

WWR / NYSE-Amer

**SPECULATIVE
BUY**

Unchanged

\$20.00

Unchanged

CAPITALIZATION

Shares Outstanding (11/9/22)	48.1 M
Recent Price (11/16/22)	\$1.12

Market Capitalization	\$ 53.87 M
+ Debt	-0- M
- Cash	100.30 M
Enterprise Value	(\$ 46.42) M

Book Value	\$143.1 M
Working Capital	\$ 80.1 M
Dividend	Nil

Balance sheet figures as of 9/30/22

MARKET DATA

Bid-Ask Spread, % Price	4.4%
52 Week High/Low	\$3.53 - \$1.00

Shares Outstanding	48.1 M
Inside Ownership	1.8%
Institutional Ownership	15.0%
Estimated Flotation	47.8 M

Average Daily Volume	451 K
Short Interest, % of Float	1.9%
Beta	1.40

Source: Bloomberg LP

INVESTMENT RETURNS

	WWR	Sector*
Return on Equity	Neg	15.89%
Return on Assets	Neg	7.91%
Return on Capital	Neg	10.28%

Source: Crystal Equity Research, CSI Markets

FINANCIAL PROFILE

	FY20	FY21
Sales	\$ 0.0 M	\$ 0.0 M
EBITDA	(\$11.2) M	(\$18.1) M
(L)EPS	(\$1.58)	(\$0.49)

Source: Company Reports

HIGHLIGHTS

- **Graphite processing facility.** Project to construct a facility to produce Westwater's proprietary graphite materials remains on schedule for completion by mid-2023, with testing and commissioning in the second half of the year.
- **Cash usage.** In the quarter ending September 2022, the Company used \$2.27 million in cash resources to support operations and another \$7.1 million for capital investment.
- **Balance sheet.** Total cash on the balance sheet at the end of September 2022, was \$100.3 million.
- **Capital requirement.** The Company reported approximately \$152 million in project value remains to be accomplished at its Kellyton, Alabama production site.
- **Revaluation.** Graphite processing facility project updates and new customer acquisition announcements should stoke capital markets interest as well as support the stock price.

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INDUSTRY: INDUSTRIAL, ENERGY MATERIALS

WWR: NYSE-Amer

RECENT DEVELOPMENTS

Westwater Resources' financial report for the third quarter ending September 2022, is a tale of capital investment and cash resource management. Investors had been keen to know if the Company is making good on plans to build a production facility and begin turning out the Company's proprietary battery-grade graphite materials. The Company used \$9.8 million in cash resources to support operations (\$2.7 million) and for capital investment (\$7.1 million). Work on the graphite production facility near Kellyton, Alabama is on schedule for completion by mid-2023. The value of construction-in-process increased by \$20.5 million in the quarter, with the total of this temporary asset category reaching \$49.5 million at the end of September 2022. At the end of the quarter, the Company had \$100.3 million on its balance sheet, in our view, sufficient to keep operations going and the graphite construction project humming well into 2023.

RECOMMENDATION

In our view, shares of Westwater Resources remained undervalued. From standpoint of liquidation, arguably the worst of circumstances for an operating company, we estimate Westwater would be valued at approximately \$110.4 million (\$100.3 million in cash plus book value of fixed assets marked down by 50% or \$32.2 million and less total liabilities of \$22.1 million). This is twice the current market value of WWR. Given strong growth in demand for graphite materials and the apparent supply deficit, we do not believe the Company would have any difficulty in finding a suitor for its assets, suggesting our calculation is highly conservative. Furthermore, the Company's quarter report makes clear the leadership team is succeeding in execution on plans to reach commercial stage with its graphite materials by the end of 2023.

Accordingly, we continue to rate WWR at Speculative Buy. We acknowledge there is some distance to our price target of \$20.00. That said, the Company has made considerable progress toward realizing the value in its graphite resource and proprietary graphite processing technology. In the long-term there is reason to expect the Company to generate significant cash flow from its graphite assets. Accordingly, the speculative element of a position in WWR is becoming less risky with on uncertainty after another in the Company's strategic plans are getting resolved.

