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- **Fundamentals:** Fundamental Issues

# Comments on 2007 10-K; Update on Trading Behavior MEMC Electronic Materials Inc. (NYSE:WFR) Update

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## Business Description

MEMC Electronic Materials, Inc. produces wafers for the semiconductor industry worldwide. The Company's product categories include polished wafers, such as OPTIA and annealed products; epitaxial wafer that contains AEGIS product; and test/monitor wafers. These wafers are used for the manufacture of various types of semiconductor devices, including microprocessor, memory, logic, and power devices ranging from 100 millimeters to 300 millimeters in diameter. The Company's semiconductor devices are used in computers, cellular phones and other mobile electronic devices, automobiles, and other consumer and industrial products. Its customers include semiconductor device manufacturers, including the memory, microprocessor, and applications specific integrated circuit manufacturers, as well as foundries in North America, Europe, Japan, and the Asia Pacific. MEMC Electronic Materials was founded in 1984 and is based in St. Peters, Missouri.

## Summary of 3DAdvisors Findings for WFR

- **Accounting:** Comments on 2007 SEC Form 10-K (filed 02/29/08)
- **Insider Trading:** Update on recent insider trading behavior

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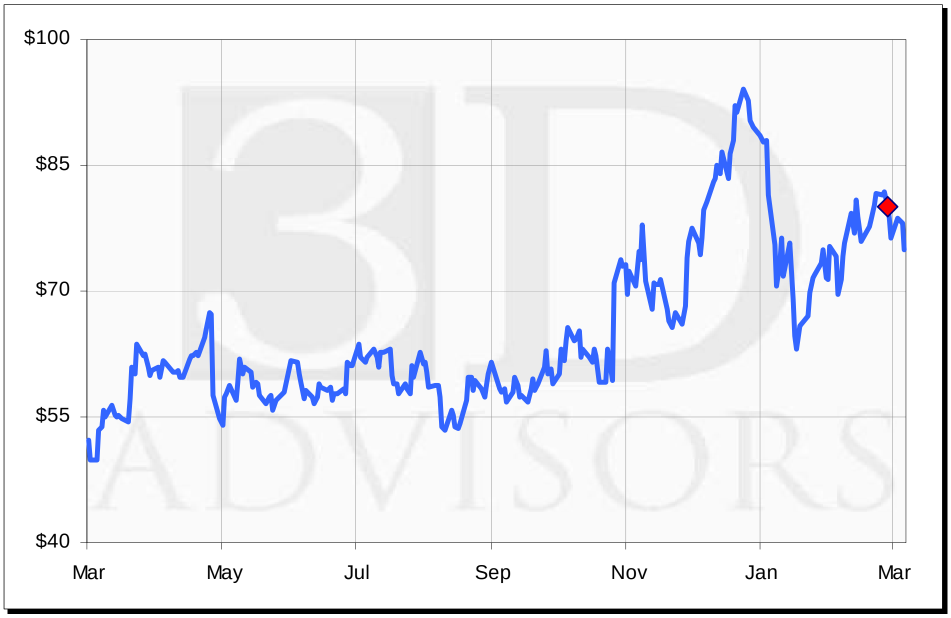
## Discussion of 3DAdvisors Findings for WFR

We have continued to follow developments closely at MEMC Electronic Materials Inc. (WFR). Shortly after we provided some updates in the last Research Notes published on 02/27/08, the Company filed its annual SEC Form 10-K for 2007 on 02/29/08. Although many of the noteworthy items in the filing have been previously covered by us in earlier reports, there were some interesting disclosures that for the first time quantified how important spot sales of polysilicon are to the Company's financial performance, despite management's insistence that they are a "nominal factor in the whole process".

**Figure 1.** WFR Daily Closing Price, 03/01/07 through 03/06/08. Red diamond is the date of our last update in Research Notes on 02/27/08. Source: Reuters and 3DAdvisors, LLC.




In this update we have taken a departure from our normal format and published the notes taken by our senior accounting analyst as he performed his initial review of the recently filed SEC Form 10-K. Again, although many of these individual items have been covered in our earlier reports, some of those earlier findings are reinforced or updated by items included in the 10-K, and there are some new disclosures, as mentioned above, that are important.

We have also included a brief update on recent trading behavior at WFR from our senior insider trading and governance analyst. We repeat the observations that were in the 02/27/08 Research Notes, but also cover some very recent trades by **Chandrasekhar Sadasivam**, the senior vice president in charge of research and development. Sadasivam has joined **Sean Hunkler**, the senior vice president of manufacturing, in selling off the vast majority of his current actionable position (common stock and vested options), an executive behavior that has been repeated over and over again, namely, that the senior executives in key operating positions tend to keep exposure to WFR shares at a minimum.

