We use historical data among other information to estimate the expected price volatility, the expected option life and the expected forfeiture rate.

Income Taxes—The Company accounts for income taxes under the liability method, which requires the recognition of deferred income 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

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between the tax bases of assets and liabilities and their financial reporting amounts at each period 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 income tax assets to the amount expected to be realized. The provision for income taxes, if any, represents the tax payable for the period and the change in deferred income tax assets and liabilities during the period.

### **Recently Issued Accounting Standards**

On July 1, 2009, the FASB issued the FASB Accounting Standards Codification (the Codification). The Codification became the single source of authoritative non-governmental U.S. generally accepted accounting principles (“GAAP”), superseding existing FASB, American Institute of Certified Public Accountants (“AICPA”), Emerging Issues Task Force (“EITF”) and related literature. The Codification eliminates the previous US GAAP hierarchy and establishes one level of authoritative GAAP. All other literature is considered non-authoritative. The Codification was effective for interim and annual periods ending after September 15, 2009. The Company adopted the Codification for the year ended September 30, 2009. This guidance did not change GAAP, therefore it did not have an impact on our consolidated financial statements. References within this note and throughout our financial statements to authoritative guidance issued by the FASB are in reference to the codification.

In January 2010, the FASB issued Accounting Standards Update (ASU) No. 2010-06, “Fair Value Measurements and Disclosures (Topic 820) – Improving Disclosures about Fair Value Measurements.” This guidance requires new disclosures related to recurring and nonrecurring fair value measurements. The guidance requires disclosure of transfers of assets and liabilities between Level 1 and Level 2 of the fair value measurement hierarchy, including the reasons and the timing of the transfers and information on purchases, sales, issuance, and settlements on a gross basis in the reconciliation of the assets and liabilities measured under Level 3 of the fair value measurement hierarchy. The adoption of this guidance is effective for interim and annual reporting periods beginning after December 15, 2009. We have adopted this guidance in the financial statements presented herein, which did not impact our consolidated financial position or results of operations.

### **Recent Accounting Guidance Not Yet Adopted**

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.

In June 2009, the FASB issued amendments to the accounting rules for variable interest entities (VIEs) and for transfers of financial assets, codified as ASC 860-10. The new guidance for VIEs eliminates the quantitative approach previously required for determining the primary beneficiary of a variable interest entity and requires ongoing qualitative reassessments of whether an enterprise is the primary beneficiary. In addition, qualifying special purpose entities (“QSPEs”) are no longer exempt from consolidation under the amended guidance. The amendments also limit the circumstances in which a financial asset, or a portion of a financial asset, should be derecognized when the transferor has not transferred the entire original financial asset to an entity that is not consolidated with the transferor in the financial statements being presented, and/or when the transferor has continuing involvement with the transferred financial asset. This guidance is effective as of the beginning of a reporting entity’s first annual reporting period that begins after November 15, 2009 and for interim periods within the first annual reporting period. The Company does not expect the adoption of these amendments to have a material impact on the consolidated financial statements.

In June 2009, the FASB issued revised guidance codified as ASC 860-10, to improve the relevance, representational faithfulness, and comparability of the information that a reporting entity provides in its financial reports about a transfer of financial assets; the effects of a transfer on its financial position, financial performance, and cash flows; and a transferor’s continuing involvement in transferred financial assets. This guidance will be effective for fiscal years beginning after November 15, 2009. The Company is currently evaluating the impact the adoption of these standards will have on its consolidated financial statements and related disclosures.

In June 2009, the FASB issued guidance codified as ASC 470-20, regarding accounting for own-share lending arrangements in contemplation of convertible debt issuance which changes the accounting for equity share lending arrangements on an entity’s own shares when executed in contemplation of a convertible debt offering. This guidance requires the share lending arrangement to be measured at fair value and recognized as an issuance cost. These issuance costs should then be amortized as interest expense over the life of the financing arrangement. Shares loaned under these arrangements should be excluded from computation of earnings per share. This guidance is effective for fiscal years beginning after December 15, 2009 and requires retrospective application for all arrangements outstanding as of the beginning of the fiscal year. The Company does not expect the adoption of this guidance to have a material impact on its consolidated financial statements.

In October 2009, the FASB issued authoritative guidance on multiple-deliverable revenue arrangements, ASC 605-25. This guidance amends the existing criteria for separating consideration received in multiple-deliverable arrangements and requires that arrangement consideration be allocated at the inception of the arrangement to all deliverables based on their relative selling price. The guidance establishes a hierarchy for determining the selling price of a deliverable which is based on vendor-specific objective evidence, third-party evidence, or management estimates. Expanded disclosures related to multiple-deliverable revenue arrangements

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are also required. This guidance is effective for the Company beginning fiscal year 2011, with early adoption permitted. Upon adoption, the guidance may be applied either prospectively from the beginning of the fiscal year for new or materially modified arrangements, or it may be applied retrospectively. The Company does not expect the adoption of this guidance to have a material impact on its consolidated financial statements.

### **NOTE 2. BASIS OF CONSOLIDATION**

The consolidated financial statements include the accounts of Arrowhead and its Subsidiaries, Calando, Unidym, Tego, and Agonn. All significant intercompany accounts and transactions are eliminated in consolidation and noncontrolling interests were accounted for in the consolidated financial statements.

### **NOTE 3. INVESTMENT IN SUBSIDIARIES**

#### *Unidym, Inc.*

The company now known as Unidym, Inc. was founded by Arrowhead in 2005. Through the license of intellectual property and the acquisition of three development stage nanotechnology companies in 2006, 2007 and 2008, Unidym acquired the rights to key patents for the manufacture and application of carbon nanotubes, and is developing products with applications for the display industry. The consolidated financial statements include the results of the merged companies.

Prior to fiscal 2008, Arrowhead invested \$4,000,000 in Unidym and provided Arrowhead stock with an aggregate value of \$5.65 million to facilitate two of the acquisitions.

In fiscal 2008, Unidym raised a total of \$14.6 million through the sale of Series C Preferred Stock, of which \$5.25 million was invested by Arrowhead. In fiscal 2009, Unidym raised a total of \$4.7 million through the sale of Series C-1 Preferred Stock, of which \$2.7 million was invested by Arrowhead.

In September 2009, Arrowhead invested \$642,000 in exchange for 2,140,000 shares of Unidym Series D Preferred Stock and a warrant to purchase 3,146,208 shares of Unidym common stock at an exercise price of \$0.25 per share with an expiration date three years from the date of issuance. As a condition to this investment, each share of Series C-1 Preferred Stock was converted to six shares of Unidym Series D Preferred Stock. A minority shareholder of Unidym invested \$300,000 for 1,000,000 shares of Unidym Series D Preferred Stock and 1,000,000 warrants with similar terms.

In fiscal 2008 and fiscal 2009, Arrowhead increased its ownership interest in Unidym through a series of stock exchanges with minority holders of Unidym. In April 2008, Arrowhead acquired 550,000 shares of Unidym common stock from a director and minority holder of Unidym in exchange for \$350,000 in cash and restricted Arrowhead 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. In transactions in June and September 2009, Arrowhead acquired 1,421,869 shares of Unidym Series A Preferred Stock, 1,747,810 shares of Unidym Series C Preferred Stock and 1,111,111 shares of Unidym Series C-1 Preferred Stock for an equal number of shares of Arrowhead Common Stock. Each share of Unidym Series A Preferred Stock is convertible into 1.68 shares of Unidym common stock.

In October and November 2009, Arrowhead issued 153,176 shares of Common Stock with an estimated fair market value of \$47,485 in exchange for an equal number of shares of Series C Preferred Stock of Unidym, with several minority stockholders of Unidym.

As of March 31, 2010, Arrowhead owned 80% of the outstanding stock of Unidym and 63% on a fully diluted basis.

#### *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. Prior to the merger, Arrowhead invested an aggregate of \$23.2 million in Calando through the purchase of equity and loans. As a condition of the merger, the Preferred Stock of each of Calando and Insert was converted into common stock and the loans were converted to equity. As a result of the merger, shares of Insert common stock was issued to the stockholders of the former Calando, and Insert changed its name to Calando Pharmaceuticals, Inc.

On November 26, 2008, Calando entered into Unsecured Convertible Promissory Note Agreements ("Notes") for \$2.5 million with accredited investors and Arrowhead, which invested \$200,000 in the Notes offering. Arrowhead subsequently invested an additional \$600,000 in the same offering. The Notes mature on November 26, 2010 and bear 10% annual interest. The Notes are convertible into Calando common stock and can be redeemed for two times their face value plus interest in the event of a sale of Calando. To facilitate this investment in Calando, Arrowhead subordinated a series of 6% simple interest loans and advances totaling approximately \$5.3 million of principal plus interest.

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Effective June 23, 2009, to facilitate licensing transactions with a third party, holders (including Arrowhead) of an aggregate of \$2.9 million of the Notes including accrued but unpaid interest, converted the principal and accrued interest into newly authorized Calando Series A Preferred Stock. The non-voting Series A Preferred Stock has a liquidation preference of 2.5 times the Series A Original Issue Price of \$1,000 per share and is convertible into common stock at a conversion price of \$0.576647 per share. Arrowhead converted all of its Notes representing a principal balance of \$800,000 plus accrued but unpaid interest into 829 shares of Series A Preferred Stock. One third-party Note for \$500,000 plus interest remains outstanding.

As of March 31, 2010, Arrowhead had a series of 6% simple-interest working capital loans and advances outstanding to Calando totaling \$6,645,300, inclusive of accrued interest of \$468,597, which are payable upon demand.

In fiscal 2010, Arrowhead issued 1,220,000 shares of Common Stock in exchange for 3,050,000 shares of Calando common stock, with several minority stockholders of Calando. In conjunction with this exchange, Arrowhead also issued 240,000 warrants to purchase Arrowhead Common Stock in exchange for 600,000 warrants to purchase Calando common stock.

As of March 31, 2010, Arrowhead owned 70% of the outstanding shares of Calando and 62% on a fully diluted basis.

### *Agonn Systems, Inc.*

Arrowhead founded Agonn in May 2008 to explore, develop and commercialize nanotechnology-based energy storage devices for electric vehicles and other large format applications. In line with Arrowhead's strategy to conserve cash, Agonn has ceased its development efforts.

### *Masa Energy LLC*

In April 2008, Arrowhead acquired Masa Energy LLC ("Masa") a Delaware limited liability company whose sole assets were an approximate 6% ownership interest in each of Nanotope and Leonardo. During the quarter ended March 31, 2010, the stockholdings were transferred to Arrowhead and Masa was dissolved.

### *Nanotope, Inc.*

Through the acquisition of Masa, the Company acquired a 5.78% minority position in Nanotope. Nanotope is developing advanced nanomaterials for the treatment of spinal cord injuries and wound healing. In July and September 2008, Arrowhead acquired 1,801,802 shares of Series B Preferred Stock of Nanotope for two payments of \$1 million each, increasing Arrowhead's ownership of Nanotope to approximately 23%. Since inception, Nanotope's revenue has been negligible. Operating expenses for the three and six months ended March 31, 2010 were approximately \$239,000 and \$454,000, respectively. Nanotope's net loss for the three and six months ended March 31, 2010 was \$230,000 and \$445,000, respectively. Arrowhead accounts for its investment in Nanotope using the equity method of accounting.

### *Leonardo Biosystems, Inc.*

Through the acquisition of Masa, Arrowhead acquired a 6.13% ownership interest in Leonardo. Leonardo is developing a drug-delivery platform technology based on novel methods of designing spheroid porous silicon microparticles that selectively accumulate in tumor vasculature. During the three and six months ended March 31, 2010, Arrowhead incurred expenses of \$17,312 and \$20,226, respectively, related to Leonardo. It is expected that the expenses will be repaid or converted into equity. Arrowhead accounts for its investment in Leonardo using the cost method of accounting.

## **NOTE 4. DISCONTINUED OPERATIONS—TEGO BIOSCIENCES CORPORATION**

On April 20, 2007, Tego, a 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 A1 Preferred Stock for \$100,000. On October 25, 2007, Arrowhead purchased 15,000,000 shares of Tego Series A-2 Preferred Stock for \$2.4 million. In line with Tego's revised strategy to focus on the out-license of its technology and to reduce its internal development activities, on November 21, 2008, Tego repurchased from Arrowhead 5,000,000 shares of Tego Series A-1 Preferred Stock for \$1.7 million. Arrowhead owns 100% of the outstanding stock of Tego and 75% on a fully diluted basis. As of March 31, 2010, the Company has incurred approximately \$1,003,000 of expenses related to Tego since its inception.

