

WWR / Nasdaq

**SPECULATIVE
BUY**

Unchanged

\$30.00

(Revised 5/6/19)

CAPITALIZATION

Shares Outstanding (8/2/19)	1.9 M
Recent Price (8/12/19)	\$3.30

Market Capitalization	\$ 6.1 M
+ Debt	0.0 M
- Cash	1.2 M
Enterprise Value	\$ 4.9 M

Book Value	\$16.1 M
Working Capital	(\$ 2.7)M
Dividend	Nil

Balance sheet figures as of 6/30/19

MARKET DATA

Bid-Ask Spread, % Price	1.6%
52 Week High/Low	\$16.50 - \$2.82

Shares Outstanding	1.9 M
Inside Ownership	<1%
Institutional Ownership	10.0%
Estimated Flotation	1.5 M

Average Daily Volume	78 K
Short Interest, % of Float	Nil
Beta	1.23

Source: Bloomberg LP

INVESTMENT RETURNS

	WWR	Sector*
Return on Equity	Neg	18.0%
Return on Assets	Neg	7.5%
Return on Capital	Neg	10.0%

Source: Crystal Equity Research, CSI Markets

FINANCIAL PROFILE

	FY17	FY18
Sales	\$ 0.0 M	\$ 0.0 M
EBITDA	(\$12.2) M	(\$11.2) M
EPS	(\$0.78)	(\$0.77)

Source: Company Reports

HIGHLIGHTS

- **Customer Progress.** Westwater received a request from a U.S.-based battery manufacturer for one metric ton of its proprietary *ULTRA-PMG* battery-grade graphite materials for use in testing and qualification in end-products.
- **Capital Raise.** Shareholders voted to approve issuance of shares to Lincoln Park Capital, the final step needed for the fund to purchase up to \$10 million of the Company's common stock over the next two years.
- **Sale of Assets.** Westwater received \$1 million in incremental deposit from Uranium Resources Corp. after an agreement to extend the closing date for a sale of financial and mineral assets to URC to end of August 2019.
- **Pilot Plant Progress.** Design and engineering work has commenced for a graphite materials pilot progressing plant. The pilot plant will test and confirm designs for a high-volume processing facility adjacent to the Company's Coosa County, Alabama graphite project.

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INDUSTRY: INDUSTRIAL, ENERGY MATERIALS

WWR: NASDAQ

RECENT DEVELOPMENTS

After a drought in news of graphite materials business development, Westwater Resources disclosed a request for one metric ton of the Company's proprietary *ULTRA-PMG* battery-grade graphite materials from a U.S.-based battery manufacturer. The *Purified Micronized Graphite* will be used in qualification testing probably to confirm and fine tune manufacturing processes. In our view, the request signals promising movement forward by this customer and suggests it is more likely than not that the customer will adopt the *ULTRA-PMG* for its battery design.

The news overshadowed the simultaneous release of financial performance in the quarter ending June 2019 quarter. The most significant take-away from the quarter was the material reduction in cash usage that served to stretch out financial resources. After several months of struggle in the first half of the year, Westwater has completed an equity agreement to sell \$10 million in common stock over the next two years to Lincoln Capital Fund, a private equity firm based in Chicago. The last critical step to the arrangement was completed on August 6th with shareholder approval of the issuance of more than 19.9% of the Company's outstanding shares to Lincoln Park Capital. The lifting of the restriction makes it possible for the Company to raise larger sums at any given time. We expect most of the capital raised through this arrangement will be used for the graphite development project and vanadium exploration.

RECOMMENDATION

We continue to rate WWR at Speculative Buy with a \$30.00 price target. In our view, the shares remain deeply undervalued. We believe the news of a request for a large quantity of graphite materials for testing from a battery manufacturer signals an increase in the probability that the Company can realize a return from the investment in graphite assets in Alabama. The Company aims to be the first U.S. domestic producer of battery-grade graphite. In our view, that goal is more plausible today and that should give investors more confidence in the Company's prospects. What is more the Company now has access to capital to execute on its business plan. We believe this too improves the probability of success.

Investors responded warmly to the customer announcement, immediately bidding the shares higher. However, the news came during a particularly tough week for U.S. equities as investors reacted to disappointing news related to trade disagreements between the U.S. and China. The stock ended down on the week of the quarter financial report and customer news. Thus the stock price remains depressed even though the Company has made clear progress with penetrating the U.S. battery market with its graphite materials.

