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 September 30, 2023

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. 001-11596

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 Market

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 November 1, 2023
Common Stock, $.001 Par Value	13,613,334 shares

PERMA-FIX ENVIRONMENTAL SERVICES, INC.

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PART I - FINANCIAL INFORMATION
ITEM 1. – Financial Statements

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

(Amounts in Thousands, Except for Share and Per Share Amounts)	September 30, 2023 (Unaudited)	December 31, 2022
ASSETS		
Current assets:		
Cash	$ 1,988	$ 1,866
Accounts receivable, net of allowance for credit losses of $42 and $57, respectively	15,342	9,364
Unbilled receivables	9,336	6,062
Inventories	1,030	814
Prepaid and other assets	4,506	5,405
Current assets related to discontinued operations	15	15
Total current assets	32,217	23,526
Property and equipment:		
Buildings and land	24,103	24,021
Equipment	22,345	21,242
Vehicles	434	442
Leasehold improvements	8	23
Office furniture and equipment	1,129	1,299
Construction-in-progress	1,193	727
Total property and equipment	49,212	47,754
Less accumulated depreciation	(30,519)	(28,797)
Net property and equipment	18,693	18,957
Property and equipment related to discontinued operations	81	81
Operating lease right-of-use assets	2,094	1,971
Intangibles and other long term assets:		
Permits	9,646	9,610
Other intangible assets - net	477	629
Finite risk sinking fund (restricted cash)	11,926	11,570
Deferred tax assets	3,987	4,116
Other assets	383	438
Total assets	$ 79,504	$ 70,898

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

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

(Amounts in Thousands, Except for Share and per Share Amounts)	September 30, 2023 (Unaudited)	December 31, 2022
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 9,614	$ 10,325
Accrued expenses	6,922	4,593
Disposal/transportation accrual	1,320	887
Deferred revenue	7,765	4,813
Accrued closure costs - current	94	682
Current portion of long - term debt	880	476
Current portion of operating lease liabilities	412	416
Current portion of finance lease liabilities	223	154
Current liabilities related to discontinued operations	239	362
Total current liabilities	27,469	22,708
Accrued closure costs	7,972	7,284
Long-term debt, less current portion	2,115	563
Long-term operating lease liabilities, less current portion	1,744	1,584
Long-term finance lease liabilities, less current portion	423	318
Long-term liabilities related to discontinued operations	950	908
Total long-term liabilities	13,204	10,657
Total liabilities	40,673	33,365
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; 13,588,933 and 13,332,398 shares issued, respectively; 13,581,291 and 13,324,756 shares outstanding, respectively	14	13
Additional paid-in capital	116,106	115,209
Accumulated deficit	(77,032)	(77,436)
Accumulated other comprehensive loss	(169)	(165)
Less Common Stock in treasury, at cost; 7,642 shares	(88)	(88)
Total stockholders' equity	38,831	37,533
Total liabilities and stockholders' equity	$ 79,504	$ 70,898

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

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

(Amounts in Thousands, Except for Per Share Amounts)	Three Months Ended September 30, 2023	Three Months Ended September 30, 2022	Nine Months Ended September 30, 2023	Nine Months Ended September 30, 2022
Net revenues	$ 21,877	$ 18,472	$ 67,016	$ 53,842
Cost of goods sold	17,328	15,402	54,942	46,252
Gross profit	4,549	3,070	12,074	7,590
Selling, general and administrative expenses	3,933	3,929	10,969	11,035
Research and development	120	69	340	245
Loss on disposal of property and equipment	-	-	-	1
Income (loss) from operations	496	(928)	765	(3,691)
Other income (expense):				
Interest income	146	29	445	69
Interest expense	(89)	(47)	(189)	(123)
Interest expense-financing fees	(36)	(16)	(80)	(44)
Other	(17)	1,965	(11)	1,960
Income (loss) from continuing operations before taxes	500	1,003	930	(1,829)
Income tax expense (benefit)	254	179	482	(147)
Income (loss) from continuing operations, net of taxes	246	824	448	(1,682)
Income (loss) from discontinued operations, net of taxes (Note 10)	95	(160)	(44)	(442)
Net income (loss)	$ 341	$ 664	$ 404	$ (2,124)
Net income (loss) per common share - basic:				
Continuing operations	$ .02	$ .06	$ .03	$ (.13)
Discontinued operations	.01	(.01)	-	(.03)
Net income (loss) per common share	$ .03	$ .05	$ .03	$ (.16)
Net income (loss) per common share - diluted:				
Continuing operations	$ .02	$ .06	$ .03	$ (.13)
Discontinued operations	-	(.01)	-	(.03)
Net income (loss) per common share	$ .02	$ .05	$ .03	$ (.16)
Number of common shares used in computing net income (loss) per share:				
Basic	13,568	13,297	13,468	13,265
Diluted	13,979	13,447	13,749	13,265

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

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

(Amounts in Thousands)	Three Months Ended September 30, 2023	Three Months Ended September 30, 2022	Nine Months Ended September 30, 2023	Nine Months Ended September 30, 2022
Net income (loss)	$ 341	$ 664	$ 404	$ (2,124)
Other comprehensive loss:				
Foreign currency translation adjustment	(57)	(135)	(4)	(176)
Total other comprehensive loss	(57)	(135)	(4)	(176)
Comprehensive income (loss)	$ 284	$ 529	$ 400	$ (2,300)

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

PERMA-FIX ENVIRONMENTAL SERVICES, INC
Condensed Consolidated Statement of Stockholders' Equity
(Unaudited)
(Amounts in thousands, except for share amounts)

	Common Stock		Additional Paid-In	Common Stock Held In	Accumulated Other Comprehensive	Accumulated	Total Stockholders'
	Shares	Amount	Capital	Treasury	Loss	Deficit	Equity
Balance at December 31, 2022	13,332,398	$ 13	$ 115,209	$ (88)	$ (165)	$ (77,436)	$ 37,533
Net loss	-	-	-	-	-	(411)	(411)
Foreign currency translation	-	-	-	-	7	-	7
Issuance of Common Stock for services	33,319	-	118	-	-	-	118
Issuance of Common Stock upon exercise of options	31,719	-	7	-	-	-	7
Stock-Based Compensation	-	-	118	-	-	-	118
Balance at March 31, 2023	13,397,436	$ 13	$ 115,452	$ (88)	$ (158)	$ (77,847)	$ 37,372
Net Income	-	-	-	-	-	474	474
Foreign currency translation	-	-	-	-	46	-	46
Issuance of Common Stock for services	10,171	-	119	-	-	-	119
Issuance of Common Stock upon exercise of options	155,136	1	93	-	-	-	94
Stock-Based Compensation	-	-	125	-	-	-	125
Balance at June 30, 2023	13,562,743	$ 14	$ 115,789	$ (88)	$ (112)	$ (77,373)	$ 38,230
Net Income	-	-	-	-	-	341	341
Foreign currency translation	-	-	-	-	(57)	-	(57)
Issuance of Common Stock for services	10,712	-	119	-	-	-	119
Issuance of Common Stock upon exercise of options	15,478	-	49	-	-	-	49
Stock-Based Compensation	-	-	149	-	-	-	149
Balance at September 30, 2023	13,588,933	$ 14	$ 116,106	$ (88)	$ (169)	$ (77,032)	$ 38,831
Balance at December 31, 2021	13,222,552	$ 13	$ 114,307	$ (88)	$ (28)	$ (73,620)	$ 40,584
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	13,242,072	$ 13	$ 114,532	$ (88)	$ (2)	$ (74,963)	$ 39,492
Net loss	-	-	-	-	-	(1,445)	(1,445)
Foreign currency translation	-	-	-	-	(67)	-	(67)
Issuance of Common Stock upon exercise of options (cashless)	16,526	-	-	-	-	-	-
Issuance of Common Stock for services	21,667	-	120	-	-	-	120
Stock-Based Compensation	-	-	103	-	-	-	103
Balance at June 30, 2022	13,280,265	$ 13	$ 114,755	$ (88)	$ (69)	$ (76,408)	$ 38,203
Net Income	-	-	-	-	-	664	664
Foreign currency translation	-	-	-	-	(135)	-	(135)
Issuance of Common Stock upon exercise of options	2,400	-	13	-	-	-	13
Issuance of Common Stock for services	23,085	-	120	-	-	-	120
Stock-Based Compensation	-	-	105	-	-	-	105
Balance at September 30, 2022	13,305,750	$ 13	$ 114,993	$ (88)	$ (204)	$ (75,744)	$ 38,970