On December 23, 2009, Tego completed the sale of all of its non-cash intellectual property assets ("Tego IP") to Luna Innovations, Inc. ("Luna") under the terms of the Tego-Luna Asset Purchase Agreement dated November 13, 2009 ("APA"). The Tego IP includes a portfolio of Tego-owned foreign and domestic patents and patent applications. The Tego IP also includes patent licenses from Siemens AG and Washington University, St. Louis. Under the APA, Luna agreed to assume Tego's role as licensor under a license Tego granted under the Tego IP to The Bronx Project, Inc. ("TBP") to develop carboxyfullerenes in the field of neuronal injury (the "TBP License"). Luna also assumed Tego's role as licensor under the exclusive license Tego granted to Arrowhead's affiliate Unidym, under the Tego IP in the field of industrial non-pharmaceutical fullerenes.



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Luna paid to Tego an upfront purchase price of \$350,000 and reimbursements of patent and license expenses of \$80,000. Further, under the terms of the APA, Luna will pay Tego 10% of any revenues it receives from its licensing or resale of the Tego IP. Tego shall also receive from Luna 50% of any net proceeds Luna receives from the TBP License. Tego shall receive royalties from Luna for any sales of fullerene products covered by the Tego IP, as well as clinical development milestones totaling \$4.25 million for each fullerene product it develops that is covered by the Tego IP.

Due to the sale of substantially all of Tego's assets, the operations of Tego ceased and the gain on the sale and the results of historical operations are recorded as discontinued operation in the Company's Statements of Operations. Additionally, the cash flows from Tego are reflected separately as cash flows from discontinued operations. Potential future cash flows associated with the Luna APA, as discussed above, will be reflected as a part of cash flows from discontinued operations in the Company's Consolidated Statement of Cash Flows.

### **NOTE 5. NOTES PAYABLE**

On November 26, 2008, Calando entered into Unsecured Convertible Promissory Note Agreements ("Notes") for \$2.5 million with accredited investors and Arrowhead, which invested \$200,000 in the Notes offering. Arrowhead subsequently invested an additional \$600,000 in the same offering. The Notes mature on November 26, 2010 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 Calando achieves a liquidation event as defined in the Notes, each note 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, or convert the outstanding principal and accrued and unpaid interest thereon into Calando common stock at the conversion price.

Except for one Note in the principal amount of \$500,000, all Notes and accrued interest were converted into a total of 2,950 shares of Calando Series A Preferred Stock on June 23, 2009.

### **NOTE 6. STOCKHOLDERS' EQUITY**

At March 31, 2010, the Company had a total of 150,000,000 shares of capital stock authorized for issuance, consisting of 145,000,000 shares of Common Stock, par value \$0.001, and 5,000,000 shares of Preferred Stock, par value \$0.001.

At March 31, 2010, 63,913,753 shares of Common Stock were outstanding. At March 31, 2010, 1,532,000 shares and 5,003,838 shares were reserved for issuance upon exercise of options granted under Arrowhead's 2000 Stock Option Plan and 2004 Equity Incentive Plan, respectively.

On July 17, 2009 and August 6, 2009, the Company sold an aggregate of 9,196,642 units in a private placement transaction with institutional and accredited investors. Each unit consisted of one share of Arrowhead Common Stock, \$0.001 par value per share, at a price of \$0.30 per share, and a warrant to purchase an additional share of Common Stock exercisable at \$0.50 per share. The warrants become exercisable on January 18, 2010 and February 6, 2010, and remain exercisable until June 30, 2014, unless redeemed earlier as permitted. The warrants may be redeemed for nominal consideration one year and a day after the date of issuance if the Company's Common Stock trades above \$1.20 for at least 30 trading days in any 60-day period. Gross proceeds of the offering totaled approximately \$2.76 million.

On December 11, 2009, the Company sold an aggregate of 5,083,430 units in a private placement transaction with accredited investors. Each unit consisted of one share of Arrowhead Common Stock, \$0.001 par value per share and a warrant to purchase an additional share of Common Stock exercisable at \$0.509 per share. The unit price was \$0.634, based upon the closing bid price on the Company's Common Stock on December 11, 2009 which was \$0.509, plus \$0.125 for the purchase of the warrant. The warrants become exercisable on June 12, 2010 and remain exercisable until December 11, 2014, unless redeemed earlier as permitted. The warrants may be redeemed for nominal consideration one year and a day after the date of issuance if the Company's Common Stock trades above \$1.20 for at least 30 trading days in any 60-day period. Gross proceeds of the offering were approximately \$3.2 million.

The following table summarizes information about warrants outstanding at March 31, 2010:

<u>Exercise prices</u>	<u>Number of Warrants</u>	<u>Remaining Life in Years</u>
\$5.04	1,235,994	0.8
\$7.06	948,969	7.1
\$2.00	3,863,999	3.4
\$0.50	8,531,976	4.3
\$0.51	5,083,430	4.7
Total warrants outstanding	19,664,368	

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### NOTE 7. LEASES

As of March 31, 2010, the Company leased the following facilities:

	<u>Lab/Office Space</u>	<u>Monthly Rent</u>	<u>Lease Commencement</u>	<u>Lease Term</u>
Arrowhead(1)	7,388 sq ft	\$ 18,101	March 1, 2006	62 Months
Unidym	20,500 sq ft	\$ 26,650	October 1, 2008	60 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.

Facility and equipment rent expense for the three months ended March 31, 2010 and 2009 was \$99,487 and \$354,215, respectively. Facility and equipment rent expense for the six months ended March 31, 2010 and 2009 was \$253,996 and \$682,551, respectively. From inception to date, rent expense has totaled \$4,549,826.

### NOTE 8. OBLIGATIONS UNDER CAPITALIZED LEASE

As part of the purchase of Nanoconduction, the Company assumed a capitalized lease for equipment valued at \$1,677,000. 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.

At March 31, 2010, the future minimum commitments remaining under capitalized leases are as follows:

Capitalized lease payable in four monthly installments of \$75,343, due in July 2010, secured by equipment at Unidym.	\$301,376
Less interest	(4,957)
Present value of future minimum payments	296,419
Less current portion	296,419
Long term portion	\$ —

### NOTE 9. STOCK BASED COMPENSATION

Arrowhead has two plans that provide for equity-based compensation. Under the 2000 Stock Option Plan, 1,532,000 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 5,738,310 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. As of March 31, 2010, there were options granted and outstanding to purchase 1,532,000 and 5,003,838 shares of Common Stock under the 2000 Stock Option Plan and the 2004 Equity Incentive Plan, respectively. During the quarter ended March 31, 2010, 1,384,250 options were granted under the 2004 Equity Incentive Plan.

In connection with a private offering in fiscal 2009, directors, officers and employees of the Company agreed to terminate options to purchase 4,005,000 shares of Common Stock with exercise prices ranging from \$2.52 to \$6.83. In consideration of the termination of the option agreements, other existing grants to purchase 450,000 shares were accelerated such that the awards are fully vested on the one year anniversary of the date of grant. The cancellation was effective July 17, 2009.



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The following tables summarize information about stock options:

	<u>Number of Options Outstanding</u>	<u>Weighted- Average Exercise Price Per Share</u>	<u>Weighted- Average Remaining Contractual Term</u>	<u>Aggregate Intrinsic Value</u>
Balance At September 30, 2008	8,007,632	\$ 3.24		
Granted	460,000	0.85		
Canceled	(5,566,044)	3.88		
Exercised	—	—		
Balance At September 30, 2009	2,901,588	1.73		
Granted	2,250,000	0.53		
Canceled	—	—		
Exercised	—	—		
Balance At December 31, 2009	5,151,588	\$ 1.21	7.7 years	\$ 45,595
Granted	1,384,250	0.52		
Canceled	—	—		
Exercised	—	—		
Balance At March 31, 2010	<u>6,535,838</u>	<u>\$ 1.06</u>	<u>8.0 years</u>	<u>\$2,519,865</u>
Exercisable At March 31, 2010	3,110,097	\$ 1.50	7.1 years	\$ 549,444

Stock-based compensation expense for the six months ended March 31, 2010 and 2009 was \$598,230 and \$1,423,209, respectively, and is included in salary expense in the Company's consolidated statements of operations. There is no income tax benefit as the company is currently operating at a loss and an actual income tax benefit may not be realized. The result of the loss creates a timing difference, resulting in a deferred tax asset, which is fully reserved by a valuation allowance.

At March 31, 2010, there were 734,472 options available for future grants under Arrowhead's 2004 Equity Incentive Plan.

The fair value of the options granted by Arrowhead for the six months ended March 31, 2010 and 2009 is estimated at \$1,584,000 and \$230,000, respectively.

As of March 31, 2010, the pre-tax compensation expense for all unvested stock options at Arrowhead in the amount of approximately \$1,770,965 will be recognized in our results of operations over a weighted average period of 2.0 years. As of March 31, 2010, the pre-tax compensation expense for all unvested stock options at Unidym and Calando in the amount of approximately \$700,825 will be recognized in our results of operations over a weighted average period of 2.7 and 1.9 years, respectively.

No options were granted by Calando and Tego during the three months ended March 31, 2010 and 2009. During the three months ended March 31, 2010 and 2009, Unidym issued 100,000 and 0 options, respectively.

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 100% (0% to 81% for Subsidiaries), risk-free interest rate of 2.34% to 5.10% and expected life of five to six years. The weighted-average fair value of options granted by Arrowhead for the six months ended March 31, 2010 and 2009 is estimated at \$0.39 and \$0.64, respectively.

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 10. FAIR VALUE MEASUREMENTS & DERIVATIVE INSTRUMENTS**

The Company measures its financial assets and liabilities at fair value. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability (i.e., exit price) in an orderly transaction between market participants at the measurement date. Additionally, the Company is required to provide disclosure and categorize assets and liabilities measured at fair value into one of three different levels depending on the assumptions (i.e., inputs) used in the valuation. Level 1 provides the most reliable measure of fair value while Level 3 generally requires significant management judgment. Financial assets and liabilities are classified in their entirety based on the lowest level of input significant to the fair value measurement. The fair value hierarchy is defined as follows:

Level 1—Valuations are based on unadjusted quoted prices in active markets for identical assets or liabilities.

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Level 2—Valuations are based on quoted prices for similar assets or liabilities in active markets, or quoted prices in markets that are not active for which significant inputs are observable, either directly or indirectly.

Level 3—Valuations are based on prices or valuation techniques that require inputs that are both unobservable and significant to the overall fair value measurement. Inputs reflect management's best estimate of what market participants would use in valuing the asset or liability at the measurement date.

The following table summarizes fair value measurements at March 31, 2010 for assets and liabilities measured at fair value on a recurring basis:

	<u>Level I</u>	<u>Level II</u>	<u>Level III</u>	<u>Total</u>
Cash and cash equivalents	\$2,593,044	\$ —	\$ —	\$2,593,044
Derivative liabilities	\$ —	\$ —	\$ —	\$ —

During 2009, Arrowhead's subsidiary, Unidym, issued Series D Preferred Stock. The rights of the Preferred Stock necessitate the presentation of the fair value of the conversion feature as a liability. These rights include those that protect the holders from decline in the Company's stock price, which is considered outside the control of the Company. The derivative liabilities are marked-to-market each reporting period and changes in fair value are recorded as a non-operating gain or loss in the statement of operations, until they are completely settled. The fair value of the conversion feature is determined each reporting period using the Black-Scholes option pricing model, and is affected by changes in inputs to that model including our stock price, expected stock price volatility, interest rates and expected term. The assumptions used in valuing the derivative liability at March 31, 2010 were as follows:

Risk free interest rate	1%
Expected life	3 Years
Dividend yield	none
Volatility	30%

The following is a reconciliation of the derivative liability for the six months ended March 31, 2010:

Value at October 1, 2009	\$ 0
Modification of instruments	—
Decrease in value	—
Value at March 31, 2010	<u>\$ 0</u>

The carrying amounts of the Company's other financial instruments, which include accounts receivable and accounts payable, approximate their respective fair values due to the relatively short-term nature of these instruments. Based upon interest rates currently available to the Company for debt with similar terms, the carrying value of the Company's long-term debt is approximately equal to its fair value.