VALUATION

Price/Sales	Neg
Price/Cash Flow	Neg
Price/EPS	Neg
Price/Book Value	0.38 X
Consensus EPS 2019	na
Forward PE	na

OPERATING PROJECTIONS

	<u>2017A</u>	<u>2018A</u>	<u>2019E</u>	<u>2020E</u>	<u>2021E</u>
Sales	\$ 0.0	\$0.0	\$ 0.0	\$ 0.0	\$ 0.9
Operating (Loss)	(\$ 24.8)	(\$36.0)	(\$11.9)	(\$ 15.2)	(\$ 15.7)
Net Inc (Loss)	(\$ 19.0)	(\$35.7)	(\$ 12.3)	(\$15.2)	(\$ 15.7)
CFO (U)	(\$ 11.6)	(\$11.7)	(\$ 9.1)	(\$16.2)	(\$ 11.2)
EPS (LPS)	(\$38.50)	(\$38.50)	(\$5.77)	(\$2.98)	(\$2.33)

Dollars in millions except per share earnings

Per share figures estimated 6/30/18

Company Reports and Crystal Equity Research Estimates

BATTERY-GRADE GRAPHITE REQUEST

The report from Westwater Resources on financial performance in the quarter ending June 2019, was overshadowed by a concomitant announcement that the Company has received a request from an unnamed U.S.-based battery manufacturer for one metric ton of graphite materials for testing purposes. Specifically, the prospective customer is testing the Company's *ULTRA-PMG* battery-grade material composed of purified and micronized natural flake graphite. The announcement followed a lengthy drought of news on the Westwater's graphite materials development work and blew new wind into the sails of the Company's ship bound to be the first domestic U.S. producer of battery-grade.

Interested parties, including both military and commercial entities, have tested the Company's proprietary graphite materials in the past, but this particular round stands out in terms of its quantity. Manufacturers often request materials samples in the amount of five to ten kilograms for the purpose of characterizing the chemistry against criteria for their own end-product. Once that first qualifying step is cleared, the Company may want larger quantities to incorporate in a prototype that will verify how the material will interact with other materials or components coming from other sources. Battery cyclers or potentiostats might be used to characterize the electrochemical performance of a prototype battery or cell and then decide whether the design meets end-user requirements. The next step might be to determine how the materials will behave under the conditions of volume production. That would require significantly larger quantities to observe the production process over a period of time and test finished goods against quality and quantity criteria. The amount of graphite required for testing varies widely.

Materials need to test a battery would depend upon the battery design and how the graphite is used. In a lithium ion battery for an electric vehicle where the anode is composed of graphite, the battery could contain as much as 70 kilograms of graphite. Since one metric ton is equivalent to 1,000 kilogram, the sample materials requested might be sufficient to produce about 14 electric car batteries.

Graphite material is also increasingly popular to enhance performance of conventional lead-acid batteries by adding carbon to the negative plate or cathode. Quantities of battery-grade graphite materials required for this application is not entirely certain. One example scenario is provided in the article titled "*Understanding Function and Performance of Carbon Additives in Lead-Acid Batteries*" and published in October 2017, in the Journal of Electrochemical Society. The authors suggested the typical lead-acid battery cathode weighs about 67 grams and about 2% by weight of an advanced material negative plate could be composed of graphite. Thus about 1.3 grams might be needed for such an application. At such usage rates Westwater's prospective customer could observe production of quite a few batteries.

Shareholders can only speculate while it waits for the Company to produce and deliver the *ULTRA-PMG* and then to await the testing results. During the earnings conference call Westwater management indicated that they have several options for producing the proprietary material, including a planned pilot plant and outsourcing to a contract manufacturer.

Graphite Materials Pipeline

During the earnings conference call Westwater management indicated there are at least four potential customers currently testing the Company's various battery-grade materials. Without specifics it was suggested they are all at some point in characterizing and testing the materials. We assume one of the four it's the aforementioned U.S.-based battery manufacturer.

