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

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**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, 2018**

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. 111596

**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)*

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 every Interactive Data File required to be submitted 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 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 3, 2018
Common Stock, \$.001 Par Value	11,936,573 shares

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**PART I - FINANCIAL INFORMATION**  
**ITEM 1. – Financial Statements**

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

(Amounts in Thousands, Except for Share and Per Share Amounts)	September 30, 2018 (Unaudited)	December 31, 2017 (Audited)
<b>ASSETS</b>		
Current assets:		
Cash	\$ 793	\$ 1,063
Accounts receivable, net of allowance for doubtful accounts of \$159 and \$720, respectively	8,300	7,940
Unbilled receivables - current	3,389	4,547
Inventories	357	393
Prepaid and other assets	3,331	3,281
Current assets related to discontinued operations	95	89
Total current assets	<u>16,265</u>	<u>17,313</u>
Property and equipment:		
Buildings and land	19,782	23,806
Equipment	18,317	33,182
Vehicles	376	393
Leasehold improvements	119	11,549
Office furniture and equipment	1,577	1,670
Construction-in-progress	1,278	653
Total property and equipment	41,449	71,253
Less accumulated depreciation	<u>(26,107)</u>	<u>(56,383)</u>
Net property and equipment	15,342	14,870
Property and equipment related to discontinued operations	81	81
Intangibles and other long term assets:		
Permits	8,393	8,419
Other intangible assets - net	1,327	1,487
Unbilled receivables - non-current	-	184
Finite risk sinking fund	15,888	15,676
Other assets	1,175	1,313
Other assets related to discontinued operations	138	195
Total assets	<u>\$ 58,609</u>	<u>\$ 59,538</u>

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

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

(Amounts in Thousands, Except for Share and per Share Amounts)	September 30, 2018 (Unaudited)	December 31, 2017 (Audited)
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>		
<b>Current liabilities:</b>		
Accounts payable	\$ 4,521	\$ 3,537
Accrued expenses	5,085	4,782
Disposal/transportation accrual	1,497	2,071
Deferred revenue	5,872	4,311
Accrued closure costs - current	1,039	2,791
Current portion of long-term debt	1,244	1,184
Current liabilities related to discontinued operations	940	905
<b>Total current liabilities</b>	<b>20,198</b>	<b>19,581</b>
Accrued closure costs	5,635	5,604
Other long-term liabilities	207	1,191
Deferred tax liabilities	350	1,694
Long-term debt, less current portion	3,179	2,663
Long-term liabilities related to discontinued operations	354	359
<b>Total long-term liabilities</b>	<b>9,725</b>	<b>11,511</b>
<b>Total liabilities</b>	<b>29,923</b>	<b>31,092</b>
<b>Commitments and Contingencies (Note 9)</b>		
Series B Preferred Stock of subsidiary, \$0 par value; 1,467,396 shares authorized; 0 and 1,284,730 shares issued, respectively; 0 and 1,284,730 shares outstanding, respectively; liquidation value of \$1.00 per share plus accrued and unpaid dividends of \$0 and \$995, respectively (Note 13)	—	1,285
<b>Stockholders' Equity:</b>		
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; 11,930,247 and 11,738,623 shares issued, respectively; 11,922,605 and 11,730,981 shares outstanding, respectively	12	12
Additional paid-in capital	107,435	106,417
Accumulated deficit	(77,245)	(77,893)
Accumulated other comprehensive loss	(151)	(112)
Less Common Stock in treasury, at cost; 7,642 shares	(88)	(88)
<b>Total Perma-Fix Environmental Services, Inc. stockholders' equity</b>	<b>29,963</b>	<b>28,336</b>
Non-controlling interest	(1,277)	(1,175)
<b>Total stockholders' equity</b>	<b>28,686</b>	<b>27,161</b>
<b>Total liabilities and stockholders' equity</b>	<b>\$ 58,609</b>	<b>\$ 59,538</b>

