

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549**

Form 10-Q

QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the quarterly period ended

March 31, 2022

Or

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from

to

Commission File No. 1-11596

PERMA-FIX ENVIRONMENTAL SERVICES, INC.

(Exact name of registrant as specified in its charter)

Delaware

*(State or other jurisdiction
of incorporation or organization)*

58-1954497

*(IRS Employer
Identification Number)*

8302 Dunwoody Place, Suite 250, Atlanta, GA
(Address of principal executive offices)

30350
(Zip Code)

(770) 587-9898

(Registrant's telephone number)

N/A

(Former name, former address and former fiscal year, if changed since last report)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol	Name of each exchange on which registered
Common Stock, \$.001 Par Value	PESI	NASDAQ Capital Markets

Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the Registrant was required to submit and post such files).

Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See definition of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer Accelerated Filer Non-accelerated Filer Smaller reporting company Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial standards provided pursuant to Section 13(a) of the Exchange Act

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

Indicate the number of shares outstanding of each of the issuer's classes of Common Stock, as of the close of the latest practical date.

Class	Outstanding at May 4, 2022
Common Stock, \$.001 Par Value	13,256,097 shares

PERMA-FIX ENVIRONMENTAL SERVICES, INC.

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PART I - FINANCIAL INFORMATION

Item 1. – Financial Statements

**PERMA-FIX ENVIRONMENTAL SERVICES, INC.
Consolidated Balance Sheets**

(Amounts in Thousands, Except for Share and Per Share Amounts)	March 31, 2022 (Unaudited)	December 31, 2021 (Audited)
ASSETS		
Current assets:		
Cash	\$ 3,925	\$ 4,440
Accounts receivable, net of allowance for doubtful accounts of \$26 and \$85, respectively	10,322	11,372
Unbilled receivables	5,275	8,995
Inventories	953	680
Prepaid and other assets	4,077	4,472
Current assets related to discontinued operations	27	15
Total current assets	<u>24,579</u>	<u>29,974</u>
Property and equipment:		
Buildings and land	20,642	20,631
Equipment	22,531	22,131
Vehicles	449	443
Leasehold improvements	23	23
Office furniture and equipment	1,316	1,316
Construction-in-progress	2,849	2,997
Total property and equipment	<u>47,810</u>	<u>47,541</u>
Less accumulated depreciation	<u>(29,167)</u>	<u>(28,932)</u>
Net property and equipment	18,643	18,609
Property and equipment related to discontinued operations	81	81
Operating lease right-of-use assets	2,347	2,460
Intangibles and other long term assets:		
Permits	9,486	9,476
Other intangible assets - net	852	894
Finite risk sinking fund (restricted cash)	11,482	11,471
Deferred tax assets	4,263	3,527
Other assets	443	809
Total assets	<u>\$ 72,176</u>	<u>\$ 77,301</u>

The accompanying notes are an integral part of these consolidated financial statements.

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
Consolidated Balance Sheets, Continued

(Amounts in Thousands, Except for Share and per Share Amounts)	March 31, 2022 (Unaudited)	December 31 2021 (Audited)
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 10,329	\$ 11,975
Accrued expenses	5,537	5,078
Disposal/transportation accrual	1,162	1,065
Deferred revenue	2,707	5,580
Accrued closure costs - current	547	578
Current portion of long-term debt	384	393
Current portion of operating lease liabilities	416	406
Current portion of finance lease liabilities	354	333
Current liabilities related to discontinued operations	802	506
Total current liabilities	22,238	25,914
Accrued closure costs	6,706	6,613
Long-term debt, less current portion	491	600
Long-term operating lease liabilities, less current portion	1,921	2,029
Long-term finance lease liabilities, less current portion	920	884
Long-term liabilities related to discontinued operations	408	677
Total long-term liabilities	10,446	10,803
Total liabilities	32,684	36,717
Commitments and Contingencies (Note 9)		
Stockholders' Equity:		
Preferred Stock, \$.001 par value; 2,000,000 shares authorized, no shares issued and outstanding	—	—
Common Stock, \$.001 par value; 30,000,000 shares authorized; 13,242,072 and 13,222,552 shares issued, respectively; 13,234,430 and 13,214,910 shares outstanding, respectively	13	13
Additional paid-in capital	114,532	114,307
Accumulated deficit	(74,963)	(73,620)
Accumulated other comprehensive loss	(2)	(28)
Less Common Stock in treasury, at cost; 7,642 shares	(88)	(88)
Total stockholders' equity	39,492	40,584
Total liabilities and stockholders' equity	\$ 72,176	\$ 77,301

The accompanying notes are an integral part of these consolidated financial statements.

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
Consolidated Statements of Operations
(Unaudited)

(Amounts in Thousands, Except for Per Share Amounts)	Three Months Ended March 31,	
	2022	2021
Revenues	\$ 15,915	\$ 23,133
Cost of goods sold	14,279	20,777
Gross profit	1,636	2,356
Selling, general and administrative expenses	3,422	3,205
Research and development	96	150
Loss on disposal of property and equipment	1	—
Loss from operations	(1,883)	(999)
Other income (expense):		
Interest income	11	18
Interest expense	(35)	(67)
Interest expense-financing fees	(13)	(8)
Other	(2)	1
Loss from continuing operations before taxes	(1,922)	(1,055)
Income tax benefit	(673)	(17)
Loss from continuing operations, net of taxes	(1,249)	(1,038)
Loss from discontinued operations (net of taxes) (Note 10)	(94)	(115)
Net loss	(1,343)	(1,153)
Net loss attributable to non-controlling interest	—	(30)
Net loss attributable to Perma-Fix Environmental Services, Inc. common stockholders	\$ (1,343)	\$ (1,123)
Net loss per common share attributable to Perma-Fix Environmental Services, Inc. stockholders - basic and diluted:		
Continuing operations	\$ (.09)	\$ (.08)
Discontinued operations	(.01)	(.01)
Net loss per common share	\$ (.10)	\$ (.09)
Number of common shares used in computing net loss per share:		
Basic	13,234	12,165
Diluted	13,234	12,165

The accompanying notes are an integral part of these condensed consolidated financial statements.

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
Consolidated Statements of Comprehensive Loss
(Unaudited)

(Amounts in Thousands)	Three Months Ended March 31,	
	2022	2021
Net loss	\$ (1,343)	\$ (1,153)
Other comprehensive income:		
Foreign currency translation gain	26	20
Total other comprehensive income	26	20
Comprehensive loss	(1,317)	(1,133)
Comprehensive loss attributable to non-controlling interest	—	(30)
Comprehensive loss attributable to Perma-Fix Environmental Services, Inc. stockholders	\$ (1,317)	\$ (1,103)

The accompanying notes are an integral part of these condensed consolidated financial statements.

PERMA-FIX ENVIRONMENTAL SERVICES, INC
Consolidated Statement of Stockholders' Equity
(Unaudited)

(Amounts in thousands, except for share amounts)

	Common Stock		Additional Paid-In Capital	Common Stock Held In Treasury	Accumulated Other Comprehensive Loss	Non- controlling Interest in Subsidiary	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount						
Balance at December 31, 2021	<u>13,222,552</u>	<u>\$ 13</u>	<u>\$ 114,307</u>	<u>\$ (88)</u>	<u>\$ (28)</u>	<u>\$ —</u>	<u>\$ (73,620)</u>	<u>\$ 40,584</u>
Net loss	—	—	—	—	—	—	(1,343)	(1,343)
Foreign currency translation	—	—	—	—	26	—	—	26
Issuance of Common Stock for services	19,520	—	123	—	—	—	—	123
Stock-Based Compensation	—	—	102	—	—	—	—	102
Balance at March 31, 2022	<u>13,242,072</u>	<u>\$ 13</u>	<u>\$ 114,532</u>	<u>\$ (88)</u>	<u>\$ (2)</u>	<u>\$ —</u>	<u>\$ (74,963)</u>	<u>\$ 39,492</u>
Balance at December 31, 2020	<u>12,161,539</u>	<u>\$ 12</u>	<u>\$ 108,931</u>	<u>\$ (88)</u>	<u>\$ (207)</u>	<u>\$ (1,742)</u>	<u>\$ (74,455)</u>	<u>\$ 32,451</u>
Net loss	—	—	—	—	—	(30)	(1,123)	(1,153)
Foreign currency translation	—	—	—	—	20	—	—	20
Issuance of Common Stock for services	11,837	—	79	—	—	—	—	79
Stock-Based Compensation	—	—	45	—	—	—	—	45
Balance at March 31, 2021	<u>12,173,376</u>	<u>\$ 12</u>	<u>\$ 109,055</u>	<u>\$ (88)</u>	<u>\$ (187)</u>	<u>\$ (1,772)</u>	<u>\$ (75,578)</u>	<u>\$ 31,442</u>

The accompanying notes are an integral part of these condensed consolidated financial statements.

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
Consolidated Statements of Cash Flows
(Unaudited)

(Amounts in Thousands)	Three Months Ended March 31,	
	2022	2021
Cash flows from operating activities:		
Net loss	\$ (1,343)	\$ (1,153)
Less: loss from discontinued operations, net of taxes (Note 10)	(94)	(115)
Loss from continuing operations, net of taxes	(1,249)	(1,038)
Adjustments to reconcile loss from continuing operations to cash provided by (used in) operating activities :		
Depreciation and amortization	456	400
Interest on finance lease with purchase option	—	2
Amortization of debt issuance costs	13	8
Deferred tax benefit	(673)	—
Recovery of bad debt reserves	(55)	(17)
Loss on disposal of plant, property, and equipment	1	—
Issuance of common stock for services	123	79
Stock-based compensation	102	45
Changes in operating assets and liabilities of continuing operations:		
Accounts receivable	1,105	(10,445)
Unbilled receivables	3,720	5,224
Prepaid expenses, inventories and other assets	1,097	557
Accounts payable, accrued expenses and unearned revenue	(4,492)	(1,270)
Cash provided by (used in) continuing operations	148	(6,455)
Cash used in discontinued operations	(142)	(149)
Cash provided by (used in) operating activities	6	(6,604)
Cash flows from investing activities:		
Purchases of property and equipment	(345)	(361)
Proceeds from sale of plant, property, and equipment	24	1
Cash used in investing activities of continuing operations	(321)	(360)
Cash flows from financing activities:		
Repayments of revolving credit borrowings	(17,494)	(14,780)
Borrowing on revolving credit	17,494	14,780
Principal repayments of finance lease liabilities	(58)	(114)
Principal repayments of long term debt	(110)	(109)
Payment of debt issuance costs	(21)	—
Cash used in financing activities	(189)	(223)
Effect of exchange rate changes on cash	—	(6)
(Decrease) increase in cash and finite risk sinking fund (restricted cash)	(504)	(7,193)
Cash and finite risk sinking fund (restricted cash) at beginning of period	15,911	19,370
Cash and finite risk sinking fund (restricted cash) at end of period	\$ 15,407	\$ 12,177
Supplemental disclosure:		
Interest paid	\$ 34	\$ 54
Income taxes paid	6	—
Non-cash investing and financing activities:		
Equipment purchase subject to finance lease	114	—
Equipment purchase subject to financing	—	29

The accompanying notes are an integral part of these condensed consolidated financial statements.

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
Notes to Consolidated Financial Statements

March 31, 2022
(Unaudited)

Reference is made herein to the notes to consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2021.

1. Basis of Presentation

The consolidated financial statements included herein have been prepared by the Company (which may be referred to as we, us or our), without an audit, pursuant to the rules and regulations of the Securities and Exchange Commission (“the Commission”). Certain information and note disclosures normally included in financial statements prepared in accordance with accounting principles generally accepted in the United States of America (“U.S. GAAP”) have been condensed or omitted pursuant to such rules and regulations, although the Company believes the disclosures which are made are adequate to make the information presented not misleading. Further, the consolidated financial statements reflect, in the opinion of management, all adjustments (which include only normal recurring adjustments) necessary to present fairly the financial position and results of operations as of and for the periods indicated. The results of operations for the three months ended March 31, 2022 are not necessarily indicative of results to be expected for the fiscal year ending December 31, 2022.

