

WWR / Nasdaq
**SPECULATIVE
BUY**

Unchanged

\$30.00

(Revised 5/6/19)

CAPITALIZATION

Shares Outstanding (2/14/20)	4.2 M
Recent Price (2/24/20)	\$1.96

Market Capitalization	\$ 8.2 M
+ Debt	0.0 M
- Cash	<u>1.9 M</u>
Enterprise Value	\$ 6.3 M

Book Value	\$ 17.1 M
Working Capital	(\$ 1.3) M
Dividend	Nil

Balance sheet figures as of 12/31/19
MARKET DATA

Bid-Ask Spread, % Price	5.6%
52 Week High/Low	\$10.00 - \$1.96

Shares Outstanding	4.2 M
Inside Ownership	<1%
Institutional Ownership	10.0%
Estimated Flotation	4.1 M

Average Daily Volume	225 K
Short Interest, % of Float	Nil
Beta	1.14

Source: Bloomberg LP
INVESTMENT RETURNS

	WWR	Sector*
Return on Equity	Neg	9.06%
Return on Assets	Neg	3.80%
Return on Capital	Neg	5.10%

Source: Crystal Equity Research, CSI Markets
FINANCIAL PROFILE

	FY18	FY19
Sales	\$ 0.0 M	\$ 0.0 M
EBITDA	(\$36.1) M	(\$10.3) M
(L)EPS	(\$38.47)	(\$0.539)

Source: Company Reports
HIGHLIGHTS

- Graphite Development.** A pilot plant is scheduled for completion yet in 2020, contingent upon the availability of project financing. Initially, the plant is expected to process 20 million tons of graphite concentrate to produce samples of three battery-grade graphite products: *PMG*, *DEXDG* and *CSPG*.
- Business Pipeline.** Westwater is on schedule to deliver one ton of its *PMG* product to an unnamed battery manufacturer with an alkaline battery product line. The *PMG* will be used in a follow-on round of qualification testing.
- Valuation.** Based on valuation multiples of comparable energy materials companies, we believe WWR should be priced today nearer \$13.20 per share. In our view, this is base case valuation and does not fully encompass full potential value in the company's graphite and vanadium projects.
- Rating.** Our rating of WWR remains Speculative Buy, reflecting the long-term commercial potential in its remaining energy materials assets in four minerals, including uranium, lithium, graphite, and vanadium.

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

INDUSTRY: INDUSTRIAL, ENERGY MATERIALS

WWR: NASDAQ

RECENT DEVELOPMENTS

With the fourth quarter financial report, Westwater Resources disclosed several recent advancements that we believe favorably impact Westwater's competitive position, market opportunity and equity value:

- In late 2019, German engineering firm Dorfner Anzaplan was engaged to take what has been a laboratory exercise to pilot scale production of Westwater's three battery-grade graphite materials. The pilot plant is scheduled for completion yet in 2020, contingent upon the availability of project financing. (See page 3)
- A research and development project has been undertaken related to its *Coated Spherical Purified Graphite* or CSPG product. While it is apparently not a battery application and the project involves no revenue, the project may confirm market visibility for the Company's products. (See page 4)
- In early February 2020, Westwater Resources filed a required claimant's memo against the Republic of Turkey with the International Center for Settlement of Investment Disputes (ICSID). The claim is for \$36.5 million as compensation for what Westwater argues was Turkey's unlawful retraction in June 2018, of Westwater's license to mine uranium at the Temrezli and Sefaatli projects in Turkey. A ruling by the arbitration panel could be delivered as early as mid-2021 (See pages 4 and 5)

RECOMMENDATION

In our view, Westwater Resources shares continue to be undervalued. In the Valuation and Outlook section of this report beginning on page 9, we describe a valuation exercise based on a selected group of comparable companies in the energy materials sectors where the Company operates. WWR is currently valued at just under half its net asset value. Based on the multiple of the comparable group WWR shares should be priced today nearer \$13.20 per share. We believe this is a base case valuation and does not fully encompass the potential in Westwater's graphite and vanadium assets in Alabama. Westwater is among several graphite developers planning new pilot plant capacity. However, it is among few with a pilot plant design in the final stages and a significant potential customer in the final stage qualifying battery-grade graphite materials. Westwater is currently on schedule to be the first domestic U.S. producer of graphite materials in decades and the first to produce battery-grade graphite for a commercial battery product.