### **NOTE 11. RELATED PARTY TRANSACTIONS**

During the six months ended March 31, 2010, the Company's majority-owned subsidiary, Unidym, had product sales of \$0 to one of its stockholders, Sumitomo Corporation ("Sumitomo"). During the three and six months ended March 31, 2009, sales to Sumitomo were \$15,500 and \$47,218, respectively. On July 31, 2009, Unidym terminated its contract with Sumitomo as its major product distributor in Japan.

During the six months ended March 31, 2010 and 2009, the Company's majority-owned subsidiary, Calando, paid \$0 and \$40,000, respectively, in consulting fees to Dr. Mark Davis of the California Institute of Technology ("Caltech"), a former director and consultant of Calando.

Through the Benet Group, Dr. Anzalone owns 1,395,900 shares of Nanotope common stock or approximately 14.2% 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.

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Dr. Anzalone did not participate on behalf of the Company in the negotiations of the terms of the Nanotope Series B Preferred Stock issued to the Company and did not negotiate on behalf of Nanotope after becoming the Chief Executive Officer and President of the Company. Dr. Anzalone did respond to questions asked of him by the Company's Board of Directors and management regarding Nanotope's business plan, operations and the terms of the Series B Stock Purchase Agreement and ancillary agreements.

During the year ended September 30, 2009, Calando raised \$2.5 million through the sale of senior unsecured convertible promissory notes ("New Notes"), to accredited investors, plus \$800,000 from Arrowhead. Dr. Anzalone, Arrowhead's President and CEO, personally participated in the offering by buying \$100,000 of the New Notes.

As part of the private placement on December 11, 2009 (see Note 6. Stockholder's Equity), Dr. Anzalone, Arrowhead's President and CEO, personally invested \$100,000.

### **NOTE 12. SUBSEQUENT EVENTS**

On April 14, 2010, the Company received a notification from the NASDAQ Stock Market indicating that the Company has regained compliance with NASDAQ Rule 5550(a)(2) in that the Company's closing bid price has been at \$1.00 per share or greater for at least ten consecutive business days. The April 14, 2010 notification also stated that the matter of the deficiency, as set forth in the previously reported September 15, 2009 deficiency notice, is now closed.

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

This Quarterly Report on Form 10-Q contains certain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934, and we intend that such forward-looking statements be subject to the safe harbors created thereby. For this purpose, any statements contained in this Quarterly Report on Form 10-Q except for historical information may be deemed to be forward-looking statements. Without limiting the generality of the foregoing, words such as "may," "will," "expect," "believe," "anticipate," "intend," "could," "estimate," or "continue" or the negative or other variations thereof or comparable terminology are intended to identify forward-looking statements. In addition, any statements that refer to projections of our future financial performance, trends in our businesses, or other characterizations of future events or circumstances are forward-looking statements.

The forward-looking statements included herein are based on current expectations of our management based on available information and involve a number of risks and uncertainties, all of which are difficult or impossible to predict accurately and many of which are beyond our control. As such, our actual results may differ significantly from those expressed in any forward-looking statements. Readers should carefully review the factors identified in this report under the caption "Risk Factors" as well as the additional risks described in other documents we file from time to time with the Securities and Exchange Commission ("SEC"), including our most recent Annual Report on Form 10-K. In light of the significant risks and uncertainties inherent in the forward-looking information included herein, the inclusion of such information should not be regarded as a representation by us or any other person that such results will be achieved, and readers are cautioned not to place undue reliance on such forward-looking information. Except as may be required by law, disclaim any intent to revise the forward-looking statements contained herein to reflect events or circumstances after the date hereof or to reflect the occurrence of unanticipated events.

#### **Overview**

Arrowhead Research Corporation is a development stage nanotechnology holding company that forms, acquires, and operates subsidiaries commercializing innovative nanotechnologies. By working closely with leading scientists and universities, the Company identifies advances in nanotechnology and matches them with product development opportunities in high-growth markets. The Company is currently focused on the electronics and biotech industries.

By providing strategic management, financing, and operational services to its subsidiaries, Arrowhead takes an active role in their development, allowing the business and technical development teams at the subsidiary companies to remain focused on near term revenue opportunities and capital efficiency. Arrowhead's ultimate goal is to monetize the value of its subsidiaries through an initial public offering of subsidiary stock or a sale of a subsidiary to another company. Alternatively, Arrowhead could retain ownership of its subsidiary to capture its continuing cash flow and income.

Arrowhead's portfolio includes two majority-owned Subsidiaries, Unidym and Calando, and minority investments in two early-stage nanotechnology companies, Nanotope and Leonardo. Arrowhead's business plan includes adding to its portfolio through selective acquisition and formation of new companies, as capital resources allow. The Company's Subsidiaries are seeking to commercialize or license the technology covering a variety of nanotechnology products and applications, including anti-cancer RNAi therapeutics and carbon-based electronics. The Company's minority investments are focused on developing advanced nanomaterials for spinal cord injury and wound healing and drug delivery technology.

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Arrowhead has been active in the operation of its subsidiaries, providing key management functions. During 2009, the Company continued its efforts to streamline the operations of Arrowhead and its Subsidiaries to increase efficiency and decrease costs while continuing to move the business plans of each entity forward. With the decision to move to a licensing model for Calando and the decision to reduce costs at Unidym, the amount of cash needed to fund both operations has been substantially reduced from historical levels.

### ***Liquidity and Capital Resources***

At March 31, 2010, the Company had approximately \$2.6 million in cash to fund operations. Arrowhead has historically financed its operations through the sale of securities of Arrowhead and its Subsidiaries. During fiscal 2009, the Company obtained \$7.3 million in cash through equity and debt financing, including \$2.5 million raised by Calando through the sale of senior unsecured convertible promissory notes, and \$2.0 million raised by Unidym through the sale of newly issued shares of Series C-1 Preferred Stock. Also during fiscal 2009, the Company obtained an additional \$4.4 million from the sales of assets, products and license fees, including the sale by Unidym of its equity interest in Ensycse BioSciences Inc. for \$700,000. During the first half of fiscal 2010, the Company received \$3.5 million in cash through an equity financing, \$0.5 million from the exercise of warrants, and \$0.7 million from revenue and asset sales, including the sale of the Tego IP. The company anticipates that further equity financings, and/or asset sales and license agreements will be necessary to continue to fund operations.

Since inception in May 2003, the Company has incurred significant losses. Cash and cash equivalents increased during the first half of fiscal 2010 by \$0.6 million to \$2.6 million at March 31, 2010 from \$2.0 million at September 30, 2009. The increase in cash was mainly due to proceeds from the issuance of Common Stock of \$4.0 million, proceeds from the disposal of Tego of \$0.4 million, cash collections from revenue of \$0.3 million, offset by cash operating expenses of approximately \$3.7 million and cash payments on capital leases of \$0.4 million. 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's strategic plan includes focusing on near term revenue opportunities, conserving cash and seeking sources of new capital. To execute this plan, the Company will seek to accomplish one or more of the following on favorable terms: 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 likelihood that any of these events will occur is uncertain, especially 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, the Company has scaled back the activities at its Subsidiaries.

### **Majority-owned Subsidiaries**

#### Unidym

Unidym is a leader in the commercialization of carbon nanotube-based transparent, conductive films (TCFs) for the electronics industry. TCFs are a critical component in devices such as touch panels, displays and thin-film solar cells. For example, both touch panels and LCDs typically employ two TCF layers per device. Unidym's TCFs offer substantial advantages over the incumbent technology, indium-based metal oxides, including improved durability, lower processing costs, and lower overall cost structure. Unidym is working in close collaboration with customers, particularly in Asia where most of display manufacturing is located. Unidym is initially focused on the touch panel market and expects modest revenue from sales of its films in the near term. During the first half of fiscal 2010, Unidym continued business and technical development for its films. Two of its joint development agreements with Samsung Electronics, Co., Ltd. were extended, and Unidym entered into an agreement to form a joint venture in Korea to market and co-develop film and electronic ink products for the Korean touch panel and display industries.

The development, production and sale of Unidym's products have required, and are expected to continue to require significant investment and 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. At March 31, 2010, Arrowhead's ownership interest in Unidym was 80% and 63% on a fully diluted basis.

#### Calando

Calando is a clinical stage oncology drug delivery company. Calando has developed proprietary technologies to create targeted siRNA-based therapeutics. Calando's innovative RONDEL™ nanoparticle system has been designed to solve the long-standing obstacle of safe and effective delivery and targeting for siRNA therapeutics. Calando's initial focus has been on the treatment of cancer. Calando's clinical stage drug candidate, CALAA-001, based on siRNA and the RONDEL™ system, is currently undergoing a Phase I clinical study. The trial is utilizing a dose escalation protocol, which is nearing the highest dose in the protocol and yielding recent promising results with no serious side effects. Calando plans to complete the Phase I trial, as capital resources allow, and is seeking a partner for the further development of both the siRNA delivery platform and CALAA-01.

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In March 2010, results were published from a study using samples from a Phase I clinical trial, conducted by Calando, which demonstrated systemic delivery of siRNA and the successful “silencing” of a widely recognized cancer gene via RNA interference in humans. This represents a breakthrough for Calando, as well as its proprietary RONDEL™ delivery system, and holds the potential to be a significant development in the field of RNAi therapies.

In June 2009, after completion of a Phase 1 clinical trial with a positive safety profile and indications of efficacy, Cycloset and its associated clinical candidate, IT-101, were licensed for further development to Cerulean Pharma, Inc., a Boston, Massachusetts based biotech company. Under the terms of the agreements, Cerulean will pay Calando future potential partnering, milestone and royalty payments as the development of Cycloset and IT-101 progresses.

We believe there is an opportunity to derive value from the further development of the Calando platform drug delivery 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. At March 31, 2010, Arrowhead’s ownership interest in Calando was 70% and 62% on a fully diluted basis.

The development of CALAA-01, IT-101 and 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 pipeline candidates require extensive preclinical testing and approval by the U.S. Food and Drug Administration (“FDA”) before clinical testing can commence.
- Advancing therapeutic candidates through preclinical and clinical testing is expensive, resource intensive and time consuming.
- Complications may arise that would cause the clinical testing to be interrupted or stopped. FDA approval is required before products can 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 the development projects, the completion dates, or when or if revenue will commence.

### **Wholly-owned Subsidiaries**

#### Tego

Tego had been pursuing a licensing and partnering strategy. In line with this strategy, on July 1, 2009, Tego exclusively licensed to The Bronx Project, Inc. (“TBP”), a development stage pharmaceutical company, the rights to develop and commercialize carboxylated fullerenes, e.g., the fullerene “C3,” in the fields of Parkinson’s disease, amyotrophic lateral sclerosis (or “Lou Gehrig’s disease”), multiple sclerosis, brain trauma and schizophrenia. The TBP License provided Tego with \$100,000 in upfront fees, \$2.35 million in potential milestone payments and royalties, as well as 5% of the proceeds of a sale of TBP itself to a third party.

Further, on December 23, 2009, Tego completed the sale of all of its non-cash intellectual property assets (“Tego IP”) to Luna Innovations, Inc. (“Luna”) under the terms of the Tego-Luna Asset Purchase Agreement dated November 13, 2009 (“APA”). The Tego IP includes a portfolio of Tego-owned foreign and domestic patents and patent applications. The Tego IP also includes patent licenses from Siemens AG and Washington University, St. Louis. Under the APA, Luna agreed to assume Tego’s role as licensor under a license Tego granted under the Tego IP to The Bronx Project, Inc. Luna also assumed Tego’s role as licensor under the exclusive license Tego granted to Arrowhead’s affiliate Unidym, under the Tego IP in the field of industrial non-pharmaceutical fullerenes.

As a result of the sale to Luna, the operations of Tego ceased and the gain on the sale and the results of historical operations are recorded as discontinued operation in the Company’s Statements of Operations. Additionally, the cash flows from Tego are reflected separately as cash flows from discontinued operations. Potential future cash flows associated with the Luna APA will be reflected as a part of cash flows from discontinued operations in the Company’s Consolidated Statement of Cash Flows.

#### Agonn

As part of Arrowhead’s strategy to conserve cash, Agonn ceased its development efforts.

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### **Minority Investments**

#### ***Nanotope, Inc.***

Nanotope is an early stage nano-biotechnology company developing advanced materials for regeneration and wound healing. Arrowhead has a 23% ownership interest in Nanotope and accounts for its investment in Nanotope using the equity method of accounting. Nanotope is positioned to enter into a commercialization corporate partnership in 2010 and expects to be able to start a first round of clinical trials in 2010. Nanotope's model is to partner product candidates prior to clinical trials and, therefore, assume no clinical costs.

