CRYSTAL | EQUITY RESEARCH

WESTWATER RESOURCES, INC.

Update Report

July 15, 2019

WWR / Nasdaq

SPECULATIVE BUY

Unchanged

$30.00

(Revised 5/6/19)

CAPITALIZATION	
Shares Outstanding (6/4/19)	1.6 M
Recent Price (7/12/19)	$5.01
Market Capitalization	$ 8.0 M
+ Debt	0.0 M
- Cash	1.0 M
Enterprise Value	$ 7.0 M
Book Value	$18.1 M
Working Capital	$ 0.6 M
Dividend	Nil

Balance sheet figures as of 3/31/19

MARKET DATA	
Bid-Ask Spread, % Price	1.4%
52 Week High/Low	$21.50 - $3.50
Shares Outstanding	1.6 M
Inside Ownership	<1%
Institutional Ownership	10.0%
Estimated Flotation	1.5 M
Average Daily Volume	42 K
Short Interest, % of Float	Nil
Beta	1.16

Source: Bloomberg LP

INVESTMENT RETURNS	WWR	Sector*
Return on Equity	Neg	18.8%
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

- **Equity line of credit**. Westwater abandoned a public sale of common stock in favor of better valuation through a $10.0 million equity line of credit.
- **Special Shareholder Meeting**. The board of directors has recommended that shareholders vote in favor or a proposal to lift a limit on total shares that can be issued to Lincoln Park Capital, the provider of the new equity line of credit.
- **Asset sale**. The closing date of a previously announced sale of non-core assets to Uranium Royalty was pushed out to end of August 2019, and an additional deposit of $1.0 million was paid by URC.
- **Vanadium**. A Technical Report published in April 2019, provides details on early testing of core samples as well as a detailed plan for further exploration and analysis needed to characterize and value a deposit of vanadium at the Coosa County graphite project.
- **Turkey dispute**. A panel has been seated in the arbitration action against The Republic of Turkey's mining authority as Westwater attempts to get compensation for the revocation of its license to mine uranium in Turkey.

Debra Fiakas, CFA
Security Analyst
212-400-7519
dfiakas@crystalequityresearch.com

INDUSTRY: INDUSTRIAL, ENERGY MATERIALS	WWR: NASDAQ

RECENT DEVELOPMENTS

Capital constraint has kept Westwater Resources management in battle mode over the past few months. Their 'blocking and tackling' effort appears to have paid off. Sales of non-core assets and the negotiation of a new equity line of credit have helped replenish the cash kitty. Timing could not be more critical.

Even after the unexpected revocation of the uranium mining license in Turkey and the subsequent write-off of the license asset, Westwater's energy minerals portfolio remains populated with both promising and proven assets. Independent test results of the Company's *Spherical Purified Graphite* received in April 2019, should support conversations with potential battery manufacturer customers. It should also reassure investors that Westwater is very much in the race to bring high-quality battery-grade graphite to the U.S. market.

Given the impressive size of the graphite market, the opportunity to sell *SPG* and other battery-grade graphite products, could be enough to build a sizeable business. Yet, Westwater also has promising vanadium assets at its graphite project in Coosa County Alabama. A recently completed Technical Report provides a road map for the work needed to finalize exploration and characterize the vanadium deposit. The Technical Report lays open the possibility of proving the Coosa vanadium deposit is of sufficient size and quality to justify standalone mining at an earlier date than planned for the graphite extraction. Management is planning additional exploration and testing work.

RECOMMENDATION

Our rating of Westwater Resources is Speculative Buy. In our view, the stock remains deeply undervalued against the Company's energy minerals portfolio. We believe there are several catalysts for higher valuation in the months ahead. Completing the planned sale of common stock to Lincoln Park Capital and the closing of an asset sale to Uranium Royalty will bring additional cash to the Company in August 2019. Furthermore, we expect management to use the second quarter financial report as an opportunity for a victory lap in bringing new capital to the Company and to explain the graphite product work planned for the next few months. Although entirely a wild card, there is also the potential for a development in the arbitration action against The Republic of Turkey's mining authority. Any of these will give investors new information, helping to reduce uncertainty about the Company's future.