The Company suggests that these consolidated financial statements be read in conjunction with the consolidated financial statements and the notes thereto included in the Company’s Annual Report on Form 10-K for the year ended December 31, 2021.

The consolidated financial statements include the accounts of our wholly-owned subsidiaries and the account of a variable interest entity (“VIE”), Perma-Fix ERRG for which we are the primary beneficiary (See “Note 13 - VIE” for a discussion of this VIE). The consolidated financial statements for 2021 also included the accounts of the Company’s majority-owned Polish subsidiary, Perma-Fix Medical S.A (“PFM Poland”) and PFM Poland’s wholly-owned subsidiary, Perma-Fix Medical Corporation (“PFMC”), which comprised of the Company’s Medical Segment. As previously discussed, the Company made the strategic decision to cease all research and development (“R&D”) activities under the Medical Segment and sold 100% of its interest in PFM Poland in December 2021. As a condition precedent to the sale of PFM Poland, the Company acquired PFMC after its conversion to a Delaware limited liability company. As a result of the sale of PFM Poland, the Company deconsolidated PFM Poland from its consolidated financial statements in December 2021. The Company’s Medical Segment had not generated any revenue.

Information for the Medical Segment is presented for the quarter ending March 31, 2021. The Medical Segment was disposed of as of December 31, 2021 and is not relevant for the quarter ending March 31, 2022. Prior period segment information is not required to be restated for the disposal of the segment.

2. Summary of Significant Accounting Policies

Our accounting policies are as set forth in the notes to the December 31, 2021 consolidated financial statements referred to above.

Recently Adopted Accounting Standards

In May 2021, the Financial Accounting Standards Board (“FASB”) issued Accounting Standards Update (“ASU”) No. 2021-04, “Earnings Per Share (Topic 206), Debt-Modifications and Extinguishments (Subtopic 470-50), Compensation-Stock Compensation (Topic 718), and Derivatives and Hedging-Contracts in Entity’s Own Equity (Subtopic 815-40): Issuer’s Accounting for Certain Modifications or Exchanges of Freestanding Equity-Classified Written Call Options (a consensus of the FASB Emerging Issues Task Force).” ASU 2021-04 addresses issuer’s accounting for certain modifications or exchanges of freestanding equity-classified written call options. This ASU is effective for all entities, for fiscal years beginning after December 15, 2021, including interim periods within those fiscal years. Early adoption is permitted. The adoption of this ASU by the Company effective January 1, 2022 did not have a material impact on its financial statements.

Recently Issued Accounting Standards – Not Yet Adopted

In June 2016, the FASB issued ASU No. 2016-13, “Credit Losses (Topic 326) - Measurement of Credit Losses on Financial Instruments,” and various subsequent amendments to the initial guidance (collectively, “Topic 326”). Topic 326 introduces an approach, based on expected losses, to estimate credit losses on certain types of financial instruments and modifies the impairment model for available-for-sale debt securities. The new approach to estimating credit losses (referred to as the current expected credit losses model) applies to most financial assets measured at amortized cost and certain other instruments, including trade and other receivables and loans. Entities are required to apply the standard’s provisions as a cumulative-effect adjustment to retained earnings as of the beginning of the first reporting period in which the guidance is adopted. In November 2019, FASB issued ASU 2019-10, “Financial Instruments – Credit Losses (Topic 326), Derivatives and Hedging (Topic 815), and Leases (Topic 842),” which defers the effective date of ASU 2016-13 for public companies that are considered smaller reporting companies (“SRC”) as defined by the Commission to fiscal years beginning after December 15, 2022, including interim periods within those fiscal years. These ASUs are effective January 1, 2023 for the Company as an SRC. Under new guidance issued by the Commission in March 2020, the Company continues to qualify as a smaller reporting company but became an accelerated filer starting with its 2021 Form 10-K and all subsequent filings. The Company is currently evaluating the impact of these ASU on its consolidated financial statements.

In March 2020, the FASB issued ASU 2020-04, “Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting,” which provides optional expedients and exceptions for applying U.S. GAAP to contracts, hedging relationships and other transactions affected by the discontinuation of the London Interbank Offered Rate (“LIBOR”) or by another reference rate expected to be discontinued because of reference rate reform. The guidance was effective beginning March 12, 2020 and can be applied prospectively through December 31, 2022. In January 2021, the FASB issued ASU No. 2021-01, “Reference Rate Reform (Topic 848): Scope,” which clarified the scope and application of the original guidance. The Company plans to adopt both ASUs when LIBOR is discontinued. The Company is currently evaluating the impact of the new ASUs on its condensed consolidated financial statements. As of the date of this report, the Company has determined that only its obligations under the credit facility as described in “Note 8 – Long Term Debt” would be impacted by these ASUs. The Company’s obligations under its credit facility permit for payment of annual rate of interests on its obligations using prime rate or LIBOR.

In August 2020, the FASB issued ASU No. 2020-06, “Debt – Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging – Contracts in Entity’s Own Equity.” ASU 2020-06 simplifies the accounting for convertible instruments by removing major separation models and removing certain settlement condition qualifiers for the derivatives scope exception for contracts in an entity’s own equity, and simplifies the related diluted net income per share calculation for both Subtopics. ASU 2020-06 is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2023, for the Company as an SRC. Early adoption is permitted, but no earlier than fiscal years beginning after December 15, 2020, including interim periods within those fiscal years. The Company is currently evaluating the impact of this ASU on its consolidated financial statements and disclosures.

3. Revenue

Disaggregation of Revenue

In general, the Company's business segmentation is aligned according to the nature and economic characteristics of our services and provides meaningful disaggregation of each business segment's results of operations. The nature of the Company's performance obligations within our Treatment and Services Segments results in the recognition of our revenue primarily over time. The following tables present further disaggregation of our revenues by different categories for our Services and Treatment Segments:

Revenue by Contract Type

(In thousands)	Three Months Ended			Three Months Ended		
	March 31, 2022			March 31, 2021		
	Treatment	Services	Total	Treatment	Services	Total
Fixed price	\$ 7,479	\$ 5,761	\$ 13,240	\$ 7,495	\$ 2,581	\$ 10,076
Time and materials	—	2,675	2,675	—	13,057	13,057
Total	\$ 7,479	\$ 8,436	\$ 15,915	\$ 7,495	\$ 15,638	\$ 23,133

Revenue by generator

(In thousands)	Three Months Ended			Three Months Ended		
	March 31, 2022			March 31, 2021		
	Treatment	Services	Total	Treatment	Services	Total
Domestic government	\$ 5,815	\$ 8,245	\$ 14,060	\$ 4,598	\$ 12,661	\$ 17,259
Domestic commercial	1,436	162	1,598	2,265	590	2,855
Foreign government	92	6	98	534	2,364	2,898
Foreign commercial	136	23	159	98	23	121
Total	\$ 7,479	\$ 8,436	\$ 15,915	\$ 7,495	\$ 15,638	\$ 23,133

Contract Liabilities

The Company's contract liabilities consist of deferred revenues which represent advance payment from customers in advance of the completion of our performance obligation. The following table represents changes in our contract liabilities balances:

(In thousands)	March 31, 2022	December 31, 2021	Year-to-date Change (\$)	Year-to-date Change (%)
Contract liabilities				
Deferred revenue	\$ 2,707	\$ 5,580	\$ (2,873)	(51.5)%

The decrease was primarily due to revenue recognized in connection with a Services Segment contract. The decrease was also attributed to more processing of Treatment Segment's backlog due to continued delays in waste receipts from certain customers from the impact of COVID-19.

During the three months ended March 31, 2022 and 2021, the Company recognized revenue of \$3,521,000 and \$4,311,000, respectively, related to untreated waste that was in the Company's control as of the beginning of each respective year. Revenue recognized in each period related to performance obligations satisfied within the respective period.

Remaining Performance Obligations

The Company applies the practical expedient in paragraph 606-10-50-14 and does not disclose information about remaining performance obligations that have original expected durations of one year or less.

Within our Services Segment, there are service contracts which provide that the Company has a right to consideration from a customer in an amount that corresponds directly with the value to the customer of our performance completed to date. For those contracts, the Company has utilized the practical expedient in ASC 606-10-55-18, which allows the Company to recognize revenue in the amount for which we have the right to invoice; accordingly, the Company does not disclose the value of remaining performance obligations for those contracts.

The Company's contracts and subcontracts relating to activities at governmental sites generally allow for termination for convenience at any time at the government's option without payment of a substantial penalty. The Company does not disclose remaining performance obligations on these contracts.

4. Leases

At the inception of an arrangement, the Company determines if an arrangement is, or contains, a lease based on facts and circumstances present in that arrangement. Lease classifications, recognition, and measurement are then determined at the lease commencement date.

The Company's operating lease right-of-use ("ROU") assets and operating lease liabilities represent primarily leases for office and warehouse spaces used to conduct our business. Finance leases consist primarily of processing and transport equipment used by our facilities' operations.

The components of lease cost for the Company's leases were as follows (in thousands):

	Three Months Ended March 31,	
	2022	2021
Operating Lease:		
Lease cost	\$ 157	\$ 111
Finance Leases:		
Amortization of ROU assets	47	59
Interest on lease liability	11	19
	58	78
Short-term lease rent expense	3	3
Total lease cost	\$ 218	\$ 192

The weighted average remaining lease term and the weighted average discount rate for operating and finance leases at March 31, 2022 were:

	Operating Leases	Finance Leases
Weighted average remaining lease terms (years)	6.7	4.0
Weighted average discount rate	7.6%	6.1%

The weighted average remaining lease term and the weighted average discount rate for operating and finance leases at March 31, 2021 were:

	Operating Leases	Finance Leases
Weighted average remaining lease terms (years)	7.8	3.4
Weighted average discount rate	7.8%	6.8%

The following table reconciles the undiscounted cash flows for the operating and finance leases at March 31, 2022 to the operating and finance lease liabilities recorded on the balance sheet (in thousands):

	Operating Leases		Finance Leases	
2022 (Remaining)	\$	433	\$	315
2023		560		327
2024		419		323
2025		328		300
2026		304		171
2027 and thereafter		955		20
Total undiscounted lease payments		2,999		1,456
Less: Imputed interest		(662)		(182)
Present value of lease payments	\$	2,337	\$	1,274

Current portion of operating lease obligations	\$	416	\$	—
Long-term operating lease obligations, less current portion	\$	1,921	\$	—
Current portion of finance lease obligations	\$	—	\$	354
Long-term finance lease obligations, less current portion	\$	—	\$	920

Supplemental cash flow and other information related to our leases were as follows (in thousands):

	Three Months Ended March 31,	
	2022	2021
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flow from operating leases	\$ 143	\$ 101
Operating cash flow from finance leases	\$ 11	\$ 19
Financing cash flow from finance leases	\$ 58	\$ 114
ROU assets obtained in exchange for lease obligations for:		
Finance liabilities	\$ 147	\$ —
Operating liabilities	\$ —	\$ —

5. Intangible Assets

The following table summarizes information relating to the Company's definite-lived intangible assets:

	Weighted Average Amortization Period (Years)	March 31, 2022			December 31, 2021		
		Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Other Intangibles (amount in thousands)							
Patent	8.3	\$ 787	\$ (354)	\$ 433	\$ 787	\$ (351)	\$ 436
Software	3	606	(428)	178	592	(415)	177
Customer relationships	10	3,370	(3,129)	241	3,370	(3,089)	281
Total		\$ 4,763	\$ (3,911)	\$ 852	\$ 4,749	\$ (3,855)	\$ 894

The intangible assets noted above are amortized on a straight-line basis over their useful lives with the exception of customer relationships which are being amortized using an accelerated method.

The following table summarizes the expected amortization over the next five years for our definite-lived intangible assets:

Year	Amount (In thousands)
2022 (Remaining)	\$ 164
2023	178
2024	46
2025	11
2026	11

Amortization expenses relating to the definite-lived intangible assets as discussed above were \$56,000 and \$50,000 for the three months ended March 31, 2022 and 2021, respectively.

6. Capital Stock, Stock Plans, Warrants and Stock Based Compensation

The Company has certain stock option plans under which it may award incentive stock options (“ISOs”) and/or non-qualified stock options (“NQSOs”) to employees, officers, outside directors, and outside consultants. No stock options were granted in the first quarter of 2022.

