Equity Research
Healthcare | Life Sciences

Complete Genomics, Inc.

November 08, 2011

Review of Third-Quarter Results; Gaining Traction, but Results Highlight Early Stage and Lumpiness in Results

- Complete Genomics (CGI) announced third-quarter results after the close Monday. Revenue of $4.2 million was above our estimate of $3.0 million and consensus of $3.7 million; however, higher operating costs resulted in a wider net loss, with reported per-share loss of $0.65, versus our $0.54 loss estimate and consensus of a $0.55 loss.

- The company shipped more than 700 genomes in the quarter, above management's previous guidance of 600. Due to an unexpected incident while upgrading its sample prep processing lab, however, the company has had to delay some of its expected shipment into first quarter 2012, thus management again lowered fourth-quarter guidance from 1,800 genomes to 900-1,200 genomes (we now model 1,100 genomes, versus our prior 1,800 in the fourth quarter).

- The company increased its backlog from 2,200 genomes as of the end of the second quarter to 4,800 ($24 million), which includes the addition of 3,400 ($17 million) orders offset by more than 700 genomes shipped in the quarter. Outside of the two large orders announced early in the quarter (Inova and NCI), the company booked about 700 genomes at a price of $4,300. The increase in backlog suggests the model continues to gain traction, albeit in a lumpy fashion. Price per genome continues to decline; however, management expects pricing declines to moderate going forward.

- Operating expenses of $25 million exceeded our target, particularly on the COGS line (COGS per genome was about $11,100, versus our previous estimate of around $8,000). The company shipped some orders for NCI in the second quarter, which were not expensed until the third quarter causing a rise in inventory in the second quarter and higher COGS in the third quarter (to the tune of $400,000). The COGS line now assumes the incremental costs of recently upgraded machines; thus, the company's breakeven targets are now $10 million to $12 million in quarterly revenue and $35 million to $40 million in quarterly operating expenses. Given the company is burning about $20 million in cash flow a quarter and ended the quarter with $105 million in cash, we expect Complete Genomics to have to raise cash in the next year.

- The stock is trading at 2.3 times our 2012 revenue estimate of $40 million. Given the early stage of commercialization and dependence on receipt of samples from its larger contracts, we expect continued lumpiness in genome shipments and thus the company's profitability. Although it is hard to get much visibility into the company's future pipeline (where one or two large orders can dramatically swing numbers), looking at the bigger picture, we believe in the long-term viability of the business model. We view the stock as appropriate for small-cap, long-term, very risk-tolerant investors looking to participate in the rapidly growing sequencing space. Thus, we maintain our Outperform rating.

Complete Genomics offers whole-human-genome sequencing services using its proprietary sequencing platform. Incorporated in 2005, CGI began commercial operations in 2010 and raised more than $50 million in an IPO in late 2010.

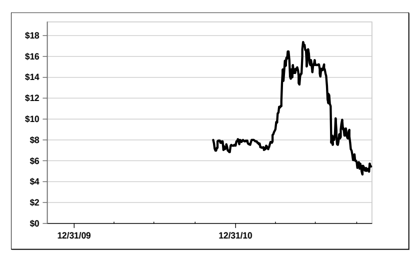
Stock Rating:	**Outperform**
Company Profile:	**Aggressive Growth**
Symbol:	GNOM (NASDAQ)
Price:	$5.05 (52-Wk.: $5-$19)
Market Value (mil.):	$178
Fiscal Year End:	December
Long-Term EPS Growth Rate:	
Dividend/Yield:	None

		2010A	2011E	2012E
Estimates				
EPS	Q1	$-3.36	A$-0.48	$-0.68
	Q2	$-2.96	A$-0.56	$-0.71
	Q3	$-4.88	A$-0.65	$-0.65
	Q4	$-0.69	$-0.68	$-0.63
	FY	$-13.60	$-2.41	$-2.66
	CY		$-2.41	$-2.66
Sales (mil.)		9	22	40
Valuation				
FY P/E		NM	NM	NM
CY P/E			NM	NM