VALUATION

Price/Sales	Neg
Price/Cash Flow	Neg
Price/EPS	Neg
Price/Book Value	0.45 X
Consensus EPS 2019	na
Forward PE	na

Per share figures estimated 12/31/18

OPERATING PROJECTIONS

	2017A	2018A	*2019E*	*2020E*	*2021E*
Sales	$ 0.0	$0.0	*$ 0.0*	*$ 0.9*	*$ 0.9*
Operating (Loss)	($ 24.8)	($36.0)	*($11.8)*	*($ 14.7)*	*($ 15.7)*
Net Inc (Loss)	($ 19.0)	($35.7)	*($ 12.4)*	*($14.7)*	*($ 15.7)*
CFO (U)	($ 11.6)	($11.7)	*($ 10.9)*	*($10.6)*	*($21.3)*
EPS (LPS)	($38.50)	($38.50)	*($6.37)*	*($3.11)*	*($2.47)*

Dollars in millions except per share earnings

Company Reports and Crystal Equity Research Estimates

CAPITAL RAISE

After nixing a registered offering of common stock in late May 2019, Westwater Resources found a more enthusiastic supporter in Lincoln Park Capital, a Chicago-based private equity investor. While sale of stock to retail investors through a regional brokerage house appeared to offer a price just over $4.00 per share, Lincoln Park came forward with an offer of $5.062 per share. The initial private placement of shares to Lincoln Park was modest - 104,294 shares for $550,751 in gross proceeds - the transaction provided evidence that an experienced professional investor group saw more value in the stock than had been apparent in recent trading.

Since the initial investment Lincoln Park has stepped forward with a pledge to purchase additional shares of common stock up to $10.0 million in value. The timing of the purchases will be solely at the discretion of Westwater Resources and will be based on the stock price in recent trading sessions less a 7% discount. Westwater agreed to register the shares and has already received approval of a registration statement by the SEC.

At present the Company is limited to issuing a maximum of 19.9% of its shares to a single shareholder. Following the reverse split of the Company's common stock and recent stock issuances that has brought the number of shares outstanding to 1.6 million, that limitation is currently 319,643 shares. Notably, the shares already issued to Lincoln Park are included in this calculation, which means the more shares Lincoln Park acquires the more that could be issued to them even under this restriction. Nonetheless, the Company contemplates issuing additional shares totaling 526,784 shares, which exceeds the current limit and thus cannot be completed without approval by shareholders.

A special meeting is scheduled for August 6th to approve any or all shares that might be issued pursuant to the $10 million equity line of credit agreement with Lincoln Park. A simple majority of the shares voted at that meeting will be required to gain approval. A quorum of at least one-third of the total shareholders eligible to vote must participate in the vote in order to achieve a valid approval.

Assuming the shareholder approval is received, Lincoln Park position could increase to approximately 25% of the total shares outstanding. The fund has its own restriction of a maximum 9.9% share ownership in any given investment. We anticipate that Lincoln Park would sell shares in the open market in order to bring its position back down below its 10% maximum ownership. Of course, the more shares issued to Lincoln Park the more shares the fund is allowed to own.

Notably, Lincoln Park has disclosed that the majority of its fund is invested in the health care sector. Nonetheless, the fund also has positions in consumer, technology, industrials materials, energy and mining. We conclude that Lincoln Park's team has enough experience to monitor and manage its position in an energy materials developer, giving Westwater fair treatment in the current development stage for its battery-grade graphite materials project.

SEGMENT NOTES

Graphite

China's exports of the spherical graphite popular with lithium ion battery makers have been on the rise in recent months. This includes both uncoated and coated versions. According to industry research firm Fastmarkets, total exports from China were 26,168 metric tons in the first five months of 2019, compared to 22,555 tons in the same period of the previous year, representing a 22.5% increase. With prices holding relatively steady, we conclude that the increase has been soaked up by increased demand from battery producers.

Looking further back into the supply chain, Syrah Resources (SYR: ASX) recently signed an off-take agreement with Hong Kong's Gredmann Group for natural flake graphite from Syrah's mine in Mozambique. Gredmann will be getting a total of 279,000 metric tons over a three year period. Pricing was not disclosed.

After becoming the largest producer of natural flake graphite in the world with its Mozambique project, Syrah has been a closely watched playing in the graphite sector. Despite pronouncement of plans to develop a purified graphite product and produce battery-grade anode material at a plant in Louisiana, Syrah has yet to bring it to market. Syrah is selling graphite concentrate to Gredmann.