The Company granted a NQSO to Robert Ferguson on July 27, 2017 from the Company’s 2017 Stock Option Plan (“2017 Plan”) for the purchase of up to 100,000 shares of the Company’s Common Stock (“Ferguson Stock Option”) in connection with his work as a consultant to the Company’s Test Bed Initiative (“TBI”) at our Perma-Fix Northwest Richland, Inc. (“PFNWR”) facility at an exercise price of \$3.65 per share, which was the fair market value of the Company’s Common Stock on the date of grant. The term of the Ferguson Stock Option is seven years from the grant date. The vesting of the Ferguson Stock Option is subject to the achievement of three separate milestones by certain dates. The first milestone was met and the shares under the first milestone were issued to Robert Ferguson in May 2018. The Company had previously entered into amendments whereby the vesting dates for the second and third milestones for the purchase of up to 30,000 and 60,000 shares of the Company’s Common Stock were extended to December 31, 2021 and December 31, 2022, respectively. On January 20, 2022, the Company’s Compensation and Stock Option Committee (“Compensation Committee”) and the Board of Directors (“Board”) further amended the vesting dates of the second and third milestones to December 31, 2022 and December 31, 2023, respectively. This amendment was approved by the Compensation Committee and the Board to take effect December 31, 2021. The Company has not recognized compensation costs (fair value of approximately \$289,000 at March 31, 2022) for the remaining 90,000 Ferguson Stock Option under the remaining two milestones since achievement of the performance obligation under each of the two remaining milestones is uncertain at March 31, 2022. All other terms of the Ferguson Stock Option remain unchanged.

The following table summarizes stock-based compensation recognized for the three months ended March 31, 2022 and 2021 for our employee and director stock options.

Stock Options	Three Months Ended March 31,	
	2022	2021
Employee Stock Options	\$ 86,000	\$ 33,000
Director Stock Options	16,000	12,000
Total	\$ 102,000	\$ 45,000

At March 31, 2022, the Company has approximately \$1,287,000 of total unrecognized compensation costs related to unvested options for employee and directors. The weighted average period over which the unrecognized compensation costs are expected to be recognized is approximately 4.1 years.

The summary of the Company's total Stock Option Plans as of March 31, 2022 and March 31, 2021, and changes during the periods then ended, are presented below. The Company's Plans consist of the 2010 Stock Option Plan, the 2017 Plan and the 2003 Outside Directors Stock Plan ("2003 Plan"):

	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (years)	Aggregate Intrinsic Value ⁽³⁾
Options outstanding January 1, 2022	1,019,400	\$ 4.91		
Granted	—	\$ —		
Exercised	—	\$ —		\$ —
Forfeited/expired	—	\$ —		
Options outstanding end of period ⁽¹⁾	<u>1,019,400</u>	<u>\$ 4.91</u>	3.8	<u>\$ 1,150,167</u>
Options exercisable at March 31, 2022 ⁽¹⁾	<u>455,900</u>	<u>\$ 3.92</u>	2.5	<u>\$ 779,362</u>

	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (years)	Aggregate Intrinsic Value ⁽³⁾
Options outstanding January 1, 2021	658,400	\$ 3.87		
Granted	—	—		
Exercised	—	—		\$ —
Forfeited/expired	—	—		
Options outstanding end of period ⁽²⁾	<u>658,400</u>	<u>\$ 3.87</u>	3.2	<u>\$ 2,279,267</u>
Options exercisable at March 31, 2021 ⁽²⁾	<u>392,400</u>	<u>\$ 4.08</u>	3.4	<u>\$ 1,274,287</u>

(1) Options with exercise prices ranging from \$2.79 to \$7.50

(2) Options with exercise prices ranging from \$2.79 to \$7.29

(3) The intrinsic value of a stock option is the amount by which the market value of the underlying stock exceeds the exercise price of the option.

During the three months ended March 31, 2022, the Company issued a total of 19,520 shares of its Common Stock under the 2003 Plan to its outside directors as compensation for serving on our Board. The Company recorded approximately \$120,000 in compensation expenses (included in selling, general and administration ("SG&A") expenses) in connection with the issuance of shares of its Common Stock to outside directors.

In connection with a \$2,500,000 loan that the Company entered into with Mr. Robert Ferguson (the "Ferguson Loan") on April 1, 2019, the Company issued a warrant to Mr. Ferguson for the purchase of up to 60,000 shares of our Common Stock at an exercise price of \$3.51 per share. The warrant expires on April 1, 2024 and remains outstanding at March 31, 2022. The Ferguson Loan was paid-in-full in December 2020.

7. Loss Per Share

Basic loss per share is calculated based on the weighted-average number of outstanding common shares during the applicable period. Diluted loss per share is based on the weighted-average number of outstanding common shares plus the weighted-average number of potential outstanding common shares. In periods where they are anti-dilutive, such amounts are excluded from the calculations of dilutive loss earnings per shares. The following table reconciles the loss and average share amounts used to compute both basic and diluted loss per share:

(Amounts in Thousands, Except for Per Share Amounts)	Three Months Ended (Unaudited)	
	March 31,	
	2022	2021
Net loss attributable to Perma-Fix Environmental Services, Inc., common stockholders:		
Loss from continuing operations, net of taxes	\$ (1,249)	\$ (1,038)
Net loss attributable to non-controlling interest	—	(30)
Loss from continuing operations attributable to Perma-Fix Environmental Services, Inc. common stockholders	(1,249)	(1,008)
Loss from discontinuing operations attributable to Perma-Fix Environmental Services, Inc. common stockholders	(94)	(115)
Net loss attributable to Perma-Fix Environmental Services, Inc. common stockholders	<u>\$ (1,343)</u>	<u>\$ (1,123)</u>
Basic loss per share attributable to Perma-Fix Environmental Services, Inc. common stockholders	<u>\$ (.10)</u>	<u>\$ (.09)</u>
Diluted loss per share attributable to Perma-Fix Environmental Services, Inc. common stockholders	<u>\$ (.10)</u>	<u>\$ (.09)</u>
Weighted average shares outstanding:		
Basic weighted average shares outstanding	13,234	12,165
Add: dilutive effect of stock options	—	—
Add: dilutive effect of warrants	—	—
Diluted weighted average shares outstanding	<u>13,234</u>	<u>12,165</u>
Potential shares excluded from above weighted average share calculations due to their anti-dilutive effect include:		
Stock options	405	30
Warrant	—	—

8. Long Term Debt

Long-term debt consists of the following:

(Amounts in Thousands)	March 31, 2022	December 31, 2021
Revolving Credit facility dated May 8, 2020, borrowings based upon eligible accounts receivable, subject to monthly borrowing base calculation, balance due on May 15, 2024. Effective interest rate for first quarter of 2022 was 0%. ⁽¹⁾	\$ —	\$ —
Term Loan dated May 8, 2020, payable in equal monthly installments of principal, balance due on May 15, 2024. Effective interest rate for the first quarter of 2022 was 4.3%. ⁽¹⁾	840 ⁽²⁾	954 ⁽²⁾
Notes Payable to 2023 and 2025, annual interest rate of 5.6% and 9.1%.	35	39
Total debt	875	993
Less current portion of long-term debt	384	393
Long-term debt	<u>\$ 491</u>	<u>\$ 600</u>

(1) Our revolving credit facility is collateralized by our accounts receivable and our term loan is collateralized by our property, plant, and equipment.

(2) Net of debt issuance costs of (\$120,000) and (\$112,000) at March 31, 2022 and December 31, 2021, respectively.

Revolving Credit and Term Loan Agreement

The Company entered into a Second Amended and Restated Revolving Credit, Term Loan and Security Agreement, dated May 8, 2020 (“Loan Agreement”), with PNC National Association (“PNC”), acting as agent and lender. The Loan Agreement provides the Company with the following credit facility with a maturity date of March 15, 2024: (a) up to \$18,000,000 revolving credit (“revolving credit”) and (b) a term loan (“term loan”) of approximately \$1,742,000, requiring monthly installments of \$35,547. The maximum that the Company can borrow under the revolving credit is based on a percentage of eligible receivables (as defined) at any one time reduced by outstanding standby letters of credit and borrowing reductions that our lender may impose from time to time. The Loan Agreement, as amended, also provides a capital expenditure line of up to \$1,000,000 with advances on the line, subject to certain limitations, permitted for up to twelve months starting May 4, 2021 (the “Borrowing Period”). Only interest is payable on advances during the Borrowing Period. At the end of the Borrowing Period, the total amount advanced under the line will amortize equally based on a five-year amortization schedule with principal payment due monthly plus interest. At the maturity date of the Loan Agreement, as amended, any unpaid principal balance plus interest, if any, will become due. No advance on the capital line has been made as of March 31, 2022.

On March 29, 2022, the Company entered into an amendment to its Loan Agreement with its lender which provided, among other things, the following:

- waived the Company’s failure to meet the minimum quarterly fixed charge coverage ratio (“FCCR”) requirement for the fourth quarter of 2021;
- removes the quarterly FCCR testing requirement for the first quarter of 2022;
- reinstates the quarterly FCCR testing requirement starting for the second quarter of 2022 and revises the methodology to be used in calculating the FCCR for the quarters ending June 30, 2022, September 30, 2022, and December 31, 2022 (with no change to the minimum 1.15:1 ratio requirement for each quarter);
- requires maintenance of a minimum of \$3,000,000 in borrowing availability under the revolving credit until the minimum FCCR requirement for the quarter ended June 30, 2022 has been met and certified to the lender; and
- revises the annual rate used to calculate the Facility Fee (as defined in the Loan Agreement) on the revolving credit, with addition of the capital expenditure line, from 0.375% to 0.500%. Upon meeting the minimum FCCR requirement of 1.15:1 on a twelve months trailing basis, the Facility Fee rate of 0.375% will be reinstated.

In connection with the amendment, we paid PNC a fee of \$15,000 which is being amortized over the remaining term of the Loan Agreement, as amended, as interest expense-financing fees.

Pursuant to the Loan Agreement, as amended, payment of annual rate of interest due on the revolving credit is at prime (3.50% at March 31, 2022) plus 2% or LIBOR plus 3.00% and the term loan and the capital expenditure line at prime plus 2.50% or LIBOR plus 3.50%. Under the LIBOR option of interest payment, a LIBOR floor of 0.75% applies in the event that LIBOR falls below 0.75% at any point in time.

The Company may terminate its Loan Agreement, as amended, upon 90 days’ prior written notice upon payment in full of our obligations under the Loan Agreement. The Company has agreed to pay PNC 0.5% of the total financing if it pays off its obligations after May 7, 2021 but prior to or on May 7, 2022. No early termination fee will apply if the Company pays off its obligations under the Loan Agreement after May 7, 2022.

At March 31, 2022, the borrowing availability under the Company’s revolving credit was approximately \$4,544,000 based on our eligible receivables and includes a reduction in borrowing availability of approximately \$3,020,000 from outstanding standby letters of credit.

The Company’s credit facility under its Loan Agreement, as amended, with PNC contains certain financial covenants, along with customary representations and warranties. A breach of any of these financial covenants, unless waived by PNC, could result in a default under our credit facility allowing our lender to immediately require the repayment of all outstanding debt under our credit facility and terminate all commitments to extend further credit. The Company was not required to perform testing of the FCCR requirement in the first quarter of 2022 pursuant to the March 29, 2022 amendment as discussed above, otherwise, it met all of its other financial covenant requirements.

9. Commitments and Contingencies

Hazardous Waste

In connection with our waste management services, the Company processes both hazardous and non-hazardous waste, which we transport to our own, or other, facilities for destruction or disposal. As a result of disposing of hazardous substances, in the event any cleanup is required at the disposal site, the Company could be a potentially responsible party for the costs of the cleanup notwithstanding any absence of fault on our part.

Legal Matters

In the normal course of conducting our business, we are involved in various litigation. We are not a party to any litigation or governmental proceeding which our management believes could result in any judgments or fines against us that could would have a material adverse effect on our financial position, liquidity or results of future operations.