Trading Data (Thomson Financial)	
Shares Outstanding (mil.)	33
Float (mil.)	20
Average Daily Volume	335,807

Financial Data (Thomson Financial)	
Long-Term Debt/Total Capital (MRQ)	NA
Book Value Per Share (MRQ)	NA
Enterprise Value (mil.)	64.4
EBITDA (TTM)	-38.2
Enterprise Value/EBITDA (TTM)	-1.7x
Return on Equity (TTM)	-48.1

Two-Year Price Performance Chart



Sources: Thomson Financial, William Blair & Company estimates

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Investment Conclusions

After the market close Monday, Complete Genomics (CGI) reported what we would characterize as an in-line quarter. Higher revenue was offset by higher operated expenses, with reported revenue of $4.2 million, versus our $3.0 million and consensus of $3.7 million; per-share loss of $0.65, versus our $0.54 loss estimate and consensus of a $0.55 loss.

The company reported more than 700 genomes shipped this quarter, versus its previous expectation of more than 600 genomes, which drove higher-than-expected revenue. In addition, the company increased its backlog from 2,200 genomes as of the end of the second quarter, to 4,800 ($24 million), which includes the addition of 3,400 ($17 million) orders offset by more than 700 genomes shipped in the quarter. Outside of the two large orders announced early in the quarter (Inova and NCI), the company booked about 700 genomes at a price of $4,300.

Complete Genomics ran into snags in upgrading its sample prep workflow (the company's lab was shut down for 30 days as a result during this quarter), which caused a shift of 700 genomes into early first quarter. As a result, Complete Genomics now expects to ship 900 to 1,200 genomes in the fourth quarter, compared to previous guidance of over 1,800. We reduced our expectations for genomes shipped in the fourth quarter to 1,100, at an average price of $5,000 a genome (versus our prior $4,500).

Operating expenses of $25 million exceeded our target, particularly on the COGS line (COGS per genome was about $11,100, versus our previous estimate of around $8,000). The company shipped some orders for NCI in the second quarter, which were not expensed until the third quarter, causing a rise in inventory in the second quarter and higher COGS in the third quarter (to the tune of $400,000). The COGS line now assumes the incremental costs of its recently upgraded machines (outlined in more detail below); thus, the company's breakeven targets have increased to $10 million to $12 million in revenue per quarter (up from $8 million) and $35 million to $40 million in operating expense a quarter. Given that the company is burning about $20 million in cash flow a quarter and ended the quarter with $105 million in cash, we expect Complete Genomics to have to raise cash in the next year.

The stock is trading at 2.3 time our 2012 revenue of $40 million. The sequencing market continues to be highly elastic. While admittedly lower than initially expected, the company will ship roughly 3,200 to 3, 600 genomes in 2011 at a price of $6,500 per genome, versus 800 genomes in 2010 at an average price of $12,100 per genome. The company has been building a backlog with 4,800 genomes worth $24 million in revenue, which suggests the model continues to gain traction. Complete Genomics has been fighting a declining ASP, which while providing access to new and larger markets has also driven a decline in revenue, despite the increase in volume. While price continued to fall through the quarter, management expects pricing declines to moderate, which will obviously benefit revenue going forward. Complete Genomics is also working to improve the speed of machines (with the first upgrade expected to be complete by the first quarter and the next-generation machine to be rolled out in 2012). These improvements should drive a dramatic decrease in COGS per genome in the longer term, assuming the volume is in place to offset the increased fixed cost base.

Given the early stage of commercialization and dependence on timing of receiving samples from its larger contracts, we expect continued short-term lumpiness in genome shipments and thus the company's profitability. Although it is hard to get much visibility into the company's future pipeline, where one or two large orders can dramatically swing numbers, looking at the bigger picture, we believe in the long-term viability of the business model. We view the stock as appropriate for small-cap, long-term, very risk-tolerant investors looking to participate in the rapidly growing sequencing space. Thus, we maintain our Outperform rating.