#### ***Leonardo Biosystems, Inc.***

Leonardo is a drug delivery company based on technology developed by Dr. Mauro Ferrari, one of the world's best-known nano-cancer scientists. Leonardo's research is focused on developing an advanced set of nanotechnology tools to deliver anti-cancer therapeutics. Arrowhead has a 5% ownership interest in Leonardo and accounts for its investment using the cost method of accounting.

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

Since early fiscal 2009, the Company has dramatically decreased its research and development expenses due to cash constraints. 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, the Company has increased and decreased subsidiaries and products in its pipeline, increased and decreased research and development personnel, engineers, business development and marketing personnel; expanded and contracted its pre-clinical research, begun and ended clinical trial activities, increased its regulatory compliance capabilities, and 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 evolve, 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 Arrowhead's nano-biotechnology Subsidiaries or their partners and potential partners include the following:

- the number, size and duration of clinical trials required to gain FDA approval;
- 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. Due to these uncertainties, the Company cannot reasonably estimate the amount or timing of cash inflows from Calando's current activities.

### ***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 of an arrangement exists, title has passed and delivery has occurred, a price is fixed and determinable, and collection is reasonably assured.

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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 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 up-front license fees, milestones and product royalties are 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 impairment is indicated, the asset is written down to its estimated fair value.

### *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 appropriate adjustments recorded. Purchased or licensed patents are amortized over the remaining life of the patent, generally three to twenty years.

### *Recent Accounting Pronouncements*

See Note 1 to the consolidated financial statements for information concerning the Company's implementation and impact of new accounting guidance.

## **Results of Operations**

The Company had a consolidated loss attributable to Arrowhead of approximately \$1.9 million for the three months ended March 31, 2010, compared to a consolidated loss attributable to Arrowhead of \$5.3 million for the three months ended March 31, 2009.

The decrease in the fiscal 2010 quarterly loss over fiscal 2009 quarterly loss is the result of several factors. The number of management and staff employees at Arrowhead declined over fiscal 2009 and other cost savings measures were instituted, including the closure of Arrowhead's New York office and reduction in scientific advisory fees.

Unidym also reduced its expenses in fiscal 2009 and maintained a reduced level of costs into fiscal 2010. In fiscal 2008, Unidym was pursuing a business plan based on building a vertically integrated company that would manufacture both carbon nanotubes and carbon nanotube films. With the dramatic changes in economic conditions in late 2008, Unidym decided to look to partners for manufacturing capability rather than expand its internal capabilities. In line with this strategy, Unidym closed its Texas operations in January 2009. This resulted in a reduction in workforce and other expenses related to the operation of the Texas plant and a reduction in lease expenses later in the year. Unidym consolidated its Northern California operations into one facility in 2009 and also decreased the number of management and technical staff in the early part of the year. Significant expense is expected to be incurred in the further development of Unidym's products. However, development costs at Unidym have been substantially reduced and the pace of development will depend on the cash resources and partnership opportunities available to Unidym.

Calando also reduced expenses in fiscal 2009 due to a change in business strategy. Rather than bear the significant expense of running multiple clinical trials, Calando decided to seek partners for further development of its technology. Beginning in fiscal 2008 and continuing into fiscal 2009, Calando reduced its management and technical staff culminating with the closure of its lab facility in Pasadena, California in June 2009 after a partnership for one of its drug delivery technologies and its associated clinical candidate was signed. In fiscal 2009, significant expense was incurred for manufacture of the components for CALAA-02, preparation for an investigational new drug ("IND") application for CALAA-02 and the continuation of Calando's clinical trials. Continued clinical and preclinical development of Calando's drug candidates will depend on the cash resources available to Calando.



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During the quarter ended March 31, 2010, the Company experienced similar operating losses and cash burn as compared to the quarter ended December 31, 2009. The Company has completed its cost reduction programs, and does not expect further reductions in its operating expenses or cash burn.

### Revenues

The Company generated revenues of \$157,346, and \$235,650 during the three months ended March 31, 2010 and 2009, respectively. Revenue for the three months ended March 31, 2010 consists primarily of Unidym sales of CNTs and inks; and revenue for the three months ended March 31, 2009 primarily consisted of Unidym grant revenue of \$118,000, and \$88,000 from the sales and delivery of carbon nanotubes by Unidym. Revenues from sales of carbon nanotubes are expected to decline in fiscal 2010 as Unidym depletes its inventories and transfers its bulk carbon nanotube production to a third party in exchange for payments based on the third party sales. Unidym is anticipating modest revenue from film sales in fiscal 2010.

### Operating Expenses

The analysis below details the operating expenses and discusses the expenditures of the Company within the major expense categories. The following tables provide details of operating expenses for the three and six months ended March 31, 2010 and 2009.

#### **Salary & Wage Expenses – Three and six months ended March 31, 2010 compared to the three and six months ended March 31, 2009**

Arrowhead employs management, administrative and technical staff at the Arrowhead corporate offices 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 (“G&A”) compensation related expense and research and development (“R&D”) compensation related expense depending on the primary activities of each employee. The following tables provide detail of salary and wage expenses for the three and six months ended March 31, 2010 as compared to the three and six months ended March 31, 2009.

(in thousands)

	Three Months Ended	% of	Three Months Ended	% of	Increase (Decrease)	
	March 31, 2010	Expense Category	March 31, 2009	Expense Category	\$	%
G&A - compensation-related	\$ 463	45%	\$ 1,061	44%	\$ (598)	-56%
Stock-based compensation	296	28%	696	28%	(400)	-57%
R&D - compensation-related	286	27%	677	28%	(391)	-58%
Total	<u>\$ 1,045</u>	<u>100%</u>	<u>\$ 2,434</u>	<u>100%</u>	<u>\$ (1,389)</u>	<u>-57%</u>

(in thousands)

	Six Months Ended	% of	Six Months Ended	% of	Increase (Decrease)	
	March 31, 2010	Expense Category	March 31, 2009	Expense Category	\$	%
G&A - compensation-related	\$ 1,018	47%	\$ 2,368	43%	\$ (1,350)	-57%
Stock-based compensation	598	28%	1,423	25%	(825)	-58%
R&D - compensation-related	533	25%	1,770	32%	(1,237)	-70%
Total	<u>\$ 2,149</u>	<u>100%</u>	<u>\$ 5,561</u>	<u>100%</u>	<u>\$ (3,412)</u>	<u>-61%</u>

During the three and six months ended March 31, 2010, G&A compensation expense decreased due to a reduction in the number of employees across all entities during fiscal 2009.

Stock-based compensation is a non-cash charge related to the issuance and vesting of stock options. This expensing of stock-based compensation is based upon the estimated fair value of the awards issued. During fiscal 2009, the Company cancelled options to purchase approximately 5.6 million shares due to employee terminations and voluntary terminations of stock options to facilitate financing transactions in July and August 2009. These cancellations resulted in lower stock-based compensation expense during the three and six months ended March 31, 2010, as compared to the three and six months ended March 31, 2009. The number of options outstanding and the option expense will vary from period to period depending on hiring, terminations and awards to new and existing employees.



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R&D compensation expense decreased significantly during the three and six months ended March 31, 2010, as compared to the three and six months ended March 31, 2009. This reduction is primarily due to Unidym's reduction in research scientists and process engineers in conjunction with the closure of Unidym's Texas facility. Calando has also reduced laboratory personnel in connection with its decision in June 2009 to license its technology and close its laboratory facility. Two employees have been retained to complete the CALAA-01 clinical study and to facilitate partnership arrangements for Calando's technology.

### **General & Administrative Expenses – Three and six months ended March 31, 2010 compared to the three and six months ended March 31, 2009**

The following tables provide detail of G&A expenses for the three and six months ended March 31, 2010 as compared to the three and six months ended March 31, 2009.

(in thousands)

	Three Months Ended	% of	Three Months Ended	% of	Increase (Decrease)	
	March 31, 2010	Expense Category	March 31, 2009	Expense Category	\$	%
Professional/outside services	\$ 303	41%	\$ 540	52%	\$ (237)	-44%
Recruiting	—	0%	7	1%	(7)	-100%
Patent expense	71	10%	83	8%	(12)	-14%
Facilities and related	64	9%	72	7%	(8)	-11%
Travel	51	7%	77	8%	(26)	-34%
Business insurance	94	13%	115	11%	(21)	-18%
Depreciation	23	3%	37	4%	(14)	-38%
Communication and technology	32	4%	33	3%	(1)	-3%
Office expenses	28	4%	41	4%	(13)	-32%
Other	68	9%	21	2%	47	224%
<b>Total</b>	<b>\$ 734</b>	<b>100%</b>	<b>\$ 1,026</b>	<b>100%</b>	<b>\$ (292)</b>	<b>-28%</b>

(in thousands)

	Six Months Ended	% of	Six Months Ended	% of	Increase (Decrease)	
	March 31, 2010	Expense Category	March 31, 2009	Expense Category	\$	%
Professional/outside services	\$ 724	49%	\$ 1,189	46%	\$ (465)	-39%
Recruiting	—	0%	31	1%	(31)	-100%
Patent expense	73	5%	377	14%	(304)	-81%
Facilities and related	139	9%	143	5%	(4)	-3%
Travel	100	7%	285	11%	(185)	-65%
Business insurance	186	13%	230	9%	(44)	-19%
Depreciation	47	3%	73	3%	(26)	-36%
Communication and technology	62	4%	121	5%	(59)	-49%
Office expenses	59	4%	104	4%	(45)	-43%
Other	90	6%	58	2%	32	55%
<b>Total</b>	<b>\$ 1,480</b>	<b>100%</b>	<b>\$ 2,611</b>	<b>100%</b>	<b>\$ (1,131)</b>	<b>-43%</b>

Professional/outside services include 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. Professional/outside services expense was \$303,000 during the three months ended March 31, 2010 compared to \$540,000 in the comparable prior period. During the six months ended March 31, 2010, professional/outside services expense was \$724,000 compared to \$1,189,000 in the comparable prior period. The decrease in professional fees primarily relates to a reduction in expenses at Arrowhead primarily related to lower legal and printing fees and the non-recurrence of a charge at Calando related to a fee

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associated with a financing in the prior period. Also, the Company incurred certain legal fees related to the establishment of subsidiaries which was not repeated in the current quarter. These reductions were somewhat offset by higher costs related to NASDAQ fees associated with increased shares outstanding.

Patent expense was \$71,000 during the three months ended March 31, 2010 compared to \$83,000 in the comparable prior period. During the six months ended March 31, 2010, patent expense was \$73,000 compared to \$377,000 in the comparable prior period. Patent expense was comparable in the current quarter; for the six months ended March 31, 2010, patent expense decreased \$184,000 at Calando, and patent expense decreased \$120,000 at Unidym. Patent expense during the six months ended March 31, 2009 was primarily related to patent costs at Calando of \$221,000 prior to the license agreements to Cerulean, and \$156,000 at Unidym for patent costs related to Nanoconduction which were not repeated. 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 product applications are improved. The cost will vary depending on the needs of the Company.

Travel expense was \$51,000 during the three months ended March 31, 2010 compared to \$77,000 in the comparable prior period. During the six months ended March 31, 2010, travel expense was \$100,000 compared to \$285,000 in the comparable prior period. Travel expense includes recurring expenses related to travel by Company personnel to and from Company locations in Pasadena and Northern California. Travel expense is also incurred as the Company pursues business initiatives and collaborations throughout the world with other companies and for marketing, investor relations, fund raising and public relations purposes. During the six months ended March 31, 2010, travel expense decreased \$185,000, compared to the six months ended March 31, 2009 primarily due to a reduction of travel costs at Unidym of \$142,000 due to reduction in employees, mainly as a result of the closure of its Texas facility. Travel expenses can fluctuate from quarter to quarter and from year to year depending on current projects and activities.

Business insurance expense was \$94,000 during the three months ended March 31, 2010 compared to \$115,000 in the comparable prior period. During the six months ended March 31, 2010, business insurance expense was \$186,000 compared to \$230,000 in the comparable prior period. The decrease is due to generally lower rates in insurance markets and a reduction in coverage for clinical trials with the termination of the Phase 2 clinical study for IT-101, and the reduction in the number of facilities at Unidym requiring insurance. This expense can fluctuate as a result of changes in the market and the status of clinical trials.