VALUATION

Price/Sales	Neg
Price/Cash Flow	Neg
Price/EPS	Neg
Price/Book Value	0.38 X
Consensus EPS 2022	na
Forward PE	na

OPERATING PROJECTIONS

	<u>2020A</u>	<u>2021A</u>	<u>2022E</u>	<u>2023E</u>	<u>2024E</u>
Sales	\$ 0.0	\$ 0.0	\$ 0.0	\$21.1	\$28.1
Operating (Loss)	(\$11.2)	(\$18.2)	(\$13.9)	(\$ 9.8)	(\$ 6.0)
Net Inc (Loss)	(\$23.6)	(\$16.1)	(\$13.9)	(\$ 9.8)	(\$ 6.0)
CFO (U)	(\$15.2)	(\$16.9)	(\$13.6)	(\$13.9)	(\$ 2.7)
EPS (LPS)	(\$1.58)	(\$0.49)	(\$0.30)	(\$0.19)	(\$0.11)

Dollars in millions except per share earnings

Company Reports and Crystal Equity Research Estimates

Per share figures estimated 9/30/22

QUARTER HIGHLIGHTS

Westwater Resources reported using \$2.7 million in cash resources to support operations in the three months ending September 2022, bringing total operating cash usage to \$8.6 million year-to-date. Most of the cash was used for general and administrative expenses as the Company remains focused on constructing a battery-grade graphite processing facility near the Company's natural flake graphite resources new in Coosa County, Alabama. Westwater plans to begin mining the graphite resource in 2028, and supplying its processing facility with outsourced graphite in the meantime.

General and administrative expenses climbed in the quarter to \$2.6 million, largely on higher salaries and benefits. This compares to \$2.6 million in the June quarter and \$2.2 million in the September quarter in the previous year. In recent months, Westwater has added to its sales team, which is focused on the battery market. More recently, the Company has added a new communications specialist and a general manager for its graphite processing facility construction project. The additional salary requirement has been mitigated by lower spending on product development and reduced expenses related to the Company's arbitration action against the Republic of Turkey.

Westwater used an additional \$7.1 million for capital purchases, most of which have been added to the graphite processing facility asset located near Kellyton, Alabama. Investment in the quarter brought total capital expenditures for the first nine months of 2022, to \$32 million. Construction in progress related to the graphite processing facility increased by \$20.5 million in the quarter bringing the asset to a total \$49.5 million at the end of September 2022. The significant increase came on the completion of foundations and utilities for several of the five buildings now under construction. The structure of at least one of the buildings has already begun.



Balance Sheet

Cash resources totaled \$100.3 million at the end of September 2022. Working capital totaled \$80.1 million despite a significant increase in accounts payable to \$18.5 million. The increase in payment obligations is due largely to the accelerated pace on construction at the Kellyton facility.

Stockholders' equity increased to \$143.1 million compared to \$126.2 million at the end of the last fiscal year. The increase is attributable to the sale of common stock earlier in the year.

CAPITAL REQUIREMENTS

Despite the inflationary economic environment, management has maintained its original budget of \$202 million for the first phase of its Kellyton graphite processing facility. By the end of September 2022, the Company reported approximately \$152 million in project value remains to be accomplished. With \$100 million in cash on the balance sheet, shareholders are justifiably concerned about the adequacy of financial resources to reach the goal.

Indeed, we estimate the Company is short of its capital and operational requirement related to constructing the graphite facility by \$45.0 million. Our conclusion is based on an 'high aerial' view of the Company's cash resources, untapped capital arrangements and estimated spending requirements. Importantly, we note that the \$202 million project budget includes some general and administrative items as well as allowances for unexpected cost increases. There could be overlap between our estimate of requirements for operational spending and the project budget. Such an overlap would mean there is a lower shortfall that we estimate.