Our rating of WWR remains Speculative Buy with a \$30.00 price target reflecting the long-term commercial potential in its remaining energy materials assets in four minerals, including uranium, lithium, graphite, and vanadium.

VALUATION

Price/Sales	Neg
Price/Cash Flow	Neg
Price/EPS	Neg
Price/Book Value	0.48 X
Consensus EPS 2020	na
Forward PE	na

OPERATING PROJECTIONS

	2017A	2018A	2019A	2020E	2021E
Sales	\$ 0.0	\$0.0	\$ 0.0	\$ 0.0	\$ 0.9
Operating (Loss)	(\$ 24.8)	(\$36.0)	(\$10.9)	(\$ 12.0)	(\$ 14.6)
Net Inc (Loss)	(\$ 19.0)	(\$35.7)	(\$ 10.6)	(\$12.0)	(\$ 14.6)
CFO (U)	(\$ 11.6)	(\$11.7)	(\$ 10.0)	(\$10.3)	(\$ 14.2)
EPS (LPS)	(\$38.50)	(\$38.50)	(\$5.39)	(\$2.18)	(\$2.05)

Dollars in millions except per share earnings

Per share figures estimated 12/31/19

Company Reports and Crystal Equity Research Estimates

FOURTH QUARTER AND YEAR 2019 FINANCIAL RESULTS

Westwater Resources reported financial results for the fourth quarter and year ending December 2019, disclosing the Company used \$2.9 million in cash resources to support development activities in the final three months of the year. The cash usage during the period brought cash used in operating activities to \$10.0 million for the full year 2019. In its 2019 annual report, Westwater noted that its current rate of cash usage near \$900,000 per month is likely to remain steady during 2020.

The Company ended the year 2019, with \$1.9 million in cash on its balance sheet. Since the end of December 2019, Westwater raised an additional \$700,000 in capital by putting 360,000 shares to Lincoln Park Fund, with which the Company had previously set up a common stock purchase agreement. The sale brought total shares sold to Lincoln to an estimated 2.1 million shares for gross proceeds of approximately \$6.5 million. Lincoln Park has agreed to purchase up to \$10.0 million in Westwater's common stock through June 2021.

Westwater indicated that by mid-February 2020, its cash balance was near \$1.6 million. Working capital was negative \$1.3 million, owing in large part to an accumulation of \$1.6 million in accounts payable and accrued liabilities.

To shore up working capital, we expect the Company to continue relying on the Lincoln Park stock purchase agreement as well as a similar equity sales agreement with Cantor Fitzgerald & Co. We estimate the Lincoln Park agreement has \$3.5 million remaining in available purchase capacity and the Cantor agreement an incremental \$22.8 million. That said, access to the Cantor capacity is limited by the available share registration for up to \$4.2 million in common stock value.

Graphite Pilot Plant

The working capital situation is of particular importance for Westwater's 'front burner' project to develop and produce proprietary graphite materials to the burgeoning battery market. The Company recently engaged a German engineering firm, Dorfner Anzaplan, to take what has been a laboratory exercise to pilot scale production of three battery-grade graphite materials. The Dorfner engineers are expected to perfect the methods and operating requirements for purifying natural flake graphite and then designing a pilot plant.

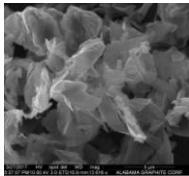


The pilot plant is scheduled for completion yet in 2020, contingent upon the availability of project financing. The Company still expects to use standard equipment and proven processes in its pilot plant, which should foster some confidence with lenders and investors considering financing the pilot plant. We expect the Company to provide an updated budget for the pilot plant when Dorfner completes its current engineering and design work sometime near the end of the second quarter or beginning of the third quarter.

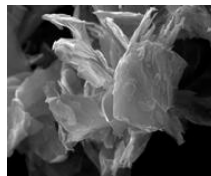
Graphite Business Pipeline

In its presentation for the fourth quarter 2019 earnings conference call held in mid-February 2020 Westwater management disclosed the existence of a research and development project related to its *Coated Spherical Purified Graphite* or *CSPG* product. While it is apparently not a battery application and the project involves no revenue, we were gratified for the confirmation of market visibility for the Company's products. The exercise is likely giving the Company's engineers valuable experience with customer requirements and could ultimately end in some sort of revenue stream.