Communication and technology expense was \$32,000 during the three months ended March 31, 2010 compared to \$33,000 in the comparable prior period. During the six months ended March 31, 2010, communication and technology expense was \$62,000 compared to \$121,000 in the comparable prior period. The decrease in communication and technology cost is due to lower technology consulting expense at Unidym and generally lower telephone and software maintenance cost at Arrowhead.

Office expense was \$28,000 during the three months ended March 31, 2010 compared to \$41,000 in the comparable prior period. During the six months ended March 31, 2010, office expense was \$59,000 compared to \$104,000 in the comparable prior period. The reduction in office expense is primarily related to the closing of the facilities and the reduction in employees.

### ***Research and Development Expenses – Three and six months ended March 31, 2010 compared to the three and six months ended March 31, 2009***

R&D expenses are primarily related to activities within Arrowhead's Subsidiaries. The following tables provide detail of general and administrative expenses for the three and six months ended March 31, 2010 as compared to the three and six months ended March 31, 2009.

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(in thousands)

	Three Months Ended	% of	Three Months Ended	% of	Increase (Decrease)	
	March 31, 2010	Expense Category	March 31, 2009	Expense Category	\$	%
Outside labs & contract services	\$ 67	19%	\$ 837	55%	\$ (770)	-92%
License, royalty & milestones	74	21%	115	8%	(41)	-36%
Laboratory supplies & services	(20)	-6%	65	4%	(85)	-131%
Facilities and related	80	23%	315	21%	(235)	-75%
Sponsored research	25	7%	9	1%	16	178%
Depreciation - R&D-related	70	20%	130	9%	(60)	-46%
Other research expenses	55	16%	36	2%	19	53%
Total	<u>\$ 351</u>	<u>100%</u>	<u>\$ 1,507</u>	<u>100%</u>	<u>\$ (1,156)</u>	<u>-77%</u>

(in thousands)

	Six Months Ended	% of	Six Months Ended	% of	Increase (Decrease)	
	March 31, 2010	Expense Category	March 31, 2009	Expense Category	\$	%
Outside labs & contract services	\$ 116	19%	\$ 3,481	64%	\$ (3,365)	-97%
License, royalty & milestones	77	12%	355	7%	(278)	-78%
Laboratory supplies & services	(10)	-2%	251	5%	(261)	-104%
Facilities and related	189	30%	662	12%	(473)	-71%
Sponsored research	50	8%	120	2%	(70)	-58%
Depreciation - R&D-related	142	23%	273	5%	(131)	-48%
Other research expenses	65	10%	253	5%	(188)	-74%
Total	<u>\$ 629</u>	<u>100%</u>	<u>\$ 5,395</u>	<u>100%</u>	<u>\$ (4,766)</u>	<u>-88%</u>

Outside lab and services expense was \$67,000 during the three months ended March 31, 2010 compared to \$837,000 in the comparable prior period. During the six months ended March 31, 2010, outside lab and services expense was \$116,000 compared to \$3,481,000 in the comparable prior period. The decrease of \$770,000 during the current quarter is primarily related to a reduction in outside lab services of \$717,000 at Calando and a reduction of \$53,000 at Unidym. The decrease of \$3.4 million during the six months ended March 31, 2010 is primarily related to a reduction in outside lab services of \$2.6 million at Calando and a reduction of \$588,000 at Unidym. The reduction at Calando was a result of the advanced state of the IT-101 phase 1 clinical trial, the decision to close the IT-101 phase 2 clinical trials in connection with the agreement with Cerulean, completion of preparatory work for the CALAA-01 phase 1 clinical trial and the suspension of development efforts for CALAA-02. During fiscal 2009, 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) totaled approximately \$2.9 million. However, the expenses were significantly reduced by June 30, 2009 when the Calando facility was closed.

Licensing fees, royalty and milestones expense was \$74,000 during the three months ended March 31, 2010 compared to \$115,000 in the comparable prior period. During the six months ended March 31, 2010, licensing fees, royalty and milestones expense was \$77,000 compared to \$355,000 in the comparable prior period. Licensing fees, royalty and milestones expenses during the six months ended March 31, 2009 consisted primarily of amounts paid by Unidym under the terms of its license agreement with Rice University in the amount of \$57,000, and Calando's license fees to Caltech in the amount of \$25,000, as well as an accrual of \$200,000 related to the Nanoconduction acquisition, which was a one-time occurrence and not repeated in fiscal 2010.

Laboratory supplies and services expense was (\$20,000) during the three months ended March 31, 2010 compared to \$65,000 in the comparable prior period. During the six months ended March 31, 2010, laboratory supplies and services expense was (\$10,000) compared to \$251,000 in the comparable prior period. Laboratory supplies and services consist primarily of materials, supplies and services consumed in the laboratory. During the three months ended March 31, 2010, a credit of \$35,000 was recorded related to certain aged and cancelled payables related to Nanoconduction; in addition, the decrease is due to the scale down of the Unidym operations and the closing of Calando's lab.

Facilities expense was \$80,000 during the three months ended March 31, 2010 compared to \$315,000 in the comparable prior period. During the six months ended March 31, 2010, facilities expense was \$189,000 compared to \$662,000 in the comparable prior period. The decrease in facilities related expenses primarily related to the closure of Unidym's Texas facilities and Menlo Park, California facility.

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Sponsored research expense was \$25,000 during the three months ended March 31, 2010 compared to \$9,000 in the comparable prior period. During the six months ended March 31, 2010, sponsored research expense was \$50,000 compared to \$120,000 in the comparable prior period. Sponsored research expense during the quarter related to Unidym's funding of a project at Duke University. Sponsored research expense decreased during the six months ended March 31, 2010 as compared to the prior year, as projects were completed (University of Florida) or terminated (Caltech). No new research projects have been added during fiscal 2010. The only sponsored research agreement currently in place is Unidym's agreement with Duke University.

Depreciation expense was \$70,000 during the three months ended March 31, 2010 compared to \$130,000 in the comparable prior period. During the six months ended March 31, 2010, depreciation expense was \$142,000 compared to \$273,000 in the comparable prior period. The decrease in depreciation expense is primarily due to the disposal of laboratory equipment and leasehold improvements related to closure of Unidym's and Calando's laboratory facilities in fiscal 2009.

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

<u>Name of Subsidiary / Project</u>	<u>Project expenses for three months ended March 31, 2010</u>	<u>Project expenses for six months ended March 31, 2010</u>	<u>Project expenses from inception of Project through March 31, 2010</u>
Calando Pharmaceuticals, Inc. / CALAA-01 & IT 101	\$ 0.1 Million	\$ 0.2 Million	\$ 40.4 Million
Unidym, Inc. / Thin Film Carbon Nanotubes	0.7 Million	1.8 Million	27.9 Million
Tego Biosciences Corp. / Fullerene Anti-oxidants	0.1 Million	0.1 Million	1.0 Million
Agonn Systems, Inc. / CNT based ultracapacitors	0.0 Million	0.0 Million	0.5 Million
Total of all listed Subsidiaries	<u>\$ 0.9 Million</u>	<u>\$ 2.1 Million</u>	<u>\$ 69.8 Million</u>

### ***Consulting – Three and six months ended March 31, 2010 compared to the three and six months ended March 31, 2009***

Consulting expense was \$78,000 during the three months ended March 31, 2010 compared to \$344,000 in the comparable prior period. During the six months ended March 31, 2010, consulting expense was \$179,000 compared to \$933,000 in the comparable prior period. This reduction is primarily related to a reduction in consulting fees at Calando. With the closure of the Phase 2 trial for IT-101 and its ultimate licensing to a third party for development, consulting for clinical studies has decreased significantly.

The use of consultants with diverse backgrounds enabled the Company to accomplish various objectives without having to add full time staff and is expected to continue in fiscal 2010.

### ***Other income (expense) – Three and six months ended March 31, 2010 compared to the three and six months ended March 31, 2009***

Other expense was \$14,000 during the three months ended March 31, 2010 compared to \$73,000 in the comparable prior period. During the six months ended March 31, 2010, other expense was \$84,000 compared to other income of \$567,000 in the comparable prior period. Other income/expense, net for the three months ended March 31, 2010 was primarily due to \$51,000 of expense related to Arrowhead's equity in the loss of Nanotope, offset by a \$50,000 gain on the disposal of certain lab equipment, as compared to expense of \$73,000 comprised of \$60,000 of expense related to Arrowhead's equity in the loss of Nanotope, offset by a \$52,000 gain on the disposal of equipment, and interest expense of \$65,000 during the three months ended March 31, 2009. During the six months ended March 31, 2010, the change in other income/expense was primarily due to a gain on the sale of equity investment in Ensysce during the quarter ended December 31, 2009.

### ***Leveraged Technology and Revenue Strategy***

Arrowhead continues to follow 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 can commercialize the most promising technologies developed from sponsored research and other sources. The Subsidiaries are likely to produce prototypes to advance their strategies. The Subsidiaries have three primary strategies to 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.

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- 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 infrastructure.
- 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. 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 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.

### **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:

#### *Capital Lease Obligations*

In connection with its acquisition of Nanoconduction, Unidym assumed an equipment lease of \$1,677,000, bearing interest at 8% with a remaining principal balance of \$296,419 as of March 31, 2010. The lease requires monthly payments of principal and interest of \$75,344 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 us to delay receipt of such orders or cancel orders beyond certain agreed upon lead times. Cancellations may result in cancellation costs payable by us.

### **Off-Balance Sheet Arrangements**

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

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

Disclosure not required as a result of the Company's status as a smaller reporting company.

### **ITEM 4T. 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 15d-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 (the "Evaluation Date"), have concluded that, as of the Evaluation Date, 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 SEC 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, our internal control over financial reporting.

## **PART II—OTHER INFORMATION**

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

From time to time, we may be involved in routine legal proceedings, as well as demands, claims and threatened litigation, which arise in the normal course of our business. We believe there is no litigation pending that could, individually or in the aggregate, have a material adverse effect on our results of operations or financial condition.

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

We are a development stage company and we have limited historical operations. We urge you to consider our likelihood of success and prospects in light of the risks, expenses and difficulties frequently encountered by entities at similar stages of development.

*The following is a summary of certain risks we face. They are not the only risks we face. Additional risks of which we are not presently aware or that we currently believe are immaterial may also harm our business and results of operations. The trading price of our Common Stock could decline due to the occurrence of any of these risks, and investors could lose all or part of their investment. In assessing these risks, investors should also refer to the other information contained or incorporated by reference in our other filings with the SEC.*

#### **Risks Related to Our Financial Condition**

***We do not have sufficient cash reserves to fund our activities at their current pace beyond this year.***

Our plan of operations is to provide substantial amounts of development funding and financial support for our majority-owned subsidiaries over an extended period of time. Our Board of Directors adopted a cash conservation strategy that scaled back our financial support for our majority-owned subsidiaries, Unidym and Calando. This has influenced Unidym's decision to engage partners for its capital-intensive bulk CNT manufacturing and concentrate its resources on its CNT inks and CNT-based film products and Calando's decision to curtail internal R&D efforts for its drug delivery platforms and clinical candidates and seek partners for future development of its drug candidates. Management has developed a plan based upon the latest financing (See Note 6 – Stockholder's Equity) which includes the December 2009 financing and other transactions. The plan shows that the Company has enough cash to fund operations through September 30, 2010. Should a shortfall occur in expected cash receipts, the plan has contingencies to reduce costs in order to operate through September 30, 2010 without additional financing.

We may need to obtain additional capital to support our projects, and we may plan to do so by out-licensing technology, selling one or more of our subsidiaries, securing funded partnerships, conducting one or more private placements of equity securities of the Company or our subsidiaries, selling additional securities in a registered public offering, or through a combination of one or more of such financing alternatives. However, there can be no assurance that we will be successful in any of these endeavors or, if we are successful, that such transactions will be accomplished on favorable terms. If we are unable to obtain additional capital, we will be required to implement additional cash saving measures by limiting further activities at Unidym, or at the Company, which could materially harm our business and our ability to achieve cash flow in the future, including delaying or reducing implementation of certain aspects of our plan of operations. Even if we are successful in obtaining additional capital, because we and each subsidiary are separate entities, it could be difficult or impossible to allocate funds in a way that meets the needs of all entities.