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

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

(Amounts in Thousands, Except for Per Share Amounts)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Net revenues	\$ 11,984	\$ 11,758	\$ 37,801	\$ 37,179
Cost of goods sold	10,159	10,013	30,612	30,362
Gross profit	1,825	1,745	7,189	6,817
Selling, general and administrative expenses	2,640	2,653	8,061	8,337
Research and development	229	293	680	1,300
Gain on disposal of property and equipment	(9)	—	(34)	(1)
Impairment loss on tangible assets	—	672	—	672
Loss from operations	(1,035)	(1,873)	(1,518)	(3,491)
Other income (expense):				
Interest income	82	34	212	105
Interest expense	(62)	(59)	(177)	(249)
Interest expense-financing fees	(10)	(9)	(27)	(27)
Net gain on exchange offer of Series B Preferred Stock of subsidiary (Note 13)	—	—	1,596	—
Other	—	1	—	2
(Loss) income from continuing operations before taxes	(1,025)	(1,906)	86	(3,660)
Income tax (benefit) expense	(1,342)	71	(1,272)	218
Income (loss) from continuing operations, net of taxes	317	(1,977)	1,358	(3,878)
Loss from discontinued operations, net of taxes of \$0	(131)	(145)	(495)	(436)
Net income (loss)	186	(2,122)	863	(4,314)
Net loss attributable to non-controlling interest	(35)	(78)	(102)	(374)
Net income (loss) attributable to Perma-Fix Environmental Services, Inc. common stockholders	<u>\$ 221</u>	<u>\$ (2,044)</u>	<u>\$ 965</u>	<u>\$ (3,940)</u>
Net income (loss) per common share attributable to Perma-Fix Environmental Services, Inc. stockholders - basic and diluted:				
Continuing operations	\$ .03	\$ (.16)	\$ .12	\$ (.30)
Discontinued operations	(.01)	(.01)	(.04)	(.04)
Net income (loss) per common share	<u>\$ .02</u>	<u>\$ (.17)</u>	<u>\$ .08</u>	<u>\$ (.34)</u>
Number of common shares used in computing net income (loss) per share:				
Basic	11,922	11,714	11,828	11,698
Diluted	12,027	11,714	11,909	11,698

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

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

(Amounts in Thousands)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Net income (loss)	\$ 186	\$ (2,122)	\$ 863	\$ (4,314)
Other comprehensive income (loss):				
Foreign currency translation adjustment	18	12	(39)	39
Comprehensive income (loss)	204	(2,110)	824	(4,275)
Comprehensive loss attributable to non-controlling interest	(35)	(78)	(102)	(374)
Comprehensive income (loss) attributable to Perma-Fix Environmental Services, Inc. stockholders	\$ 239	\$ (2,032)	\$ 926	\$ (3,901)

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

**PERMA-FIX ENVIRONMENTAL SERVICES, INC**  
**Consolidated Statement of Stockholders' Equity**  
**For the Nine Months Ended September 30, 2018**

(Amounts in thousands, except for share amounts)	Common Stock		Additional Paid-In Capital	Common Stock Held In Treasury	Accumulated Other Comprehensive Loss	Non- controlling Interest in Subsidiary	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount						
<b>Balance at December 31, 2017</b>	11,738,623	\$ 12	\$ 106,417	\$ (88)	\$ (112)	\$ (1,175)	\$ (77,893)	27,161
Adoption of accounting standards updates (Note 2)							(317)	(317)
Net (loss) income	—	—	—	—	—	(102)	965	863
Foreign currency translation adjustment	—	—	—	—	(39)	—	—	(39)
Issuance of Common Stock upon exercise of options	10,000	—	36	—	—	—	—	36
Issuance of Common Stock from exchange offer of Series B Preferred Stock of subsidiary (Note 13)	134,994	—	648	—	—	—	—	648
Issuance of Common Stock for services	46,630	—	191	—	—	—	—	191
Stock-Based Compensation	—	—	143	—	—	—	—	143
<b>Balance at September 30, 2018</b>	<u>11,930,247</u>	<u>\$ 12</u>	<u>\$ 107,435</u>	<u>\$ (88)</u>	<u>\$ (151)</u>	<u>\$ (1,277)</u>	<u>\$ (77,245)</u>	<u>28,686</u>