Tetra Tech EC, Inc. (“Tetra Tech”)

During July 2020, Tetra Tech EC, Inc. (“Tetra Tech”) filed a complaint in the United States District Court for the Northern District of California (the “Court”) against CH2M Hill, Inc. (“CH2M”) and four subcontractors of CH2M, including the Company (“Defendants”). The complaint alleges various claims, including a claim for negligence, negligent misrepresentation, equitable indemnification and related business claims against all defendants related to alleged damages suffered by Tetra Tech in respect of certain draft reports prepared by defendants at the request of the U.S. Navy as part of an investigation and review of certain whistleblower complaints about Tetra Tech’s environmental restoration at the Hunter’s Point Naval Shipyard in San Francisco.

CH2M was hired by the Navy in 2016 to review Tetra Tech’s work. CH2M subcontracted with environmental consulting and cleanup firms Battelle Memorial Institute, Cabrera Services, Inc., SC&A, Inc. and the Company to assist with the review, according to the complaint.

Our insurance carrier is providing a defense on our behalf in connection with this lawsuit, subject to a \$100,000 self-insured retention and the terms and limitations contained in the insurance policy.

On January 7, 2021, Defendants’ motion to dismiss the complaint in its entirety was granted without prejudice, with leave to amend. Tetra Tech subsequently filed a First Amended Complaint (“FAC”) and Defendants filed a motion to dismiss Tetra Tech’s FAC (the “Motion”). Tetra Tech filed an opposition to Defendant’s motion to dismiss Tetra Tech’s FAC. Defendants subsequently filed a joint reply to Tetra Tech’s motion in opposition. On January 27, 2022, the Motion was granted in part and denied in part by the Court. Tetra Tech’s claims for: (1) Negligence; (2) Equitable Indemnification/Contribution; and (3) Unfair Business Practices were dismissed. Tetra Tech was given leave to re-assert the Unfair Business Practices claim but chose not to do so, which means that claim is now also dismissed. Tetra Tech’s claims that survived the Motion are: (1) Intentional Interference with Contractual Relations; and (2) Inducing a Breach of Contract. The Company continues to believe it does not have any liability to Tetra Tech.

Perma-Fix Canada, Inc. (“PF Canada”)

During the fourth quarter of 2021, PF Canada received a Notice of Termination (“NOT”) from Canadian Nuclear Laboratories, LTD. (“CNL”) on a Task Order Agreement (“TOA”) that PF Canada entered into with CNL in May 2019 for remediation work within Ontario, Canada (“Agreement”). The NOT was received after work under the TOA was substantially completed and work under the TOA has since been completed. CNL may terminate the TOA at any time for convenience. As of March 31, 2022, PF Canada has approximately \$2,722,000 in unpaid receivables and unbilled costs due from CNL as a result of work performed under the TOA. Additionally, CNL has approximately \$1,150,000 in contractual holdback under the TOA that is payable to PF Canada. CNL also established a bond securing approximately \$1,900,000 (CAD) to cover certain issue raised in connection with the TOA. Under the TOA, CNL may be entitled to set off certain costs and expenses incurred by CNL in connection with the termination of the TOA, including the bond as discussed above, against amounts owed to PF Canada for work performed by PF Canada or its subcontractors. PF Canada continues to be in discussions with CNL to finalize the amounts due to PF Canada under the TOA and continues to believe these amounts are due and payable.

Insurance

The Company has a 25-year finite risk insurance policy entered into in June 2003 (“2003 Closure Policy”) with AIG Specialty Insurance Company (“AIG”), which provides financial assurance to the applicable states for our permitted facilities in the event of unforeseen closure. The 2003 Closure Policy, as amended, provides for a maximum allowable coverage of \$28,177,000 which includes available capacity to allow for annual inflation and other performance and surety bond requirements. Total coverage under the 2003 Closure Policy, as amended, was \$21,047,000 at March 31, 2022. At March 31, 2022 and December 31, 2021, finite risk sinking funds contributed by the Company related to the 2003 Closure Policy which is included in other long term assets on the accompanying Consolidated Balance Sheets totaled \$11,482,000 and \$11,471,000, respectively, which included interest earned of \$2,011,000 and \$2,000,000 on the finite risk sinking funds as of March 31, 2022 and December 31, 2021, respectively. Interest income for the three months ended March 31, 2022 and 2021 was approximately \$11,000 and \$18,000, respectively. If we so elect, AIG is obligated to pay us an amount equal to 100% of the finite risk sinking fund account balance in return for complete release of liability from both us and any applicable regulatory agency using this policy as an instrument to comply with financial assurance requirements.

Letter of Credits and Bonding Requirements

From time to time, the Company is required to post standby letters of credit and various bonds to support contractual obligations to customers and other obligations, including facility closures. At March 31, 2022, the total amount of standby letters of credit outstanding was approximately \$3,020,000 and the total amount of bonds outstanding was approximately \$51,295,000.

10. Discontinued Operations

The Company’s discontinued operations consist of all our subsidiaries included in our previous Industrial Segment which encompasses subsidiaries divested in 2011 and prior and three previously closed locations.

The Company’s discontinued operations had net losses of \$94,000 (net of tax benefit of \$63,000) and \$115,000 (net of taxes of \$0) for the three months ended March 31, 2022 and 2021. The losses were primarily due to costs incurred in the administration and continued monitoring of our discontinued operations. The Company’s discontinued operations had no revenues for each of the periods noted above.

The following table presents the major class of assets of discontinued operations as of March 31, 2022 and December 31, 2021. No assets and liabilities were held for sale at each of the periods noted.

(Amounts in Thousands)	March 31, 2022	December 31, 2021
Current assets		
Other assets	\$ 27	\$ 15
Total current assets	27	15
Long-term assets		
Property, plant and equipment, net ⁽¹⁾	81	81
Total long-term assets	81	81
Total assets	<u>\$ 108</u>	<u>\$ 96</u>
Current liabilities		
Accounts payable	\$ 34	\$ 3
Accrued expenses and other liabilities	147	154
Environmental liabilities	621	349
Total current liabilities	802	506
Long-term liabilities		
Closure liabilities	153	150
Environmental liabilities	255	527
Total long-term liabilities	408	677
Total liabilities	<u>\$ 1,210</u>	<u>\$ 1,183</u>

(1) net of accumulated depreciation of \$10,000 for each period presented.

11. Operating Segments

In accordance with ASC 280, "Segment Reporting", the Company defines an operating segment as a business activity: (1) from which we may earn revenue and incur expenses; (2) whose operating results are regularly reviewed by the chief operating decision maker ("CODM") to make decisions about resources to be allocated to the segment and assess its performance; and (3) for which discrete financial information is available.

Our reporting segments are defined as below:

TREATMENT SEGMENT, which includes:

- nuclear, low-level radioactive, mixed waste (containing both hazardous and low-level radioactive constituents), hazardous and non-hazardous waste treatment, processing and disposal services primarily through four uniquely licensed and permitted treatment and storage facilities; and
- R&D activities to identify, develop and implement innovative waste processing techniques for problematic waste streams.

SERVICES SEGMENT, which includes:

- Technical services, which include:
 - o professional radiological measurement and site survey of large government and commercial installations using advanced methods, technology and engineering;
 - o integrated Occupational Safety and Health services including industrial hygiene ("IH") assessments; hazardous materials surveys, e.g., exposure monitoring; lead and asbestos management/abatement oversight; indoor air quality evaluations; health risk and exposure assessments; health & safety plan/program development, compliance auditing and training services; and Occupational Safety and Health Administration ("OSHA") citation assistance;
 - o global technical services providing consulting, engineering, project management, waste management, environmental, and decontamination and decommissioning field, technical, and management personnel and services to commercial and government customers; and
 - o on-site waste management services to commercial and governmental customers.

- Nuclear services, which include:
 - o technology-based services including engineering, decontamination and decommissioning (“D&D”), specialty services and construction, logistics, transportation, processing and disposal;
 - o remediation of nuclear licensed and federal facilities and the remediation cleanup of nuclear legacy sites. Such services capability includes: project investigation; radiological engineering; partial and total plant D&D; facility decontamination, dismantling, demolition, and planning; site restoration; logistics; transportation; and emergency response; and
- A company owned equipment calibration and maintenance laboratory that services, maintains, calibrates, and sources (i.e., rental) health physics, IH and customized nuclear, environmental, and occupational safety and health (“NEOSH”) instrumentation.

The Company’s segment also included the Medical Segment in 2021. As previously discussed, the Company made the strategic decision to cease all R&D activities under the Medical Segment and sold 100% of its interest in PFM Poland (which comprised the Medical Segment) in December 2021. The Company’s Medical Segment had not generated any revenue and was involved in the Company’s medical isotope production technology.

Our reporting segments exclude our corporate headquarters and our discontinued operations (see “Note 10 – Discontinued Operations”) which do not generate revenues.

The table below presents certain financial information of our operating segments for the three months ended March 31, 2022 and 2021 (in thousands):

Segment Reporting for the Quarter Ended March 31, 2022

	Treatment	Services	Segments Total	Corporate ⁽¹⁾	Consolidated Total
Revenue from external customers	\$ 7,479	\$ 8,436	\$ 15,915	\$ —	\$ 15,915
Intercompany revenues	111	183	294	—	—
Gross profit	638	998	1,636	—	1,636
Research and development	65	14	79	17	96
Interest income	—	—	—	11	11
Interest expense	(14)	(1)	(15)	(20)	(35)
Interest expense-financing fees	—	—	—	(13)	(13)
Depreciation and amortization	371	71	442	14	456
Segment (loss) income before income taxes	(481)	285	(196)	(1,726)	(1,922)
Income tax benefit	(559)	(114)	(673)	—	(673)
Segment income (loss)	78	399	477	(1,726)	(1,249)
Expenditures for segment assets	296	49	345	—	345 ⁽²⁾

Segment Reporting for the Quarter Ended March 31, 2021

	Treatment	Services	Medical	Segments Total	Corporate ⁽¹⁾	Consolidated Total
Revenue from external customers	\$ 7,495	\$ 15,638	\$ —	\$ 23,133	\$ —	\$ 23,133
Intercompany revenues	660	7	—	667	—	—
Gross profit	925	1,431	—	2,356	—	2,356
Research and development	47	13	76	136	14	150
Interest income	—	—	—	—	18	18
Interest expense	(19)	(8)	—	(27)	(40)	(67)
Interest expense-financing fees	—	—	—	—	(8)	(8)
Depreciation and amortization	310	85	—	395	5	400
Segment (loss) income before income taxes	(119)	555	(76)	360	(1,415)	(1,055)
Income tax benefit	(17)	—	—	(17)	—	(17)
Segment (loss) income	(102)	555	(76)	377	(1,415)	(1,038)
Expenditures for segment assets	357	4	—	361	—	361 ⁽²⁾

(1) Amounts reflect the activity for corporate headquarters not included in the segment information.

(2) Net of financed amount of \$114,000 and \$29,000 for the three months ended March 31, 2022 and 2021, respectively.

12. Income Taxes

The Company uses an estimated annual effective tax rate, which is based on expected annual income, statutory tax rates and tax planning opportunities available in the various jurisdictions in which the Company operates, to determine its quarterly provision for income taxes.

The Company had income tax benefit of approximately \$673,000 for continuing operations for the three months ended March 31, 2022 as compared to income tax benefit of approximately \$17,000 for continuing operations for the three months ended March 31, 2021. The Company's effective tax rate was approximately 35.0% and 1.6% for the three months ended March 31, 2022 and the corresponding period of 2021, respectively. The Company's tax rate for the three months ended March 31, 2022 was impacted by non-deductible expenses and state taxes. The Company's tax rate for the three months ended March 31, 2021 was impacted by non-deductible expenses, state taxes, and by the Company's full valuation on its net deferred tax assets which was subsequently released partially in the third quarter of 2021.

13. Variable Interest Entities ("VIE")

The Company and Engineering/Remediation Resources Group, Inc. ("ERRG") previously entered into an unpopulated joint venture agreement for project work bids within the Company's Services Segment with the joint venture doing business as Perma-Fix ERRG, a general partnership. The Company has a 51% partnership interest in the joint venture and ERRG has a 49% partnership interest in the joint venture.

