CRYSTAL | EQUITY RESEARCH

WESTWATER RESOURCES, INC.

Update Report

October 19, 2021

WWR / NYSE-Amer

SPECULATIVE BUY

Unchanged

$20.00

Unchanged

CAPITALIZATION	
Shares Outstanding (8/11/21)	34.6 M
Recent Price (10/18/21)	$3.44
Market Capitalization	$119.0 M
+ Debt	0.0 M
- Cash	119.1 M
Enterprise Value	($ 0.1) M
Book Value	$126.6 M
Working Capital	$113.5 M
Dividend	Nil

Balance sheet figures as of 6/30/21

MARKET DATA	
Bid-Ask Spread, % Price	2.9%
52 Week High/Low	$11.25 - $3.25
Shares Outstanding	34.6 M
Inside Ownership	<1%
Institutional Ownership	11.2%
Estimated Flotation	34.3 M
Average Daily Volume	770 K
Short Interest, % of Float	6.9%
Beta	1.63

Source: Bloomberg LP

INVESTMENT RETURNS	WWR	Sector*
Return on Equity	Neg	18.07%
Return on Assets	Neg	8.49%
Return on Capital	Neg	11.20%

Source: Crystal Equity Research, CSI Markets

FINANCIAL PROFILE	FY19	FY20
Sales	$ 0.0 M	$ 0.0 M
EBITDA	($10.3) M	($13.8) M
(L)EPS	($5.39)	($2.68)

Source: Company Reports

HIGHLIGHTS

- **Definitive Feasibility Study.** After releasing key details in final economic study in mid-October 2021, Westwater Resources board of directors authorized construction of a battery-grade graphite production facility near Kellyton, Alabama.
- **Capital Budget.** An estimated $202 million will be needed to complete construction of the graphite production facility with the capacity to process 8,050 metric tons of graphite concentrate.
- **Production Mix.** During an initial production phase Westwater plans to produce approximately 3,700 metric tons of *Coated Spherical Purified Graphite* (*CSPG*) and 3,800 metric tons of *Purified Micronized Graphite* (*PMG*) for battery anode and performance enhancement.
- **Breakeven Scenario.** Based on a 17-month construction timeline beginning in late 2021, we estimate Westwater could record revenue in 2023 and achieve cash flow break before the end of 2024.
- **Undervaluation.** We view WWR as undervalued at 1.0 times the Company's cash balance and 0.94 times book value.

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INDUSTRY: INDUSTRIAL, ENERGY MATERIALS	WWR: NYSE-Amer

RECENT DEVELOPMENTS

Westwater Resources has reached an inflection point, in our view. The Company has completed the design and testing of its proprietary graphite materials process and has in hand a blue print for a production facility deploying that design. While management has chosen to share only highlights with investors, the details of a Definitive Feasibility Study are now available for management, potential partners and customers. Indeed, a location for the processing facility has been arranged and management has taken the initial steps toward constructing and equipping the facility. Besides finalized plans, a strong balance sheet is enabling fast execution. The capital requirement for a plant with the capacity to process 8,050 metric tons of graphite concentrate is estimated at $202 million. Company has approximately $100 million in excess cash resources already at hand.

We estimate the Company could reach cash flow breakeven by the end of 2024, if not sooner, depending upon trends in selling prices and the pace of new orders for the Company's *Coated Spherical Purified Graphite* (*CSPG*) and *Purified Micronized Graphite* (*PMG*). Recent prices for materials similar to the Company's *CSPG* have been near $7,000 per metric ton and *PMG* near $3,000 per metric ton. We assumed $5,000 and $2,500 per metric ton, respectively, in a financial model mirroring the Company's anticipated construction calendar. Our model also took into account management's description of its business pipeline of interested parties, including battery manufacturers and original equipment developers.

RECOMMENDATION

In light of the clear progress toward Westwater's goal to become the first domestic U.S. producer of graphite materials in decades, we believe WWR is even more undervalued than ever trading at just 1.0 times cash resources and 0.94 times book value. Accordingly, we reiterate our Buy rating of WWR. Our price target of $20.00 implies a multiple of 5.37 times current book value and 4.30 times projected book value after the production facility is completed. The forward book value multiple is in line with the current valuation of comparable specialty materials producers, which trade near 4.34 times book value.