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

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

(Amounts in Thousands)	Nine Months Ended September 30,	
	2018	2017
<b>Cash flows from operating activities:</b>		
Net income (loss)	\$ 863	\$ (4,314)
Less: loss from discontinued operations, net of taxes of \$0	(495)	(436)
	1,358	(3,878)
Income (loss) from continuing operations, net of taxes		
Adjustments to reconcile income (loss) from continuing operations to cash provided by (used in) operating activities:		
Depreciation and amortization	1,095	3,394
Amortization of debt issuance costs	27	27
Deferred tax (benefit) expense	(1,344)	105
Provision for bad debt reserves	22	85
Gain on disposal of property and equipment	(34)	(1)
Gain on exchange offer of Series B Preferred Stock of subsidiary (Note 13)	(1,659)	—
Impairment loss on tangible assets	—	672
Issuance of common stock for services	191	161
Stock-based compensation	143	96
Changes in operating assets and liabilities of continuing operations		
Accounts receivable	(382)	41
Unbilled receivables	1,342	(1,554)
Prepaid expenses, inventories and other assets	1,272	293
Accounts payable, accrued expenses and unearned revenue	(983)	914
Cash provided by continuing operations	1,048	355
Cash used in discontinued operations	(468)	(464)
Cash provided by (used in) operating activities	580	(109)
<b>Cash flows from investing activities:</b>		
Purchases of property and equipment	(1,102)	(200)
Proceeds from sale of property and equipment	34	7
Cash used in investing activities of continuing operations	(1,068)	(193)
Cash provided by investing activities of discontinued operations	54	52
Cash used in investing activities	(1,014)	(141)
<b>Cash flows from financing activities:</b>		
Repayments of revolving credit borrowings	(40,906)	(34,979)
Borrowing on revolving credit	42,189	31,176
Proceeds from issuance of common stock upon exercise of options	36	—
Principal repayments of long term debt	(935)	(914)
Cash provided by (used in) financing activities of continuing operations	384	(4,717)
Effect of exchange rate changes on cash	(8)	14
Decrease in cash and finite risk sinking fund (restricted cash) (Note 2)	(58)	(4,953)
Cash and finite risk sinking fund (restricted cash) at beginning of period (Note 2)	16,739	21,650
Cash and finite risk sinking fund (restricted cash) at end of period (Note 2)	\$ 16,681	\$ 16,697
<b>Supplemental disclosure:</b>		
Interest paid	\$ 173	\$ 252
Income taxes paid	160	17
Equipment purchase subject to capital lease	213	—

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



**PERMA-FIX ENVIRONMENTAL SERVICES, INC.**  
**Notes to Consolidated Financial Statements**  
**September 30, 2018**  
**(Unaudited)**

Reference is made herein to the notes to consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2017.

**1. Basis of Presentation**

The consolidated financial statements included herein have been prepared by the Company (which may be referred to as we, us or our), without an audit, pursuant to the rules and regulations of the Securities and Exchange Commission (“the Commission”). Certain information and note disclosures normally included in financial statements prepared in accordance with accounting principles generally accepted in the United States of America (“U.S. GAAP”) have been omitted pursuant to such rules and regulations, although the Company believes the disclosures which are made are adequate to make the information presented not misleading. Further, the consolidated financial statements reflect, in the opinion of management, all adjustments (which include only normal recurring adjustments) necessary to present fairly the financial position and results of operations as of and for the periods indicated. The results of operations for the nine months ended September 30, 2018 are not necessarily indicative of results to be expected for the fiscal year ending December 31, 2018.

The Company suggests that these consolidated financial statements be read in conjunction with the consolidated financial statements and the notes thereto included in the Company’s Annual Report on Form 10-K for the year ended December 31, 2017.

**2. Summary of Significant Accounting Policies**

Our accounting policies are as set forth in the notes to the December 31, 2017 consolidated financial statements referred to above.