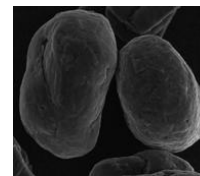
Management also used the earnings conference call presentation to clarify the graphite production process and the target markets for its first three proprietary products: *Purified Micronized Graphite (PMG)*, *Delaminated Expanded Purified Graphite (DEXPG)* and *Coated Spheronized Purified Graphite (CSPG)*. *PMG* has taken on greater priority in the last couple of years as battery manufacturers have turned to specialized graphite materials for performance enhancement of conventional batteries.



PMG



DEXDG



CSPG

The Company apparently remains on schedule to deliver one ton of its *PMG* product to an unnamed battery manufacturer with a product line that includes lead acid and alkaline batteries. The large volume of *PMG* will be used in a follow-on round of qualification testing. Management has expressed confidence in the ability to produce the one ton of *PMG* at its planned graphite materials pilot plant.

Arbitration Against Republic of Turkey's Mining Authority

On of February 6, 2020, Westwater Resources filed a required claimant's memo against the Republic of Turkey with the International Center for Settlement of Investment Disputes (ICSID). The claim is for \$36.5 million as compensation for what Westwater argues was Turkey's unlawful retraction in June 2018, of Westwater's license to mine uranium at the Temrezli and Sefaatli



projects in Turkey. The claim also requests compensation for costs and interest. Westwater originally filed a request for arbitration against Turkey with ICSID in December 2018, after repeated attempts to negotiate directly with Turkey's mining authority had failed. An arbitration panel was appointed in late 2019.

While shareholders may not appreciate what appears to be a protracted pace, the claimant's memo sets up a timeline for resolution of the matter. First, Turkey has four months or until June 15, 2020, to file a counter argument with the arbitration panel. A hearing to discuss the merits of Westwater's claims and Turkey's counter claim could be scheduled in May 2021. However, Turkey has an option to slow down the proceeding by raising the question of jurisdiction. Turkey has until March 9, 2020, to request a ruling on jurisdiction. If Turkey's jurisdiction request is granted, a hearing on the question could be held in March 2021. Depending upon resolution of any jurisdiction matter raised by Turkey, the merits of Westwater's actual claim would not be held until September 2021.

The coming weeks will determine the upcoming timeline. No doubt Turkey's mining industry regulators and their legal counsel began immediately to scrutinize Westwater's memo to determine the strength of the claim. In the best case, at least from the perspective of Westwater shareholders, would be Turkey's conclusion to settle immediately before the next steps in the arbitration exercise. It is not possible to handicap this outcome given that in previous claims against Turkey before the same international body, the Turkey government has both settled before a decision by the arbitration panel and taken disputes through the full arbitration process.

RECENT SECTOR DEVELOPMENTS

Westwater Resources is targeting the energy materials market with its uranium, lithium, graphite, and vanadium assets. All four of these sectors are dynamic with recent developments that have implications for long-term trends in materials applications, pricing and demand. We review each segment below with a view on how Westwater might be impacted.

Uranium

The Trump Administration has proposed setting aside \$150 million for a U.S. uranium reserve. If adopted as part of the 2021 Federal Budget for the Energy Department, the uranium reserve would represent a new source of demand exclusively for U.S. producers. At current spot prices near \$25.00 per pound, the proposed budget of \$150 million represents demand for approximately 6.0 million pounds of yellow cake uranium material.



Uranium does not trade in an open market like copper or iron ore. Rather purchases by utilities with nuclear power plants, the usual buyers, are negotiated and commemorated by delivery contracts. The pending proposal does not provide many details on how and when the \$150 million reserve would be executed. If the U.S. government fills the reserve within a year, the proposal would represent a little more than 10% increase in purchase activity.

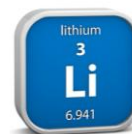
Indeed, the U.S. utility industry consumes about 55 million pounds of uranium per year, of which at least 45 million pounds are imported from foreign producers. In 2018, the Energy Information Agency reports that U.S. utilities bought \$1.7 billion worth of enriched and \$398 million worth of natural uranium from at least fourteen sources. Top of the list of trade partners for enriched uranium is Russia, which delivered about 38% of U.S. uranium imports. The Netherlands followed in second place at 26% and Germany came in third at 17%. Canada is the primary source for natural uranium, providing at least 93% of U.S. imports.

Certainly, the proposed reserve could be a positive for the U.S. uranium industry. However, it is not clear whether the buying power implied by the proposed reserve is going to be enough to influence either spot or contracted prices for uranium. A significant price increase is needed to bring Westwater's Texas uranium assets back into play. We believe marginal costs at the Texas assets are near \$45.00 per pound. That said, the uranium reserve could help soak up uranium inventories that have long delayed some players from engaging in serious supply contract negotiations. Notably after a lengthy period at standstill U.S. producers have allowed inventories to sink to historic low levels. More than anything else under supply could drive prices higher.