VALUATION

Price/Sales	Neg
Price/Cash Flow	Neg
Price/EPS	Neg
Price/Book Value	0.94 X
Consensus EPS 2021	na
Forward PE	na

Per share figures estimated 8/17/21

OPERATING PROJECTIONS

	2020A	*2021A*	*2022E*	*2023E*	*2024E*
Sales	$ 0.0	*$0.0*	*$ 0.0*	*$21.1*	*$28.1*
Operating (Loss)	($11.2)	*($20.1)*	*($20.4)*	*($11.1)*	*($ 4.7)*
Net Inc (Loss)	($23.6)	*($18.7)*	*($20.4)*	*($11.1)*	*($ 4.7)*
CFO (U)	($15.2)	*($18.8)*	*($20.1)*	*($15.2)*	*($ 1.4)*
EPS (LPS)	($2.68)	*($0.57)*	*($0.39)*	*($0.21)*	*($0.09)*

Dollars in millions except per share earnings

Company Reports and Crystal Equity Research Estimates

DEFINITIVE FEASIBILITY STUDY - capital budget disclosed, schedule confirmed

Mid-October 2021, Westwater Resources released key points of a recently completed Definitive Feasibility Study for a battery-grade graphite processing plant planned for a location near Kellyton, Alabama and the Company's natural flake graphite resource. Only highlights of the much-anticipated report were released, as management cited competitive concerns in disclosing the finer details of its proprietary graphite process, marketing strategies and product pricing plans. Nonetheless, the release provided insight into capital requirements and operating costs for the graphite processing plant as well as hints at management's strategy to increase production.

The study announcement also revealed the Company plans to approach production capacity for battery-grade graphite in two phases. The first phase to begin in early 2023, will have sufficient capacity to process 8,050 metric tons of graphite concentrate into an expected yield of 7,500 metric tons of finished graphite materials. Initiation of the second phase will apparently depend upon achievement of quality and quantity goals in the first round. During a conference call to discuss the Definitive Feasibility Study, management cited the need to make certain its proprietary graphite process is working at peak efficiency before expanding production capacity. The second phase would increase processing capacity to 35,200 metric tons with an anticipated yield of 32,400 metric tons of finished product.

Phase I. Capital cost for phase one is estimated at $202 million. Construction is expected to begin before the end of 2021 and require approximately 17 months to complete. In addition to buildings, roads and materials handling infrastructure, the project requires the acquisition and installation of equipment for purifying, micronizing, shaping and finally coating the graphite products to meet battery manufacturer standards.