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

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

(Amounts in Thousands)	Nine Months Ended September 30, 2023	Nine Months Ended September 30, 2022
Cash flows from operating activities:		
Net income (loss)	$ 404	$ (2,124)
Less: Loss from discontinued operations, net of taxes (Note 10)	(44)	(442)
Income (loss) from continuing operations, net of taxes	448	(1,682)
Adjustments to reconcile income (loss) from continuing operations to cash provided by (used in) operating activities:		
Depreciation and amortization	2,124	1,433
Amortization of debt issuance costs	80	44
Deferred tax expense (benefit)	482	(147)
Provision for (recovery of) credit losses on accounts receivable	56	(47)
Loss on disposal of property and equipment	-	1
Issuance of common stock for services	356	363
Stock-based compensation	392	310
Changes in operating assets and liabilities of continuing operations		
Accounts receivable	(6,034)	1,426
Unbilled receivables	(3,274)	2,689
Prepaid expenses, inventories and other assets	3,647	829
Accounts payable, accrued expenses and unearned revenue	2,175	(5,553)
Cash provided by (used in) continuing operations	452	(334)
Cash used in discontinued operations	(478)	(559)
Cash used in operating activities	(26)	(893)
Cash flows from investing activities:		
Purchases of property and equipment	(1,386)	(947)
Proceeds from sale of property and equipment	-	25
Cash used in investing activities of continuing operations	(1,386)	(922)
Cash flows from financing activities:		
Repayments of revolving credit borrowings	(63,295)	(54,414)
Borrowing on revolving credit	63,295	54,414
Proceeds from long term debt	2,500	524
Principal repayments of finance lease liabilities	(135)	(821)
Principal repayments of long term debt	(450)	(375)
Payment of debt issuance costs	(175)	(35)
Proceeds from issuance of common stock upon exercise of options	150	13
Cash provided by (used in) financing activities of continuing operations	1,890	(694)
Effect of exchange rate changes on cash	-	(4)
Increase (decrease) in cash and finite risk sinking fund (restricted cash)	478	(2,513)
Cash and finite risk sinking fund (restricted cash) at beginning of period	13,436	15,911
Cash and finite risk sinking fund (restricted cash) at end of period	$ 13,914	$ 13,398
Supplemental disclosure:		
Interest paid	$ 172	$ 125
Income taxes paid	-	6
Non-cash financing activities:		
Equipment purchase subject to finance lease	309	114

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

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
Notes to Condensed Consolidated Financial Statements
September 30, 2023
(Unaudited)

1. Basis of Presentation

The condensed 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 condensed 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 nine months ended September 30, 2023, are not necessarily indicative of results to be expected for the fiscal year ending December 31, 2023.

The Company suggests that these condensed 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, 2022.

The condensed consolidated financial statements include the accounts of our wholly-owned subsidiaries. The Company's continuing operations also consisted of Perma-Fix ERRG, a variable interest entity ("VIE") for which we were the primary beneficiary. During the fourth quarter of 2022, project work under the joint venture was completed.

2. Summary of Significant Accounting Policies

Our accounting policies are set forth in the notes to the December 31, 2022 consolidated financial statements referred to above.

Recently Issued Accounting Standards – Not Yet Adopted

In August 2023, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2023-05, "Business Combinations—Joint Venture Formations (Subtopic 805-60): Recognition and Initial Measurement." ASU 2023-05 applies to the formation of a "joint venture" or a "corporate joint venture" and requires a joint venture to initially measure all contributions received upon its formation at fair value. The guidance does not impact accounting by the venturers. The new guidance is applicable to joint venture entities with a formation date on or after January 1, 2025 on a prospective basis. ASU 2023-05 is currently not applicable to the Company; however, the Company will apply this guidance in future reporting periods after the guidance is effective to any future arrangements meeting this standard.

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 result 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 September 30, 2023			Three Months Ended September 30, 2022		
	Treatment	Services	Total	Treatment	Services	Total
Fixed price	$ 10,795	$ 10,188	$ 20,983	$ 8,877	$ 6,892	$ 15,769
Time and materials	-	894	894	-	2,703	2,703
Total	$ 10,795	$ 11,082	$ 21,877	$ 8,877	$ 9,595	$ 18,472

Revenue by Contract Type

(In thousands)	Nine Months Ended September 30, 2023			Nine Months Ended September 30, 2022		
	Treatment	Services	Total	Treatment	Services	Total
Fixed price	$ 33,223	$ 29,995	$ 63,218	$ 24,749	$ 20,569	$ 45,318
Time and materials	-	3,798	3,798	-	8,524	8,524
Total	$ 33,223	$ 33,793	$ 67,016	$ 24,749	$ 29,093	$ 53,842

Revenue by generator

(In thousands)	Three Months Ended September 30, 2023			Three Months Ended September 30, 2022		
	Treatment	Services	Total	Treatment	Services	Total
Domestic government	$ 7,095	$ 8,444	$ 15,539	$ 5,728	$ 9,264	$ 14,992
Domestic commercial	3,450	2,170	5,620	2,806	313	3,119
Foreign government	250	445	695	287	-	287
Foreign commercial	-	23	23	56	18	74
Total	$ 10,795	$ 11,082	$ 21,877	$ 8,877	$ 9,595	$ 18,472

Revenue by generator

(In thousands)	Nine Months Ended September 30, 2023			Nine Months Ended September 30, 2022		
	Treatment	Services	Total	Treatment	Services	Total
Domestic government	$ 24,160	$ 29,603	$ 53,763	$ 17,786	$ 28,158	$ 45,944
Domestic commercial	7,925	3,509	11,434	6,045	859	6,904
Foreign government	1,002	615	1,617	532	12	544
Foreign commercial	136	66	202	386	64	450
Total	$ 33,223	$ 33,793	$ 67,016	$ 24,749	$ 29,093	$ 53,842

Contract Balances

The timing of revenue recognition and billings results in unbilled receivables (contract assets). The Company's contract liabilities consist of deferred revenues which represent payment from customers in advance of the completion of our performance obligation. The following table represents changes in our contract assets and contract liabilities balances. Our deferred revenue balance at September 30, 2023 included a $2,500,000 invoice to a certain customer for a waste treatment project which is expected to commence and be completed in 2024.

(In thousands)	September 30, 2023	December 31, 2022	Year-to-date Change ($)	Year-to-date Change (%)
Contract assets				
Unbilled receivables - current	$ 9,336	$ 6,062	$ 3,274	54.0%
Contract liabilities				
Deferred revenue	$ 7,765	$ 4,813	$ 2,952	61.3%

During the three and nine months ended September 30, 2023, the Company recognized revenue of $842,000 and $6,289,000, respectively, related to untreated waste that was in the Company's control as of the beginning of the year. During the three and nine months ended September 30, 2022, the Company recognized revenue of $494,000 and $6,138,000, respectively, related to untreated waste that was in the Company's control as of the beginning of the year. All revenue recognized in each period related to performance obligations satisfied within the respective period.

Remaining Performance Obligations

The Company applies the practical expedient in Accounting Standards Codification ("ASC") 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 include primarily leases for office and warehouse spaces used to conduct our business. The Company's operating leases also include the lease of a building with land utilized for our waste treatment operations which includes a purchase option. Finance leases consist primarily of processing and transport equipment used by our facilities' operations.

The components of lease cost for the Company's leases for the three and nine months ended September 30, 2023 and 2022 were as follows (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2023	2022	2023	2022
Operating Leases:				
Lease cost	$ 157	$ 157	$ 470	$ 471
Finance Leases:				
Amortization of ROU assets	39	42	115	133
Interest on lease liability	9	9	22	30
	48	51	137	163
Short-term lease rent expense	-	-	1	7
Total lease cost	$ 205	$ 208	$ 608	$ 641

The weighted average remaining lease term and the weighted average discount rate for operating and finance leases at September 30, 2023 were:

	Operating Leases	Finance Leases
Weighted average remaining lease terms (years)	5.7	3.2
Weighted average discount rate	7.5%	7.0%

The following table reconciles the undiscounted cash flows for the operating and finance leases at September 30, 2023 to the operating and finance lease liabilities recorded on the balance sheet (in thousands):

	Operating Leases		Finance Leases	
2023 (remaining)	$	147	$	65
2024		519		260
2025		433		239
2026		415		85
2027		406		50
2028 and thereafter		749		28
Total undiscounted lease payments		2,669		727
Less: Imputed interest		(513)		(81)
Present value of lease payments	$	2,156	$	646
Current portion of operating lease obligations	$	412	$	-
Long-term operating lease obligations, less current portion	$	1,744	$	-
Current portion of finance lease obligations	$	-	$	223
Long-term finance lease obligations, less current portion	$	-	$	423

Supplemental cash flow and other information related to our leases were as follows for the three and nine months ended September 30, 2023 and 2022 (in thousands):

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2023		2022		2023		2022	
Cash paid for amounts included in the measurement of lease liabilities:								
Operating cash flow used in operating leases	$	145	$	144	$	435	$	430
Operating cash flow used in finance leases	$	9	$	9	$	22	$	30
Financing cash flow used in finance leases	$	54	$	103	$	135	$	821
ROU assets obtained in exchange for lease obligations for:								
Finance liabilities	$	154	$	-	$	311	$	147
Operating liabilities	$	484		-	$	484	$	-

5. Intangible Assets

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

Other Intangibles (amount in thousands)	Weighted Average Amortization Period (Years)	September 30, 2023 Gross Carrying Amount	September 30, 2023 Accumulated Amortization	September 30, 2023 Net Carrying Amount	December 31, 2022 Gross Carrying Amount	December 31, 2022 Accumulated Amortization	December 31, 2022 Net Carrying Amount
Patent	8.3	$ 703	$ (384)	$ 319	$ 711	$ (374)	$ 337
Software	3	661	(515)	146	640	(468)	172
Customer relationships	10	3,370	(3,358)	12	3,370	(3,250)	120
Total		$ 4,734	$ (4,257)	$ 477	$ 4,721	$ (4,092)	$ 629

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)
2023 (Remaining)	$ 30
2024	62
2025	26
2026	25
2027	22

Amortization expense relating to the definite-lived intangible assets as discussed above was $55,000 and $165,000 for the three and nine months ended September 30, 2023, respectively, and $65,000 and $176,000 for the three and nine months ended September 30, 2022, respectively.