- At the rate of recent spending, we estimate the Company will require approximately \$14 million to support general and administrative activities through the end of the year 2023. However, we note that management indicates the Company is still on schedule for completing the first phase of its construction project by mid-2023. Test and commission of the equipment is still scheduled for the second half of 2023. Indeed, the Company has already taken delivery of certain equipment destined for use in the various graphite processing steps. Certain members of management also inspected additional equipment that is expected to be received in the coming months.

We expect additional operations personnel to be added throughout 2023, to support the testing and commissioning steps. This could increase general and operating expenses even before the facility goes into commercial production in late 2023. Accordingly, we have assumed operations will require \$25 million through the end of 2023, including additional personnel. Our assumption leaves approximately \$75 million for capital spending.

- At the end of September 2022, the Company had available \$21.2 million in additional capital through sale of common stock through an at-the-market offering agreement with the investment banking company, Cantor Fitzgerald. Additionally, the Company has an equity purchase agreement with Lincoln Park Capital, totaling 9.7 million shares. At the current stock price, the Lincoln Park agreement represents total additional capital of \$10.9 million. In total, the Company has approximately \$32 million in additional capital resources.

Current cash resource	\$ 100 million
Available capital facilities	32 million
Graphite processing facility, balance of budget	(152) million
Operations cash requirement through December 2023	<u>(25) million</u>
Estimated net capital required	\$ (45) million

UPDATED EARNINGS MODEL

Our earnings model has been updated to reflect financial results for the third quarter ending September 2022. As operational and capital spending are tracking our expectations, we made no additional changes to our spending assumptions in the final quarter of 2022 and the full year 2023. Importantly, our model reflects a capital raise of \$75 million, well above our estimate of the Company's possible capital shortfall.

We expect the next few quarters to look very similar to the September 2022 period just reported with conversion of cash to fixed assets at the Kellyton, Alabama production site. Management has suggested that progress could vary in pace, accelerating or slowing due to winter weather conditions and the practicalities of construction work.

VALUATION and OUTLOOK

We believe some traders have made their own estimate of Westwater's capital needs and then concluded the gap cannot be filled. Traders' 'capital anxiety' manifests in a deep discount on Westwater stock, a discount we believe is not fully justified. Westwater leadership has been steadfast in maintaining a debt-free balance sheet, keeping notes and loans on the menu of future capital options. Management has also been successful in supplementing its own capital with state and local government support in the form of tax credits and grants, protecting cash resources and potentially boosting future profit margins. The latter may not deliver cash today, but it does make a difference in the analysis of lenders or investors. On the other side of the coin, the leadership team has been particularly diligent in keeping to budget. Frugal management of cash resources is another check mark on potential lenders/investors due diligence checklist.

It is acknowledged that the Company will need to raise additional capital sometime in the next year. In the meantime, leadership is chipping away at business risk with every concrete pour and every steel beam raised at its processing facility. Additionally, a concerted marketing and sales effort is elevating the Westwater name with battery manufacturers and electric vehicle makers who need high quality graphite supply.

In our view, a successful promotional effort could be an even more effective avenue to risk reduction. The Company has disclosed four letters of intent with potential customers. Of course, the letter of intent is not a firm commitment to buy, but the step toward formality does convey to investors the progress these graphite buyers have made in testing and validating Westwater's *Purified Micronized Graphite (PMG)* and *Coated Spherical Purified Graphite (CSPG)*. At least three dozen other potential customers in the battery sector are in various stages of testing the Company's proprietary materials. Given the lengthy qualification process that lasts nearly three years, we believe a wide and effective sales net bodes well for Westwater's future in the battery materials market.

SECTOR DEVELOPMENTS

In September 2022, industry research firm Future Market Insights published a new report on the graphite sector, forecasting 6.5% compounding annual growth through 2032, propelling the sector value to \$43.4 billion from \$21.6 billion in 2021. Fact.MR, another market research and competition intelligence resource, has predicted 8.5% compounding annual growth to \$50 billion in total revenue value by 2031. Growing demand for graphite for battery anodes is a key demand driver, likely pushing the graphite supply back into a deficit in 2022.