The Company determines whether joint ventures in which it has invested meet the criteria of a VIE at the start of each new venture and when a reconsideration event has occurred. A VIE is a legal entity that satisfies any of the following characteristics: (a) the legal entity does not have sufficient equity investment at risk; (b) the equity investors at risk as a group, lack the characteristics of a controlling financial interest; or (c) the legal entity is structured with disproportionate voting rights.

The Company consolidates a VIE if it is determined to be the primary beneficiary of the VIE. The primary beneficiary has both the power to direct the activities of the VIE that most significantly impact the entity's economic performance and the obligation to absorb losses or the right to receive benefits from the VIE that could potentially be significant to the VIE.

Based on the Company's evaluation of Perma-Fix ERRG and related agreements with Perma-Fix ERRG, the Company determined that Perma-Fix ERRG continues to be a VIE in which we are the primary beneficiary. At March 31, 2022, Perma-Fix ERRG had total assets of \$122,000 and total liabilities of approximately \$122,000 which are all recorded as current.

14. Executive Compensation

The Company's Compensation Committee and the Board determined that no performance payment would be made to each executive officer under his 2021 Management Incentive Plan ("MIP"). In lieu of any performance payment to each executive officer under his 2021 MIP and in an attempt to retain the executive officer, on January 20, 2022, the Compensation Committee and the Board determined that the base annual compensation for each executive officer for 2022 is increased by approximately 6.4%, effective January 1, 2022, to offset the cost-of-living increase.

On January 20, 2022, the Board and the Compensation Committee also approved individual MIP for the calendar year 2022 for each of our executive officers. Each MIP is effective January 1, 2022 and applicable for year 2022. Each MIP provides guidelines for the calculation of annual cash incentive-based compensation, subject to Compensation Committee oversight and modification. The performance compensation under each of the MIPs is based upon meeting certain of the Company's separate target objectives during 2022. Assuming each target objective is achieved under the same performance threshold range under each MIP, the total potential target performance compensation payable ranges from 25% to 150% of the 2022 base salary for the CEO (\$93,717 to \$562,304), 25% to 100% of the 2022 base salary for the CFO (\$76,193 to \$304,772), 25% to 100% of the 2022 base salary for the EVP of Strategic Initiatives (\$63,495 to \$253,980), 25% to 100% of the 2022 base salary for the EVP of Nuclear and Technical Services (\$76,193 to \$304,772) and 25% to 100% (\$65,308 to \$261,233) of the 2022 base salary for the EVP of Waste Treatment Operations.

15. Subsequent Events

Management evaluated events occurring subsequent to March 31, 2022 through May 5, 2022, the date these consolidated financial statements were available for issuance, and determined that no material recognizable subsequent events occurred.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

Forward-looking Statements

Certain statements contained within this report may be deemed "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended (collectively, the "Private Securities Litigation Reform Act of 1995"). All statements in this report other than a statement of historical fact are forward-looking statements that are subject to known and unknown risks, uncertainties and other factors, which could cause actual results and performance of the Company to differ materially from such statements. The words "believe," "expect," "anticipate," "intend," "will," and similar expressions identify forward-looking statements. Forward-looking statements contained herein relate to, among other things,

- demand for our services;
- reductions in the level of government funding in future years;
- reducing operating costs and non-essential expenditures;
- ability to meet loan agreement quarterly covenant requirements;
- cash flow requirements;
- Canadian receivable;
- sufficient liquidity to continue business;
- future results of operations and liquidity;
- effect of economic disruptions on our business;
- government funding for our services;
- may not have liquidity to repay debt if our lender accelerates payment of our borrowings;
- deployment of unit;
- manner in which the applicable government will be required to spend funding to remediate various sites;
- funding operations;
- continued increases in pricing and/or further tightening supply chain;
- fund capital expenditures from cash from operations and/or financing;
- impact from COVID-19 and impact from other delays;
- improvement in waste shipments;
- fund remediation expenditures for sites from funds generated internally;
- collection of accounts receivables;
- compliance with environmental regulations;
- potential effect of being a PRP;
- potential sites for violations of environmental laws and remediation of our facilities;

- remediation of material weakness;
- future price increases; and
- continuation of contracts with federal government.

While the Company believes the expectations reflected in such forward-looking statements are reasonable, it can give no assurance such expectations will prove to be correct. There are a variety of factors, which could cause future outcomes to differ materially from those described in this report, including, but not limited to:

- general economic conditions;
- contract bids, including international markets;
- material reduction in revenues;
- inability to meet PNC covenant requirements;
- inability to collect in a timely manner a material amount of receivables;
- increased competitive pressures;
- inability to maintain and obtain required permits and approvals to conduct operations;
- public not accepting our new technology;
- inability to develop new and existing technologies in the conduct of operations;
- inability to maintain and obtain closure and operating insurance requirements;
- inability to retain or renew certain required permits;
- discovery of additional contamination or expanded contamination at any of the sites or facilities leased or owned by us or our subsidiaries which would result in a material increase in remediation expenditures;
- delays at our third-party disposal site can extend collection of our receivables greater than twelve months;
- refusal of third-party disposal sites to accept our waste;
- changes in federal, state and local laws and regulations, especially environmental laws and regulations, or in interpretation of such;
- requirements to obtain permits for TSD activities or licensing requirements to handle low level radioactive materials are limited or lessened;
- potential increases in equipment, maintenance, operating or labor costs;
- management retention and development;
- financial valuation of intangible assets is substantially more/less than expected;
- the requirement to use internally generated funds for purposes not presently anticipated;
- inability to continue to be profitable on an annualized basis;
- inability of the Company to maintain the listing of its Common Stock on the NASDAQ;
- terminations of contracts with government agencies or subcontracts involving government agencies or reduction in amount of waste delivered to the Company under the contracts or subcontracts;
- renegotiation of contracts involving government agencies;
- federal government's inability or failure to provide necessary funding to remediate contaminated federal sites;
- disposal expense accrual could prove to be inadequate in the event the waste requires re-treatment;
- inability to raise capital on commercially reasonable terms;
- inability to increase profitable revenue;
- impact of the COVID-19;
- delays in waste shipments and delay in activities under new contracts;
- new governmental regulations;
- lender refuses to waive non-compliance or revise our covenant so that we are in compliance;
- continued supply chain interruptions;
- continued inflationary pressures;
- other unanticipated factors; and
- risk factors and other factors set forth in "Special Note Regarding Forward-Looking Statements" contained in the Company's 2021 Form 10-K and the "Forward-Looking Statements" contained in the "Management's Discussion and Analysis of Financial Condition and Results of Operations" ("MD&A") of this first quarter 2022 Form 10-Q.

COVID-19 Impact and Impact due to Other Delays

Our first quarter financial results continued to be impacted by COVID-19. As previously disclosed, within our Services Segment, we experienced delays in procurement actions and contract awards during the first half of 2021 resulting from the impact of COVID-19. Since the end of the second quarter of 2021, we were awarded a number of new contracts. However, due to continued COVID-19 impact and/or customer administrative delay experienced by certain customers, work under certain of our new awards was temporarily curtailed/delayed which continued for most of the first quarter of 2022 and negatively impacted revenue. We have, however, begun to see improvement in activities from certain of these new projects starting in the latter part of the first quarter of 2022. Our Treatment Segment revenue continues to be negatively impacted by continued waste shipment delays from certain customers since the latter part of the first quarter of 2020, the start of the pandemic. We expect to see a gradual improvement in waste receipts from these customers in the upcoming months as our customers start easing up on COVID-19 restrictions; however, such may not be the case based on our customers' own responses to COVID-19, including, but not limited to delaying or limiting full return-to-work schedules. Additionally, as a result of supply chain challenges, we experienced a delay in the delivery of a new technology waste processing unit from our supplier which negatively impacted our revenue as associated revenue was not able to be generated. Delivery of this unit had been expected during the third quarter of 2021 but did not occur until the latter part of the first quarter of 2022. Deployment of this unit is expected to commence in the second quarter of 2022. Within our Treatment Segment, we are experiencing a large increase in proposal requests. We continue to have bids currently submitted in both segments and awaiting awards.

At this time, we believe we have sufficient liquidity on hand to continue business operations during the next twelve months. At March 31, 2022, we had borrowing availability under our revolving credit facility of approximately \$4,544,000 which was based on a percentage of eligible receivables and subject to certain reserves. As a result of a recent amendment to our Loan Agreement, we are required to maintain a minimum of \$3,000,000 in borrowing availability under our revolving credit until the minimum FCCR requirement for the quarter ended June 30, 2022 has been met and certified to our lender (see "Financing Activities" within this MD&A for a discussion of this amendment). We continue to assess the need in reducing operating costs during this volatile time, which may include curtailing certain capital expenditures and eliminating non-essential expenditures.

We are closely monitoring our customers' payment performance. However, since a significant portion of our revenues is derived from government related contracts, we do not expect our accounts receivable collections to be materially impacted due to COVID-19.

As the situations surrounding COVID-19 continues to remain fluid, the full impact and extent of the pandemic on our financial results and liquidity cannot be estimated with any degree of certainty. We continue to closely monitor the impact of the COVID-19 pandemic on all aspects of our business, including supply chain challenges, our labor force and increasing costs from inflationary pressures (see "Known Trends and Uncertainties" – "Supply Chain" and "Inflation and Cost Increases" within this MD&A).

Overview

Revenue decreased by \$7,218,000 or 31.2% to \$15,915,000 for the three months ended March 31, 2022 from \$23,133,000 for the corresponding period of 2021. The decrease was primarily within our Services Segment where revenue decreased to \$8,436,000 from \$15,638,000 or approximately 46.1%. As discussed above, work under certain of the new projects awarded to our Services Segment at the end of the second quarter of 2021 continued to be delayed/curtailed for most of the first quarter of 2022 due to COVID-19 impact and/or administrative delays experienced by certain customers. However, we have begun to see improvement in activities from certain of these new projects starting in the latter part of the first quarter of 2022. The lower revenue in the first quarter of 2022 resulting from delays/curtailments in work was further exacerbated by the completion of a large project in the second quarter of 2021 which was not replaced with a similar size contract because of delays in contract awards and procurement from COVID-19 impact in the first half of 2021. Our Treatment Segment revenue decreased slightly by \$16,000 or 0.2%. Although we saw minimal overall change in revenue within Treatment Segment, our Treatment Segment revenue has not returned to pre-pandemic levels as certain customers continue to delay waste shipments due to impact of COVID-19. Gross profit decreased \$720,000 or 30.6%. Selling, General, and Administrative (“SG&A”) expenses increased \$217,000 or 6.8% for the three months ended March 31, 2022 as compared to the corresponding period of 2021.

Business Environment

Our Treatment and Services Segments’ business continues to be heavily dependent on services that we provide to governmental clients, primarily as subcontractors for others who are prime contractors to government entities or directly as the prime contractor. We believe demand for our services will continue to be subject to fluctuations due to a variety of factors beyond our control, including, without limitation, the economic conditions, the manner in which the applicable government will be required to spend funding to remediate various sites, and/or potential further impact from COVID-19. In addition, our governmental contracts and subcontracts relating to activities at governmental sites in the United States are generally subject to termination for convenience at any time at the government’s option, and our governmental contracts/task orders with the Canadian government authorities also allow the authorities to terminate the contract/task orders at any time for convenience. Our work under all of our contracts/task order agreements with Canadian government authorities has substantially been completed. See “Known Trends and Uncertainties – Perma-Fix Canada, Inc. (“PF Canada”)” for additional discussion as to a terminated Canadian TOA. Significant reductions in the level of governmental funding or specifically mandated levels for different programs that are important to our business could have a material adverse impact on our business, financial position, results of operations and cash flows.

We are continually reviewing methods to raise additional capital to supplement our liquidity requirements, when needed, and reducing our operating costs. We continue to aggressively bid on various contracts, including potential contracts within the international markets.

Results of Operations

The reporting of financial results and pertinent discussions are tailored to our two reportable segments: The Treatment and Services. Our financial results for 2021 also included our Medical Segments. As previously disclosed, we made the strategic decision to cease all R&D activities under the Medical Segment and sold 100% of our interest in PFM Poland (which comprised the Medical Segment) in December 2021. Our Medical Segment had not generated any revenue and was involved in our medical isotope production technology. All costs previously incurred by the Medical Segment were included within R&D.