6. Capital Stock, Stock Plans 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.

On January 19, 2023, the Company granted ISOs to certain employees for the purchase, under the Company's 2017 Stock Option Plan (the "2017 Plan"), of up to an aggregate 295,000 shares of the Company's common stock, par value $.001 per share (the "Common Stock"). The total ISOs granted included an ISO for each of the Company's executive officers for the purchase set forth in his respective ISO Agreement, as follows: 70,000 shares for the Chief Executive Officer ("CEO"); 40,000 shares for the Chief Financial Officer ("CFO"); 30,000 shares for the Executive Vice President ("EVP") of Strategic Initiatives; 30,000 shares for the EVP of Waste Treatment Operations; and 30,000 shares for the EVP of Nuclear and Technical Services. Each of the ISOs granted has a contractual term of six years with one-fifth yearly vesting over a five-year period. The exercise price of each ISO is $3.95 per share, which was equal to the fair market value of the Company's Common Stock on the date of grant.

On July 20, 2023, the Company issued a NQSO to each of the Company's seven reelected outside (non-management) directors for the purchase, under the Company's 2003 Outside Directors Stock Plan (the "2003 Plan"), of up to 10,000 shares of the Company's Common Stock. Dr. Louis Centofanti and Mark Duff, each an executive officer of the Company as well as a director, were not eligible to receive an option under the 2003 Plan. Each NQSO granted is for a contractual term of ten years with one-fourth vesting annually over a four-year period. The exercise price of each NQSO is $9.81 per share, which was equal to the fair market value of the Company's Common Stock on the day preceding the grant date, in accordance with the 2003 Plan.

On July 27, 2017, the Company granted a NQSO from the Company's 2017 Plan to Robert Ferguson, for the purchase of up to 100,000 shares of the Company's Common Stock ("Ferguson Stock Option"), 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 Ferguson Stock Option was granted in connection with Mr. Ferguson's work as a consultant to the Company's Test Bed Initiative ("TBI") at our Perma-Fix of Northwest Richland, Inc. facility. The term of the Ferguson Stock Option was seven years from the grant date, with vesting subject to the achievement of three separate milestones by certain dates, the achievement of which would entitle Mr. Ferguson to purchase, respectively, 10,000, 30,000, and 60,000 shares of the Company's Common Stock issuable under the Ferguson Stock Option. Mr. Ferguson achieved the first milestone during the first vesting period, and was issued 10,000 shares of the Company's Common Stock pursuant to his exercise of the vested portion of the stock option. Upon the death of Mr. Ferguson, the balance of the shares issuable under the Ferguson Stock Option was forfeited in accordance with the terms of the option.

The following table summarizes stock-based compensation recognized for the three and nine months ended September 30, 2023 and 2022 for our employee and director stock options.

Stock Options	Three Months Ended September 30, 2023	Three Months Ended September 30, 2022	Nine Months Ended September 30, 2023	Nine Months Ended September 30, 2022
Employee Stock Options	$ 94,000	$ 76,000	$ 273,000	$ 248,000
Director Stock Options	55,000	29,000	119,000	62,000
Total	$ 149,000	$ 105,000	$ 392,000	$ 310,000

At September 30, 2023, the Company had approximately $1,947,000 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 3.4 years.

The summary of the Company's stock option plans as of September 30, 2023 and September 30, 2022, and changes during the periods then ended, are presented below. The Company's plans consist of the 2017 Plan and the 2003 Plan:

	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (years)	Aggregate Intrinsic Value [2]
Options outstanding January 1, 2023	1,018,400	$ 5.02		
Granted	365,000	$ 3.19		
Exercised	(282,400)	$ 3.70		$ 2,118,892
Forfeited/expired/cancelled	(64,500)	$ 3.67		
Options outstanding end of period [1]	1,036,500	$ 5.48	5.1	$ 5,146,126
Options exercisable at September 30, 2023[2]	302,300	$ 4.91	3.9	$ 1,675,604

	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (years)	Aggregate Intrinsic Value [4]
Options outstanding January 1, 2022	1,019,400	$ 4.91		
Granted	94,000	$ 5.20		
Exercised	(52,400)	$ 4.04		$ 97,856
Forfeited/expired	(9,600)	$ 5.50		
Options outstanding end of period [3]	1,051,400	$ 4.98	4.0	$ 492,939
Options exercisable at September 30, 2022[3]	453,900	$ 3.93	2.4	$ 354,709

(1) Options with exercise prices ranging from $3.15 to $9.81
(2) Options with exercise prices ranging from $3.15 to $7.50
(3) Options with exercise prices ranging from $2.79 to $7.50
(4) The intrinsic value of a stock option is the amount by which the market value of the underlying stock exceeds the exercise price.

During the nine months ended September 30, 2023, the Company issued a total of 54,202 shares of its Common Stock under the 2003 Plan to its outside directors as compensation for serving on our Board. The Company recorded approximately $359,000 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.

During the nine months ended September 30, 2023, the Company issued an aggregate 163,933 shares of its Common Stock from cashless exercises of options for the purchases of 244,000 shares of the Company's Common Stock, at exercise prices ranging from $3.60 per share to $7.005 per share. Additionally, the Company issued 38,400 shares of its Common Stock from the cash exercise of options for the purchase of 38,400 shares of the Company's Common Stock, at exercise prices ranging from at $2.785 per share to $7.005 per share resulting in proceeds of approximately $150,000.

In connection with a $2,500,000 loan that the Company received from 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 September 30, 2023. Upon Mr. Ferguson's death, the warrant transferred to Mr. Ferguson's heirs. The Ferguson Loan was paid in full in December 2020.

7. **Income (Loss) Per Share**

Basic income (loss) per share is calculated based on the weighted-average number of outstanding common shares during the applicable period. Diluted income (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 earnings per share. The following table reconciles the income (loss) and average share amounts used to compute both basic and diluted income (loss) per share:

(Amounts in Thousands, Except for Per Share Amounts)	Three Months Ended September 30, (Unaudited)		Nine Months Ended September 30, (Unaudited)	
	2023	2022	2023	2022
Income (loss) per common share from continuing operations				
Income (Loss) from continuing operations, net of taxes	$ 246	$ 824	$ 448	$ (1,682)
Basic income (loss) per share	$ .02	$ .06	$ .03	$ (.13)
Diluted income (loss) per share	$ .02	$ .06	$ .03	$ (.13)
Income (loss) per common share from discontinued operations, net of taxes				
Income (loss) from discontinued operations, net of taxes	$ 95	$ (160)	$ (44)	$ (442)
Basic income (loss) per share	$ .01	$ (.01)	$ -	$ (.03)
Diluted loss per share	$ -	$ (.01)	$ -	$ (.03)
Net income (loss) per common share				
Net income (loss)	$ 341	$ 664	$ 404	$ (2,124)
Basic income (loss) per share	$ .03	$ .05	$ .03	$ (.16)
Diluted income (loss) per share	$ .02	$ .05	$ .03	$ (.16)
Weighted average shares outstanding:				
Basic weighted average shares outstanding	13,568	13,297	13,468	13,265
Add: dilutive effect of stock options	370	131	244	-
Add: dilutive effect of warrants	41	19	37	-
Diluted weighted average shares outstanding	13,979	13,447	13,749	13,265
Potential shares excluded from above weighted average share calculations due to their anti-dilutive effect include:				
Stock options	-	499	70	405
Warrant	-	-	-	-

8. Long Term Debt

Long-term debt consists of the following:

(Amounts in Thousands)	September 30, 2023	December 31, 2022
Revolving Credit facility dated May 8, 2020, borrowings based upon eligible accounts receivable, subject to monthly borrowing base calculation, balance due on May 15, 2027. Effective interest rate for first nine months of 2023 was 9.7%. (1)	$ -	$ -
Term Loan 1 dated May 8, 2020, payable in equal monthly installments of principal, balance due on May 15, 2027. Effective interest rate for first nine months of 2023 was 9.1% (1)	320	640
Term Loan 2 dated July 31, 2023, payable in equal monthly installments of principal, balance due on May 15, 2027. Effective interest rate for first nine months of 2023 was 9.9% (1)	2,458	-
Capital Line dated May 4, 2021, payable in equal monthly installments of principal, balance due on May 15, 2027. Effective interest rate for first nine months of 2023 was 8.5% (1)	384	463
Debt Issuance Costs	(182)(2)	(88)(2)
Notes Payable to 2023 and 2025, annual interest rate of 5.6% and 9.1%.	15	24
Total debt	2,995	1,039
Less current portion of long-term debt	880	476
Long-term debt	$ 2,115	$ 563

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

(2) Aggregate unamortized debt issuance costs in connection with the Company's credit facility, which consists of the Revolving Credit Facility, Term loan 1, Term loan 2 and Capital Line, as applicable.