Perhaps more important for Westwater than the immediate impact on uranium selling prices, is the influence on the assets values for its Texas and New Mexico uranium properties. We believe the existence of a U.S. reserve could reflect well on long-term market values of domestic uranium assets, particularly those that have proven, exploitable deposits.

Lithium

Despite that fact that demand for lithium materials for the battery market increased by as much as 18% in 2019, supply surpluses developed as the year 2019 came to a close. The problem is lower demand than had been anticipated and excess production have resulted in oversupply and a decline in selling prices. Now Benchmark Mineral Intelligence, an industry research firm, warns of world production cuts and a growing propensity among producers to stockpile materials. It is also noteworthy that another industry research firm, Fastmarkets, has forecast a narrowing premium for lithium hydroxide over lithium carbonate. Indeed, Fastmarkets predicts near parity before the end of 2020.



The next question to answer in the lithium industry is how long prices will remain depressed. Benchmark has forecast a stabilization of prices in 2020. Fastmarkets has predicted continued price declines in the first half of 2020, with a flattening in the rest of the year. Global Lithium, yet a third industry research firm, has predicted rising lithium prices in 2020 with a spike in 2021.

The focus on pricing is fascinating. However, we believe it could be more informative to monitor the horizon for merger and acquisition activity in the lithium market. First, the price declines have had cash flow implications for aspiring producers. Some may seek a strategic deal to shore up empty bank accounts. Second, capital access is critical for working capital as well as capacity augmentation. Nemaska Lithium (NMX: TSX) was forced to file for bankruptcy in December 2019, after failing to get financing to cover a 35% cost overrun at a spodumene mine near Quebec.

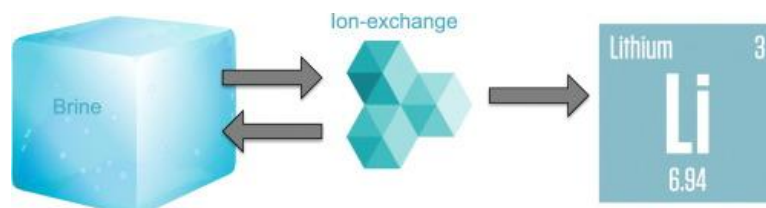
Two deals were already announced in 2019: Ganfeng Lithium, China's second largest lithium producer, bought at least one-third of Bacanora Minerals (BCM: LSE) in Mexico. In the same month, Jiangxi Special Electric Motor, a China-base electric vehicle manufacturer, formed a joint venture with Alliance Mineral Assets (A40: ASX), an Australian lithium producer. The deals were not surprising given that large quantities of Australian spodumene had been imported for processing China, where ample conversion capacity was waiting. It makes sense for China lithium processors to gain strategic control over raw materials supplies.

Another more recent deal also illustrates industry consolidation. In February 2020, Argentina's Orocobre Ltd. (ORE: ASX, ORL: TSX) announced a deal to acquire all shares of Advantage Lithium (AAL: TSX, AVLIF: OTCQX) that Orocobre did not already own.

We also expect more interest in lithium from adjacent industries. For example, in January 2019, Pluspetrol Resources Corp. acquired all the shares of LSC Lithium (LSC: TSX). LSC is an emerging lithium producer with a significant asset portfolio in northern Argentina. Pluspetrol is the third largest hydrocarbon producer in Argentina with operations throughout South America, the Netherlands and the U.S.

Necessity may drive the pace of such deals. We note that the U.S. Department of Energy's Critical Materials Strategy cites lithium as one of sixteen key elements of military interest. Lithium was also among twenty-three critical metals cited by the Trump Administration for national security. Unfortunately, government lists have not led to financial support for domestic U.S. production.

Technological innovation in lithium extraction may also impact the buy-versus-build decision by large conglomerates interested in tapping the lithium growth opportunity offered by the battery market. One such



innovation is an ion exchange technology for extracting lithium from brine resources. Lilac Solutions, recently raised \$20 million in a Series A financing round to scale up production of its proprietary ion exchange beads using in a lithium extraction system. Lilac's ion exchange system has been in trial in U.S. and South American lithium extraction operations. Lilac claims its ion exchange solution is faster, cheaper and more scalable than the conventional brine pond approach. Lithium Australia (LIT: ASX) with its proprietary hydrometallurgical process and Standard Lithium (STLHF: OTC) with a direct extraction process also claim innovations capable of altering the direction of the lithium industry.