Summary – Three Months Ended March 31, 2022 and 2021

Consolidated (amounts in thousands)	Three Months Ended March 31,			
	2022	%	2021	%
Revenues	\$ 15,915	100.0	\$ 23,133	100.0
Cost of good sold	14,279	89.7	20,777	89.8
Gross profit	1,636	10.3	2,356	10.2
Selling, general and administrative	3,422	21.5	3,205	13.9
Research and development	96	.6	150	.6
Loss on disposal of property and equipment	1	—	—	—
Loss from operations	\$ (1,883)	(11.8)	\$ (999)	(4.3)
Interest income	11	—	18	—
Interest expense	(35)	(.2)	(67)	(.2)
Interest expense-financing fees	(13)	(.1)	(8)	—
Other	(2)	—	1	—
Loss from continuing operations before taxes	(1,922)	(12.1)	(1,055)	(4.5)
Income tax benefit	(673)	(4.3)	(17)	—
Loss from continuing operations	\$ (1,249)	(7.8)	\$ (1,038)	(4.5)

Revenues

Consolidated revenues decreased \$7,218,000 for the three months ended March 31, 2022, compared to the three months ended March 31, 2021, as follows:

(In thousands)	2022	% Revenue	2021	% Revenue	Change	% Change
Treatment						
Government waste	\$ 5,437	34.2	\$ 4,387	18.9	\$ 1,050	23.9
Hazardous/non-hazardous ⁽¹⁾	1,001	6.3	1,311	5.7	(310)	(23.6)
Other nuclear waste	1,041	6.5	1,797	7.8	(756)	(42.1)
Total	7,479	47.0	7,495	32.4	(16)	(0.2)
Services						
Nuclear services	8,281	52.0	15,080	65.2	(6,799)	(45.1)
Technical services	155	1.0	558	2.4	(403)	(72.2)
Total	8,436	53.0	15,638	67.6	(7,202)	(46.1)
Total	\$ 15,915	100.0	\$ 23,133	100.0	\$ (7,218)	(31.2)

⁽¹⁾ Includes wastes generated by government clients of \$470,000 and \$745,000 for the three months ended March 31, 2022 and the corresponding period of 2021, respectively.

Treatment Segment revenue decreased slightly by \$16,000 or 0.2% for the three months ended March 31, 2022 over the same period in 2021. The decrease in hazardous/non-hazardous revenue was primarily due to lower waste volume. Revenue from other nuclear waste was lower primarily due to lower averaged price waste. Waste from government generators increased by approximately \$1,050,000 or 23.9% primarily due higher waste volume. Although we saw minimal overall change in revenue within Treatment Segment, our Treatment Segment revenue has not returned to pre-pandemic levels as certain customers continue to delay waste shipments due, in part, to impact of COVID-19. Our Services Segment revenue decreased by approximately \$7,202,000 or 46.1%. Work under certain of the new projects awarded to our Services Segment at the end of the second quarter of 2021 continued to be delayed/curtailed for most of the first quarter of 2022 due to COVID-19 impact and/or administrative delays experienced by certain customers. However, we have begun to see improvement in activities from certain of these new projects starting in the latter part of the first quarter of 2022. The lower revenue in the first quarter of 2022 resulting from delays/curtailments in work was further exacerbated by the completion of a large project in the second quarter of 2021 which was not replaced with a similar size contract from delays in contract awards and procurement from COVID-19 impact in the first half of 2021. Our Services Segment revenues are project based; as such, the scope, duration and completion of each project vary. As a result, our Services Segment revenues are subject to differences relating to timing and project value.

Cost of Goods Sold

Cost of goods sold decreased \$6,498,000 for the quarter ended March 31, 2022, compared to the quarter ended March 31, 2021, as follows:

(In thousands)	2022	% Revenue	2021	% Revenue	Change
Treatment	\$ 6,841	91.5	\$ 6,570	87.7	\$ 271
Services	7,438	88.2	14,207	90.8	(6,769)
Total	<u>\$ 14,279</u>	89.7	<u>\$ 20,777</u>	89.8	<u>\$ (6,498)</u>

Cost of goods sold for the Treatment Segment increased by approximately \$271,000 or 4.1%. The increased costs was primarily due to higher overall fixed costs of approximately \$277,000 resulting from the following: general expenses were higher by \$144,000 primarily due to higher utility costs; salaries and payroll related expenses were higher by approximately \$49,000; depreciation expenses were higher by approximately \$59,000 due to depreciation for asset retirement obligations in connection with our EWOC facility; regulatory expenses were higher by approximately \$15,000; and travel expenses were higher by \$10,000 resulting from easing up of COVID-19 restrictions. Treatment Segment's variable costs decreased slightly by approximately \$6,000 primarily due to lower overall costs in disposal, transportation, material and supplies which were mostly offset by higher outside services costs. Services Segment cost of goods sold decreased approximately \$6,769,000 or 47.6% primarily due to lower revenue. The decrease in cost of goods sold was primarily due to lower salaries/payroll related, travel, and outside services expenses totaling \$6,909,000. The overall lower costs were partially offset by higher material and supplies costs. Included within cost of goods sold is depreciation and amortization expense of \$439,000 and \$394,000 for the three months ended March 31, 2022, and 2021, respectively.

Gross Profit

Gross profit for the quarter ended March 31, 2022 decreased \$720,000 over the corresponding period of 2021, as follows:

(In thousands)	2022	% Revenue	2021	% Revenue	Change
Treatment	\$ 638	8.5	\$ 925	12.3	\$ (287)
Services	998	11.8	1,431	9.2	(433)
Total	<u>\$ 1,636</u>	10.3	<u>\$ 2,356</u>	10.2	<u>\$ (720)</u>

Treatment Segment gross profit decreased by \$287,000 or 31.0% and gross margin decreased to 8.5% from 12.3% primarily due to the impact of our fixed costs. Services Segment gross profit decreased by \$433,000 or 30.3% and gross margin increased from 9.2% to 11.8%. Our overall Services Segment gross margin is impacted by our current projects which are competitively bid on and will therefore, have varying margin structures.

SG&A

SG&A expenses increased \$217,000 for the three months ended March 31, 2022, as compared to the corresponding period for 2021, as follows:

(In thousands)	2022	% Revenue	2021	% Revenue	Change
Administrative	\$ 1,687	—	\$ 1,372	—	\$ 315
Treatment	1,040	13.9	978	13.0	62
Services	695	8.2	855	5.5	(160)
Total	<u>\$ 3,422</u>	21.5	<u>\$ 3,205</u>	13.9	<u>\$ 217</u>

Administrative SG&A expenses were higher primarily due to the following: outside services expenses were higher by approximately \$174,000 resulting from more consulting/legal/outside services matters; salaries and payroll related expenses were higher by approximately \$116,000 primarily due to higher stock-based compensation expenses from options granted to certain employees in October 2021 and higher salaries as in 2021, resources were allocated in supporting Medical Segment's R&D/administrative functions; director fees were higher by approximately \$18,000 resulting from one additional director who joined the Board in May 2021; travel expenses were higher by approximately \$12,000; and general expenses were lower by approximately \$5,000. Treatment Segment SG&A expenses were higher primarily due to higher trade show and travel costs resulting from easing up of COVID-19 restrictions. The decrease in SG&A expenses within our Services Segment was primarily due to the following: salaries/payroll related and consulting expenses were lower by approximately \$130,000 as in 2021, increased hours and consulting costs were spent on bid and proposal efforts; bad debt expenses were lower by approximately \$38,000; general expenses were slightly lower by \$6,000 and travel expenses were higher by approximately \$14,000. Included in SG&A expenses is depreciation and amortization expense of \$17,000 and \$6,000 for the three months ended March 31, 2022 and 2021, respectively.

R&D

R&D expenses decreased \$54,000 for the three months ended March 31, 2022, as compared to the corresponding period for 2021, as follows:

(In thousands)	2022	2021	Change
Administrative	\$ 17	\$ 14	\$ 3
Treatment	65	47	18
Services	14	13	1
PF Medical	—	76	(76)
Total	\$ 96	\$ 150	\$ (54)

R&D costs consist primarily of employee salaries and benefits, laboratory costs, third party fees, and other related costs associated with the development of new technologies and technological enhancement of new potential waste treatment processes. The decrease was primarily the result of the sale of PF Poland in December 2021 which comprised of our Medical Segment and which previously was involved in the R&D of our medical isotope technology.

Interest Expense

Interest expense decreased approximately \$32,000 in the first quarter of 2022 as compared to the corresponding period of 2021 primarily due to lower interest expense from our declining term loan balance outstanding. Also, interest expense for the first quarter of 2021 included interest accrued for our Paycheck Protection Program ("PPP") Loan which was forgiven by the U.S. Small Business Administration effective June 15, 2021.

Income Taxes

We had income tax benefit of approximately \$673,000 for continuing operations for the three months ended March 31, 2022 as compared to income tax benefit of approximately \$17,000 for continuing operations for the three months ended March 31, 2021. Our effective tax rate was approximately 35.0% and 1.6% for the three months ended March 31, 2022 and the corresponding period of 2021, respectively. Our tax rate for the three months ended March 31, 2022 was impacted by non-deductible expenses and state taxes. Our tax rate for the three months ended March 31, 2021 was impacted by non-deductible expenses, state taxes, and the full valuation on our net deferred tax assets which was subsequently released partially in the third quarter of 2021.

Liquidity and Capital Resources

Our cash flow requirements during the three months ended March 31, 2022 were primarily financed by our operations, cash on hand and credit facility availability. Subject to the impact of COVID-19 and other delays as discussed above, our cash flow requirements for the next twelve months will consist primarily of general working capital needs, scheduled principal payments on our debt obligations, remediation projects, and planned capital expenditures. We plan to fund these requirements from our operations, credit facility availability, our capital expenditure line and cash on hand. We continue to explore all sources of increasing our capital to supplement our liquidity requirements, when needed, and to improve our revenue and working capital. We are continually reviewing operating costs and reviewing the possibility of further reducing operating costs and non-essential expenditures to bring them in line with revenue levels, when necessary. At this time, we believe that our cash flows from operations, our available liquidity from our credit facility, our capital expenditure line and our cash on hand should be sufficient to fund our operations for the next twelve months. However, due to the uncertainty of COVID-19 and other delays as disclosed in “COVID-19 Impact and Impact due to Other Delays” within this MD&A, there are no assurances such will be the case.

The following table reflects the cash flow activities during the first three months of 2022:

(In thousands)	
Cash provided by operating activities of continuing operations	\$ 148
Cash used in operating activities of discontinued operations	(142)
Cash used in investing activities of continuing operations	(321)
Cash used in financing activities of continuing operations	(189)
Decrease in cash and finite risk sinking fund (restricted cash)	\$ (504)

At March 31, 2022, we were in a positive cash position with no revolving credit balance. At March 31, 2022, we had cash on hand of approximately \$3,925,000, which included account balances of our foreign subsidiaries totaling approximately \$67,000.

Operating Activities

Accounts receivable, net of allowances for doubtful accounts, totaled \$10,322,000 at March 31, 2022, a decrease of \$1,050,000 from the December 31, 2021 balance of \$11,372,000. The decrease was primarily due to timing of accounts receivable collection and timing of invoicing. Our contracts with our customers are subject to various payment terms and conditions; therefore, our accounts receivable are impacted by these terms and conditions and the related timing of accounts receivable collections. Additionally, contracts with our customers may sometimes result in modifications which can cause delays in collections. See discussion under “Known Trends and Uncertainties – Perma-Fix Canada, Inc. (“PF Canada”) for a discussion as to certain account receivable.

Unbilled receivables totaled \$5,275,000 at March 31, 2022, a decrease of \$3,720,000 from the December 31, 2021 balance of \$8,995,000. The decrease in unbilled receivables was primarily within our Services Segment due to invoicing in connection with our Canadian projects.

Accounts payable, totaled \$10,329,000 at March 31, 2022, a decrease of \$1,646,000 from the December 31, 2021 balance of \$11,975,000. Our accounts payable are impacted by the timing of payments as we are continually managing payment terms with our vendors to maximize our cash position throughout all segments.