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, as amended from time to time and including the March 21, 2023 and the July 31, 2023 amendments as discussed below), provides the Company with the following credit facility with a maturity date of May 15, 2027: (a) up to $12,500,000 revolving credit ("revolving credit"), with the maximum that the Company can borrow under the Revolving Credit based on a percentage of eligible receivables (as defined) at any one time reduced by outstanding standby letters of credit and borrowing reductions that the Company's lender may impose from time to time; (b) a term loan ("Term Loan 1") of approximately $1,742,000, requiring monthly installments of $35,547; (c) a term loan ("Term Loan 2") of $2,500,000, requiring monthly installments of $41,667; and (d) a capital expenditure line ("Capital 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"), with interest only payable on advances during the Borrowing Period. Amounts advanced under the Capital Line at the end of the Borrowing Period totaled approximately $524,000, requiring monthly installments of principal of approximately $8,700 plus interest, commencing June 1, 2022.

On March 21, 2023, the Company entered into an amendment to its Loan Agreement, as amended, with its lender which provided, among other things, the following:

- removed the quarterly fixed charge coverage ratio ("FCCR") testing requirement for the fourth quarter of 2022 and removed the FCCR testing requirement for the first quarter of 2023;
- reduced the maximum revolving credit line under the credit facility from $18,000,000 to $12,500,000;
- reinstated the quarterly FCCR testing requirement starting in the second quarter of 2023 using a trailing twelve-month period (with no change to the minimum 1.15:1 ratio requirement for each quarter); and
- required 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, 2023 has been met and certified to the lender (the Company met its FCCR in the second quarter of 2023 which was certified to its lender and therefore, this requirement is no longer applicable under the Loan Agreement, as amended).

In connection with the March 2023 amendment, the Company paid its lender a fee of $25,000 which is being amortized over the remaining term of the Loan Agreement, as amended, as interest expense-financing fees.

On July 31, 2023, the Company entered into a further amendment of the Loan Agreement, as amended, which provided, among other things, the following:

- extended the maturity date of the Loan Agreement, as amended, to May 15, 2027, from May 15, 2024;
- an additional term loan ("Term Loan 2") to the Company in the amount of $2,500,000, requiring monthly installments of approximately $41,667. The annual rate of interest due on Term Loan 2 is at prime plus 3.00% or Secured Overnight Finance Rate ("SOFR") (as defined in the Loan Agreement, as amended) plus 4.00% plus an SOFR Adjustment applicable for an interest period selected by the Company. A SOFR Adjustment rate of 0.10% and 0.15% is applicable for a one-month interest period and three-month period, respectively, that may be selected by the Company;
- removed the minimum Tangible Adjusted Net Worth (as defined in the Loan Agreement) covenant requirement;
- placed an indefinite reduction in borrowing availability of $750,000; and
- allows for up to $2,500,000 in capital expenditure made in fiscal year 2023 and thereafter to be treated as financed capital expenditure in the Company's quarterly FCCR covenant calculation requirement.

At maturity of the Loan Agreement, as amended, any unpaid principal balance plus interest, if any, will become due.

Pursuant to the amendment dated July 31, 2023 as discussed above, the Company has agreed to pay PNC 1.0% of the total financing under the Loan Agreement, as amended, in the event the Company pays off its obligations on or before July 31, 2024, and 0.5% of the total financing if the Company pays off its obligations after July 31, 2024, to and including July 31, 2025. No early termination fee shall apply if the Company pays off its obligations under the amended Loan Agreement after July 31, 2025.

In connection with the amendment dated July 31, 2023, the Company paid its lender a fee of $100,000 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, the annual rate of interest due on the revolving credit is at prime (8.50% at September 30, 2023) plus 2% or SOFR plus 3.00% plus an SOFR Adjustment applicable for an interest period selected by the Company. The annual rate of interest due on Term Loan 1 and the Capital Line loan is at prime plus 2.50% or Term SOFR Rate plus 3.50% plus an SOFR Adjustment applicable for an interest period selected by the Company. SOFR Adjustment rates of 0.10% and 0.15% are applicable for a one-month interest period and three-month period, respectively, that may be selected by the Company. See payment of annual rate of interest due on Term Loan 2 as provided under the amendment dated July 31, 2023.

At September 30, 2023, the borrowing availability under the Company's revolving credit was approximately $10,378,000 which included our cash and was based on our eligible receivables and is net of approximately $3,200,000 in outstanding standby letters of credit and net of the $750,000 indefinite reduction in borrowing availability imposed by the Company's lender pursuant to the amendment dated July 31, 2023 as discussed above.

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 2023 pursuant to the March 21, 2023 amendment as discussed above. It otherwise met all of its other financial covenant requirements. The Company met all of its covenant requirements in the second and third quarters of 2023.

9. <u>Commitments and Contingencies</u>

Hazardous Waste

In connection with our waste management services, the Company processes hazardous, non-hazardous, low-level radioactive and mixed (containing both hazardous and low-level radioactive) waste, which the Company transports to its 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, the Company may be involved in various litigation. The Company is not a party to any litigation or governmental proceeding which our management believes could result in any judgments or fines against us that 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.

The Company's 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.

The majority of Tetra Tech's claims have been dismissed by the Court. Remaining claims include: (1) intentional interference with contractual relations; and (2) inducing a breach of contract. The Company continues to believe it has no liability exposure 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 September 30, 2023, PF Canada has approximately $2,287,000 in unpaid receivables due from CNL as a result of work performed under the TOA. Additionally, CNL has approximately $1,056,000 in contractual holdback under the TOA that is payable to PF Canada. CNL and PF Canada have completed discussions and reached an agreement in principle to settle related matters under which, subject to execution of a written settlement agreement, the noted unpaid receivables and contractual holdback amounts will be paid to PF Canada.

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 $22,461,000 at September 30, 2023. At September 30, 2023, and December 31, 2022, 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 Condensed Consolidated Balance Sheets, totaled $11,926,000 and $11,570,000, respectively, including interest earned of $2,455,000 and $2,099,000 on the finite risk sinking funds as of September 30, 2023, and December 31, 2022, respectively. Interest income for the three and nine months ended September 30, 2023, was approximately $146,000 and $356,000, respectively. Interest income for the three and nine months ended September 30, 2022, was approximately $29,000 and $69,000, respectively. If we so elect, AIG is obligated to pay the Company an amount equal to 100% of the finite risk sinking fund account balance in return for complete release of liability from both the Company 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 September 30, 2023, the total amount of standby letters of credit outstanding was approximately $3,200,000 and the total amount of bonds outstanding was approximately $36,428,000.

10. <u>Discontinued Operations</u>

The Company's discontinued operations consist of all our subsidiaries included in our Industrial Segment which encompasses subsidiaries divested in 2011 and earlier, as well as three previously closed locations.

The Company's discontinued operations had net income of $95,000 and net loss of $160,000 for the three months ended September 30, 2023 and 2022, respectively (net of tax benefits of $234,000 and $46,000 for the three month ended September 30, 2023 and 2022, respectively) and net losses of $44,000 and $442,000 for the nine months ended September 30, 2023 and 2022, respectively, (net of tax benefits of $353,000 and $127,000 for the nine month ended September 30, 2023 and 2022, respectively). The income and losses (excluding the tax benefits) were primarily due to costs incurred in the administration and continued monitoring/evaluation of our discontinued operations. The Company's discontinued operations had no revenues for any of the periods noted above.

The following table presents the major class of assets of discontinued operations as of September 30, 2023 and December 31, 2022. No assets and liabilities were held for sale at each of the periods noted.

(Amounts in Thousands)	September 30, 2023	December 31, 2022
Current assets		
Other assets	$ 15	$ 15
Total current assets	15	15
Long-term assets		
Property, plant and equipment, net [(1)]	81	81
Total long-term assets	81	81
Total assets	$ 96	$ 96
Current liabilities		
Accounts payable	$ 23	$ 104
Accrued expenses and other liabilities	139	146
Environmental liabilities	77	112
Total current liabilities	239	362
Long-term liabilities		
Closure liabilities	166	159
Environmental liabilities	784	749
Total long-term liabilities	950	908
Total liabilities	$ 1,189	$ 1,270

(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 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
- Research and Development ("R&D") activities to identify, develop and implement innovative waste processing techniques for problematic waste streams.

SERVICES SEGMENT, which includes:

- Technical services, which include:
  - professional radiological measurement and site survey of large government and commercial installations using advanced methods, technology and engineering;
  - 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;
  - 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
  - on-site waste management services to commercial and governmental customers.

- Nuclear services, which include:
  - technology-based services including engineering, decontamination and decommissioning ("D&D"), specialty services and construction, logistics, transportation, processing and disposal;
  - 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.

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 and nine months ended September 30, 2023 and 2022 (in thousands).