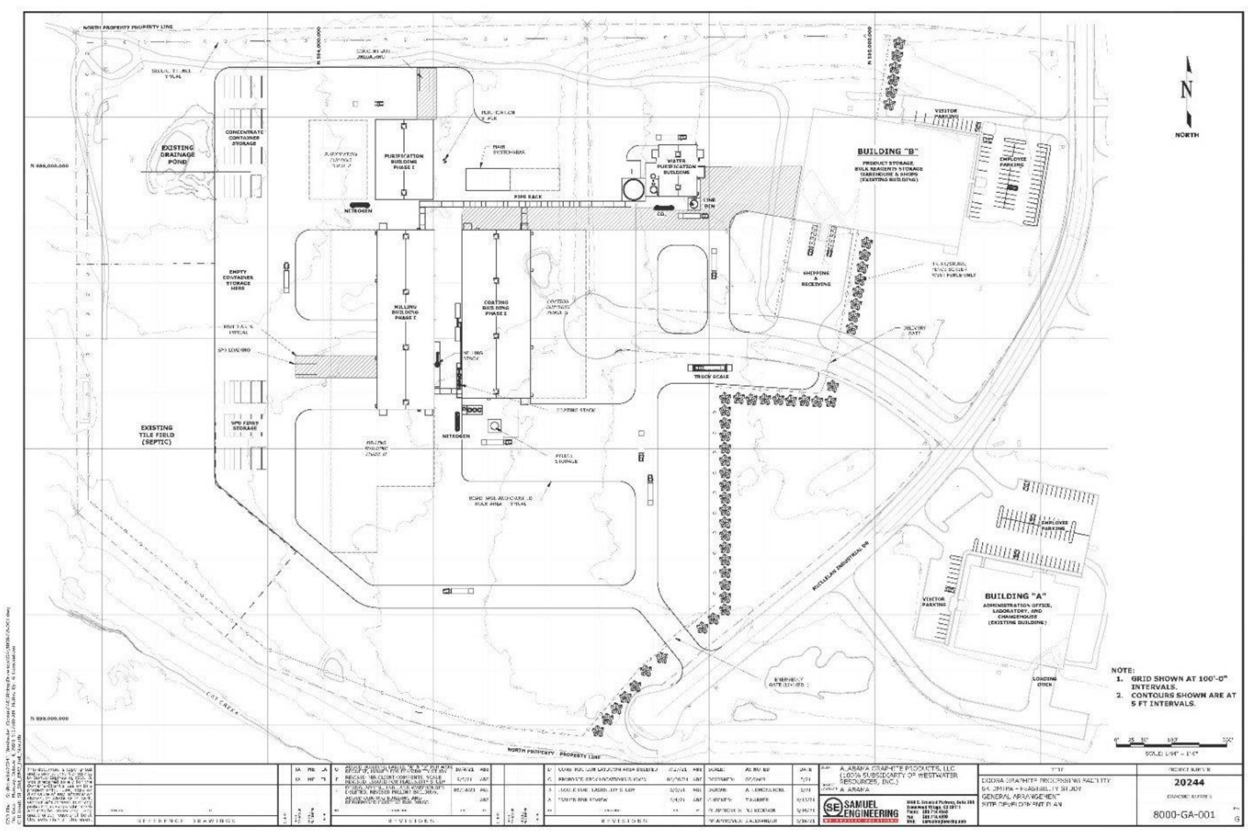
The project development and consulting firm, Samuel Engineering based in Colorado, will oversee the construction work for the first phase and coordination of the various equipment and processing steps for purifying, micronizing and shaping the graphite to meeting customer requirements. Samuel Engineering is also the author of the Definitive Feasibility Study. Processing of graphite concentrate and production of the first batches of final battery-grade graphite are currently scheduled for early 2023.

For feedstock, the Company will rely on graphite concentrate will continue to be sourced from third-party graphite suppliers for at least the first five years of materials processing. Management continues to cite the mid-2020s to begin sourcing graphite from the Company's graphite resource in Coosa County about thirty miles from the planned Kellyton processing plant.

Phase 2. Management apparently sees enough demand in the market to set a goal for expanded production capacity. In the second phase, which begins at in an indeterminate time frame, production capacity would expand to 35,200 metric tons of graphite concentrate with a yield of 32,400 metric tons of finish graphite products. The capital cost is currently estimated at $464 million.

Execution. Management wasted no time in beginning execution on its production plans. Concurrent with the feasibility study announcement, the Company also disclosed the purchase of two buildings at an industrial park near Kellyton, Alabama that will house administration, laboratory, storage, and shipping functions. The Kellyton industrial park had previously been announced as the location for the graphite processing plant, pinpointing an industrial park near the community as convenient to transportation, power and water services. During a conference call to discuss the Definitive Feasibility Study, management allowed that the purchase of the two buildings, which total 90,000 in square footage, offers unexpected convenience even if the outlay does not reduce the overall capital cost of $202 million as anticipated by the feasibility study.

In the study announcement, Westwater also provided some pictorial disclosure of its planned production facility. A schematic shows anticipated location for administrative and product warehouse structures as well as the positioning of the buildings planned for milling, micronizing, and coating the graphite material. Graphite concentrate storage and water purification sites as also designated. It is also possible to discern areas reserved for structures needed to expand in the larger capacity anticipated for a second phase.



Source: Definitive Feasibility Study, Coosa Graphite Project, Westwater Resources, Inc.

FINANCIAL PROJECTIONS - revised to reflect processing facility launch

Our financial projects have been revised to reflect the Company's near-term plans for graphite materials processing as detailed in a recently completed Definitive Feasibility Study. We are assuming the construction activities proceed as planned, beginning in late 2021 and reaching a successful completion by the beginning of 2023.