Notably in October 2017, a U.S.-based lead-acid battery manufacturer had indicated interest in receiving supplies of the Company's *ULTRA-PMG* (purified micronized graphite) and *DEXDG* (delaminated expanded graphite) materials for conductivity enhancement applications in the negative electrodes of advanced lead-acid battery systems. A letter of intent signed at that time by the previous owners of the Alabama graphite projects called for supplying ten metric tons per year.

Over the months since, this unidentified manufacturer has been reconfirmed at various times as still in the process of testing the Company's graphite materials. It seems logical to consider this entity as one and the same as the customer now prepared to acquire one ton of *ULTRA-PMG*. If not, it is most likely is among the other three which continue to move through the testing process that often requires two to three years to confirm materials sources and finalize production processes.

Graphite Materials Pilot Plant

A pilot plant to produce low volumes of the Company's proprietary battery-grade graphite materials, *ULTRA-PMG* and *DEXDG*, is moving forward. During the earnings conference call management described early engineering and evaluation work that is underway to find an optimum design and location. We believe the Company is considering options that will capture the purpose of a pilot plant, i.e. testing and validation of production technology, equipment and practices, at the lowest cost possible.

SECOND QUARTER HIGHLIGHTS

Although almost a footnote on the quarter report discussion, it is important to note that Westwater used \$1.6 million in cash to support operations in the three months ending June 2019. This compares to \$2.7 million in the first quarter. The slowdown in cash spending was largely a necessity of the capital crunch experienced by the Company after a planned retail offering April 2019, failed to command a fair valuation.

In May 2019, Westwater secured a private equity purchase agreement with private equity fund, Lincoln Park Capital Fund that will give the Company the right to sell up to \$10 million in common stock to the fund over the next two years. On August 6, 2019, shareholders participating in a special election gave approval to issue more than 19.9% of the Company's outstanding shares to the fund at any given time. The action provides management with greater flexibility on raising larger amounts of capital.

The Company's cash balance was \$1.2 million at the end of June 2019. Since then Westwater received \$1.0 million for an additional deposit from Uranium Resources Corporation (URC) after it was agreed to push out the closing date on a planned sale of certain of the Company's non-core financial and mineral assets from July 31st to August 31st.

We note that working capital was negative \$2.7 million at the end of June 2019, after a run up in current liabilities. We expect near-term obligations to moderate in the coming months as the Company accesses the \$10 million equity agreement with Lincoln Park Capital. We estimate the equity line is sufficient to support near-term graphite market business development work as well as begin work on the graphite processing pilot plant. Additionally, the Company has access to an additional \$23.8 million in available capacity on an equity sales agreement with Cantor Fitzgerald & Co. However, use of the Cantor arrangement is currently limited by the SEC rules on shelf registration of shares.

MODEL REVISION

We have adjusted our financial model with reported results for the quarter ending June 2019. Additionally, we made minor adjustments to cost and expense assumptions in the next couple of quarters. The most significant change in our model is at the revenue line. We had previously shown token revenue from graphite materials sales in 2020 and 2021. With the pilot plant still slated for construction and start up in 2020, it is possible for low-volume production to begin within a year. However, we have concerns that such production will not generate revenue yet in 2020. Much of the initial capacity of the pilot plant would most likely used to fulfill the commitment made to the U.S.-based battery manufacturer for one metric ton of *ULTRA-PMG*. Management was careful not to disclose any details related to compensation. Most likely the Company does not want to tip off competitors on negotiations with prospective customers.

VALUATION and OUTLOOK

The stock is currently priced at 0.38 times book value. In our view, this is an unjustified discount to Westwater Resources' assets. This is particularly the case given the recent request for large volumes of battery-grade graphite for testing materials from a U.S.-based battery manufacturer. Furthermore, the Company now has access to sufficient capital to achieve near-term goals. In our view, the request and capital raise together signal an increase in the probability that the Company can realize a return from its Alabama Graphite acquisition completed in April 2018. In terms of valuation, it should decrease the discount that investors have been applying to the shares. Delivery of the materials should justify another lift in value, as should successful test results if those are made available to the public. We expect these latter catalysts over the next year.

ADDITIONAL INFORMATION IS AVAILABLE UPON REQUEST.