Segment Reporting for the Quarter Ended September 30, 2023

	Treatment	Services	Segments Total	Corporate [1]	Consolidated Total
Revenue from external customers	$ 10,795	$ 11,082	$ 21,877	$ —	$ 21,877
Intercompany revenues	4	88	92	—	—
Gross profit	1,494	3,055	4,549	—	4,549
Research and development	102	1	103	17	120
Interest income	—	—	—	146	146
Interest expense	(23)	(1)	(24)	(65)	(89)
Interest expense-financing fees	—	—	—	(36)	(36)
Depreciation and amortization	584	88	672	14	686
Segment income (loss)	1,014	1,120	2,134	(1,888)	246
Expenditures for segment assets	333	7	340	—	340(3)

Segment Reporting for the Quarter Ended September 30, 2022

	Treatment	Services	Segments Total	Corporate [1]	Consolidated Total
Revenue from external customers	$ 8,877	$ 9,595	$ 18,472	$ —	$ 18,472
Intercompany revenues	28	16	44	—	—
Gross profit	1,967	1,103	3,070	—	3,070
Research and development	55	—	55	14	69
Interest income	—	—	—	29	29
Interest expense	(20)	(2)	(22)	(25)	(47)
Interest expense-financing fees	—	—	—	(16)	(16)
Depreciation and amortization	387	87	474	23	497
Segment income (loss)	1,628	710	2,338	(1,514)	824(2)
Expenditures for segment assets	149	39	188	1	189(4)

Segment Reporting for the Nine Months Ended September 30, 2023

	Treatment	Services	Segments Total	Corporate [1]	Consolidated Total
Revenue from external customers	$ 33,223	$ 33,793	$ 67,016	$ —	$ 67,016
Intercompany revenues	234	124	358	—	—
Gross profit	5,237	6,837	12,074	—	12,074
Research and development	260	11	271	69	340
Interest income	—	—	—	445	445
Interest expense	(68)	(2)	(70)	(119)	(189)
Interest expense-financing fees	—	—	—	(80)	(80)
Depreciation and amortization	1,745	337	2,082	42	2,124
Segment income (loss)	2,619	2,933	5,552	(5,104)	448
Expenditures for segment assets	1,376	10	1,386	—	1,386(3)

Segment Reporting for the Nine Months Ended September 30, 2022

	Treatment	Services	Segments Total	Corporate [1]	Consolidated Total
Revenue from external customers	$ 24,749	$ 29,093	$ 53,842	$ —	$ 53,842
Intercompany revenues	28	43	71	—	—
Gross profit	4,168	3,422	7,590	—	7,590
Research and development	179	23	202	43	245
Interest income	—	—	—	69	69
Interest expense	(53)	—	(53)	(70)	(123)
Interest expense-financing fees	—	—	—	(44)	(44)
Depreciation and amortization	1,139	244	1,383	50	1,433
Segment income (loss)	1,766	1,580	3,346	(5,028)	(1,682)[2]
Expenditures for segment assets	819	127	946	1	947(4)

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

(2) Includes approximately $1,975,000 recorded as other income under the Employee Retention Credit program under the CARES Act, as amended (see "Note 13 – Employee Retention Credit ("ERC") below for a discussion of this refund amount).

(3) Net of financed amount of $152,000 and $309,000 for the three and nine months ended September 30, 2023, respectively.

(4) Net of financed amount of $0 and $114,000 for the three and nine months ended September 30, 2022, 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 expenses of $254,000 and $179,000 for continuing operations for the three months ended September 30, 2023 and 2022, respectively, and income tax expense of $482,000 and income tax benefit of $147,000 for the nine months ended September 30, 2023 and 2022, respectively. The Company's effective tax rates were approximately 50.8% and 17.8% for the three months ended September 30, 2023 and 2022, respectively, and 51.8% and 8.0% for the nine months ended September 30, 2023 and 2022, respectively. The Company's effective tax rates for the three and nine months ended September 30, 2023 were impacted by non-deductible expenses and state taxes.

13. Employee Retention Credit ("ERC")

The Coronavirus Aid, Relief and Economic Securities Act ("CARES Act"), which was enacted on March 27, 2020, provided an Employee Retention Credit ("ERC") for qualifying businesses keeping employees on their payroll during the COVID-19 pandemic. The ERC was subsequently amended by the Taxpayer Certainty and Disaster Tax Relief Act of 2020, the Consolidated Appropriation Act of 2021, and the American Rescue Plan Act of 2021, all of which amended and extended the ERC availability and guidelines under the CARES Act. Following these amendments, the Company determined that it was eligible for the ERC, and as a result of the foregoing legislations, was eligible to claim a refundable tax credit against the Company's share of certain payroll taxes equal to 70% of the qualified wages paid to employees between July 1, 2021 and September 30, 2021. Qualified wages were limited to $10,000 per employee per calendar quarter in 2021 for a maximum allowable ERC per employee of $7,000 per calendar quarter in 2021. For purposes of the amended ERC, an eligible employer was defined as having experienced a significant (20% or more) decline in gross receipts during one or more of the first three 2021 calendar quarters when compared to 2019.

During the third quarter of 2022, the Company determined it was eligible for the ERC and amended its third quarter 2021 employer payroll tax filings claiming a refund from the U.S. Treasury in the amount of approximately $1,975,000. As there is no authoritative guidance under U.S. GAAP on accounting for government assistance to for-profit business entities, the Company accounted for the ERC by analogy to International Accounting Standard ("IAS") 20, Accounting for Government Grants and Disclosure of Government Assistance. In accordance with IAS 20, management determined it had reasonable assurance for receipt of the ERC and recorded the expected refund as other income (within "Other income (expense)") on the Company's Condensed Consolidated Statements of Operations and other receivables (within "Prepaid and other assets") on the Company's Condensed Consolidated Balance Sheets. On March 30, 2023, the Company received the ERC refund of $1,975,000 and approximately $60,000 in interest (recorded within "Interest Income" on the Company's Condensed Consolidated Statements of Operations for the quarter ended March 31, 2023), totaling approximately $2,035,000.

14. Subsequent Events

The Company evaluated subsequent events and transactions that occurred after the balance sheet date through November 2, 2023, the date that these condensed consolidated financial statements were available to be issued. Based upon this review, the Company did not identify any subsequent events that would have required adjustment or disclosure in the condensed consolidated financial statements.

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;
- U.S. government shutdown;
- 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;
- execution of written settlement agreement between PF Canada and CNL;
- sufficient liquidity to fund operations for the next twelve months;
- future results of operations and liquidity;
- effect of macroeconomic concerns, such as inflation and higher interest rates, on our business;
- manner in which the applicable government will be required to spend funding to remediate various sites;
- finalization of partnership agreement with Springfields Fuels Limited;
- successful on international bids;
- continued increases in operating costs;
- funding of capital expenditures from cash from operations, borrowing availability under our credit facility and/or financing;
- steady improvement in waste shipments and work under projects during balance of 2023;
- funding of remediation expenditures for sites from funds generated internally;
- compliance with environmental regulations;
- potential effect of being a PRP;
- potential violations of environmental laws and attendant remediation at our facilities; and
- our ability to effect increases in the prices of the services we offer.

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;

- 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;
- management retention and development;
- financial valuation of intangible assets is substantially more/less than expected;
- the need to use internally generated funds for purposes not presently anticipated;
- 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;
- 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;
- economic uncertainties;
- new governmental regulations; and
- risk factors and other factors set forth in “Special Note Regarding Forward-Looking Statements” contained in the Company’s 2022 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”) for the first and second quarters 2023 10-Q and this third quarter 2023 10-Q.

Overview

Revenue increased by $3,405,000 or 18.4% to $21,877,000 for the three months ended September 30, 2023, from $18,472,000 for the corresponding period of 2022. We saw increases in both segments where Treatment Segment revenue increased by $1,918,000 to $10,795,000 or 21.6% from $8,877,000 and Services Segment revenue increased by $1,487,000 or 15.5% to $11,082,000 from $9,595,000. The increase in revenue in the Treatment Segment was primarily due to overall higher waste volume which was offset by lower averaged price waste due to revenue mix. The increase in revenue in the Services Segment was due to continuing operation and improved productivity on certain projects which had been delayed/curtailed in 2022 due, in part, from the lingering effects of the COVID-19 pandemic. Revenue in both segments were also positively impacted by contracts won in the first half of 2023. As previously disclosed, the lingering effects of COVID-19 negatively impacted our revenue in 2022 as work under projects and waste shipments continued to be delayed by certain customers into the first half of 2022. Additionally, in 2022, procurement and planning on behalf of our government clients continued to be delayed which did not ease until the second half of 2022. Total gross profit for the third quarter of 2023 increased $1,479,000 or 48.2% due to increased revenue. Selling, General, and Administrative ("SG&A") expenses remained flat for the three months ended September 30, 2023 as compared to the corresponding period of 2022.

Revenue increased by $13,174,000 or 24.5% to $67,016,000 for the nine months ended September 30, 2023, from $53,842,000 for the corresponding period of 2022. As with the third quarter of 2023, we saw increases in both segments where Treatment Segment revenue increased by $8,474,000 to $33,223,000 or 34.2% from $24,749,000 and Services Segment revenue increased by $4,700,000 or 16.2% to $33,793,000 from $29,093,000. The increases in revenue in both the Treatment and Services Segments were due primarily to the same reasons as discussed above for the third quarter. Total gross profit for the nine months ended 2023 increased $4,484,000 or 59.1% due to increased revenue generated in both segments. SG&A expenses decreased $66,000 or 0.6% for the nine months ended September 30, 2023, as compared to the corresponding period of 2022.

We expect to see continued steady improvements in waste receipts and increases in project work from certain existing contracts, contracts already won in 2023, and bids submitted in both segments that are awaiting awards during the balance of 2023. However, if Congress is unable to enact FY 2024 appropriation bills or extend the continuing resolutions to fund government spending by November 17, 2023, the U.S. government will enter into a shutdown. The full impact of any government shutdown is uncertain. However, if a government shutdown were to occur and were to continue an extended period, our financial results of operations could be negatively impacted by delays in procurement actions, waste shipments and project delays on newly awarded projects.