- Capital expenditures totaling approximately $202 million beginning in the third quarter 2021 through the end of 2022, related to building purchases, equipment procurement and construction. We assume at least $120 million is capitalized as long-term assets.
- Addition of approximately 100 new workers beginning in the first quarter 2023, at an average wage of $21.00 per hour. We assumed employee benefits for the new workers will reach 30% of wages and salaries.
- Beginning in the second quarter of 2023, phased in production of approximately 3,700 metric tons per year of *Coated Spherical Purified Graphite (CSPG*), the Company's premier high-value added product, and 3,800 metric tons of *Purified Micronized Graphite (PMG)*, a product aimed at enhancing performance in conventional alkaline batteries.
- Capture of purchase orders beginning in mid-2023, for the full planned production of *CSPG* and *PMG*. We assumed a selling price of $5,000 per metric ton for *CSPG* and $2,500 per metric ton for *PMG*.

Critical assumptions underpin our model as it has been revised, presenting clear risks in the conclusion.

- Weather conditions in Alabama and any number of other factors such as delays in sourcing materials or equipment could throw off the target date to complete construction.
- A contingency of 14.6% has been included in the capital cost estimate of $202 million for the first phase in Westwater graphite processing facility. During the current economic period of nascent inflation, the construction budget could go over planned expenditures.
- The Company claims as many as 40 potential customers have signed non-disclosure agreements with Westwater. Several of these prospects have apparently tested or are in the process of testing the Company's products. This group likely includes an unnamed manufacturer of alkaline batteries, for which the Company had previously supplied *PMG* materials for large-scale production and qualification tests. One, some or none of these customers may ultimately commit to purchases.
- Transport costs and tightening supply conditions have continued to drive graphite materials prices higher throughout 2021, but prices may not hold. In April 2021, industry research firm Benchmark Mineral Intelligence quoted $7,000 per metric ton for coated graphite similar to the Company's *CSPG* product, with the uncoated, spheronized materials near $3,000 per metric ton. Another industry watchdog, Fastmarkets, reported similar prices in the second week of October 2021.

Two financial items are not addressed our model.

- At the end of 2020, Westwater reported $119 million in net operating loss carryforwards. Our model extends only to 2025 and with the current mix of assumptions on pricing and sales, does not rely on tax loss carryforwards to mitigate tax obligations.
- In September 2021, Westwater management provided final testimony and all other documentation and information required by an international arbitration panel considering the Company's claims against the Republic of Turkey subsequent to the seizure by Turkey's mining authority of Westwater's uranium mining licenses. The Company has claimed $35 million in damages plus reimbursement for legal fees as compensation for the loss of the licenses. The panel's decision is expected no later than September 2023.

Breakeven Scenario. The cumulative impact of our assumptions results in a projection of $21.1 million in revenue in 2023, the first year Westwater will have reported revenue in over a decade. We estimate a net loss of $11.1 million or $0.21 per share. Subsequently, in 2024, after production ramps to capacity and sales begin to occur throughout the year, sales of $28.1 million are projected to result in a net loss of $4.7 million or $.09 per share. Note that our model suggests in the second half 2024, the Company could reach cash flow breakeven.

We view these estimates as an illustration of one scenario that could result as the Company executes on its strategic plans. Admittedly, this scenario is optimistic given that the Company has barely started with the construction of its processing facility and that the Company has no firm orders for its products. In our view, our model still has value in providing investors with a demonstration of the various factors that could impact revenue and earnings. For example, assuming higher selling prices near recent levels for coated spherical and micronized graphite materials, the model reflects operating profitability and cash flow breakeven one year earlier.

Capital Requirement. The other key take-away from our model is the projection of $150 million in required new capital in the year 2022 to support construction, production and sales activities in this scenario. Our model reflects the sale of common stock rather than debt to satisfy our estimated capital requirement. The model anticipates the sale of at least 20.0 million new shares to raise adequate capital. In our view, this size capital raise is generous given management's guidance during the recent feasibility study conference call that the Company requires a nominal $6.0 million for working capital reserves. After allowing for working capital reserves, we estimate the Company still has approximately $100 million in cash available to support the first months of site preparation, construction.

The Company has two existing equity sales agreements in place with institutional investor Lincoln Park Capital and broker Cantor Fitzgerald. At least 10.8 million shares are still available for sale under the Lincoln Park agreement and the Cantor agreement to sell for a commission of 2.5% remains in force. We expect the Company to rely on these relationships before attempting a follow-on offering of equity or new issuance of debt.

VALUATION AND OUTLOOK

The stock is presently trading at 1.0 times cash resources net of debt, a valuation level that appears to have discounted the Company prospects for success to near zero. In our view, the stock is egregiously undervalued given recent accomplishments.