By contrast, Westwater continues to make progress with its purified graphite materials. In April 2019, independent testing of the Company's *Spherical Purified Graphite* (*SPG*) product confirmed previous test showing graphite purity up to 99.95%. Natural flake graphite from the Company's Coosa project was used to produce the *SPG*.

Westwater has planned a pilot purification plant with the objective of getting the plant in place by the end of 2019. Supply from this low-volume plant will be used to produce sample materials for customer testing and eventually finished materials for initial commercial orders.

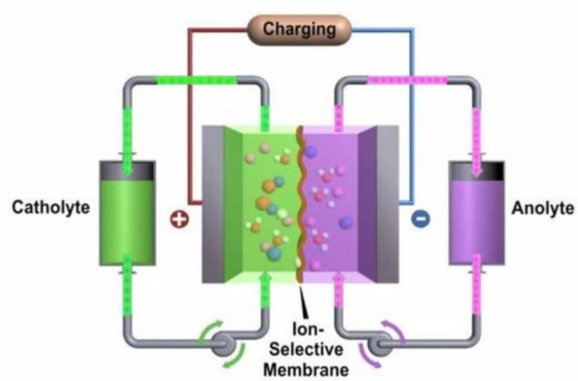
Vanadium

In April 2019, Westwater released a Technical Report on Vanadium Mineralization at its Coosa County graphite project in Alabama. The report describes initial tests of eighteen core samples of potential vanadium deposits and makes recommendations for additional tests and analysis. Management needs data from additional tests to make a full assessment of the potential value in its vanadium deposits. The report calls for more exploration work, including additional drilling in areas where core samples have not been already taken. Density measurements and resource modeling would also help quantify how much vanadium is available and provide clues as to how it could be exploited.

Investors are particularly interested in learning how much value the vanadium could add to the Coosa graphite project. The vanadium has been contemplated as a by-product of the graphite mining operation, which at this point has been targeted in 2026. However, the planned vanadium exploration and testing program could provide support for an alternative timeline that could mean an earlier start-up of mining activity beginning with vanadium. In addition to clearer quantification and characterization of the vanadium deposit, the Company will need evaluate a potential processing technique and then complete additional design and engineering work.

The Technical Report lays out a budget for the various exploration, testing and design steps. The exploration program alone is budgeted at $950,000. Another $1.4 million may be required to characterize the vanadium deposit, evaluate an extraction process, and design the systems and infrastructure. If the Company moves ahead with exploitation of the vanadium in advance of mining the graphite, environmental study and permitting would be required with a budget of $1.0 million.

After reaching a peak in November 2018, vanadium prices have leveled off in 2019. European prices for vanadium pentoxide have settled near $7.00 to $8.00 per pound. This compares to $28.50 in November 2018. As much as 90% of vanadium production is used in the world steel industry. The cooling of prices has been due in part to lower than expected demand from China steelmakers. New rebar standards require Chinese steelmakers to use more vanadium in their rebar to make it stronger. However, only about half of China's steelmakers have implemented the new standards, suggesting that while near-term demand may not have met earlier projections, there is still considerable need for vanadium going forward.



While a significantly smaller source of demand, we note that increased interest in vanadium redox flow batteries could also portend new demand for vanadium. Vanadium flow batteries are a type of rechargeable battery that uses vanadium ions in different oxidation states to store chemical energy. The battery is composed of a series of electrochemical cells where the energy is provided by these chemical components dissolved in liquid and separated by a membrane. Adroit Market Research estimates the vanadium redox flow battery market could grow to $1.1 billion by 2025.

Even with the recent decline in prices, demand conditions continue to make vanadium an interesting opportunity. We expect Westwater to move forward with additional work on a step by step basis. As each stage provides supportive data and analytical results, we expect the Company to move on to the next until a final answer of economic value can be determined.

Uranium

Some in the uranium industry are applauding a decision by the Trump Administration on the January 2018 petition by U.S. uranium producers Energy Fuels and Ur-energy, requesting protection from uranium imports. The U.S. Commerce Department had investigated the petition under Section 232 of the 1962 Trade Expansion Act. No new trade restrictions are being implemented at this time, but the Trump Administration is establishing a working group to analyze the U.S. nuclear fuel production and report back within 90 days.