We had working capital of \$2,341,000 (which included working capital of our discontinued operations) at March 31, 2022, as compared to working capital of \$4,060,000 at December 31, 2021. Our working capital was negatively impacted primarily by our results of operations which were heavily impacted from COVID-19 and other delays as discussed above.

Investing Activities

For the three months ended March 31, 2022, our purchases of capital equipment totaled approximately \$459,000, of which \$114,000 was subject to financing, with the remaining funded from cash from operations and our credit facility. We have budgeted approximately \$2,000,000 for 2022 capital expenditures primarily for our Treatment and Services Segments to maintain operations and regulatory compliance requirements and support revenue growth. Certain of these budgeted projects may either be delayed until later years or deferred altogether. We plan to fund our capital expenditures from cash from operations and/or financing. The initiation and timing of projects are also determined by financing alternatives or funds available for such capital projects.

During March 2022, we signed a joint venture term sheet addressing plans to partner with Springfields Fuels Limited (“SFL”), an affiliate of Westinghouse Electric Company LLC, to develop and manage a nuclear waste-materials treatment facility (the “Facility”) in the United Kingdom. The Facility is for the purpose of expanding the partners’ waste treatment capabilities for the European nuclear market. It is expected that upon finalization of a partnership agreement, SFL will have an ownership interest of fifty-five (55) percent and our interest will be forty-five (45) percent. The finalization, form and capitalization of this unpopulated partnership is subject to numerous conditions, including but not limited to, winning a certain contract, completion and execution of a definitive agreement and facility design, and the granting of required regulatory, lender or permitting approvals. Upon finalization of this venture, we will be required to make an investment in this venture. The amount of our investment, the period of which it is to be made and the method of funding are to be determined.

Financing Activities

We entered into a Second Amended and Restated Revolving Credit, Term Loan and Security Agreement, dated May 8, 2020 (“Loan Agreement”), with PNC National Association (“PNC”), acting as agent and lender. The Loan Agreement provides us with the following credit facility with a maturity date of March 15, 2024: (a) up to \$18,000,000 revolving credit (“revolving credit”) and (b) a term loan (“term loan”) of approximately \$1,742,000, requiring monthly installments of \$35,547. The maximum that we can borrow under the revolving credit is based on a percentage of eligible receivables (as defined) at any one time reduced by outstanding standby letters of credit and borrowing reductions that our lender may impose from time to time. Our Loan Agreement, as amended, also provides a capital expenditure line of up to \$1,000,000 with advances on the line, subject to certain limitations, permitted for up to twelve months starting May 4, 2021 (the “Borrowing Period”). Only interest is payable on advances during the Borrowing Period. At the end of the Borrowing Period, the total amount advanced under the line will amortize equally based on a five-year amortization schedule with principal payment due monthly plus interest. At the maturity date of the Loan Agreement, as amended, any unpaid principal balance plus interest, if any, will become due. No advance on the capital line has been made as of March 31, 2022.

On March 29, 2022, we entered into an amendment to our Loan Agreement with our lender which provided, among other things, the following:

- waived our failure to meet the minimum quarterly FCCR requirement for the fourth quarter of 2021;
- removes the quarterly FCCR testing requirement for the first quarter of 2022;
- reinstates the quarterly FCCR testing requirement starting for the second quarter of 2022 and revises the methodology to be used in calculating the FCCR for the quarters ending June 30, 2022, September 30, 2022, and December 31, 2022 (with no change to the minimum 1.15:1 ratio requirement for each quarter);
- requires maintenance of a minimum of \$3,000,000 in borrowing availability under the revolving credit until the minimum FCCR requirement for the quarter ended June 30, 2022 has been met and certified to the lender; and
- revises the annual rate used to calculate the Facility Fee (as defined in the Loan Agreement) on the revolving credit, with addition of the capital expenditure line, from 0.375% to 0.500%. Upon meeting the minimum FCCR requirement of 1.15:1 on a twelve months trailing basis, the Facility Fee rate of 0.375% will be reinstated.

In connection with the amendment, we paid our lender a fee of \$15,000 which is being amortized over the remaining term of the Loan Agreement, as amended, as interest expense-financing fees.

Pursuant to our Loan Agreement, as amended, payment of annual rate of interest due on the revolving credit is at prime (3.50% at March 31, 2022) plus 2% or LIBOR plus 3.00% and the term loan and capital expenditure line at prime plus 2.50% or LIBOR plus 3.50%. Under the LIBOR option of interest payment, a LIBOR floor of 0.75% applies in the event that LIBOR falls below 0.75% at any point in time.

Our credit facility under our Loan Agreement, as amended, with PNC contains certain financial covenants, along with customary representations and warranties. A breach of any of these financial covenants, unless waived by PNC, could result in a default under our credit facility allowing our lender to immediately require the repayment of all outstanding debt under our credit facility and terminate all commitments to extend further credit. We were not required to perform testing of the FCCR requirement in the first quarter of 2022 pursuant to the March 29, 2022 amendment as discussed above; otherwise, we met all of our other financial covenant requirements. We expect to meet our quarterly financial covenant requirements for the next twelve months under our Loan Agreement.

Off Balance Sheet Arrangements

From time to time, we are required to post standby letters of credit and various bonds to support contractual obligations to customers and other obligations, including facility closures. At March 31, 2022, the total amount of standby letters of credit outstanding totaled approximately \$3,020,000 and the total amount of bonds outstanding totaled approximately \$51,295,000. We also provide closure and post-closure requirements through a financial assurance policy for certain of our Treatment Segment facilities through AIG. At March 31, 2022, the closure and post-closure requirements for these facilities were approximately \$21,047,000.

Critical Accounting Policies and Estimates

There were no significant changes in our accounting policies or critical accounting estimates that are discussed in our Annual Report on Form 10-K for the year ended December 31, 2021.

Recent Accounting Pronouncements

See “Note 2 – Summary of Significant Accounting Policies” in the “Notes to Consolidated Financial Statements” for the recent accounting pronouncements that have been adopted during the quarter ended March 31, 2022, or will be adopted in future periods.

Known Trends and Uncertainties

Significant Customers. Our Treatment and Services Segments have significant relationships with the U.S governmental authorities through contracts entered into indirectly as subcontractors for others who are prime contractors or directly as the prime contractor to government authorities. We also had significant relationships with Canadian government authorities primarily through TOAs entered into with Canadian government authorities. Project work under all TOAs with Canadian government authorities has substantially been completed. The contracts that we are a party to with others as subcontractors to the U.S federal government or directly with the U.S federal government generally provide that the government may terminate the contract at any time for convenience at the government’s option. The contracts/TOAs that we are a party to with Canadian governmental authorities also generally provide that the government authorities may terminate the contracts/TOAs at any time for any reason for convenience. Our inability to continue under existing contracts that we have with the U.S government (directly or indirectly as a subcontractor) or significant reductions in the level of governmental funding in any given year could have a material adverse impact on our operations and financial condition. We performed services relating to waste generated by government clients (domestic and foreign (primarily Canadian)), either indirectly as a subcontractor or directly as a prime contractor to government entities, representing approximately \$14,158,000 or 89.0% of our total revenue during the three months ended March 31, 2022, as compared to \$20,157,000 or 87.1% of our total revenue during the corresponding period of 2021.

COVID-19 Impact. See “COVID-19 Impact and Impact due to Other Delays” within this MD&A for a discussion of the impact of COVID-19 on our financial results and the potential impact it may have to our future financial results and business operations.

During the fourth quarter of 2021, PF Canada received a Notice of Termination ("NOT") from CNL on a TOA that PF Canada entered into with CNL in May 2019 for remediation work within Ontario, Canada ("Agreement"). The NOT was received after work under the TOA was substantially completed and work under the TOA has since been completed. CNL may terminate the TOA at any time for convenience. As of March 31, 2022, PF Canada has approximately \$2,722,000 in unpaid receivables and unbilled costs due from CNL as a result of work performed under the TOA. Additionally, CNL has approximately \$1,150,000 in contractual holdback under the TOA that is payable to PF Canada. CNL also established a bond securing approximately \$1,900,000 (CAD) to cover certain issue raised in connection with the TOA. Under the TOA, CNL may be entitled to set off certain costs and expenses incurred by CNL in connection with the termination of the TOA, including the bond as discussed above, against amounts owed to PF Canada for work performed by PF Canada or its subcontractors. PF Canada continues to be in discussions with CNL to finalize the amounts due to PF Canada under the TOA and continues to believe these amounts are due and payable.

Supply Chain. We use various commercially available materials and supplies which include among other things chemicals, containers/drums and personal protective equipment in our operations. We generally source these items from various suppliers in order to take advantage of competitive pricing.

We also utilize various types of equipment, which include among other things trucks, flatbeds, lab equipment, heavy machineries, in carrying out our business operations. Our equipment may be obtained through direct purchase, rental option or leases. Within our Services Segment, equipment required for projects are often provided by our subcontractors as part of our contract agreement with the subcontractor. Due to some of our specialized waste treatment processes, certain equipment that we utilize are designed and built to our specifications. We rely on various commercial equipment suppliers for the construction of these equipment. Due to recent supply chain challenges, we experienced a delay in the delivery of a new waste processing unit to us by our supplier due to shortage of parts required for the construction of the unit, among other things. Delivery of this unit was expected during the third quarter of 2021 but did not occur until the latter part of the first quarter of 2022. The supply chain interruption delayed deployment of our new technology which negatively impacted our revenue for 2021 and the first quarter of 2022 as associated revenue was not able to be generated. Deployment of this unit is expected to commence in the second quarter of 2022. Continued increases in pricing and/or potential delays in procurements of material and supplies and equipment required for our operations resulting from further tightening supply chain could further adversely affect our operations and profitability.

Potential Partnership with Springfields Fuels Limited. As discussed above, we have signed a term sheet addressing plans to partner with Springfields Fuels Limited, an affiliate of Westinghouse Electric Company LLC, to develop and manage a nuclear waste-materials treatment facility in the United Kingdom. See "Liquidity and Capital Resources – Investing Activities" of this MD&A for a discussion of this transaction.

Inflation and Cost Increases. Continued increases in any of our operating costs, including further changes in fuel prices (which impacts our transportation costs), wage rates, supplies, and utility costs, may further increase our overall cost of goods sold or operating expenses. Some of these cost increases have been the result of inflationary pressures that could further reduce profitability. We may attempt to increase our sales prices in order to maintain satisfactory margin; however, competitive pressures in our industry may have the effect of inhibiting our ability to reflect these increased costs in the prices of our services that we provide to our customers and therefore reduce our profitability.

Environmental Contingencies

We are engaged in the waste management services segment of the pollution control industry. As a participant in the on-site treatment, storage and disposal market and the off-site treatment and services market, we are subject to rigorous federal, state and local regulations. These regulations mandate strict compliance and therefore are a cost and concern to us. Because of their integral role in providing quality environmental services, we make every reasonable attempt to maintain complete compliance with these regulations; however, even with a diligent commitment, we, along with many of our competitors, may be required to pay fines for violations or investigate and potentially remediate our waste management facilities.

We routinely use third party disposal companies, who ultimately destroy or secure landfill residual materials generated at our facilities or at a client's site. In the past, numerous third-party disposal sites have improperly managed waste and consequently require remedial action; consequently, any party utilizing these sites may be liable for some or all of the remedial costs. Despite our aggressive compliance and auditing procedures for disposal of wastes, we could further be notified, in the future, that we are a potentially responsible party ("PRP") at a remedial action site, which could have a material adverse effect.

We have three environmental remediation projects, all within our discontinued operations, which principally entail the removal/remediation of contaminated soil, and, in most cases, the remediation of surrounding ground water. We expect to fund the expenses to remediate these sites from funds generated from operations. At March 31, 2022, we had total accrued environmental remediation liabilities of \$876,000, with no change from the December 31, 2021 balance of \$876,000. At March 31, 2022, \$621,000 of the total accrued environmental liabilities was recorded as current.

Item 3. Quantitative and Qualitative Disclosures about Market Risks

Not required for smaller reporting companies.