More details below:

Backlog – As of the third quarter, the company has accumulated $24 million worth of backlog and 4,800 genomes, compared to last quarter's backlog of $12 million and 2,200 genomes. CGI signed $17 million worth of contracts (or approximately 3,800 genomes) this quarter, including the Inova Translational Medicine Institute and the National Cancer Institute/SAIC-Frederick contracts (which together are worth around $14 million and 2,700 genomes) announced last quarter. Depending on the timing of receiving samples, the company expects to ship the backlog within the next several quarters. This implies the company added another 700 genomes to its backlog in the quarter.

CGI has been working on diversifying its customer base to mitigate the effect of timing of receiving samples from its larger customers, and now has more than 100 customers, compared to over 80 customers in the second quarter and more than 50 customers in the first quarter. Although it has been receiving a large number of smaller orders, large institutional orders are still the main driver for backlog growth, thus we do not expect the dependence on sample receipt to go away soon.

Qualitatively, management provided positive comments about its pipeline; the company has reported an increase in the number of large orders in its pipeline relative to a year ago and is in early talks with large translational medicine research institutes. The translational market is more price and infrastructure-driven. As discussed in our note published on October 18, *Conclusions From the 12th ASHG/ICHG Event; Cost an Underappreciated Driver of Lower Reagent Use?,* researchers are currently leveraging exome sequencing in an effort to reduce false positive rates (usually sequenced at 100 times coverage) and identify variants too rare to be found when sequencing a whole genome at 30 times coverage. Although the exome represents about 2% of the coding region of a genome, the cost differential with whole genome sequencing has driven researchers to exome sequencing as a primary discovery tool, and we expect the trend to continue.

However, for the translational medicine market, subjects are often involved in multiyear studies, which require repeating analysis of their genome information. Thus, exome sequencing data may not be sufficient enough to drive clinically actionable data. Therefore, translational medicine researchers might embrace whole genome sequencing at the right price range. Given most translational institutes are not equipped with resources required for whole genome analysis, such as data storage and data interpretation, the bigger problem is how to analyze the data and leverage findings in the clinical settings. Thus, given the significant price drop on whole genome sequencing and CGI's complete offering, the translational market has started considering leveraging whole genome sequencing as part of its current clinical investigation method.

Operational Progress – The company is beginning to implement high-density arrays, which would allow an increase in throughput on its current sequencers to 1.5 genome a day from 1 genome a day, or a capacity of 1,000 genomes per month. CGI expects the upgrade to go through the first quarter of 2012. The company still expects to upgrade to its second-generation sequencer in mid-2012, which could increase throughput dramatically from 1 genome per machine per day to 6 genomes per machine per day.

During the quarter, the company upgraded its computing capacity and sample prep capacity (detailed discussed below) to 1,000 genomes a month. CGI plans to introduce haploid sequencing (via its long-fragment read technology to sequence paternal and maternal genomes separately) in mid-2012. It also expects to be CLIA certified by around the same time frame.

Turnaround time – CGI upgraded its sample prep processing lab this quarter, which unexpectedly resulted in a drop of genome quality in its internal QC process, which led the company to shut down operation for 30 days until this issue was identified and resolved. As a result, the turnaround time was slightly longer than the previous quarter. Management suggested no loss of genomes from this delay, and although the turnaround time did not improve as much as management had expected, the company reported a median turnaround time of 62 days, compared to last quarter's 70 days.

Cash Burn – The company spent around $21 million of cash this quarter, resulting in ending cash and equivalents of around $105 million on its balance sheet. Management suggests a similar burn rate in the next few quarters. Management points to gross profit breakeven of $40 million to $48 million, compared to its previous expectation of $32 million, and operating profit breakeven of $140 million to $160 million, compared to previous expectations of $80 million to $100 million. Thus we model a cash infusion toward the end of 2012.