The petitioners wanted U.S. nuclear power plant operators to buy at least 25% from U.S. uranium producers and cited unfair competition from Russia, Kazakhstan and Uzebekistan that make up the Commonwealth of Independent States (CIS). According to the U.S. Energy Information Administration, in 2018, U.S. utilities bought about 40% of their uranium supply from CIS countries.

The U.S. utility industry had argued strenuously against the action that would dramatically increase their cost of nuclear fuel. At least one utility has argued that imposition of the 25% minimum domestic source quota could drive prices over $75 per pound for domestically sourced uranium. The recent spot price for uranium has been near $24.00 per pound. This ‘world’ price might be increased nominally for a period of time. Recent industry news suggests some utilities have made inquiries for future supply from sources in Canada and Australia.

The kerfluffle over uranium imports aside, the most important matter for Westwater investors may be a matter that is keeping the Company out of the uranium market. In June 2018, the Company was informed that the Republic of Turkey mining authority was revoking Westwater’s license to mine uranium at its Temrezli uranium property. The Company has since filed a request for arbitration with the International Center for Settlement of Investment Disputes (ICSID). A tribunal was seated in May 2019, composed of one member nominated each by Westwater and the Republic of Turkey. The two nominees than selected a panel chair. No additional actions have been scheduled.

Turkey has two additional cases pending before ICSID. The country’s various agencies have had experience with arbitration, with a mix of outcomes. Nonetheless, the case outcomes suggest Turkey has a history of respecting the arbitration process. Westwater management points out that Turkey has continued to promote foreign direct investment and may want to avoid the negative publicity of protracted arbitration action. We note that the calendar is, in fact, well filled with trade shows and events showcasing Turkey’s various industries and commercial interests and laying out the welcome mat for international visitors.

Lithium

Westwater's lithium projects remain at a very early stage. We expect the ongoing efforts to raise capital will help move forward with exploration work. The Company may benefit from efforts to break away from the China lithium supply chain. It is a market worth fight over. According to the Association of Mining and Exploration Companies by 2025, the market for mined lithium raw material could be worth US$20 billion, refined products could be worth US$43 billion and battery cells US$424 billion. The U.S. is able to source only about 10% of its required lithium from domestic sources. Claiming more of the lithium supply chain will require support of mineral developers like Westwater.

FIRST QUARTER 2019 RESULTS

Westwater Resources reported a net loss of $3.2 million in the quarter ending March 2019. With the new lower number of shares outstanding subsequent to the reverse split, the loss per share was $2.15. Reported general and administrative expenses contributed for $1.8 million to the loss. We believe it is more informative to look at operating cash flow. The Company used $2.7 million in cash resources to support operations in the first three months of the year.

The Company raised approximately $2.2 million in cash in the first four months of 2019, through 1) collection on a promissory note from Laramide Resources, 2) sales of common stock through the Cantor Fitzgerald equity sales agreement, and 3) sale of certain non-core assets to Uranium Royalty Corporation. At the end of March 2019, the Company had $1.0 million in cash on the balance sheet compared to $1.6 million three months earlier.

Subsequent to the close of the quarter, Westwater has realized additional cash inflows. As noted above, in late May 2019, Lincoln Park Capital purchased 104,294 shares of common stock for $550,751 in gross proceeds. In late June 2019, Uranium Royalty paid an additional $1.0 million toward a deposit pending completion of closing requirements related to the sale of various assets Uranium Royalty is buying from Westwater. At the rate of cash usage near $900,000 per month observed in the first quarter 2019, we estimate the Company has sufficient capital to support operations through the beginning of August 2019.

We expect the Company will take advantage of its new equity line of credit with Lincoln Park Capital to raise additional cash during the third quarter. That said, we do not expect the Company to move on this option until after the aforementioned special shareholder meeting scheduled for early August 2019. Additionally, the targeted closing of the previously announced sales of uranium assets and note receivable to Uranium Royalty is now late August 2019, at which time a final payment of $1.25 million will be due from Uranium Royalty.