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 and the manner in which the applicable government will be required to spend funding to remediate various sites and a potential government shutdown. 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/TOAs with the Canadian government authorities also allowed the authorities to terminate the contract/task orders at any time for convenience. Work under all of our contracts/TOAs with Canadian government authorities has been completed. See 'Known Trends and Uncertainties – Perma-Fix Canada Inc. ("PF Canada")" within this MD&A for a discussion of a significant account receivable due PF Canada under a Canadian TOA which was previously terminated. 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 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 Segment and Services Segment.

Summary – Three and Nine Months Ended September 30, 2023 and 2022

	Three Months Ended September 30,				Nine Months Ended September 30,			
Consolidated (amounts in thousands)	2023	%	2022	%	2023	%	2022	%
Net revenues	$ 21,877	100.0	$ 18,472	100.0	$ 67,016	100.0	$ 53,842	100.0
Cost of goods sold	17,328	79.2	15,402	83.4	54,942	82.0	46,252	85.9
Gross profit	4,549	20.8	3,070	16.6	12,074	18.0	7,590	14.1
Selling, general and administrative	3,933	18.0	3,929	21.3	10,969	16.4	11,035	20.5
Research and development	120	.5	69	.3	340	.5	245	.5
Loss on disposal of property and equipment	—	—	—	—	—	—	1	—
Loss from operations	496	2.3	(928)	(5.0)	765	1.1	(3,691)	(6.9)
Interest income	146	.7	29	.2	445	.7	69	.1
Interest expense	(89)	(.4)	(47)	(.2)	(189)	(.3)	(123)	(.2)
Interest expense-financing fees	(36)	(.2)	(16)	(.1)	(80)	(.1)	(44)	—
Other	(17)	(.01)	1,965	10.6	(11)	—	1,960	3.6
Income (loss) from continuing operations before taxes	500	2.3	1,003	5.5	930	1.4	(1,829)	(3.4)
Income tax expense (benefit)	254	1.2	179	1.0	482	.7	(147)	(.3)
Income (loss) from continuing operations, net of taxes	$ 246	1.1	$ 824	4.5	$ 448	.7	$ (1,682)	(3.1)

Revenues

Consolidated revenues increased $3,405,000 for the three months ended September 30, 2023, compared to the three months ended September 30, 2022, as follows:

(In thousands)	2023	% Revenue	2022	% Revenue	Change	% Change
Treatment						
Government waste	$ 6,692	30.6	$ 5,475	29.7	$ 1,217	22.2
Hazardous/non-hazardous [1]	1,389	6.3	1,150	6.2	239	20.8
Other nuclear waste	2,714	12.4	2,252	12.2	462	20.5
Total	10,795	49.3	8,877	48.1	1,918	21.6
Services						
Nuclear services	9,996	45.7	9,360	50.7	636	6.8
Technical services	1,086	5.0	235	1.2	851	362.1
Total	11,082	50.7	9,595	51.9	1,487	15.5
Total	$ 21,877	100.0	$ 18,472	100.0	$ 3,405	18.4

[1] Includes wastes generated by government clients of $653,000 and $540,000 for the three months ended September 30, 2023, and the corresponding period of 2022, respectively.

Treatment Segment revenue increased by $1,918,000 or 21.6% for the three months ended September 30, 2023 over the same period in 2022. The overall increase was primarily due to higher waste volume offset by lower averaged price waste from revenue mix. As previously disclosed, starting in the latter part of the second quarter of 2022, our Treatment Segment began to see steady improvements in waste receipts from certain customers who had previously delayed waste shipments due, in part, from the lingering effects of COVID-19. Services Segment revenue increased by approximately $1,487,000 or 15.5%. The increase in revenue in the Services Segment was due to continuing operation and improved productivity on certain projects which had been delayed/curtailed in the early part of 2022 due, in part, from the lingering effects of the COVID-19 pandemic. 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. Revenues from both of our segments were also positively impacted from contracts won in the first half of 2023.

Consolidated revenues increased $13,174,000 for the nine months ended September 30, 2023, as compared to the nine months ended September 30, 2022, as follows:

(In thousands)	2023	% Revenue	2022	% Revenue	Change	% Change
Treatment						
Government waste	$ 23,036	34.4	$ 16,666	31.0	$ 6,370	38.2
Hazardous/non-hazardous [(1)]	4,522	6.7	3,515	6.5	1,007	28.6
Other nuclear waste	5,665	8.5	4,568	8.5	1,097	24.0
Total	33,223	49.6	24,749	46.0	8,474	34.2
Services						
Nuclear services	31,918	47.6	28,320	52.6	3,598	12.7
Technical services	1,875	2.8	773	1.4	1,102	142.6
Total	33,793	50.4	29,093	54.0	4,700	16.2
Total	$ 67,016	100.0	$ 53,842	100.0	$ 13,174	24.5

[(1)] Includes wastes generated by government clients of $2,126,000 and $1,652,000 for the nine months ended September 30, 2023, and the corresponding period of 2022, respectively.

Treatment Segment revenue increased by $8,474,000 or 34.2% for the nine months ended September 30, 2023 over the same period in 2022. Similar to the third quarter, the overall increase was primarily due to higher waste volume offset by lower averaged price waste from revenue mix. Services Segment revenue increased by approximately $4,700,000 or 16.2%. due to continuing operation and improved productivity on certain projects which had been delayed/curtailed in the early part of 2022 due, in part, from the lingering effects of the COVID-19 pandemic. 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. Revenues from both of our segments were also positively impacted from contracts won in the first half of 2023.

Cost of Goods Sold

Cost of goods sold increased $1,926,000 for the quarter ended September 30, 2023, as compared to the quarter ended September 30, 2022, as follows:

(In thousands)	2023	% Revenue	2022	% Revenue	Change
Treatment	$ 9,301	86.2	$ 6,910	77.8	$ 2,391
Services	8,027	72.4	8,492	88.5	(465)
Total	$ 17,328	79.2	$ 15,402	83.4	$ 1,926

Cost of goods sold for the Treatment Segment increased by approximately $2,391,000 or 34.6% primarily due to higher revenue. Treatment Segment's variable costs increased by approximately $1,584,000, primarily due to higher material and supplies, disposal, lab and outside services costs. Treatment Segment's overall fixed costs were higher by approximately $807,000 resulting from the following: salaries and payroll related expenses were higher by approximately $484,000 due to higher headcount; depreciation expenses were higher by approximately $194,000 due to depreciation for asset retirement obligations ("ARO") in connection with our Oak Ridge Environmental Waste Operations Center ("EWOC") facility; regulatory expenses were higher by approximately $57,000; travel expenses were higher by approximately $30,000; and general expenses were higher by approximately $42,000 in various categories. Services Segment cost of goods sold decreased $465,000 or 5.5%. The overall decrease in cost of goods sold was primarily due to the following: lower outside services and travel costs totaling approximately $761,000; overall lower material and supplies, lab, regulatory and disposal costs totaling approximately $186,000; higher general expenses by approximately $48,000 in various categories; and higher salaries and payroll related expenses by approximately $434,000. Included within cost of goods sold is depreciation and amortization expense of $666,000 and $471,000 for the three months ended September 30, 2023, and 2022, respectively.

Cost of goods sold increased $8,690,000 for the nine months ended September 30, 2023, as compared to the nine months ended September 30, 2022, as follows:

(In thousands)		2023	% Revenue		2022	% Revenue		Change
Treatment	$	27,986	84.2	$	20,581	83.2	$	7,405
Services		26,956	79.8		25,671	88.2		1,285
Total	$	54,942	82.0	$	46,252	85.9	$	8,690

Cost of goods sold for the Treatment Segment increased by approximately $7,405,000 or 36.0%. Treatment Segment's variable costs increased by approximately $4,858,000 primarily due to higher material and supplies, disposal, lab and outside services costs. Treatment Segment's overall fixed costs were higher by approximately $2,547,000 resulting from the following: salaries and payroll related expenses were higher by approximately $1,106,000 due to higher headcount; depreciation expenses were higher by approximately $597,000 due to depreciation for ARO in connection with our EWOC facility; general expenses were higher by approximately $310,000 primarily due to higher utility costs; maintenance costs were higher by approximately $251,000; regulatory expenses were higher by approximately $222,000; and travel expenses were higher by approximately $61,000. Services Segment cost of goods sold increased $1,285,000 or 5.0% due to higher revenue. The overall increase in cost of goods sold was primarily due to the following: aggregated higher salaries/payroll related, outside services, and travel costs totaling approximately $1,886,000; higher depreciation expenses of $93,000; lower material and supplies, lab, regulatory and disposal expenses totaling approximately $582,000; and lower general expenses by approximately $112,000 in various categories. Included within cost of goods sold is depreciation and amortization expense of $2,063,000 and $1,373,000 for the nine months ended September 30, 2023, and 2022, respectively.