<u>Accounting: Comments on 2007 SEC Form 10-K (filed 02/29/08)</u>

- Sales of raw material polysilicon on the spot market as a percentage of total sales have gone from 10% in 2005 to 19% in 2006 to 22% in 2007 and are growing at a rate three times greater than the overall business (see table below). This is a first time the Company has quantified the sales of polysilicon and although we do not have cost data, it is quite clear that polysilicon is a major driver of revenue growth and more likely than not a principal reason why there has been strong margin expansion over this period despite management's insistence to the contrary.

| | 2005 | 2006 | 2007 | 2007/2005 % Change |
|---|---|---|---|---|
| Total Net Sales | $1,017.4 | $1,540.6 | $1,921.8 | 88.9% |
| Spot Polysilicon Sales | $101.7 | $292.7 | $422.8 | 315.7% |
| Poly as % of Total | 10% | 19% | 22% | 120% |

- With a decrease in wafer average selling prices of 41% in 2007 compared to 2006, it certainly takes a huge increase in physical volume to offset it. This is a marked departure from 2006 when asp increased by 10% over 2005. The introduction of 156 mm wafers in 2007 had an effect but they don't say what it was.

- They indicate higher asp on existing wafer products and polysilicon sales during 2007, so the 156 mm and 300 mm wafers must have driven the asp down. That's a bit of a conundrum since they claim that a better mix of 156 mm and 300 mm wafers contributed to higher overall margins. I think the higher sales of polysilicon played a much bigger role in improved margins than is being disclosed. Things don't add up.

- They have about $300 million in mortgage securities under water by $4.3 million. They claim it is temporary. They have a right to hope. Their belief, however, that the decline in the fair value of their mortgage backed securities is temporary is tantamount to believing in the Tooth Fairy. Wish is father to that thought. If the securities are held for resale and the decline is temporary, the write down (unrealized loss) can be charged to equity (OCI); if it is other than temporary it has to go through the income statement. We'll be looking for that in the financials.

- Although the company continues to indicate that it has some long-term supply agreements with a ten-year term that specify price and volume for the length of the agreement, its sales are principally through agreements of one year or less. We don't know how much capacity is committed to those long term agreements. However, the Company has stated that the loss of one or more of the customers with whom it has long-term agreements could materially affect results of operations and could give rise to idle or excess capacity, so perhaps “principally” is misused. As we have previously noted, these agreements typically contain price reduction curves.

- There are still two customers (Samsung and Yingli) that each account for more than 10% of revenue. Together the total was 23.3% in 2007.

- Consignment arrangements still exist whereby revenue is not recognized when shipment is made to the customer, but rather, when customer pulls the material from storage, or within a stated period of time, or when the customer agrees to take title. As we have previously noted, the latter provision provides opportunities for revenue management in any given period.

- It is certainly possible that, at least to some extent, the big inventory reduction is a one time thing. Raw material and supplies did not change much, but in process went down by $22 million and finished goods went down by $23 million. It looks odd. Could have been some write-offs, too.

- They still say very little about thin-film solar cells and how much incursion into the crystalline-based cell market has been achieved by that product. Presumably, so long as polysilicon and silane gas are not in short supply, crystalline-based cells are the preferred product.

- The possible elimination or decline in government subsidies for solar power, mainly in countries other than the U.S., continue to be factors in the growth of solar power, due to its lack of cost competitiveness with fossil fuel generated electric power.

- Sole supplier reliability continues to be a factor.

- Over half of their revolver is committed to LOCs.

- There is still nothing accrued to reflect a potential unfavorable outcome of the two SUMCO cases. Likewise with the Solitec cases.

- The ASI case has been slimmed down, but it’s still going to trial on certain issues. The Semi-Materials case is also headed for trial.

- There do not seem to be any major developments favorable or unfavorable in pending litigation from our last look.

- We can't really get a feel for the importance of the Conergy deal since prices and quantities are treated as confidential and redacted in the copy that is included in the 10-K. There is a provision for price adjustment based on wafer efficiency factors and Conergy may also purchase polysilicon from MEMC.

- Interesting deal on that Refundable Capacity Reservation, non-interest bearing, deposit of $1 billion by Conergy. MEMC gets to keep $40 million of it, ultimately. Payments are subject to a schedule over some period of time. Five years down the road Conergy has to pay an amount in cash or Conergy shares, equal to 5% of the increase in the value of a named Conergy equity. At some point in time it will probably be necessary to begin recognizing some amount of value on MEMC's balance sheet for the $40 million and the increase in value payment. That should be a hoot. I can hardly wait for the first analyst's question on that puppy. From the standpoint of revenue recognition, there are going to be lots of opportunities to get creative (read: cute) in that deal.

- As we suspected from our previous reviews, the non-taxable gain on the warrants was a significant factor in the decrease in the effective tax rate in 2007.

- They did indeed manage to increase their inventory turnover significantly as we thought might be the case from our previous review. Time will tell if this is a permanent improvement. They cite improvements in the internal supply chain.

- That's a tidy sum received in refundable customer deposits. I've seen no indications of any restrictions on the use of the cash.