It is not likely that either accelerated merger and acquisitions activity or technological innovation in lithium extraction will impact Westwater Resources in the near-term. Furthermore, management has given no indication that it has been approached by interested third-parties. However, an asset developer is likely to benefit as when large companies go on shopping sprees. Westwater has already secured water rights for its two remaining lithium assets - Sal Rica in Utah and Columbus Basin in Nevada - potentially lending value to both assets.

Given that Westwater's lithium assets are in early stages of exploration, it would be premature to speculate on the Company plans for lithium extraction technologies. Nonetheless, it is noteworthy that Westwater's engineers are well-experienced ion exchange technology through years of in situ recovery of uranium at the Company's Texas uranium projects. In-situ uranium recovery involves the extraction of uranium-bearing water from underground and then a recovery of the target mineral using specialized resins in an ion exchange process.

Vanadium

Interest in vanadium redox flow batteries remains strong, on of the newest applications for vanadium materials. In November 2019, Bushveld Minerals (BMN: AIM) announced plans to acquire Enerox GmbH for \$12 million from CellCube Energy Storage Systems. Enerox claims installations of its proprietary vanadium redox batteries in over one hundred sites globally.

Selling prices for vanadium remain fairly stable with the China price for vanadium pentoxide near \$6.70 per pound in China and \$6.55 per pound in Europe at the end of February 2020. Ferro vanadium prices were \$29.00 per pound and \$29.50 per pound in China and Europe, respectively. It is not clear how the economic slowdown in manufacturing in China could impact vanadium prices. China's steel industry is a major source of demand.

The pace of economic activity is likely to resume in China in the second half of the year, but it is not clear whether the interruption in work due to the coronavirus outbreak will simply delay orders or if some demand has been actually extinguished. This cautionary view applies to all energy materials given that it is far too early in this health crisis to pinpoint the full extent of the economic damage.

Graphite

Operations at China processors of flake and spherical graphite had resumed by the third week in February 2020, but with partial workforces. Producers near port cities are more likely to begin making export shipments as they have access to seaborne delivery options. Market prices have remained steady on reportedly limited trading. There had been suggestions that prices of higher mesh graphite could increase. However, at the middle of February 2020, price quotations had yet to reflect this development.

These graphite price issues are likely to play out in the near-term and do not appear to have relevance for Westwater's long-term plans for its graphite market entrance. We do not view the current health crisis in China as a source of risk for the Company's graphite market plans. If anything, the current situation shines a bright light on the risks to the battery materials supply chain. We believe this could be a plus in conversations with potential financing sources for the Company's pilot plant.

UPDATED EARNINGS MODEL

We have updated our earnings model to reflect fourth quarter and year-end 2019 financial results. Additionally, we have adjusted our cost and expense estimates downward for the year 2020, to reflect management's guidance for cash usage in near the recent spending rate of \$900,000 per month. Our model does not reflect the budget for the pilot plant. We expect to update our capital budget estimates when the Company discloses its finalized budget for the pilot plant in mid-2020. We expect much of the expense associated with the pilot project to qualify as a capitalized expense. Furthermore, our model does not reflect any terms for the project financing that has been proposed for the pilot plant.

Our earnings model still illustrates a token revenue figure in the year 2021, to indicate our expectation for the earliest point at which we expect Westwater to begin recording revenue from its graphite materials. This assumes a favorable conclusion by the unnamed battery manufacturer once it has completed the pending tests using the Company's *PMG* material.

VALUATION AND OUTLOOK

The comparative valuation method is using frequently for materials companies. We had previously applied multiples of comparable companies to value WWR to reach a valuation of \$47.00 per share. This price reflects the 50/1 reverse split completed in 2019.

An update of valuation multiples for a selection of uranium, lithium, graphite and vanadium materials developers reveals shifting sentiment across all four sectors. A summary of the comparable group is shown in Table I beginning on page 11 of this report. It is not surprising that WWR has struggled to maintain value.