***A substantial portion of Unidym's intellectual property is licensed from Rice University and the Rice license includes an insolvency provision.***

Through its merger with Carbon Nanotechnologies, Inc. ("CNI"), Unidym acquired a license to certain intellectual property from Rice University. Under the license, Unidym must meet a solvency test in order to retain the rights to the licensed technology. Although Unidym is not insolvent at this time, if Unidym does not obtain additional capital, it is likely that it would become insolvent

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and the Rice license would be subject to potential termination. If the Rice license terminates, Unidym would lose exclusivity in the fields of use covered by the Rice license and its business would be materially and irrevocably harmed. In this case, the likelihood that the Company would realize any return on its investment in Unidym would be substantially diminished, if not eliminated entirely. This would likely materially and irrevocably harm the value of the Company.

### ***The current financial market conditions may exacerbate certain risks affecting our business.***

Neither the Company nor our subsidiaries generate substantial revenue, and, to date, our operations, research and development activities have been primarily funded through the sale of Company securities and securities of our subsidiaries. Current market conditions are likely to impair our ability to raise the capital we need. If we are unable to secure additional cash resources from the sale of securities or other sources, it could become necessary to further slow, interrupt or close down development efforts at Unidym. In addition, we may have to make additional cuts in expenses at the Company, which could impair our ability to manage our business and our subsidiaries. Even if investment capital is available to us, the terms may be onerous in light of the state of the current market. If investment capital is needed and available to Unidym and/or Calando and the Company does not have the funds to make a pro rata investment, our ownership interest could be significantly diluted. The sale of additional Company stock to fund operations could result in significant dilution to stockholders.

The strategy for eventual monetization of our subsidiaries will likely depend on our ability to exit our ownership position in each subsidiary in an orderly manner. Exit opportunities could include an initial public offering ("IPO") for the subsidiary or acquisition of the subsidiary by another company. Due to the current economic climate, companies are adopting conservative acquisition strategies and, even if there is interest, they may not be able to acquire our subsidiaries on terms that are attractive to us, if at all. These factors could reduce the realizable return on our investment if we are able to sell a subsidiary. Additionally, the market for IPOs is severely limited, which limits public exit opportunities for our subsidiaries.

### ***We may not be able to maintain our listing on the NASDAQ Capital Market.***

Our Common Stock trades on the NASDAQ Capital Market, which has certain compliance requirements for continued listing of common stock. We have in the past been subject to delisting procedures due to a drop in the price of our Common Stock. If our minimum closing bid price per share falls below \$1.00 for a period of 30 consecutive trading days in the future, we may again be subject to delisting procedures. As of the close of business on April 30, 2010, our Common Stock had a closing bid price of \$1.53 per share. We must also meet additional continued listing requirements contained in NASDAQ Marketplace Rule 5550(b), which requires that we have either (1) a minimum of \$2,500,000 in stockholders' equity, (2) \$35,000,000 market value of listed securities held by non-affiliates or (3) \$500,000 of net income from continuing operations for the most recently completed fiscal year (or two of the three most recently completed fiscal years). As of April 30, 2010, based on our closing price as of that day, the market value of our securities held by non-affiliates exceeded \$90,000,000 and we were in compliance with NASDAQ Marketplace Rule 5550(b). There can be no assurance that we will continue to meet the continued listing requirements.

Delisting could reduce the ability of our shareholders to purchase or sell shares as quickly and as easily as they have done historically. For instance, failure to obtain listing on another market or exchange may make it more difficult for traders to sell our securities. Broker-dealers may be less willing or able to sell or make a market in our Common Stock. Not maintaining our NASDAQ Capital Market listing may (among other effects):

- result in a decrease in the trading price of our Common Stock;
- lessen interest by institutions and individuals in investing in our Common Stock;
- make it more difficult to obtain analyst coverage; and
- make it more difficult for us to raise capital in the future.

### ***We have debt on our consolidated balance sheet, which could have consequences if we were unable to repay the principal or interest due.***

**Unidym.** We have debt on our consolidated balance sheet, including a capital lease obligation acquired in connection with Unidym's acquisition of Nanoconduction, Inc. As of March 31, 2010, the capital lease obligation requires us to pay a total of \$296,419 in four monthly payments of approximately \$75,000 each for capital equipment at Unidym's Sunnyvale, California location and the equipment itself serves as collateral for the debt. Unidym's ability to make payments on its indebtedness will depend on its ability to conserve the cash that it has on hand and to generate cash in the future. Neither Unidym nor the Company currently generates significant revenue. Because Unidym does not currently have a substantial amount of cash on hand, Unidym might be required to divert cash from development activities or to generate cash via debt or equity financing to be able to meet the monthly payment requirements under the capital lease obligation. This, to some extent, is subject to general economic, financial, competitive, legislative, regulatory and other factors that are beyond our control. Also, given the current economic climate, financing options might be limited going forward, which could prevent Unidym from obtaining the necessary funds to pay its indebtedness when due. Because the equipment serves as collateral for the debt, if Unidym is unable to make the monthly payments when due, the lessor of the equipment, at its discretion, may seize the equipment and Unidym would not be able to use the equipment in its development activities.

**Calando.** Calando has a \$500,000 unsecured convertible promissory note outstanding. The note bears 10% interest accrued annually and matures in November 2010. The note is also payable at two times face value in certain events, including, among other things, the license of Calando's siRNA delivery system. Following maturity, the note becomes payable on demand. If Calando is unable to meet its obligations to the bearer of the note after maturity, we may also not be in a position to lend Calando sufficient cash to pay such demand note. Unless other sources of financing become available, this could result in Calando's insolvency.



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***Our subsidiaries have entered into technology license agreements with third parties that require us to satisfy obligations to keep them effective and, if these agreements are terminated, our technology and our business would be seriously and adversely affected.***

Through our subsidiaries, we have entered into exclusive, long-term license agreements with Rice University, California Institute of Technology, Alnylam Pharmaceuticals, Inc. and other entities to incorporate their proprietary technologies into our proposed products. These license agreements require us to pay royalties and satisfy other conditions, including conditions related to the commercialization of the licensed technology. We cannot give any assurance that we will successfully incorporate these technologies into marketable products or, if we do, whether sales will be sufficient to recover the amounts that we are obligated to pay to the licensors. Failure by us to satisfy our obligations under these agreements may result in the modification of the terms of the licenses, such as by rendering them non-exclusive, or may give our licensors the right to terminate their respective agreement with us, which would limit our ability to implement our current business plan and harm our business and financial condition.

### **Risks Related to Our Business Model and Company**

***We are a development stage company and our success is subject to the substantial risks inherent in the establishment of a new business venture.***

The implementation of our business strategy is still in the development stage. We currently own majority interests in two subsidiary companies, investments in two early stage biotech companies and, through Unidym, one university research project at Duke University. Our business and operations should be considered to be in the development stage and subject to all of the risks inherent in the establishment of a new business venture. Accordingly, our intended business and operations may not prove to be successful in the near future, if at all. Any future success that we might enjoy will depend upon many factors, several of which may be beyond our control, or which cannot be predicted at this time, and which could have a material adverse effect upon our financial condition, business prospects and operations and the value of an investment in the company.

***The costs to fund the operations of Unidym is difficult to predict, and our anticipated expenditures in support of Unidym may increase or decrease for a variety of reasons.***

Development, manufacturing and sale of cost-effective electronic products incorporating carbon nanotubes may require significant additional investment and take a long time. It is possible that the development and scale up of Unidym's carbon nanotube manufacturing effort and its development and scale up of its transparent conductive film products could be delayed for a number of reasons, including unforeseen difficulties with the technology development and delays in adoption of the technology by customers. Any delay would result in additional unforeseen costs, which would harm our results of operations. Due to these uncertainties, we cannot reasonably estimate the size, nature or timing of the costs to complete the development of Unidym's products or net cash inflows from Unidym's current activities.

***Calando may be unable to find additional partners to license its technologies.***

As part of our cash conservation strategy that scales back our financial support for Calando at this time, Calando has closed its laboratory facilities, eliminated its technical employees and has shifted its focus to licensing its technologies to partners. Currently, Calando has one licensing partner, but there can be no assurance that Calando will be able to find additional partners to license its technologies upon terms favorable to Calando.

***If Calando licenses its technologies, it will lose a considerable amount of control over its intellectual property and may not receive adequate licensing revenues in exchange.***

The business model of our subsidiaries has historically been to develop new nanotechnologies and to exploit the intellectual property created through the research and development process to develop commercially successful products. Calando has licensed a portion of its technology to Cerulean Pharma, Inc. and intends to pursue further licensing arrangements with other companies. As Calando licenses its technology to other companies, it will lose control over certain of the technologies it licenses and will be unable to significantly direct the commercialization of its technologies. In addition, Calando's licensees may not be successful in the further commercialization of Calando's technologies and anticipated revenues from such license agreements may be less than expected or may not be paid at all.

***There are substantial inherent risks in attempting to commercialize new technological applications, and, as a result, we may not be able to successfully develop nanotechnology for commercial use.***

The Company finances research and development of nanotechnology, which is a new and unproven field. Our scientists and engineers are working on developing technology in various stages. However, such technology's commercial feasibility and acceptance is unknown. Scientific research and development requires significant amounts of capital and takes an extremely long time to reach commercial viability, if at all. To date, our research and development projects have not produced commercially viable applications, and may never do so. During the research and development process, we may experience technological barriers that we may be unable to overcome. For example, our scientists must determine how to design and develop nanotechnology applications for potential products designed by third parties for use in cost-effective manufacturing processes. Because of these uncertainties, it is possible that none of our potential applications will be successfully developed. If we are unable to successfully develop nanotechnology applications for commercial use, we will be unable to generate revenue or build a sustainable or profitable business.



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***Because we have not generated significant revenues to cover our operating expenses, we are dependent on raising additional capital from investors or lenders.***

To date, we have only generated a small amount of revenue as a result of our current plan of operations. Given our strategy of financing new and unproven technology research, there is no assurance we would ever generate significant revenues. Our revenue-producing opportunities depend on liquidity events within our subsidiaries, such as a sale of the subsidiary, licensing transaction or initial public offering. We cannot be certain that we will be able to create a liquidity event for any of our subsidiaries and, even if we are able to, we cannot be certain of the timing or the potential proceeds to Arrowhead as a stockholder. Accordingly, our revenue prospects are uncertain and we must plan to finance our operations through the sales of equity securities or debt financing. If we are unable to continue raising operating capital from these sources, we may be forced to curtail or cease our operations.

***We will need to achieve commercial acceptance of our applications to generate revenues and achieve profitability.***

Even if our research and development yields technologically feasible applications, we may not successfully develop commercial products, and even if we do, we may not do so on a timely basis. If our research efforts are successful on the technology side, it could take at least several years before this technology will be commercially viable. During this period, superior competitive technologies may be introduced or customer needs may change, which will diminish or extinguish the commercial uses for our applications. Because nanotechnology is an emerging field, the degree to which potential consumers will adopt nanotechnology-enabled products is uncertain. We cannot predict when significant commercial market acceptance for nanotechnology-enabled products will develop, if at all, and we cannot reliably estimate the projected size of any such potential market. If markets fail to accept nanotechnology-enabled products, we may not be able to generate revenues from the commercial application of our technologies. Our revenue growth and achievement of profitability will depend substantially on our ability to introduce new technological applications to manufacturers for products accepted by customers. If we are unable to cost-effectively achieve acceptance of our technology among original equipment manufacturers and customers, or if the associated products do not achieve wide market acceptance, our business will be materially and adversely affected.

***We will need to establish additional relationships with strategic and development partners to fully develop and market our products.***

We do not possess all of the resources necessary to develop and commercialize products that may result from our technologies on a mass scale. Unless we expand our product development capacity and enhance our internal marketing, we will need to make appropriate arrangements with strategic partners to develop and commercialize current and future products. If we do not find appropriate partners, or if our existing arrangements or future agreements are not successful, our ability to develop and commercialize products could be adversely affected. Even if we are able to find collaborative partners, the overall success of the development and commercialization of product candidates in those programs will depend largely on the efforts of other parties and is beyond our control. In addition, in the event we pursue our commercialization strategy through collaboration, there are a variety of attendant technical, business and legal risks, including:

- a development partner would likely gain access to our proprietary information, potentially enabling the partner to develop products without us or design around our intellectual property;
- we may not be able to control the amount and timing of resources that our collaborators may be willing or able to devote to the development or commercialization of our product candidates or to their marketing and distribution; and
- disputes may arise between us and our collaborators that result in the delay or termination of the research, development or commercialization of our product candidates or that result in costly litigation or arbitration that diverts our management's resources.