Third Quarter Variance Analysis

November 7, 2011	3Q 2011 (Actual)	3Q 2010 (Actual)	Year/Year % Change	3Q 2011 (Estimate)	Year/Year % Change	Difference Actual - Est.
Total Revenue	$4,177	$4,161	0.4%	$3,016	-27.5%	$1,161
Cost of Revenue	$8,182	6,007	36.2%	4,826	-19.7%	$3,356
Gross Profit	-4,005	-1,846	117.0%	-1,810	-2.0%	-$2,195
R&D	9,546	4,954	92.7%	8,144	64.4%	$1,402
SG&A	7,265	3,921	85.3%	6,033	53.9%	$1,233
Operating income	-20,816	-10,721	94.2%	-15,986	49.1%	-$4,830
Interest Expense and Other (net)	790	10,140	-92.2%	387	-96.2%	$403
Earnings before tax	-21,606	-20,861	3.6%	-16,373	-21.5%	-$5,233
Income taxes	0	0	NM	0	NM	$0
Net Income (GAAP)	**-$21,606**	**-$20,861**	**3.6%**	**-$16,373**	**-21.5%**	**-$5,233**
Shares outstanding	33,077	4,271	674.4%	30,540	615.0%	2,537
EPS (GAAP)	**-$0.65**	**-$4.88**	-86.6%	**-$0.54**	-89.0%	-$0.12
% of Total Revenue:			Change		Change	
Gross Profit	-96%	-44%	-52%	-60%	-16%	-36%
R&D	229%	119%	109%	270%	151%	-41%
SG&A	174%	94%	80%	200%	106%	-26%
Operating income	-498%	-258%	-241%	-530%	-272%	32%
Net income	-517%	-501%	-16%	-543%	-41%	26%
Effective tax rate	0%	0%	0%	0%	0%	0%
Genome Shipped (estimated)	740	347	113%	603	74%	137
ASP per Genome	$5,645	$12,000	-53%	$5,000	-58%	$645

Model Changes

We adjusted our fourth-quarter genome shipment estimate downward slightly, given management’s comments on the call. We now expect the company to ship 1,110 genomes at an average ASP of around $5,000 for the fourth quarter, compared to our previous target of 1,810 genomes with average ASP of around $4,500.

We maintain our revenue target of $40 million for 2012, although assume less genomes shipped (9.500) versus our prior 10,500 target, offset by slightly less price moderation; we now model average ASP of $4,300 in 2012, versus our prior $3,800 estimate.

Lastly, given management’s revised expectation on profitability and as the heavily discounted genome contracts begin to turn into shipment, we revised our expectation on COGS per genome significantly. We expect the loss to widen as the company continues to invest in its commercialization. We now expect a per-share loss of $2.41 for 2011 and $2.66 loss for 2012, compared to our previous estimates for losses of $2.11 and $1.87, respectively. We expect additional capital injection in 2012.

Our revised model can be found below.

Complete Genomics, Inc.
Projected Income Statement (2008 to 2013E)