- The uranium segment has experienced a steep drop in multiples of earnings and book value. This might have come about as a consequence of the application by two U.S. uranium producers for import protections under Section 232 of the trade regulations. The subsequent investigation and work completed by the U.S. Nuclear Fuel Working Group seemed to create more uncertainty than ever. Even with the recommendation for a domestic reserve did not seem to have a favorable impact on valuation as there remain questions about timing and process.
- The lithium group surprisingly shows increased multiples of both earnings and book value.
- The valuation picture for graphite is muddy as improved earnings among producing companies have not triggered higher values. Unfortunately, the majority of the group is at the developmental stage with low or no revenue, net losses and net cash usage. The results are negative multiples against all metrics except book value.
- In the vanadium group multiples are likewise mostly negative.

Overall the picture is one of contracting valuation sentiment. There is a question as to whether the general reduction in comparative multiples is the consequence of fundamental deterioration in these particular materials sectors or if the changes simply reflect an unfavorable shift in risk tolerance for equities in general. The year 2019 delivered an experience of slowing earnings growth across the world economy, due in part to trade war posturing and the imposition of tariffs that negatively impacted supply chains. Consequently, profit margin contraction weighed on outlook.

In 2020, consensus estimates suggest approximately 9% earnings growth for companies in the broad U.S. equity market. In our view, there could be disappointment if this target is not tempered. We note few companies are guiding for significant sales growth. Furthermore, unemployment remains low and there has already been modest wage growth. The circumstance does not bode well for profits. This is particularly the case with a looming health crisis presented by the coronavirus in China and beyond. An increase in earnings of 9% seems unrealistic. There is reason for concern for continued wariness toward risk in the broader equity market.

Thus the materials markets are left to their own prospects to drive valuation sentiment. We do not expect dramatic change in the near-term. Uncertainty, the bane of higher valuation, is likely to remain the most dominant factor in energy materials sector sentiment. While Westwater Resources is likely a beneficiary of growing awareness in the risks of the global energy materials supply chain, it may take still more time for that advantageous position to fully register in the share price.

WWR is currently valued at just under half its net asset value. Based on the multiple of the group of comparable energy materials companies shown in Table I on the following pages, the shares should trade today nearer \$13.20. In our view, this is a base case valuation and does not fully encompass the potential value in the company's graphite and vanadium projects. It is acknowledged that Westwater is not the only graphite developer planning new pilot plant capacity. However, it is among few with a pilot plant design in the final stages and a significant potential customer in the final stage qualifying battery-grade graphite materials. We expect Westwater to be among the first for which classification in our comparable group is changed from 'development' to 'commercial' stage in the graphite sector.

ADDITIONAL INFORMATION IS AVAILABLE UPON REQUEST.