The occurrence of any of the above risks could impair our ability to generate revenues and harm our business and financial condition.

***We need to retain a controlling interest, by ownership, contract or otherwise, in Unidym and Calando in order to avoid potentially being deemed an investment company under the Investment Company Act of 1940.***

Companies that have more than 100 U.S. stockholders or are publicly traded in the U.S. or are, or hold themselves out as being, engaged primarily in the business of investing, reinvesting or trading in securities are subject to regulation under the Investment Company Act of 1940. Unless a substantial part of our assets consists of, and a substantial part of our income is derived from, interests in majority-owned subsidiaries and companies that we primarily control, whether by contract or otherwise, we may be required to register and become subject to regulation under the Investment Company Act. Because Investment Company Act regulation is, for the most part, inconsistent with our strategy of actively managing and operating our portfolio companies, a requirement to operate our business as a registered investment company would restrict our operations and require additional resources for compliance.

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If we are deemed to be, and are required to register as, an investment company, we will be forced to comply with substantive requirements under the Investment Company Act, including:

- limitations on our ability to borrow;
- limitations on our capital structure;
- restrictions on acquisitions of interests in associated companies;
- prohibitions on transactions with our affiliates;
- restrictions on specific investments; and
- compliance with reporting, record keeping, voting, proxy disclosure and other rules and regulations.

In order to avoid regulation under the Investment Company Act, we may choose to make additional pro rata investments in Unidym and Calando to maintain a controlling interest.

### ***Nanotechnology-enabled products are new and may be viewed as being harmful to human health or the environment.***

There is public concern regarding the human health, environmental and ethical implications of nanotechnology that could impede market acceptance of products developed through these means. Nanotechnology-enabled products could be composed of materials such as carbon, silicon, silicon carbide, germanium, gallium arsenide, gallium nitride, cadmium selenide or indium phosphide, which may prove to be unsafe or harmful to human health or to the environment because of the size, shape or composition of the nanostructures. For this reason, these nanostructures may prove to present risks to human health or the environment that are different from and greater than the better understood risks that may be presented by the constituent materials in non-nanoscale forms. Because of the potential, but at this point unknown, risks associated with certain nanomaterials, government authorities in the U.S. or individual states, and foreign government authorities could, for social or other purposes, prohibit or regulate the use of some or all nanotechnologies. The U.S. Environmental Protection Agency has in that regard recently taken steps towards regulation of the manufacture and use of certain nanotechnology-enabled materials, including those containing carbon nanotubes or nanosilver. Further, the U.S. National Academy of Sciences/National Research Council concluded that the U.S. government needs to develop a more robust and coordinated plan for addressing the potential environmental, health, and safety risks of nanomaterials. The regulation and limitation of the kinds of materials used in or used to develop nanotechnology-enabled products, or the regulation of the products themselves, could halt or delay the commercialization of nanotechnology-enabled products or substantially increase the cost, which will impair our ability to achieve revenue from the license of nanotechnology applications.

### ***We may not be able to effectively secure first-tier research and development projects when competing against other ventures.***

We compete with a substantial number of other companies that fund early-stage, scientific research at universities to secure rights to promising technologies. In addition, many venture capital firms and other institutional investors invest in companies seeking to commercialize various types of emerging technologies. Many of these companies have greater resources than we do. Therefore, we may not be able to secure the opportunity to finance first-tier research and commercialization projects. Furthermore, should any commercial undertaking by us prove to be successful, there can be no assurance competitors with greater financial resources will not offer competitive products and/or technologies.

### ***We rely on outside sources for various components and processes for our products.***

We rely on third parties for various components and processes for our products. While we try to have at least two sources for each component and process, we may not be able to achieve multiple sourcing because there may be no acceptable second source, other companies may choose not to work with us, or the component or process sought may be so new that a second source does not exist, or does not exist on acceptable terms. In addition, due to the recent tightening of global credit and the disruption in the financial markets, there may be a disruption or delay in the performance of our third-party contractors, suppliers or collaborators. If such third parties are unable to satisfy their commitments to us, our business would be adversely affected. Therefore, it is possible that our business plans will have to be slowed down or stopped completely at times due to our inability to obtain required raw materials, components and outsourced processes at an acceptable cost, if at all, or to get a timely response from vendors.

### ***We must overcome the many obstacles associated with integrating and operating varying business ventures to succeed.***

Our model to integrate and oversee the strategic direction of various subsidiaries and research and development projects presents many risks, including:

- the difficulty of integrating operations and personnel; and
- the diversion of our management's attention as a result of evaluating, negotiating and integrating acquisitions or new business ventures.

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If we are unable to timely and efficiently design and integrate administrative and operational support for our subsidiaries, we may be unable to manage projects effectively, which could adversely affect our ability to meet our business objectives and the value of an investment in the Company could decline.

In addition, consummating acquisitions and taking advantage of strategic relationships could adversely impact our cash position, and dilute stockholder interests, for many reasons, including:

- changes to our income to reflect the amortization of acquired intangible assets, including goodwill;
- interest costs and debt service requirements for any debt incurred to fund our growth strategy; and
- any issuance of securities to fund our operations or growth, which dilutes or lessens the rights of current stockholders.

### ***Our success depends on the attraction and retention of senior management and scientists with relevant expertise.***

Our future success will depend to a significant extent on the continued services of our key employees. In addition, we rely on several key executives to manage each of our subsidiaries. We do not maintain key man life insurance for any of our executives. Our ability to execute our strategy also will depend on our ability to continue to attract and retain qualified scientists, sales, marketing and additional managerial personnel. If we are unable to find, hire and retain qualified individuals, we could have difficulty implementing our business plan in a timely manner, or at all. Given the Company's current financial constraints, we may need to terminate additional employees, including senior management and technical employees, or such employees may seek other employment. With these and past reductions, it is possible that valuable know-how will be lost and that development efforts could be negatively affected.

### ***Members of our senior management team and Board may have a conflict of interest in also serving as officers and/or directors of our subsidiaries.***

While we expect that our officers and directors who also serve as officers and/or directors of our subsidiaries will comply with their fiduciary duties owed to our stockholders, they may have conflicting fiduciary obligations to our stockholders and the minority stockholders of our subsidiaries. Specifically, Dr. Anzalone, our CEO and President, is the founder, CEO and a board member of each of Nanotope, a regenerative medicine company that is separately financed in which the Company owns a 23% interest, and Leonardo, a drug delivery company in which the Company owns a 6% interest. Dr. Anzalone owns a noncontrolling interest in the stock of each of Nanotope and Leonardo. To the extent that any of our directors choose to recuse themselves from particular Board actions to avoid a conflict of interest, the other members of our Board of Directors will have a greater influence on such decisions.

### ***Our efforts pertaining to the pharmaceutical industry are subject to additional risks.***

Our subsidiary, Calando, as well as minority investments Nanotope and Leonardo, are focused on technology related to new and improved pharmaceutical candidates. Drug development is time consuming, expensive and risky. Even product candidates that appear promising in the early phases of development, such as in early animal and human clinical trials, often fail to reach the market for a number of reasons, such as:

- clinical trial results are not acceptable, even though preclinical trial results were promising;
- inefficacy and/or harmful side effects in humans or animals;
- the necessary regulatory bodies, such as the U.S. Food and Drug Administration, did not approve our potential product for the intended use; and
- manufacturing and distribution is uneconomical.

Clinical trial results are frequently susceptible to varying interpretations by scientists, medical personnel, regulatory personnel, statisticians and others, which often delays, limits, or prevents further clinical development or regulatory approvals of potential products. If the subsidiaries' technology is not cost effective or if the associated drug products do not achieve wide market acceptance, the value of a subsidiary would be materially and adversely affected.

### ***Any drugs developed by our subsidiaries may become subject to unfavorable pricing regulations, third-party reimbursement practices or healthcare reform initiatives, thereby harming our business.***

Increasing expenditures for healthcare have been the subject of considerable public attention in the U.S. Both private and government entities are seeking ways to reduce or contain healthcare costs. Numerous proposals that would affect changes in the U.S. healthcare system have been introduced or proposed in Congress and in some state legislatures, including reductions in the cost of prescription products and changes in the levels at which consumers and healthcare providers are reimbursed for purchases of pharmaceutical products.

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The ability of Calando and our minority investments, Nanotope and Leonardo, to market products successfully (either on their own or in partnership with other companies) will depend in part on the extent to which third-party payers are willing to reimburse patients for the costs of their products and related treatments. These third-party payers include government authorities, private health insurers and other organizations, such as health maintenance organizations. Third party payers are increasingly challenging the prices charged for medical products and services. In addition, the trend toward managed healthcare and government insurance programs could result in lower prices and reduced demand for the products of these companies. Cost containment measures instituted by healthcare providers and any general healthcare reform could affect their ability to sell products and may have a material adverse effect on them, thereby diminishing the value of the Company's interest in these subsidiaries or any anticipated milestone or royalty payments. We cannot predict the effect of future legislation or regulation concerning the healthcare industry and third party coverage and reimbursement on our business.

***There may be a difference in the investment valuations that we used when making initial and subsequent investments in our subsidiaries and minority investments and actual market values.***

Our investments in our subsidiaries and noncontrolling interests were the result of negotiation with subsidiary management and equity holders, and the investment valuations were not independently verified. Traditional methods used by independent valuation analysts include a discounted cash flow analysis and a comparable company analysis. We have not generated a positive cash flow to date and do not expect to generate significant cash flow in the near future. Additionally, we believe that there exist few comparable public companies to provide a meaningful valuation comparison. Accordingly, we have not sought independent valuation analysis in connection with our investments and may have invested in our various holdings at higher or lower valuations than an independent source would have recommended. There may be no correlation between the investment valuations that we used over the years for our investments and the actual market values. If we should eventually sell all or a part of any of our consolidated business or that of a subsidiary, the ultimate sale price may be for a value substantially different than previously determined by us, which could materially and adversely impair the value of our Common Stock.

### **Risks Related to Our Intellectual Property**

***If Unidym is unable to raise additional cash or pay its debts, Unidym may lose rights to critical intellectual property.***

Unidym is required to meet certain financial covenants pursuant to the Rice University license agreement acquired by Unidym upon its acquisition of CNI. The Rice license includes financial covenants tested quarterly for compliance. If Unidym fails to meet the financial covenants, the Rice license automatically terminates. If this should happen, the value of Unidym's intellectual property portfolio would be significantly and adversely affected and Unidym would likely lose patent protection for its products and licensing opportunities for the majority of its CNT intellectual portfolio.

***Our ability to protect our patents and other proprietary rights is uncertain, exposing us to the possible loss of competitive advantage.***

Our subsidiaries have licensed rights to pending patents and have filed and will continue to file patent applications. The researchers sponsored by us may also file patent applications that we choose to license. If a particular patent is not granted, the value of the invention described in the patent would be diminished. Further, even if these patents are granted, they may be difficult to enforce. Even if successful, efforts to enforce our patent rights could be expensive, distracting for management, cause our patents to be invalidated, and frustrate commercialization of products. Additionally, even if patents are issued and are enforceable, others may independently develop similar, superior or parallel technologies to any technology developed by us, or our technology may prove to infringe upon patents or rights owned by others. Thus, the patents held by or licensed to us may not afford us any meaningful competitive advantage. If we are unable to derive value from our licensed or owned intellectual property, the value of your investment may decline.

***Our ability to develop and commercialize products will depend on our ability to enforce our intellectual property rights and operate without infringing the proprietary rights of third parties.***

Our ability and the ability of our subsidiaries to develop and commercialize products based on their respective patent portfolios, will depend, in part, on our ability and the ability of our subsidiaries to enforce those patents and operate without infringing the proprietary rights of third parties. There can be no assurance that any patents that may issue from patent applications owned or licensed by us or any of our subsidiaries will provide sufficient protection to conduct our respective businesses as presently conducted or as proposed to be conducted, or that we or our subsidiaries will remain free from infringement claims by third parties.