Gross Profit

Gross profit for the quarter ended September 30, 2023, increased $1,479,000 over the same period of 2022, as follows:

(In thousands)		2023	% Revenue		2022	% Revenue		Change
Treatment	$	1,494	13.8	$	1,967	22.2	$	(473)
Services		3,055	27.6		1,103	11.5		1,952
Total	$	4,549	20.8	$	3,070	16.6	$	1,479

Treatment Segment gross profit decreased by $473,000 or approximately 24.0% and gross margin decreased to 13.8% from 22.2% primarily due to lower averaged price waste from revenue mix and the increase in fixed costs. Services Segment gross profit increased by $1,952,000 or 177.0% and gross margin increased to 27.6% from 11.5% primarily due to higher revenue and improved margin projects. Our overall Services Segment gross margin is impacted by our current projects which are competitively bid and therefore have varying margin structures.

Gross profit for the nine months ended September 30, 2023, increased $4,484,000 over the same period in 2022, as follows:

(In thousands)		2023	% Revenue		2022	% Revenue		Change
Treatment	$	5,237	15.8	$	4,168	16.8	$	1,069
Services		6,837	20.2		3,422	11.8		3,415
Total	$	12,074	18.0	$	7,590	14.1	$	4,484

Treatment Segment gross profit increased by $1,069,000 or 25.6% due to higher revenue. The decrease in gross margin to 15.8% from 16.8% was primarily due to lower averaged price waste from revenue mix and the increase in fixed costs. Services Segment gross profit increased by $3,415,000 or 99.8% and gross margin increased from 11.8% to 20.2% primarily due to higher revenue and improved margin projects. Our overall Services Segment gross margin is impacted by our current projects which are competitively bid and therefore have varying margin structures.

SG&A

SG&A expenses increased $4,000 for the three months ended September 30, 2023, as compared to the corresponding period for 2022, as follows:

(In thousands)		2023	% Revenue		2022	% Revenue		Change
Administrative	$	1,916	—	$	1,826	—	$	90
Treatment		1,039	9.6		1,144	12.9		(105)
Services		978	8.8		959	10.0		19
Total	$	3,933	18.0	$	3,929	21.3	$	4

Administrative SG&A expenses were higher primarily due to the following: salaries and payroll-related expenses were higher by approximately $205,000, primarily due to higher accrued incentives of approximately $178,000 in connection with the Company's management incentive plans ("MIPs"); outside services expenses were lower by approximately $85,000 resulting from fewer audit/consulting matters; and general expenses were lower by approximately $30,000 in various categories. Treatment Segment SG&A expenses were lower primarily due to the following: outside services expenses were lower by approximately $19,000 as a result of fewer consulting matters; salaries and payroll related expenses were lower by approximately $92,000; travel expenses were lower by approximately $3,000; and general expense were higher by approximately $9,000. The increase in Services Segment SG&A was primarily due to higher general and travel expenses. Included in SG&A expenses is depreciation and amortization expense of $20,000 and $26,000 for the three months ended September 30, 2023, and 2022, respectively.

SG&A expenses decreased $66,000 for the nine months ended September 30, 2023, as compared to the corresponding period for 2022, as follows:

(In thousands)		2023	% Revenue		2022	% Revenue		Change
Administrative	$	5,281	—	$	5,278	—	$	3
Treatment		3,071	9.2		3,302	13.3		(231)
Services		2,617	7.7		2,455	8.4		162
Total	$	10,969	16.4	$	11,035	20.5	$	(66)

Administrative SG&A expenses were slightly higher primarily due to the following: payroll-related expenses were higher by approximately $241,000, including an increase in accrued incentives of approximately $192,000 in connection with the Company's MIPs and higher 401(k) matching expenses as payroll expenses in the first nine months of 2022 included more forfeitures of 401(k) plan matching funds contributed by us for former employees who failed to meet the 401(k) plan vesting requirements; outside services expenses were lower by approximately $187,000 as a result of fewer audit/consulting matters; general expenses were lower by approximately $42,000 in various categories; and travel expenses were lower by approximately $9,000. Treatment Segment SG&A expenses were lower primarily due to the following: outside services expenses were lower by approximately $83,000 due to fewer consulting matters; salaries and payroll related expenses were lower by approximately $210,000; travel expenses were lower by approximately $15,000; general expenses were higher by approximately $45,000 in various categories; and credit losses on accounts receivable were higher by approximately $32,000. The increase in SG&A expenses within our Services Segment was primarily due to the following: salaries/payroll-related expenses were higher by approximately $86,000 due to more administrative support functions required as the result of higher revenue; travel expenses were higher by approximately $25,000; and credit losses on accounts receivable were higher by approximately $72,000, as in the first quarter of 2022 our Services Segment collected on certain accounts that were previously deemed to be uncollectible. Such increases were partially offset by decreases in general expenses of approximately $21,000 in various categories. Included in SG&A expenses is depreciation and amortization expense of $61,000 and $60,000 for the nine months ended September 30, 2023, and 2022, respectively.

Interest Income

Interest income increased by approximately $117,000 and $376,000 for the three and nine months ended September 30, 2023, respectively, as compared to the corresponding period of 2022 primarily due to higher interest earned from the finite risk sinking fund. Interest income for the nine months ended September 30, 2023, also included approximately $60,000 received in March 2023 under the Employee Retention Credit ("ERC") program under the CARES Act.

Interest Expense

Interest expense increased by approximately $42,000 and $66,000 for the three and nine months ended September 30, 2023, respectively, as compared to the corresponding period of 2022 due to interest incurred on the new $2,500,000 term loan dated July 31, 2023, under the Company's credit facility. Interest expense was also higher in both periods from higher interest rate on our term loan dated May 8, 2020, which was offset by the declining term loan balance. The increase in interest expense for the nine months ended September 30, 2023, was also the result of interest incurred from advances made in May of 2022 from the capital line under our credit facility.

Income Taxes

We had income tax expenses of $254,000 and $179,000 for continuing operations for the three months ended September 30, 2023, and 2022, respectively, and income tax expense of $482,000 and income tax benefit of $147,000 for the nine months ended September 30, 2023, and 2022, respectively. Our effective tax rates were approximately 50.8% and 17.8% for the three months ended September 30, 2023, and 2022, respectively, and 51.8% and 8.0% for the nine months ended September 30, 2023, and 2022, respectively. Our effective tax rates for the three and nine months ended September 30, 2023, were impacted by non-deductible expenses and state taxes.

Liquidity and Capital Resources

Our cash flow requirements during the nine months ended September 30, 2023 were primarily financed by our operations, cash on hand (which included the ERC, along with interest, that we received in March 2023 and proceeds from a new term loan dated July 31, 2023 in the amount of $2,500,000 provided to us under an amendment to our existing credit facility), and credit facility availability (See "Financing Activities" below for a discussion of an amendment to our credit facility that we entered into with our lender on July 31, 2023, which extended the maturity date of our credit facility and provided the new term loan to us, among other things). 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, and cash on hand. 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 September 30, 2023, our borrowing availability under our revolving credit facility was approximately $10,378,000, which included our cash and was based on our eligible receivables and was net of approximately $3,200,000 in outstanding standby letters of credit and a $750,000 indefinite reduction in borrowing availability that our lender imposed pursuant to the July 31, 2023 amendment of the Loan Agreement. We believe that our cash flows from operations, our available liquidity from our credit facility, and our cash on hand should be sufficient to fund our operations for the next twelve months, The following table reflects the cash flow activities during the first nine months of 2023:

(In thousands)		
Cash provided by operating activities of continuing operations	$	452
Cash used in operating activities of discontinued operations		(478)
Cash used in investing activities of continuing operations		(1,386)
Cash provided by financing activities of continuing operations		1,890
Increase in cash and finite risk sinking fund (restricted cash)	$	478

At September 30, 2023, we were in a positive cash position with no revolving credit balance. At September 30, 2023, we had cash on hand of approximately $1,988,000.

Operating Activities

Accounts receivable, net of credit losses, totaled $15,342,000 at September 30, 2023, an increase of $5,978,000 from the December 31, 2022 balance of $9,364,000. The increase was attributed to increased revenue, timing of invoicing, and our accounts receivable collection. Our contracts with our customers are subject to various payment terms and conditions. Our accounts receivable at September 30, 2023, include invoices for work performed for a certain Canadian project that remains outstanding which we expect to collect, subject to finalization of a written settlement agreement (See discussion under "Known Trends and Uncertainties – Perma-Fix Canada Inc. ("PF Canada")") for a discussion of the account receivable.

Accounts payable totaled $9,614,000 at September 30, 2023, a decrease of $711,000 from the December 31, 2022 balance of $10,325,000. 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 $4,748,000 (which included working capital of our discontinued operations) at September 30, 2023, as compared to working capital of $818,000 at December 31, 2022. The increase in our working capital was primarily due to increases in our accounts and unbilled receivables from improved operations. The overall increase was offset by the increase in our accrued expenses.