Table I: Selected Energy Materials Companies - Comparable Valuation Metrics*

COMPANY	SYM	OPERATIONS	SECTOR	RECENT PRICE	MARKET CAP Mil	PRICE/ SALES	PRICE/ Csh FL	PRICE/ EARN	PRICE/ BK VAL
Advantage Lithium	AAL: V	Development	Lithium	\$0.27	\$44.0	na	neg	neg	0.92
Albemarle Corp.	ALB: NYSE	Commercial	Lithium	\$88.81	\$9.4	2.62	13.09	17.69	2.39
Altius Minerals	ALS: TO	Commercial	Uranium	\$7.59	\$319.2	6.95	neg	neg	1.32
Australian Vanadium Ltd.	ATVVF: OTC	Exploration	Vanadium	\$0.01	\$14.6	na	neg	neg	1.09
Azincourt Energy Corp.	AAZ: V	Development	Uranium	\$0.02	\$2.7	na	neg	neg	0.93
Bass Metals, Inc. (Stratmin)	BSM: ASX	Commercial	Graphite	\$0.00	\$9.3	10.58	neg	neg	1.00
Berkeley Energia Ltd.	BKY: ASX	Commercial	Uranium	\$6.60	\$16.3	na	neg	na	74.63
Cameco Corp.	CCJ: NYSE	Commercial	Uranium	\$8.89	\$2,647.5	2.51	4.56	63.10	0.97
Dajin Resources Corp.	DJI: V	Exploration	Lithium	\$0.02	\$2.9	na	neg	neg	1.00
Eagle Graphite, Inc.	EGA: V	Development	Graphite	\$0.02	\$0.9	na	neg	neg	na
EcoGraf Ltd.	EGR: ASX	Development	Graphite	\$0.05	\$14.5	na	neg	neg	1.19
Energy Fuels, Inc.	UUUU: NYSE	Commercial	Uranium	\$1.30	\$150.3	18.31	neg	neg	0.98
First Graphene Ltd.	FGR: ASX	Development	Graphite	\$0.16	\$69.1	3034.86	neg	neg	neg
First Vanadium	FVAN: V	Exploration	Vanadium	\$0.20	\$8.6	na	neg	neg	1.48
FMC Corp.	FMC: NYSE	Commercial	Lithium	\$102.86	\$13,330.0	2.89	27.74	28.41	5.21
Focus Graphite	FMS: V	Development	Graphite	\$0.02	\$5.6	na	neg	neg	0.27
Galaxy Resources Ltd.	GXY: ASX	Commercial	Lithium	\$0.66	\$271.6	5.92	neg	neg	1.71
Global Li-Ion Graphite	LION: CSE	Development	Graphite	\$0.09	\$4.3	na	neg	neg	1.56
Graphite India Ltd.	GRAPHITE: BO	Commercial	Graphite	\$3.66	\$714.1	1.22	na	8.29	1.03
Imerys Graphite & Carbon	NK: PA	Commercial	Graphite	\$41.42	\$3,259.1	0.69	na	25.00	0.97
International Lithium	ILC: V	Development	Lithium	\$0.04	\$5.0	na	neg	neg	7.14
Jiangxi Gangeng Lithium Co.	002460: SZSE	Commercial	Lithium	\$7.70	\$9,177.0	11.66	na	na	8.76
Largo Resources	LGO: TO	Commercial	Vanadium	\$0.74	\$394.8	1.86	1.93	7.54	1.53
Leading Edge Materials	LEM: V	Development	Graphite, Lith.	\$0.07	\$8.1	na	neg	neg	0.55
LiCo Energy Metals, Inc.	LIC: V	Development	Lithium, Cob.	\$0.07	\$1.8	na	neg	neg	0.29
Lincoln Materials	LML: ASX	Development	Graphite	\$0.003	\$1.1	na	neg	neg	0.27
Lomiko Metals	LMR: V	Development	Graphite	\$0.03	\$3.9	na	neg	neg	1.02
Magnis Resources	MNS: ASX	Development	Graphite	\$0.06	\$34.3	164.16	neg	neg	2.18
Mason Graphite	LLG: V	Development	Graphite	\$0.18	\$24.5	na	neg	neg	0.31
MGX Minerals, Inc.	XMG: V	Exploration	Lithium	\$0.08	\$10.5	na	neg	neg	0.89
Mineral Resources Ltd.	MIN: ASX	Commercial	Lithium	\$12.52	\$2,356.2	1.83	9.92	3.45	1.62
Nemaska Lithium	NMX: TO	Development	Lithium	\$0.12	\$104.9	na	neg	neg	0.56
Neo Lithium Corp.	NLC: V	Development	Lithium	\$0.52	\$60.8	na	neg	neg	1.30
Neometals Ltd.	NMT: ASX	Development	Lithium	\$0.14	\$75.4	69.13	neg	0.00	0.74
NexGen Energy Ltd.	NXE: NYSE	Commercial	Uranium	\$1.41	\$501.7	na	neg	neg	2.91
NextSource Materials	NEXT: TSX	Development	Graphite	\$0.04	\$20.1	na	neg	neg	na
Northern Graphite Corp.	NGC: V	Development	Graphite	\$0.17	\$10.7	na	neg	neg	0.93
Nouveau Monde	NOU: V	Development	Graphite	\$0.18	\$47.1	na	neg	neg	1.60
NRG Metals, Inc.	NGZ: V	Development	Graphite, Lith.	\$0.29	\$2.0	na	neg	neg	1.74
Orocobre Ltd.	ORL: TO	Commercial	Lithium	\$2.08	\$554.3	6.12	79.55	46.17	1.17
Paladin Energy Ltd.	PDN: ASX	Commercial	Uranium	\$0.06	\$117.8	8.30	neg	neg	0.71
Peninsula Energy Ltd.	PEN: ASX	Commercial	Uranium	\$0.11	\$28.0	6.43	neg	neg	0.94
Pure Energy Minerals Ltd.	PE: V	Development	Lithium	\$0.03	\$6.5	na	neg	neg	0.25
SGL Carbon SE	SGLFF: OTC	Commercial	Graphite	\$4.30	\$526.4	1.13	neg	2.49	0.83

Continued on the next page.