***We may be subject to patent infringement claims, which could result in substantial costs and liability and prevent us from commercializing our potential products.***

Because the nanotechnology intellectual property landscape is rapidly evolving and interdisciplinary, it is difficult to conclusively assess our freedom to operate without infringing on third party rights. However, we are currently aware of certain patent rights held by third parties that, if found to be valid and enforceable, could be alleged to render one or more of our business lines infringing. If a claim should be brought and is successful, we may be required to pay substantial damages, be forced to abandon any

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affected business lines and/or seek a license from the patent holder. In addition, any patent infringement claims brought against us or our subsidiaries, whether or not successful, may cause us to incur significant expenses and divert the attention of our management and key personnel from other business concerns. These could negatively affect our results of operations and prospects. There can also be no assurance that patents owned or licensed by us or our subsidiaries will not be challenged by others.

In addition, if our potential products infringe the intellectual property rights of third parties, these third parties may assert infringement claims against our customers, and we may be required to indemnify our customers for any damages they suffer as a result of these claims. The claims may require us to initiate or defend protracted and costly litigation on behalf of customers, regardless of the merits of these claims. If any of these claims succeed, we may be forced to pay damages on behalf of our customers or may be required to obtain licenses for the products they use. If we cannot obtain all necessary licenses on commercially reasonable terms, we may be unable to continue selling such products.

### ***The technology licensed by our subsidiaries from various third parties may be subject to government rights and retained rights of the originating research institutions.***

We license technology from Caltech, Rice University, and other universities and companies. Our licensors may have obligations to government agencies or universities. Under their agreements, a government agency or university may obtain certain rights over the technology that we have developed and licensed, including the right to require that a compulsory license be granted to one or more third parties selected by the government agency.

In addition, our collaborators often retain certain rights under their agreements with us, including the right to use the underlying technology for noncommercial academic and research use, to publish general scientific findings from research related to the technology, and to make customary scientific and scholarly disclosures of information relating to the technology. It is difficult to monitor whether our collaborators limit their use of the technology to these uses, and we could incur substantial expenses to enforce our rights to our licensed technology in the event of misuse.

## **Risks Related to Regulation of Our Products**

### ***Our corporate compliance program cannot guarantee that we are in compliance with all applicable federal and state regulations.***

Our operations, including our research and development and our commercialization efforts, such as clinical trials, manufacturing and distribution, are subject to extensive federal and state regulation. While we have developed and instituted a corporate compliance program, we cannot assure you that the Company or our employees are or will be in compliance with all potentially applicable federal and state regulations or laws. If we fail to comply with any of these regulations or laws, a range of actions could result, including, but not limited to, the termination of clinical trials, the failure to approve a commercialized product, significant fines, sanctions, or litigation, any of which could harm our business and financial condition.

### ***If export controls affecting our products are expanded, our business will be adversely affected.***

The federal government regulates the sale and shipment of numerous technologies by U.S. companies to foreign countries. Our subsidiaries may develop products that might be useful for military and antiterrorism activities. Accordingly, federal government export regulations could restrict sales of these products in other countries. If the federal government places burdensome export controls on our technology or products, our business would be materially and adversely affected. If the federal government determines that we have not complied with the applicable export regulations, we may face penalties in the form of fines or other punishment.

## **Risks Related to our Stock**

### ***Stockholder equity interest may be substantially diluted in any additional financing.***

Our certificate of incorporation authorizes the issuance of 145,000,000 shares of Common Stock and 5,000,000 shares of Preferred Stock, on such terms and at such prices as our Board of Directors may determine. As of March 31, 2010, 63,833,753 shares of Common Stock and no shares of Preferred Stock were issued and outstanding. As of March 31, 2010, 1,532,000 shares and 5,003,838 shares were reserved for issuance upon exercise of options granted under our 2000 Stock Option Plan and 2004 Equity Incentive Plan, respectively. As of March 31, 2010, there were warrants outstanding to purchase 19,577,257 shares of Common Stock. All of the warrants are callable by us under certain market conditions. The issuance of additional securities in financing transactions by us or through the exercise of options or warrants will dilute the equity interests of our existing stockholders, perhaps substantially, and might result in dilution in the tangible net book value of a share of our Common Stock, depending upon the price and other terms on which the additional shares are issued.

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***Our Common Stock price has fluctuated significantly over the last several years and may continue to do so in the future, without regard to our results of operations and prospects.***

Because we are a development stage company, there are few objective metrics by which our progress may be measured. Consequently, we expect that the market price of our Common Stock will likely continue to fluctuate significantly. We do not expect to generate substantial revenue from the license or sale of our nanotechnology for several years, if at all. In the absence of product revenue as a measure of our operating performance, we anticipate that investors and market analysts will assess our performance by considering factors such as:

- announcements of developments related to our business;
- developments in our strategic relationships with scientists within the nanotechnology field;
- our ability to enter into or extend investigation phase, development phase, commercialization phase and other agreements with new and/or existing partners;
- announcements regarding the status of any or all of our collaborations or products;
- market perception and/or investor sentiment regarding nanotechnology as the next technological wave;
- announcements regarding developments in the nanotechnology field in general;
- the issuance of competitive patents or disallowance or loss of our patent rights; and
- quarterly variations in our operating results.

We will not have control over many of these factors but expect that they may influence our stock price. As a result, our stock price may be volatile and any extreme fluctuations in the market price of our Common Stock could result in the loss of all or part of your investment.

***The market for purchases and sales of our Common Stock may be very limited, and the sale of a limited number of shares could cause the price to fall sharply.***

Although our Common Stock is listed for trading on the NASDAQ Capital Market, our securities historically were relatively thinly traded. Our current solvency concerns could serve to exacerbate the thin trading of our securities. For example, mandatory sales of our Common Stock by institutional holders could be triggered if an investment in our Common Stock no longer satisfies their investment standards and guidelines as a result of the solvency concerns. Accordingly, it may be difficult to sell shares of Common Stock quickly without significantly depressing the value of the stock. Unless we are successful in developing continued investor interest in our stock, sales of our stock could continue to result in major fluctuations in the price of the stock.

***If securities or industry analysts do not publish research reports about our business or if they make adverse recommendations regarding an investment in our stock, our stock price and trading volume may decline.***

The trading market for our Common Stock will be influenced by the research and reports that industry or securities analysts publish about our business. We do not currently have and may never obtain research coverage by industry or securities analysts. Investors have many investment opportunities and may limit their investments to companies that receive coverage from analysts. If no industry or securities analysts commence coverage of the Company, the trading price of our stock could be negatively impacted. In the event we obtain industry or security analyst coverage, if one or more of the analysts downgrade our stock or comment negatively on our prospects, our stock price would likely decline. If one or more of these analysts cease to cover our industry or us or fails to publish reports about the Company regularly, our Common Stock could lose visibility in the financial markets, which could also cause our stock price or trading volume to decline.

***The market price of our Common Stock may be adversely affected by the sale of shares by our management or founding stockholders.***

Sales of our Common Stock by our officers, directors and founding stockholders could adversely and unpredictably affect the price of those securities. Additionally, the price of our Common Stock could be affected even by the potential for sales by these persons. We cannot predict the effect that any future sales of our Common Stock, or the potential for those sales, will have on our share price. Furthermore, due to relatively low trading volume of our stock, should one or more large stockholders seek to sell a significant portion of its stock in a short period of time, the price of our stock may decline.

***We may be the target of securities class action litigation due to future stock price volatility.***

In the past, when the market price of a stock has been volatile, holders of that stock have often initiated securities class action litigation against the company that issued the stock. If any of our stockholders brought a lawsuit against us, we could incur substantial costs defending the lawsuit. The lawsuit could also divert the time and attention of our management.

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***We do not intend to declare cash dividends on our Common Stock.***

We will not distribute cash to our stockholders unless and until we can develop sufficient funds from operations to meet our ongoing needs and implement our business plan. The time frame for that is inherently unpredictable, and you should not plan on it occurring in the near future, if at all.

***Our Board of Directors has the authority to issue shares of “blank check” preferred stock, which may make an acquisition of the Company by another company more difficult.***

We have adopted and may in the future adopt certain measures that may have the effect of delaying, deferring or preventing a takeover or other change in control of the Company that a holder of our Common Stock might consider in its best interest. Specifically, our Board of Directors, without further action by our stockholders, currently has the authority to issue up to 5,000,000 shares of preferred stock and to fix the rights (including voting rights), preferences and privileges of these shares (“blank check” preferred). Such preferred stock may have rights, including economic rights, senior to our Common Stock.

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

All information under this Item has been previously reported on our Current Reports on Form 8-K.

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

None.

**ITEM 4. (REMOVED AND RESERVED)**

**ITEM 5. OTHER INFORMATION.**

None.

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### ITEM 6. EXHIBITS.

<u>Exhibit Number</u>	<u>Document Description</u>
3.1	Amendment No. 1 to the Bylaws of Arrowhead Research Corporation (1)
31.1	Certification of Chief Executive Officer pursuant to Rule 13a-14(a) of the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002*
31.2	Certification of Chief Financial Officer pursuant to Rule 13a-14(a) of the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002*
32.1	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002*
32.2	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002*

\* Filed herewith

(1) Incorporated by reference from the current report on Form 8-K, filed by the registrant on April 27, 2010.



**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: May 13, 2010

ARROWHEAD RESEARCH CORPORATION

By: /s/ KENNETH A. MYSZKOWSKI

Kenneth A. Myszkowski  
Chief Financial Officer

**CERTIFICATION OF CHIEF EXECUTIVE OFFICER  
PURSUANT TO RULE 13a-14(a) OR RULE 15d-14(a)  
OF THE SECURITIES EXCHANGE ACT OF 1934**

I, Christopher Anzalone, Chief Executive Officer of Arrowhead Research Corporation, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Arrowhead Research Corporation;

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

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

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

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

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

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

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

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

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

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

Date: May 13, 2010

/s/ CHRISTOPHER ANZALONE

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Christopher Anzalone  
Chief Executive Officer

**CERTIFICATION OF CHIEF FINANCIAL OFFICER  
PURSUANT TO RULE 13a-14(a) OR RULE 15d-14(a)  
OF THE SECURITIES EXCHANGE ACT OF 1934**

I, Kenneth A. Myszkowski, Chief Financial Officer of Arrowhead Research Corporation, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Arrowhead Research Corporation;

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

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

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

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

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

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

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

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

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

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

Date: May 13, 2010

/s/ KENNETH A. MYSZKOWSKI

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**Kenneth A. Myszkowski,  
Chief Financial Officer**

**CERTIFICATION OF CHIEF EXECUTIVE OFFICER  
PURSUANT TO RULE 13a-14(b) OR RULE 15d-14(b)  
OF THE SECURITIES EXCHANGE ACT OF 1934  
AND 18 U.S.C. SECTION 1350**

I, Christopher Anzalone, Chief Executive Officer of Arrowhead Research Corporation (the "Company"), certify, pursuant to Rule 13(a)-14(b) or Rule 15(d)-14(b) of the Securities Exchange Act of 1934 and 18 U.S.C. Section 1350, that (i) the Quarterly Report on Form 10-Q of the Company for the quarterly period ended March 31, 2010, fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, and (ii) the information contained in such Quarterly Report on Form 10-Q fairly presents in all material respects the financial condition and results of operations of the Company.

Date: May 13, 2010

/s/ CHRISTOPHER ANZALONE

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**Christopher Anzalone**  
**Chief Executive Officer**

A signed original of these written statements required by 18 U.S.C. Section 1350 has been provided to Arrowhead Research Corporation and will be retained by Arrowhead Research Corporation and furnished to the Securities and Exchange Commission or its staff upon request.

**CERTIFICATION OF CHIEF FINANCIAL OFFICER  
PURSUANT TO RULE 13a-14(b) OR RULE 15d-14(b)  
OF THE SECURITIES EXCHANGE ACT OF 1934  
AND 18 U.S.C. SECTION 1350**

I, Kenneth A. Myszkowski, Chief Financial Officer of Arrowhead Research Corporation (the "Company"), certify, pursuant to Rule 13(a)-14(b) or Rule 15(d)-14(b) of the Securities Exchange Act of 1934 and 18 U.S.C. Section 1350, that (i) the Quarterly Report on Form 10-Q of the Company for the quarterly period ended March 31, 2010, fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, and (ii) the information contained in such Quarterly Report on Form 10-Q fairly presents in all material respects the financial condition and results of operations of the Company.

Date: May 13, 2010

/s/ KENNETH A. MYSZKOWSKI

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**Kenneth A. Myszkowski**  
**Chief Financial Officer**

A signed original of these written statements required by 18 U.S.C. Section 1350 has been provided to Arrowhead Research Corporation and will be retained by Arrowhead Research Corporation and furnished to the Securities and Exchange Commission or its staff upon request.