Investing Activities

For the nine months ended September 30, 2023, our purchases of capital equipment totaled approximately $1,695,000, of which $309,000 was subject to financing, with the remaining funded from cash from operations and our credit facility. We have budgeted approximately $2,000,000 for 2023 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, borrowing availability under our credit facility, 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 percent (55%) and our interest will be forty-five percent (45%). 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, granting of required regulatory, lender or permitting approvals and updated cost and profitability analysis based on current and forecast future economic conditions. Upon finalization of this venture, we will be required to make an investment in this venture. The amount of our investment, the period in 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, as amended (including the two amendments that we entered into with PNC in 2023 described below), provides us with the following credit facility with a maturity date of May 15, 2027: (a) up to $12,500,000 revolving credit ("revolving credit"), with the maximum that we can borrow under the revolving credit 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; (b) a term loan ("Term Loan 1") dated May 8, 2020, of approximately $1,742,000, requiring monthly installments of $35,547; (c) a term loan ("Term Loan 2") of $2,500,000 dated July 31, 2023, requiring monthly installments of $41,667; and (d) a capital expenditure line ("Capital 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"), with interest only payable on advances during the Borrowing Period. Amounts advanced under the Capital Line at the end of the Borrowing Period totaled approximately $524,000, requiring monthly installments of principal of approximately $8,700 plus interest, commencing June 1, 2022.

On March 21, 2023, we entered into an amendment to our Loan Agreement, as amended, with our lender which provided, among other things, the following:

- removed the quarterly fixed charge coverage ratio ("FCCR") testing requirement for the fourth quarter of 2022 and removed the FCCR testing requirement for the first quarter of 2023;
- reduced the maximum revolving credit line under the credit facility from $18,000,000 to $12,500,000;
- reinstated the quarterly FCCR testing requirement starting in the second quarter of 2023 using a trailing twelve-month period (with no change to the minimum 1.15:1 ratio requirement for each quarter); and
- required 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, 2023 has been met and certified to the lender (we met our FCCR requirement in the second quarter of 2023 which was certified to our lender and therefore, this requirement is no longer applicable under our Loan Agreement, as amended).

In connection with the March 2023 amendment, we paid our lender a fee of $25,000 which is being amortized over the remaining term of the Loan Agreement, as amended, as interest expense-financing fees.

On July 31, 2023, we entered into a further amendment of the Loan Agreement, as amended, with our lender which provided, among other things, the following:

- extended the maturity date of the Loan Agreement, as amended, to May 15, 2027, from May 15, 2024;
- an additional term loan ("Term Loan 2") to us in the amount of $2,500,000, requiring monthly installments of approximately $41,667. The annual rate of interest due on Term Loan 2 is at prime plus 3.00% or SOFR (as defined in the Loan Agreement, as amended) plus 4.00% plus an SOFR Adjustment applicable for an interest period selected by us. A SOFR Adjustment rate of 0.10% and 0.15% is applicable for a one-month interest period and three-month period, respectively, that may be selected by us;
- removed the minimum Tangible Adjusted Net Worth (as defined in the Loan Agreement) covenant requirement;
- placed an indefinite reduction in borrowing availability of $750,000; and
- allows for up to $2,500,000 in capital expenditure made in fiscal year 2023 and thereafter to be treated as financed capital expenditure in the Company's quarterly FCCR covenant calculation requirement.

At maturity of the Loan Agreement, as amended, any unpaid principal balance plus interest, if any, will become due.

Pursuant to the amendment dated July 31, 2023, we have agreed to pay PNC 1.0% of the total financing under the Loan Agreement, as amended, in the event we pay off our obligations on or before July 31, 2024, and 0.5% of the total financing if we pay off our obligations after July 31, 2024, to and including July 31, 2025. No early termination fee shall apply if we pay off our obligations under the amended Loan Agreement after July 31, 2025.

In connection with amendment dated July 31, 2023, we paid our lender a fee of $100,000 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, the annual rate of interest due on the revolving credit is at prime (8.50% at September 30, 2023) plus 2% or SOFR plus 3.00% plus an SOFR Adjustment applicable for an interest period selected by us. The annual rate of interest due on Term Loan 1 and the Capital line is at prime plus 2.50% or Term SOFR Rate plus 3.50% plus an SOFR Adjustment applicable for an interest period selected by us. SOFR Adjustment rates of 0.10% and 0.15% are applicable for a one-month interest period and three-month period, respectively, that may be selected by us. See payment of annual rate of interest due on Term Loan 2 under the amendment dated July 31, 2023, as discussed above.

Our credit facility under our Loan Agreement, as amended, contains certain financial covenants, along with customary representations and warranties. A breach of any of these financial covenants, unless waived by our lender, 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 2023 pursuant to the March 21, 2023 amendment as discussed above. We otherwise met all of our other financial covenant requirements. We met all of our covenant requirements in the second and third quarters of 2023 and we expect to meet our covenant requirements in the next twelve months.

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 September 30, 2023, the total amount of standby letters of credit outstanding totaled approximately $3,200,000 and the total amount of bonds outstanding totaled approximately $36,428,000. We also provide closure and post-closure requirements through a financial assurance policy for certain of our Treatment Segment facilities through AIG. At September 30, 2023, the closure and post-closure requirements for these facilities were approximately $22,461,000.

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, 2022.

Recent Accounting Pronouncements

See “Note 2 – Summary of Significant Accounting Policies” in the “Notes to Condensed Consolidated Financial Statements” for the recent accounting pronouncement that 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 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 were 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 directly as a prime contractor or indirectly for others as a subcontractor to government entities, representing approximately $16,234,000 or 74.2% and $55,380,000 or 82.6% of our total revenues generated during the three and nine months ended September 30, 2023, respectively, as compared to $15,279,000 or 82.7% and $46,488,000 or 86.3% of our total revenues generated during the three and nine months ended September 30, 2022, respectively.

Potential U.S Government Shutdown. As discussed above, a significant portion of our revenue is generated through contracts entered into indirectly as subcontractors for others who are prime contractors or directly as the prime contractor to U.S. government authorities. As previously disclosed, if Congress is unable to enact FY 2024 appropriation bills or extend the continuing resolutions to fund government spending by November 17, 2023, the U.S. government will enter into a shutdown. The full impact of any government shutdown is uncertain. However, if a government shutdown were to occur and were to continue an extended period, our financial results of operations could be negatively impacted by delays in procurement actions, waste shipments and project delays on newly awarded projects.

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.

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 September 30, 2023, PF Canada has approximately $2,287,000 in unpaid receivables due from CNL as a result of work performed under the TOA. Additionally, CNL has approximately $1,056,000 in contractual holdback under the TOA that is payable to PF Canada. CNL and PF Canada have completed discussions and reached an agreement in principle to settle related matters under which, subject to execution of a written settlement agreement, the noted unpaid receivables and contractual holdback amounts will be paid to PF Canada.

Potential International Contracts

We continue to aggressively bid, either individually or with others as a joint venture partner, on potential contracts within the international markets. At any given time, we are awaiting decisions on any number of outstanding bids by prospective customers. Certain of these outstanding bids, if awarded, could be material to the Company.

Inflation and Supply Chain. Our financial results have been negatively impacted by various macroeconomic factors, including the effects of inflation, supply chain issues, labor shortages, and higher interest rates, due, in part, to the continued impact of COVID-19. Continued increases in any of our operating costs, including utility, transportation, wage rates, and supply costs, may further increase our overall cost of goods sold or operating expenses. We may attempt to increase our service and treatment prices in order to maintain satisfactory margin from the effect of these factors as discussed above; 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 for, 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 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 September 30, 2023, we had total accrued environmental remediation liabilities of $861,000 with no change from the December 31, 2022 balance. At September 30, 2023, $77,000 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 effective as of September 30, 2023.

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

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, 2022. 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, 2022.

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, 2022, and our Form 10-Q for the quarter ended March 31, 2023.

Item 6. Exhibits

(a) **Exhibits**

4.1	Seventh Amendment to Second Amended and Restated Revolving Credit, Term Loan and Security Agreement dated July 31, 2023, between Perma-Fix Environmental Services, Inc. and PNC Bank, National Association, as incorporated by reference from Exhibit 4.1 to the Company's Form 10-Q for the quarter ended June 30, 2023, filed on August 3, 2023.
4.2	Term Note dated July 31, 2023, between Perma-Fix Environmental Services, Inc. and PNC Bank, National Association, as incorporated by reference from Exhibit 4.2 to the Company's Form 10-Q for the quarter ended June 30, 2023, filed on August 3, 2023.
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-the instance document does not appear in the Interactive Data File because XBRL tags are embedded within the Inline XBRL 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 (formatted as an Inline XBRL document and included in Exhibit 101).

* Pursuant to Rule 406T of Regulation S-T, the Inline 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 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: November 2, 2023	By: *_/s/ Mark Duff_* Mark Duff President and Chief (Principal) Executive Officer
Date: November 2, 2023	By: *_/s/ Ben Naccarato_* Ben Naccarato Chief (Principal) Financial Officer

EXHIBIT 31.1

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: November 2, 2023

/s/ Mark Duff

Mark Duff
Chief Executive Officer, President
and Principal Executive Officer

EXHIBIT 31.2

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: November 2, 2023

/s/ Ben Naccarato

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

EXHIBIT 32.1

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 September 30, 2023, as filed with the Securities and Exchange Commission on the date hereof (the “Form 10-Q”), I, Mark Duff, President and Chief Executive Officer and Principal 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: November 2, 2023

/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.

EXHIBIT 32.2

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 September 30, 2023, as filed with the Securities and Exchange Commission on the date hereof (the "Form 10-Q"), I, Ben Naccarato, Executive Vice President and Chief Financial Officer and Principal 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: November 2, 2023

/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.