**Recently Adopted Accounting Standards**

In May 2014, the Financial Accounting Standards Board (“FASB”) issued Accounting Standards Update (“ASU”) No. 2014-09, “Revenue from Contracts with Customers” followed by a series of related accounting standard updates (collectively referred to as “Topic 606”), which superseded nearly all existing revenue recognition guidance. Topic 606 provides a single, comprehensive revenue recognition model for all contracts with customers. Under the new standard, a five-step process is utilized in order to determine revenue recognition, depicting the transfer of goods or services to a customer at an amount that reflects the consideration it expects to receive in exchange for those goods or services. Topic 606 also requires additional disclosure surrounding the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts, including significant judgments and changes in judgments and assets recognized from costs incurred to obtain or fulfill a contract. Topic 606 is effective for annual reporting periods beginning after December 15, 2017 (including interim reporting periods within those periods). The new standard permits two implementation approaches: the full retrospective method, in which case the standard would be applied to each prior reporting period presented and the cumulative effect of applying the standard would be recognized at the earliest period shown, or the modified retrospective method, in which case the cumulative effect of applying the standard would be recognized at the date of initial application. The Company adopted Topic 606 effective January 1, 2018 under the modified retrospective approach to all contracts as of date of adoption. The Company recognized the cumulative effect of initially adopting Topic 606 as an increase of approximately \$317,000 to the opening balance of accumulated deficit at January 1, 2018. The adoption of Topic 606 did not result in significant changes to our revenues within our Treatment and Services Segments. The cumulative impact to the opening balance of accumulated deficit at January 1, 2018 was primarily driven by changes to the timing of revenue recognition in certain immaterial waste streams within our Treatment Segment. See “Note 3 – Revenue” for additional disclosures related to our revenues under the new standard. The comparative previous period information continues to be reported under the accounting standards in effect for that period. We expect the impact of the adoption of Topic 606 to be immaterial to our consolidated financial statements on an on-going basis.

The cumulative effect of the changes made to our January 1, 2018 unaudited Consolidated Balance Sheet for the adoption of Topic 606 was as follows (in thousands):

	Balance at December 31, 2017	Adjustment Due to Topic 606	Opening balance at January 1, 2018
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>			
Current liabilities:			
Disposal/transportation accrual	\$ 2,071	\$ (455)	\$ 1,616
Deferred revenue	4,311	772	5,083
Stockholders' Equity:			
Accumulated deficit	\$ (77,893)	\$ (317)	\$ (78,210)

In accordance with Topic 606 requirements, the disclosure of the impact of adoption of Topic 606 on our unaudited Consolidated Balance Sheets, Consolidated Statement of Operations, and Consolidated Statement of Comprehensive Income was as follows (in thousands):

Consolidated Balance Sheet	September 30, 2018		
	As Reported	Balances Before Adoption of Topic 606	Effect of Change Higher/(Lower)
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>			
Current liabilities:			
Disposal/transportation accrual	\$ 1,497	\$ 1,935	\$ (438)
Deferred revenue	5,872	5,154	718
Stockholders' Equity:			
Accumulated deficit	\$ (77,245)	\$ (77,282)	\$ 37

Consolidated Statement of Operations	For the three months ended September 30, 2018		
	As Reported	Balances Before Adoption of Topic 606	Effect of Change Higher/(Lower)
Revenues	\$ 11,984	\$ 11,958	\$ 26
Cost of goods sold	10,159	10,163	(4)
Income from continuing operations, net of taxes	317	287	30
Net income attributable to Perma-Fix Services, Inc. common stockholders	221	191	30
Net income attributable to Perma-Fix Environmental Services, Inc. common stockholders - basic and diluted:			
Continuing operations	\$ .03	\$ .03	\$ —
Net income per common shares	\$ .02	\$ .02	\$ —

## Consolidated Statement of Operations

	For the nine months ended September 30, 2018		
	As Reported	Balances Before Adoption of Topic 606	Effect of Change Higher/(Lower)
Revenues	\$ 37,801	\$ 37,746	\$ 55
Cost of goods sold	30,612	30,594	18
Income from continuing operations, net of taxes	1,358	1,321	37
Net income attributable to Perma-Fix Services, Inc. common stockholders	965	928	37
Net income attributable to Perma-Fix Environmental Services, Inc. common stockholders - basic and diluted:			
Continuing operations	\$ .12	\$ .12	\$ —
Net income per common shares	\$ .08	\$ .08	\$ —