OUTLOOK

In our view, Westwater management made an astute move in choosing not to go forward with the planned sales of common stock to retail investors through a registered common stock offering. The decision delayed getting new capital into the Company during a period when working capital had turned negative. However, the valuation that Westwater appears to have received in the private institutional market compared to the public retail market is significant and has helped to minimize the dilutive impact of issuing new shares for new capital. We believe the Company will be able to raise as much capital through the equity agreement with Lincoln Park as was planned in the now defunct follow-on offering.

We also believe that Lincoln Park also represents a more stabilizing influence on Westwater ownership, even with a limit of 9.9% of the outstanding shares. Although we expect Lincoln Park to be in the market with excess shares, below their threshold limit it is likely turnover in their holding will be nominal. It is also likely that Lincoln Park's interest in Westwater will have the usual reference influence of a 'smart money' investor.

A welcome, but perhaps not entirely expected outcome of the follow-on offering cancellation in May 2019, has been a lessening in the frequency of short sales in the shares. The effect was likely supported by the reduction in flotation that resulted from the reverse split of the shares in early March 2019. In our view, the change could support healthier trading on fundamental developments rather than on speculative assault on the share price.

After months of uncertainly related to capital resources, investors are eager for news of accomplishment in any of the Company's four energy minerals projects. We expect an update on battery-grade graphite materials when the Company reports financial results for the quarter ending June 2019. Management has been bringing forth financial reports with greater speed in recent quarters. Thus we expect a second quarter report in early August 2019.

We also expect management to provide additional color on the vanadium project in Alabama in the upcoming quarter report. There are a number of unanswered questions that are dependent upon results of additional sampling and analysis. Even if there is yet no additional detail, we believe a discussion by management of next steps could help support investor sentiment and inspire trading in the shares.

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*	*900*	*28,500*
Gross profit	-	-	-	-	-	-	*450*	*450*	*17,100*
Operating expenses:									
Mineral property expenses	3,502	4,470	3,248	4,584	3,538	*3,534*	*5,500*	*6,000*	*6,500*
General and administrative	9,132	7,488	7,650	6,614	7,357	*7,586*	*8,500*	*9,000*	*10,500*
Accretion of asset retirement obligations	425	450	480	1,039	993	*576*	*1,000*	*1,000*	*1,000*
Depreciation and amortization	331	336	247	142	116	*160*	*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	*11,839*	*15,160*	*16,160*	*18,160*
Operating income (loss)	(13,550)	(16,752)	(13,298)	(24,818)	(36,049)	*(11,839)*	*(14,710)*	*(15,710)*	*(1,060)*
Total other income (expense)	2,866	1,609	(6,307)	5,530	365	*(555)*	-	-	-
Income (loss) before income taxes	(10,684)	(15,143)	(19,605)	(19,288)	(35,684)	*(12,394)*	*(14,710)*	*(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)	*(12,394)*	*(14,710)*	*(13,710)*	*(1,060)*
Net EPS (LPS), comprehensive	na	na	na	$ (38.50)	$ (38.50)	*$ (6.37)*	*$ (3.11)*	*$ (2.47)*	*$ (0.15)*
Wtd shares outstanding, diluted in 000s	na	na	na	495	928	*1,945*	*4,729*	*6,372*	*7,309*

CRYSTAL | EQUITY RESEARCH

CRYSTAL EQUITY RESEARCH, LLC

Crystal Equity Research, LLC is an objective research resource, providing coverage of small capitalization companies in selected industries. The firm provides research reports by subscription to institutional investors, supplies research consulting services to financial professionals and offers an issuer sponsored research program for qualifying companies. Additional information is available at the firm's web site at **www.crystalequityresearch.com**.

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.

ANALYST CERTIFICATION

The analyst who is primarily responsible for this research and whose name is listed first on this front cover certifies that: 1) all of the views expressed in this research accurately reflect his or her professional views about any and all of the subject securities or issuers, and 2) no part of any of the analyst's compensation was, is or will be directly or indirectly related to the specific rating expressed by analyst in this research.

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

Report	Date	Price	Rating	Target Price
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

DISCLOSURES

Name	Symbol: Exchange	Disclosures
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.
G The securities covered in this report can be margined.

* *Crystal Equity Research previously published research on Alabama Graphite and received compensation from the company.*

ADDITIONAL INFORMATION IS AVAILABLE UPON REQUEST