- There are a number of moving parts in the auction rate securities carried in short-term investments. At 02/22/08, the Company held $96.9 million in ARS of which $61.8 million remain invested at a failed interest rate, which means the auction filing did not settle on its respective settlement date. Those funds are not available to the Company until the next successful auction or another buyer is found outside the auction process. There may be a loss in the offing here.

- That $2.4 million of inter-company profit in inventory not previously eliminated is not material, but it is ABCs in accounting. Probably not inadvertent.

- Receiving equity instruments in connection with supply contracts and recording the fair value in deferred revenue is okay, but it does provide earnings management opportunities in bringing it out of deferred revenue to the income statement.

- Repatriating a portion of the current year earnings of a subsidiary and recording taxes payable on those earnings with no taxes on the balance considered to be permanently invested may get under the IRS wire and it may not. If a different percentage of the foreign earnings are repatriated each year, I would think it could be questionable. Their anchor to windward is probably that only some portion of each year's earnings is repatriated, leaving the remainder there indefinitely.

- The method of valuing those Suntech warrants is no doubt acceptable under GAAP, but there is certainly an element of subjectivity in play. The volatility factor alone could play a major role and that might be the most subjective of all. Likewise with the haircut given to the equity securities consisting of customers' stock. The value of the warrant was down to $93.4 million at 02/21/08. It’s a sure bet they will point out it is non-cash in Q108. It could wipe out Q108 and with no tax benefit.

- Proceeds from customer deposits played an important role in overall cash flow.

- They let the allowance for doubtful accounts fall from $1.4 million in 2006 to $0.2 million at 12/31/07. Gross receivables did decline slightly. Normally we see a schedule in the exhibits of the Ks showing entries in the bad debt allowance. There is none here so I don't know how much the bad debt write-offs were. However, I saw no bad debt provision in the cash flow so it is possible that the entire reduction in the bad debt allowance consisted of write-offs. I can't be sure of that.

- It doesn't affect the bottom line, but I would think that costs to ship products to customers would be more appropriately recorded in cost of products sold rather than in marketing and administration expense, particularly since amounts billed to customers for shipping and handling are included in net sales. It keeps those costs out of the margin numbers. Imagine that.

- Volatility assumptions for stock option purposes have come down markedly over the past three years. Could be legit and could be an effort to influence the stock option expense.

Insider Trading: Update on recent trading behavior

- Although this quarter has so far marked the first for which WFR insiders did not all together monetize stock and options immediately upon vesting, there were still a few who were willing to part with their holdings at prices well off the highs established in December. Most notable to us were the sales of **Sean Hunkler** (44), who is at the center of the recent plant closings and tightening inventories mentioned in the 02/27/08 Research Notes as the SVP of manufacturing operations. He has now sold 58,450 shares since the fourth quarter at prices ranging from $73 to $78. Hunkler vested in 5,000 options on January 24th, which he would later monetize on February 4th at $78 under a 10b5-1 sales plan adopted on October 30th. Having since vested in a few thousand restricted shares, Hunkler's position reduction over the last four months stands at 92%. With the exception of the few remaining shares of common he holds, Hunkler will not have any equity to trade until more options become actionable in the third quarter.

- Another more recent notable trader was **Chandrasekhar Sadasivam** (48), head of Research and Development, who surfaced for the first time in 15 months to sell 80,000 shares on February 29th at $76. Sadasivam went deep into the well, clearing out all vested options from 10 different series to sell the shares. None of the options was set to expire until January 2013 at the earliest. The shares distributed accounted for 98% of his actionable holdings, which now consist of just a few thousand shares of common.

- Also selling was Director **Richard Boehlke** (66), the long-time former chief finance officer at KLA-Tencor who has held a WFR board seat since 2001. It was not until December 4th that Boehlke surfaced with his first sale of 10,000 shares only to sell another 10,000 on February 22nd at $79. The two sales collectively shed 65% of his ownership, which is striking to us since he is one of two board members who own membership interest in WFR's former largest shareholder, TPG Wafer Holdings. The membership interests entitled Boehlke to receive proceeds from TPG's sales of WFR shares, which for him amounted to a total payout in excess of $20 million through 2007. Now that TPG has sold its entire stake, and considering Boehlke's windfall gains from the sales, we would have anticipated his holding the few remaining shares he still had. The other director with a TPG stake, **C. Douglas Marsh**, is yet to sell any of his WFR shares since the issue began trading in late 2003.

- Rounding out the more recent sellers was Chief Information Officer **Michael Cheles** (48), who joined the Company in September 2006 and has already embraced the trading approach of his colleagues. Cheles immediately monetized the first of his new-hire stock options in September and also sold one-half of the stock that became unrestricted on January 24th. The 638 shares sold leave him with only a few hundred actionable shares until additional options vest in Q3. With WFR gaining momentum off the January lows, we will be watching closely to see if more insiders act on some of their stock options that vested during the quarter.