Table I continued:

COMPANY	SYM	OPERATIONS	SECTOR	RECENT PRICE	MARKET CAP Mil	PRICE/ SALES	PRICE/ CSH FL	PRICE/ EARN	PRICE/ BK VAL
Sociedad Qimica y Minera	SQM: NYSE	Commercial	Lithium	\$30.54	\$8,040.0	3.95	19.70	25.14	3.84
Sovereign Metals	SVM: ASX	Commercial	Graphite	\$0.09	\$30.9	na	neg	neg	4.82
Syrah Resources	SYR: ASX	Commercial	Graphite	\$0.33	\$123.9	3.91	neg	neg	0.49
Talga Resources Ltd.	TLG: ASX	Development	Graphite	\$0.26	\$53.3	9462.04	neg	neg	9.07
Tianqi Lithium Corp.	002466: SZSE	Commercial	Lithium	\$4.88	\$7,215.6	9.76	23.21	62.30	3.92
Triton Minerals	TON: ASX	Development	Graphite	\$0.02	\$24.0	na	neg	neg	1.45
Uranium Energy Corp.	UEC: NYSE	Commercial	Uranium	\$0.78	\$142.7	na	neg	neg	2.01
UR-Energy, Inc.	URG: NYSE	Commercial	Uranium	\$0.49	\$79.4	3.71	neg	neg	1.88
Vanadium One Iron Corp.	VONE: TSX.V	Commercial	Vanadium	\$0.06	\$3.7	na	neg	neg	1.47
Western Uranium & Vanadium	WUC: CN	Development	Uran., Van.	\$0.54	\$16.2	448.96	neg	neg	1.04
Youngy Co. Ltd.	002192 SZSE	Development	Lithium	\$3.02	\$785.4	na	neg	na	na
ZEN Graphene Solutions	ZEN: V	Development	Graphite	\$0.38	\$31.5	na	neg	neg	1.52
Total Group					\$919.9	531.58	22.46	24.13	3.24
Uranium					\$400.5	7.70	4.56	63.10	8.73
Lithium					\$2,336.2	12.65	28.87	26.17	2.45
Graphite					\$218.2	1,584.82	neg	11.93	1.64
Vanadium					\$87.6	225.41	1.93	7.54	1.32

*More details on the fundamental performance of companies in the comparable group are available upon request.

Source: Bloomberg, LP; Crystal Equity Research, LLC

Table II: Historic and Projected Annual Financial Performance

Dollars in Thousands	2014A Year	2015A Year	2016A Year	2017A Year	2018A Year	2019A 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	2,852	3,500	5,000	6,500
General and administrative	9,132	7,488	7,650	6,614	7,357	6,086	6,500	8,000	10,500
Accretion of asset retirement obligations	425	450	480	1,039	993	390	500	500	1,000
Depreciation and amortization	331	336	247	142	116	73	80	80	160
Impairment of mineral properties	160	960	1,673	11,436	23,712	143	-	-	-
Other	-	3,048	-	1,003	333	1,378	1,400	1,500	1,500
Total operating expenses	13,550	16,752	13,298	24,818	36,049	10,922	11,980	15,080	19,080
Operating income (loss)	(13,550)	(16,752)	(13,298)	(24,818)	(36,049)	(10,922)	(11,980)	(14,630)	(1,980)
Total other income (expense)	2,866	1,609	(6,307)	5,530	365	357	-	-	-
Income (loss) before income taxes	(10,684)	(15,143)	(19,605)	(19,288)	(35,684)	(10,565)	(11,980)	(14,630)	(1,980)
Provision for income taxes (benefit from)	-	-	-	-	-	-	-	-	-
Unrealized change in value, mkt. securities	-	(67)	(49)	287	(861)	-	-	-	-
Realized loss on sale securities	-	-	116	-	484	90	-	-	-
Net income (loss)	(10,684)	(15,210)	(19,538)	(19,001)	(36,061)	(10,475)	(11,980)	(14,630)	(1,980)
Net EPS (LPS), comprehensive	na	na	na	\$ (38.50)	\$ (38.50)	\$ (5.39)	\$ (2.18)	\$ (2.05)	\$ (0.24)
Wtd shares outstanding, diluted in 000s	na	na	na	495	928	1,961	5,502	7,145	8,083

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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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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	65%
Holds	10%
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
Update	7/15/19	\$5.01	Buy	\$30.00
Update	8/13/19	\$3.30	Buy	\$30.00
Update	11/19/19	\$2.79	Buy	\$30.00
Update	2/25/20	\$1.96	Buy	\$30.00

Post reverse split

DISCLOSURES

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

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