	2008	2009	2010	Q1'11	Q2'11	Q3'11	Q4'11E	2011E	Q1'12E	Q2'12E	Q3'12E	Q4'12E	2012E	2013E
Revenue:														
Total Revenue	**-**	**$623**	**$9,389**	**$6,833**	**$5,865**	**$4,177**	**$5,550**	**$22,425**	**$7,992**	**$9,740**	**$10,390**	**$12,260**	**$40,382**	**$55,924**
Cost of Revenue	-	5,033	19,895	6,582	6,122	8,182	10,545	31,431	11,988	11,905	12,987	12,873	49,752	53,659
Gross Profit	-	($4,410)	($10,506)	$251	($257)	($4,005)	($4,995)	($9,006)	($3,996)	($2,165)	($2,597)	($613)	($9,371)	$2,265
R&D	23,633	22,424	21,691	6,808	8,028	9,546	9,990	34,372	10,789	12,662	11,481	12,505	47,437	49,079
SG&A	4,224	6,751	15,456	5,480	6,606	7,265	7,326	26,677	7,952	9,282	8,312	8,950	34,496	35,837
Total Operating Expenses	27,857	29,175	37,147	12,288	14,634	16,811	17,316	61,049	18,741	21,945	19,792	21,455	81,933	84,916
Operating Income	(27,857)	(33,585)	(47,653)	(12,037)	(14,891)	(20,816)	(22,311)	(70,055)	(22,737)	(24,109)	(22,390)	(22,068)	(91,304)	(82,651)
Interest Expense (Income) and Other, net	537	2,364	10,034	424	1,068	790	388	2,670	397	388	397	404	1,586	1,640
Pretax Income	($28,394)	($35,949)	($57,687)	($12,461)	($15,959)	($21,606)	($22,699)	($72,725)	($23,134)	($24,497)	($22,786)	($22,472)	($92,889)	($84,290)
Income Tax Expense (Benefit)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Deemed Perferred Share Dividend				-	-	-	-		-	-	-	-		
Net Income (GAAP)	**($28,394)**	**($35,949)**	**($57,687)**	**($12,461)**	**($15,959)**	**($21,606)**	**($22,699)**	**($72,725)**	**($23,134)**	**($24,497)**	**($22,786)**	**($22,472)**	**($92,889)**	**($84,290)**
Stock-Based Comp	336	1,410	1,751	494	1,073	1,170	1,166	3,902	1,279	1,558	1,662	1,962	6,461	7,984
Tax Adjustments		-	-	-	-	-	-	-	-	-	-	-	-	-
Stock-Based Comp (net of tax)	336	1,410	1,751	494	1,073	1,170	1,166	3,902	1,279	1,558	1,662	1,962	6,461	7,984
Adjusted Net Income (excl. stock-based comp)	(28,058)	(34,539)	(55,936)	(11,967)	(14,886)	(20,436)	(21,534)	(68,823)	(21,855)	(22,938)	(21,124)	(20,510)	(86,428)	(76,306)
EPS (GAAP)	**($305.32)**	**($386.56)**	**($13.51)**	**($0.48)**	**($0.56)**	**($0.65)**	**($0.68)**	**($2.41)**	**($0.68)**	**($0.71)**	**($0.65)**	**($0.63)**	**($2.66)**	**($2.31)**
Adjusted EPS (excl. stock-based comp)	($301.71)	($371.40)	($13.10)	($0.46)	($0.53)	($0.62)	($0.64)	($2.28)	($0.64)	($0.66)	($0.60)	($0.57)	($2.47)	($2.09)
W. Avg. Shares Outstanding (Diluted)	93	93	4,271	25,960	28,290	33,077	33,577	30,226	34,127	34,677	35,227	35,777	34,952	36,527

MARGIN ANALYSIS:

	2008	2009	2010	Q1'11	Q2'11	Q3'11	Q4'11E	2011E	Q1'12E	Q2'12E	Q3'12E	Q4'12E	2012E	2013E
Total Gross Profit	**NM**	(707.9%)	(111.9%)	3.7%	(4.4%)	(95.9%)	(90.0%)	(40.2%)	(50.0%)	(22.2%)	(25.0%)	(5.0%)	(23.2%)	4.1%
R&D	NM	3599.4%	231.0%	99.6%	136.9%	228.5%	180.0%	153.3%	135.0%	130.0%	110.5%	102.0%	117.5%	87.8%
SG&A	NM	1083.6%	164.6%	80.2%	112.6%	173.9%	132.0%	119.0%	99.5%	95.3%	80.0%	73.0%	85.4%	64.1%
EBIT	**NM**	**NM**	**(507.5%)**	**(176.2%)**	**(253.9%)**	**(498.3%)**	**(402.0%)**	**(312.4%)**	**(284.5%)**	**(247.5%)**	**(215.5%)**	**(180.0%)**	**(226.1%)**	**(147.8%)**
Tax Rate	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stock-Based Comp	NM	226.3%	18.6%	7.2%	18.3%	28.0%	21.0%	17.4%	16.0%	16.0%	16.0%	16.0%	16.0%	14.3%
Net Income (GAAP)	**NM**	**NM**	**(614.4%)**	**(182.4%)**	**(272.1%)**	**(517.3%)**	**(409.0%)**	**(324.3%)**	**(289.5%)**	**(251.5%)**	**(219.3%)**	**(183.3%)**	**(230.0%)**	**(150.7%)**