Fastmarkets, yet a third industry research firm, forecasts natural graphite consumption in the battery sector to overtake more conventional graphite uses such as refractories by 2025. Fastmarkets estimates natural flake graphite consumption to increase dramatically from approximately 210,000 metric tons in 2021, to 300,000 metric tons in 2022. It is the peculiar attributes for battery applications and competitive prices of natural graphite that are driving consumption upward. Consequently, Fastmarket analysts believe the deficit in the natural flake graphite segment is likely to persist at least through 2025.

By contrast, Benchmark Mineral Intelligence, arguably an industry research firm at the pinnacle of graphite market information, pegged demand for natural graphite from the battery segment at approximately 400,000 metric tons in 2021. Thus, it appears Benchmark analysts see natural flake graphite as having already overtaken synthetic graphite in the battery segment. Benchmark has forecast natural flake graphite demand at 3.0 million metric tons by 2030, a prediction that suggests deepening supply deficits unless prospective producers pick up the pace with new projects.

China dominates both production and consumption of graphite, but the U.S. is expected to expand its presence from around 13% in 2022, as estimated by Fastmarkets. Westwater aspires to be a critical player in the elevation of the U.S. in graphite production by first producing engineered graphite materials from outsources natural flake graphite and selling directly to battery manufacturers or users. Within five years the Company plans to begin mining flake graphite from its own Coosa graphite project in Alabama. Historically, Westwater has compared its proprietary battery materials to Imerys and Superior Graphite, both of which have a strong presence in North American alkaline battery market. Nouveau Monde Graphite (NOU: TSX.V) and Syrah Resources (SYR: AX) have also been courting lithium ion battery manufacturers.

Battery manufacturers are looking for high purity in their graphite supplies in a range of approximately 95% purity or higher. Graphite is also a material where size matters. The precise chemistries of battery anode and cathode components lead battery manufacturers to carefully test and qualify their graphite supply sources. Suppliers must prove they can deliver a consistent product, purified and shaped to narrow specifications. The ideal mesh size input for a battery materials process is fine or medium flake. Westwater's Coosa project is particularly interesting given the relatively small flake size found in samples of the resource.

Table I: Historic and Projected Annual Financial Performance

Dollars in Thousands	2020A Year	2021A 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	12,120	11,143	13,200	14,500
Product development and other	5,378	5,975	1,957	5,500	5,000
Depreciation and amortization	(55)	20	179	3,000	4,000
Mineral property expenses	34	110	610	750	750
Accretion of asset retirement obligations	201	-	-	-	-
Total operating expenses	11,236	18,225	13,889	22,450	24,250
Operating income (loss)	(11,236)	(18,225)	(13,889)	(9,817)	(6,002)
Other income and expenses					
Gain (loss) on sale of assets	(2,665)	2,057			
Other	(11)	24			
Total other income (expense)	(2,676)	2,081	-	-	-
Income (loss) before income taxes	(13,912)	(16,144)	(13,889)	(9,817)	(6,002)
Discontinued operations, net of taxes	(9,662)	-	-	-	-
Net income (loss)	(23,574)	(16,144)	(13,889)	(9,817)	(6,002)
Net EPS (LPS), comprehensive	\$ (2.68)	\$ (0.49)	\$ (0.30)	\$ (0.19)	\$ (0.11)
Wtd shares outstanding, diluted in 000s	8,799	32,653	46,076	53,000	53,000

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	65%
Holds	15%
Sells	10%
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>
Previous reports by request				
Update	2/24/2022	\$1.94	Buy	\$20.00
Update	4/29/2022	\$1.33	Buy	\$20.00
Update	5/17/2022	\$1.17	Buy	\$20.00
Update	8/22/2022	\$1.50	Buy	\$20.00
Update	11/17/22	\$1.12	Buy	\$20.00

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

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