## Consolidated Statement of Comprehensive Income

	For the three months ended September 30, 2018		
	As Reported	Balances Before Adoption of Topic 606	Effect of Change Higher/(Lower)
Net income	\$ 186	\$ 156	\$ 30
Comprehensive income attributable to Perma-Fix Environmental Services, Inc. stockholders	239	209	30

## Consolidated Statement of Comprehensive Income

	For the nine months ended September 30, 2018		
	As Reported	Balances Before Adoption of Topic 606	Effect of Change Higher/(Lower)
Net income	\$ 863	\$ 826	\$ 37
Comprehensive income attributable to Perma-Fix Environmental Services, Inc. stockholders	926	889	37

In August 2016, the FASB issued ASU 2016-15, "Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments (a consensus of the Emerging Issues Task Force)," which aims to eliminate diversity in practice in how certain cash receipts and cash payments are presented and classified in the statement of cash flows under Topic 230, Statement of Cash Flows, and other Topics. Subsequently, in November 2016, the FASB issued ASU 2016-18, "Statement of Cash Flows (Topic 230), Restricted Cash, a consensus of the FASB Emerging Issues Task Force," which clarifies the guidance on the cash flow classification and presentation of changes in restricted cash or restricted cash equivalents. Although ASU 2016-18 does not provide a definition of restricted cash or restricted cash equivalents, it states that amounts generally described as restricted cash and restricted cash equivalents should be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flow. ASU 2016-15 and ASU 2016-18 are effective for annual reporting periods, and interim periods therein, beginning after December 15, 2017. The Company retrospectively adopted these ASUs effectively January 1, 2018 and has included finite risk sinking funds (included in other long term assets of the Company's Consolidated Statement of Balance Sheets) of \$15,888,000 and \$15,642,000 at September 30, 2018 and 2017, respectively, as well as previously reported cash, when reconciling the beginning-of- period and end-of-period cash and restricted cash on the accompanying Company's Consolidated Statements of Cash Flows. The Company's finite risk sinking funds represent cash held as collateral under the Company's financial assurance policy (see "Note 9 – Commitment and Contingencies – Insurance" for a discussion of the Company's finite risk sinking funds). The adoption of these ASUs by the Company effective January 1, 2018 did not have a material impact on the Company's financial position and results of operations.

In October 2016, the FASB issued ASU 2016-16, “Income Taxes (Topic 740): Intra-Entity Transfers of Assets Other Than Inventory,” which eliminates the existing exception in U.S. GAAP prohibiting the recognition of the income tax consequences for intra-entity asset transfers. Under ASU 2016-16, entities are required to recognize the income tax consequences of intra-entity asset transfers other than inventory when the transfer occurs. ASU 2016-16 is effective on a modified retrospective basis for fiscal years, and for interim periods within those fiscal years, beginning after December 15, 2017, with early adoption permitted. The adoption of ASU 2016-16 by the Company effective January 1, 2018 did not have a material impact on the Company’s financial position, results of operations, or cash flows.

In January 2017, the FASB issued ASU No. 2017-01, “Business Combinations (Topic 805) – Clarifying the Definition of a Business.” ASU 2017-01 clarifies the definition of a business with the objective of adding guidance to assist entities with evaluating whether transactions should be accounted for as acquisitions (or disposals) of assets or businesses. The definition of a business affects many areas of accounting including acquisition, disposals, goodwill and consolidation. This standard is effective for fiscal years beginning after December 15, 2017, including interim periods within that reporting period. The adoption of ASU 2017-01 by the Company effective January 1, 2018 did not have a material impact on the Company’s financial position, results of operations, or cash flows.

In May 2017, the FASB issued ASU 2017-09, “Compensation – Stock Compensation (Topic 718): Scope of Modification Accounting.” This ASU provides guidance about which changes to the terms or conditions of a share-based payment award require an entity to apply modification accounting in Topic 718. ASU 2017-09 is effective for fiscal years beginning after December 15, 2017 and interim periods within those fiscal years, and early adoption is permitted, including in an interim period. ASU 2017-09 is to be applied on a prospective basis to an award modified on or after the adoption date. The adoption of ASU 2017-01 by the Company effective January 1, 2018 did not have a material impact on the Company’s financial position, results of operations, or cash flows.