Even though our earnings model remains speculative, we believe investors should view WWR with greater confidence based on the completion of the Definitive Feasibility Study for the battery materials processing plant and the initial steps of execution. With a price tag now available and the assurance that the Company already has in hand almost half of required capital to proceed, we believe Westwater is more likely than not to reach production stage and begin realizing revenue from graphite materials sales.

Furthermore, conditions in the electric vehicle and battery market remain highly favorable for graphite materials producers. Demand is expanding and prices remain solid at least in the near term. While our revised earnings model can offer no guarantees, we believe Westwater is about to embark on the pathway to profitability appears.

We have used assets and book value to peg WWR value and expect to continue to rely on this valuation approach until the timing and magnitude of revenue and earnings becomes more certain. The comparable group’s price-to-book value multiple of 4.34 implies an intrinsic price of $16.16 per share for Westwater Resources given current shares outstanding and book value at the end of June 2021. Despite reflecting a moderation in valuation multiples across the metals and mining industries in the last few months, the implied intrinsic value remains well above the current WWR price of $3.44.

Looking forward and considering the increase in book value that will occur when the Company completes construction of its proposed graphite processing plant, the implied forward value is near $20.19 per share in early 2023. (Based on $126.6 million in current book value, $120 million in new capitalized assets, 53 million in total shares outstanding and a book value multiple of 4.34 times.) Alternatively, our price target of $20.00, which implies multiple of 4.30 times projected book value after the production facility is reflected among assets.

Accordingly, we reiterate our target price of $20.00 and buy rating. Notably, our target price also takes into consideration a technical signal that suggests a line of historic price resistance near the $20.00 price level.

ADDITIONAL INFORMATION IS AVAILABLE UPON REQUEST

Table I: Historic and Projected Annual Financial Performance

Dollars in Thousands	2020A Year	2021E Year	2022E Year	2023E Year	2024E Year
Total revenue	-	-	-	21,056	28,074
Gross profit	-	-	-	12,633	18,248
Operating expenses:					
General and administrative	5,678	10,427	10,500	12,500	14,500
Product development and other	5,378	8,332	10,000	7,500	5,000
Depreciation and amortization	(55)	2	160	3,000	4,000
Mineral property expenses	34	1,329	750	750	750
Accretion of asset retirement obligations	201	-	-	-	-
Total operating expenses	11,236	20,090	21,410	23,750	24,250
Operating income (loss)	(11.236)	(20,090)	(20,410)	(11,117)	(4,598)
Other income and expenses					
Gain (loss) on sale of assets	(2,665)	1,411			
Other	(11)	9			
Total other income (expense)	(2,676)	1,420	-	-	-
Income (loss) before income taxes	(13,912)	(18,670)	(20,410)	(11,117)	(4,598)
Discontinued operations, net of taxes	(9,662)	-	-	-	-
Net income (loss)	(23,574)	(18,670)	(20,410)	(11,117)	(,4598)
Net EPS (LPS), comprehensive	$ (1.58)	$ (0.57)	$ (0.39)	$ (0.21)	$ (0.09)
Wtd shares outstanding, diluted in 000s	8,799	33,007	53,007	53,007	53,007

Source: Company Reports and Crystal Equity Research Estimates

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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	20%
Sells	10%
Total	100%

HISTORICAL RECOMMENDATIONS AND TARGET PRICE: Westwater Resources / WWR

Report	Date	Price	Rating	Target Price
Previous reports by request				
Update	11/19/19	$2.79	Buy	$30.00
Update	2/25/20	$1.96	Buy	$30.00
Update	4/14/20	$1.00	Buy	$30.00
Update	5/20/20	$1.78	Buy	$30.00
Update	8/17/20	$2.05	Buy	$30.00
Update	9/15/20	$1.81	Buy	$30.00
Update	11/19/20	$5.09	Buy	$20.00
Update	2/23/21	$6.97	Buy	$20.00
Update	5/19/21	$3.99	Buy	$20.00
Update	8/18/21	$3.52	Buy	$20.00
Update	10/19/21	$3.44	Buy	$20.00

DISCLOSURES

Name	**Symbol: Exchange**	**Disclosures**
Westwater Resources, Inc.	WWR: NYSE/Amer	D

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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.

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