Item 4. Controls and Procedures

(a) *Evaluation of disclosure controls, and procedures.*

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in our periodic reports filed with the Securities and Exchange Commission is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the Securities and Exchange Commission and that such information is accumulated and communicated to our management. As of the end of the period covered by this report, we carried out an evaluation with the participation of our Principal Executive Officer and Principal Financial Officer. Based on this recent assessment, our Principal Executive Officer and Principal Financial Officer have concluded that our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) of the Securities Exchange Act of 1934, as amended) were not effective as of March 31, 2022 as a result of the identified material weakness in our internal control over financial reporting as set forth below.

Certain revenue contracts that contained nonstandard terms and conditions were not appropriately evaluated in accordance with ASC 606, "Revenue from Contracts with Customers." Specifically, management did not have the appropriate controls in place over the determination of revenue recognition for nonroutine and complex revenue transactions. The material weakness identified resulted in errors in the Company's books and records which led to audit adjustments for the year ended December 31, 2021. The errors arising from the underlying revenue adjustments were not material to the financial statements reported in any interim or annual period and therefore, did not result in a revision to any previously filed financial statements. However, the control deficiencies could result in misstatements of the revenue accounts and related disclosures that would result in a material misstatement to the annual or interim consolidated financial statements that would not be prevented or detected in a timely manner. Accordingly, we have determined that the control deficiencies when evaluated in the aggregate constitute a material weakness.

Remediation of Material Weakness in Internal Control Over Financial Reporting

The material weakness as discussed above was primarily attributed to the uniqueness of certain of the Company's contracts that contain nonstandard terms and conditions. Although the Company's policies and procedures were in place to ensure guidance under ASC 606 were applied to the majority of its contracts accurately, the Control failed to operate in a manner to specifically identify the nonstandard terms that would impact revenue recognition. The Company is evaluating the material weakness identified and is developing a plan of remediation to strengthen our internal controls pertaining to evaluating revenue contracts that contain nonstandard terms and conditions. This remediation plan includes evaluating the manner in which we use third-party consulting firms with expertise in applying the revenue recognition guidance that will assist management with the assessment and evaluation of revenue contracts executed that contain nonstandard terms and conditions. In conjunction with further evaluation of this relationship, management will also perform a more rigorous evaluation of these nonstandard revenue contracts in accordance with ASC 606.

The Company is committed to maintaining a strong internal control environment and believes that these remediation efforts will represent significant improvements in our controls. The Company has started to implement these steps, however, some of these steps will take time to be fully integrated and confirmed to be effective and sustainable. Additional controls may also be required over time. Until the remediation steps set forth above are fully implemented and tested, the material weakness described above will continue to exist.

(b) *Changes in internal control over financial reporting*

Other than the aforementioned material weakness and remediation plan noted, there was no other change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) during our most recently completed fiscal quarter that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II – OTHER INFORMATION

Item 1. Legal Proceedings

There are no material legal proceedings pending against us and/or our subsidiaries not previously reported by us in Item 3 of our Form 10-K for the year ended December 31, 2021. Additionally, there has been no other material change in legal proceedings previously disclosed by us in our Form 10-K for the year ended December 31, 2021.

Item 1A. Risk Factors

There has been no other material change from the risk factors previously disclosed in our Form 10-K for the year ended December 31, 2021, except for the following under "Risks Relating to our Common Stock."

Our bylaws designate courts in the State of Delaware as the sole and exclusive forum for certain types of actions and proceedings that may be initiated by our stockholders, and also designates the Federal District Courts of the United States as the sole and exclusive forum for resolution of any cause of action arising under the Securities Act of 1933, as amended, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or employees.

Our Bylaws provide that, subject to limited exceptions, the appropriate state court located in the State of Delaware (or if no state court located within the State of Delaware has jurisdiction, the Federal District Court for the District of Delaware) is the sole and exclusive forum for:

- any derivative action or proceeding brought on our behalf;
- any action asserting a claim of breach of a fiduciary duty owed by any of our current or former directors, officers or other employees to us or our stockholders;

- any action asserting a claim against us arising pursuant to any provision of the General Corporation Law of the State of Delaware, our certificate of incorporation or our bylaws;
- any action asserting an “internal corporation claim” (as defined in Section 115 of the Delaware General Corporate Law); or
- any other action asserting a claim against us that is governed by the internal affairs doctrine (each, a “Covered Proceeding”).

In addition, our Bylaws provide that if any action the subject matter of which is a Covered Proceeding is filed in a court other than the specified Delaware courts without the approval of our Board of Directors (each, a “Foreign Action”), the claiming party will be deemed to have consented to (i) the personal jurisdiction of the specified Delaware courts in connection with any action brought in any such courts to enforce the exclusive forum provision described above and (ii) having service of process made upon such claiming party in any such enforcement action by service upon such claiming party’s counsel in the Foreign Action as agent for such claiming party.

Further, our Bylaws provide that, unless we consent in writing to the selection of an alternative forum, the Federal District Courts of the United States shall be the sole and exclusive forum for the resolution of any complaint asserting a course of action under the Federal Securities Act of 1933, as amended.

These provisions may limit a stockholder’s ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers or other employees, which may discourage such lawsuits against us and our directors, officers and employees. Alternatively, if a court were to find these provisions of our Bylaws inapplicable to, or unenforceable in respect of, one or more of the specified types of actions or proceedings, we may incur additional costs associated with resolving such matters in other jurisdictions, which could adversely affect our business and financial condition.

Item 6. Exhibits

(a) **Exhibits**

- 4.1 [Third Amendment to Second Amended and Restated Revolving Credit, Term Loan and Security Agreement between Perma-Fix Environmental Services, Inc. and PNC Bank, National Association \(as Lender and as Agent\), dated March 29, 2022, as incorporated by reference from Exhibit 4.1 to the Company’s Form 8-K filed on April 4, 2022.](#)
- 10.1 [2022 Incentive Compensation Plan for Chief Executive Officer, effective January 1, 2022, as incorporated by reference from Exhibit 99.5 to the Company’s Form 8-K filed on January 25, 2022. CERTAIN INFORMATION WITHIN THIS EXHIBIT HAS BEEN EXCLUDED BECAUSE IT IS NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE COMPANY IF PUBLICLY DISCLOSED.](#)
- 10.2 [2022 Incentive Compensation Plan for Chief Financial Officer, effective January 1, 2022, as incorporated by reference from Exhibit 99.6 to the Company’s Form 8-K filed on January 25, 2022. CERTAIN INFORMATION WITHIN THIS EXHIBIT HAS BEEN EXCLUDED BECAUSE IT IS NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE COMPANY IF PUBLICLY DISCLOSED.](#)

- 10.3 [2022 Incentive Compensation Plan for EVP of Strategic Initiatives, effective January 1, 2022, as incorporated by reference from Exhibit 99.7 to the Company's Form 8-K filed on January 25, 2022. CERTAIN INFORMATION WITHIN THIS EXHIBIT HAS BEEN EXCLUDED BECAUSE IT IS NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE COMPANY IF PUBLICLY DISCLOSED.](#)
- 10.4 [2022 Incentive Compensation Plan for EVP of Nuclear and Technical Services, effective January 1, 2022, as incorporated by reference from Exhibit 99.8 to the Company's Form 8-K filed on January 25, 2022. CERTAIN INFORMATION WITHIN THIS EXHIBIT HAS BEEN EXCLUDED BECAUSE IT IS NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE COMPANY IF PUBLICLY DISCLOSED.](#)
- 10.5 [2022 Incentive Compensation Plan for EVP of Waste Treatment Operations, effective January 1, 2022, as incorporated by reference from Exhibit 99.9 to the Company's Form 8-K filed on January 25, 2022. CERTAIN INFORMATION WITHIN THIS EXHIBIT HAS BEEN EXCLUDED BECAUSE IT IS NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE COMPANY IF PUBLICLY DISCLOSED.](#)
- 10.6 [Joint Venture Term Sheet between Springfields Fuels Limited, an affiliate of Westinghouse, and the Company, as incorporated by reference from Exhibit 10.42 to the Company's 2021 Form 10-K filed on April 6, 2022. CERTAIN INFORMATION WITHIN THIS EXHIBIT HAS BEEN EXCLUDED BECAUSE IT IS NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE COMPANY IF PUBLICLY DISCLOSED.](#)
- 31.1 [Certification by Mark Duff, Chief Executive Officer of the Company pursuant to Rule 13a-14\(a\) or 15d-14\(a\).](#)
- 31.2 [Certification by Ben Naccarato, Chief Financial Officer of the Company pursuant to Rule 13a-14\(a\) or 15d-14\(a\).](#)
- 32.1 [Certification by Mark Duff, Chief Executive Officer of the Company furnished pursuant to 18 U.S.C. Section 1350.](#)
- 32.2 [Certification by Ben Naccarato, Chief Financial Officer of the Company furnished pursuant to 18 U.S.C. Section 1350.](#)
- 101.INS Inline XBRL Instance Document*
- 101.SCH Inline XBRL Taxonomy Extension Schema Document*
- 101.CAL Inline XBRL Taxonomy Extension Calculation Linkbase Document*
- 101.DEF Inline XBRL Taxonomy Extension Definition Linkbase Document*
- 101.LAB Inline XBRL Taxonomy Extension Labels Linkbase Document*
- 101.PRE Inline XBRL Taxonomy Extension Presentation Linkbase Document*
- 104 Cover Page Interactive Data File (embedded within the Inline XBRL document)

* Pursuant to Rule 406T of Regulation S-T, the Interactive Data File in Exhibit 101 hereto are deemed not filed or part of a registration statement or prospectus for purposes of Section 11 or 12 of the Securities Act of 1933, as amended, are deemed not filed for purpose of Section 18 of the Securities Exchange Act of 1934, as amended, and otherwise are not subject to liability under those sections.

SIGNATURES

Pursuant to the requirements of the Securities and Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, hereunto duly authorized.

PERMA-FIX ENVIRONMENTAL SERVICES

Date: May 5, 2022

By: /s/ Mark Duff
Mark Duff
President and Chief (Principal) Executive Officer

Date: May 5, 2022

By: /s/ Ben Naccarato
Ben Naccarato
Chief (Principal) Financial Officer

CERTIFICATIONS

I, Mark Duff, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Perma-Fix Environmental Services, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of the internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 5, 2022

/s/ Mark Duff

Mark Duff
Chief Executive Officer, President
and Principal Executive Officer

CERTIFICATIONS

I, Ben Naccarato, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Perma-Fix Environmental Services, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of the internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 5, 2022

/s/ Ben Naccarato

Ben Naccarato
Executive Vice President and
Chief Financial Officer and
Principal Financial Officer

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO SECTION 906
OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Quarterly Report of Perma-Fix Environmental Services, Inc. ("PESI") on Form 10-Q for the quarter ended March 31, 2022, as filed with the Securities and Exchange Commission on the date hereof (the "Form 10-Q"), I, Mark Duff, President and Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. §1350, as adopted pursuant to §906 of the Sarbanes-Oxley Act of 2002, that:

- (1) The Form 10-Q fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. §78m or §78o(d)); and
- (2) The information contained in the Form 10-Q fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: May 5, 2022

/s/ Mark Duff

Mark Duff
Chief Executive Officer, President
and Principal Executive Officer

This certification is furnished to the Securities and Exchange Commission solely for purpose of 18 U.S.C. §1350 subject to the knowledge standard contained therein, and not for any other purpose.

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO SECTION 906
OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Quarterly Report of Perma-Fix Environmental Services, Inc. ("PESI") on Form 10-Q for the quarter ended March 31, 2022, as filed with the Securities and Exchange Commission on the date hereof (the "Form 10-Q"), I, Ben Naccarato, Vice President and Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. §1350, as adopted pursuant to §906 of the Sarbanes-Oxley Act of 2002, that:

- (1) The Form 10-Q fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. §78m or §78o(d)); and
- (2) The information contained in the Form 10-Q fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: May 5, 2022

/s/ Ben Naccarato

Ben Naccarato
Executive Vice President and Chief Financial
Officer and Principal Financial Officer

This certification is furnished to the Securities and Exchange Commission solely for purpose of 18 U.S.C. §1350 subject to the knowledge standard contained therein, and not for any other purpose.