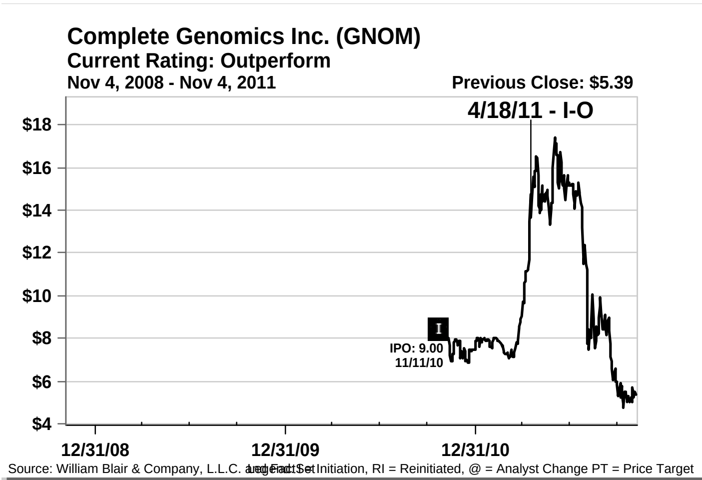
GROWTH METRICS:

	2008	2009	2010	Q1'11	Q2'11	Q3'11	Q4'11E	2011E	Q1'12E	Q2'12E	Q3'12E	Q4'12E	2012E	2013E
Total Revenue Growth	**NA**	**NM**	**1407%**	**1934%**	**439%**	**0%**	**46%**	**139%**	**17%**	**66%**	**149%**	**121%**	**80%**	**38%**
COGS	NA	NM	295.3%	61%	25%	36%	115%	58.0%	82%	94%	59%	22%	58%	8%
Gross Profit	NA	NM	NM	NM	NM	NM	NM	NM	NM	NM	(35%)	(88%)	NM	(124%)
R&D	NA	(5%)	(3%)	10%	63%	93%	77%	58%	58%	58%	20%	25%	38%	3%
SG&A	NA	60%	129%	27%	115%	85%	77%	73%	45%	41%	14%	22%	29%	4%
Operating Income	**NA**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**
Net Income (excl. nonrecur.)	NA	NM	NM	NM	NM	NM	NM	123%	NM	NM	NM	NM	NM	NM
Stock Based Comp	NA	320%	24%	NM	207%	177%	165%	123%	159%	45%	42%	68%	66%	24%
EPS (GAAP)	**NA**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**
EPS (excl. stock-based comp)	NA	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Diluted Shares Outstanding	NA	-	4493%	508%	562%	674%	127%	608%	31%	23%	6%	7%	16%	5%

E=William Blair & Company, L.L.C. estimate

William Blair & Company, L.L.C. is a market maker in the security of Complete Genomics, Inc. and may have a long or short position.

Additional information is available upon request.



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Coverage Universe	Percent	Inv. Banking Relationships*	Percent
Outperform (Buy)	59	Outperform (Buy)	8
Market Perform (Hold)	33	Market Perform (Hold)	2
Underperform (Sell)	1	Underperform (Sell)	0

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