Table I Historic and Projected Annual Financial Performance

Dollars in Thousands	2014A Year	2015A Year	2016A Year	2017A Year	2018A Year	2019E Year	2020E Year	2021E Year	2022E Year
Total revenue	-	-	-	-	-	-	-	900	28,500
Gross profit	-	-	-	-	-	-	-	450	17,100
Operating expenses:									
Mineral property expenses	3,502	4,470	3,248	4,584	3,538	3,548	5,500	6,000	6,500
General and administrative	9,132	7,488	7,650	6,614	7,357	7,890	8,500	9,000	10,500
Accretion of asset retirement obligations	425	450	480	1,039	993	456	1,000	1,000	1,000
Depreciation and amortization	331	336	247	142	116	128	160	160	160
Impairment of mineral properties	160	960	1,673	11,436	23,712	-	-	-	-
Other	-	3,048	-	1,003	333	-	-	-	-
Total operating expenses	13,550	16,752	13,298	24,818	36,049	11,932	15,160	16,160	18,160
Operating income (loss)	(13,550)	(16,752)	(13,298)	(24,818)	(36,049)	(11,932)	(15,160)	(15,710)	(1,060)
Total other income (expense)	2,866	1,609	(6,307)	5,530	365	(398)	-	-	-
Income (loss) before income taxes	(10,684)	(15,143)	(19,605)	(19,288)	(35,684)	(12,330)	(15,160)	(15,710)	(1,060)
Provision for income taxes (benefit from)	-	-	-	-	-	-	-	-	-
Unrealized change in value, mkt. securities	-	(67)	(49)	287	(861)	-	-	-	-
Realized loss on sale securities	-	-	116	-	484	-	-	-	-
Net income (loss)	(10,684)	(15,210)	(19,538)	(19,001)	(36,061)	(12,330)	(15,160)	(13,710)	(1,060)
Net EPS (LPS), comprehensive	na	na	na	\$ (38.50)	\$ (38.50)	\$ (5.77)	\$ (2.98)	\$ (2.33)	\$ (0.14)
Wtd shares outstanding, diluted in 000s	na	na	na	495	928	2,136	5,093	7,673	7,673

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ANALYST

Debra Fiakas, CFA is a seasoned, credentialed investment professional with a diversified and successful track record as a research analyst and as an investment banker. Her decade-plus career includes solid experience in all aspects of the equity capital markets with particular emphasis on emerging growth companies operating in the technology sectors. Ms. Fiakas is also the principal member of Crystal Equity Research, LLC.

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RATING SYSTEM

Buy	Price appreciation expected 10% or more over a 12-month period.
Hold	Price appreciation/depreciation expected between 10% and -10% over 12 months.
Sell	Price depreciation expected 10% or more over a 12-month period.

CRYSTAL RESEARCH UNIVERSE

Buys	70%
Holds	5%
Sells	25%
Total	100%

HISTORICAL RECOMMENDATIONS AND TARGET PRICE: Westwater Resources / WWR

<u>Report</u>	<u>Date</u>	<u>Price</u>	<u>Rating</u>	<u>Target Price</u>
Initial	4/10/18	\$0.53	Buy	\$1.50
Update	5/24/18	\$0.42	Buy	\$1.50
Update	7/2/18	\$0.40	Buy	\$1.50
Update	8/14/18	\$0.30	Buy	\$1.50
Update	11/13/18	\$0.20	Buy	\$1.50
Update	12/20/18	\$0.16	Buy	\$1.50
Update	2/26/19	\$0.14	Buy	\$1.50
Update	5/6/19	\$7.25	Buy	\$30.00 Post reverse split
Update	7/15/19	\$5.01	Buy	\$30.00
Update	8/13/19	\$3.30	Buy	\$30.00

DISCLOSURES

<u>Name</u>	<u>Symbol: Exchange</u>	<u>Disclosures</u>
Westwater Resources, Inc.	WWR: Nasdaq	D*

Disclosure Key

- A A member or employee of Crystal Equity Research, LLC serves on the board of directors of the company.
- B A controlling member of Crystal Equity Research, LLC has a beneficial interest in the common stock of the company.
- C A person or persons preparing this report or an immediate family member of the preparer has a beneficial interest in the common stock of the company.
- D Crystal Equity Research, LLC received compensation for research coverage from the company or one of its agents. The fees are paid in advance in cash.
- E The company has a convertible issue outstanding.
- F The securities covered in this report can be optioned.
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