#### **Recently Issued Accounting Standards – Not Yet Adopted**

In February 2016, the FASB issued ASU No. 2016-02, “Leases (Topic 842).” Under ASU 2016-02, an entity will be required to recognize right-of-use assets and lease liabilities on its balance sheet and disclose key information about leasing arrangements. ASU 2016-02 offers specific accounting guidance for a lessee, a lessor and sale and leaseback transactions. Lessees and lessors are required to disclose qualitative and quantitative information about leasing arrangements to enable a user of the financial statements to assess the amount, timing and uncertainty of cash flows arising from leases. In July 2018, the FASB issued ASU 2018-10, “Codification Improvements to Topic 842 (Leases),” which provides narrow amendments to clarify how to apply certain aspects of the new lease standard. Also, in July 2018, the FASB issued ASU 2018-11, “Leases – (Topic 842): Targeted Improvements,” which provides an additional (and optional) transition method by allowing entities to initially apply the new leases standard at the adoption date and recognize a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption. For public companies, these standards are effective for fiscal years beginning after December 15, 2018, including interim periods within those annual periods, with early adoption permitted. These ASUs are effective January 1, 2019 for the Company. The Company is still evaluating the potential impact of adopting these standards on our financial statements.

In February 2018, FASB issued ASU 2018-02, “Income Statement—Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income.” This ASU allows for the reclassification of certain income tax effects related to the new Tax Cuts and Jobs Act legislation between “Accumulated other comprehensive income” and “Retained earnings.” This ASU relates to the requirement that adjustments to deferred tax liabilities and assets related to a change in tax laws or rates be included in “Income from continuing operations”, even in situations where the related items were originally recognized in “Other comprehensive income” (rather than in “Income from continuing operations”). ASU 2018-02 is effective for all entities for fiscal years beginning after December 15, 2018, and interim periods within those fiscal years, with early adoption permitted. Adoption of this ASU is to be applied either in the period of adoption or retrospectively to each period in which the effect of the change in the tax laws or rates were recognized. The Company does not expect that the adoption of ASU 2018-09 will have a material impact on the Company’s financial statements.

In June 2018, the FASB issued ASU No. 2018-07, “Compensation — Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting,” which expands the scope of Topic 718 to include all share-based payment transactions for acquiring goods and services from nonemployees. ASU 2018-07 specifies that Topic 718 applies to all share-based payment transactions in which the grantor acquires goods and services to be used or consumed in its own operations by issuing share-based payment awards. ASU 2018-07 also clarifies that Topic 718 does not apply to share-based payments used to effectively provide (1) financing to the issuer or (2) awards granted in conjunction with selling goods or services to customers as part of a contract accounted for under ASC 606. ASU 2018-07 is effective for annual reporting periods, and interim periods within those years, beginning after December 15, 2018, with early adoption permitted. The Company does not expect that the adoption of ASU 2018-09 will have a material impact on the Company’s financial statements.

In July 2018, the FASB issued ASU No. 2018-09, “Codification Improvements.” ASU 2018-09 provides amendments to a wide variety of topics in the FASB’s Accounting Standards Codification, which applies to all reporting entities within the scope of the affected accounting guidance. The transition and effective date guidance are based on the facts and circumstances of each amendment. Some of the amendments in ASU 2018-09 do not require transition guidance and were effective upon issuance of ASU 2018-09. However, many of the amendments in this ASU do have transition guidance with effective dates for annual periods beginning after December 15, 2018. The guidance applicable immediately did not have a material impact on the Company’s financial statements. The Company does not expect the remaining guidance under this ASU will have a material impact on the Company’s financial statements.

In August 2018, the FASB issued ASU 2018-13, “Fair Value Measurement (Topic 820): Disclosure Framework - Changes to the Disclosure Requirements for Fair Value Measurement.” ASU 2018-13 improves the disclosure requirements on fair value measurements. ASU 2018-13 is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2019. Early adoption is permitted for any removed or modified disclosures. The Company is currently assessing the impact that this standard will have on its financial statements.

### **3. Revenue**

The Company accounts for revenue in accordance with ASC Topic 606, which the Company adopted on January 1, 2018 using the modified retrospective method. The majority of our revenue is derived from short term contracts with an original expected length of one year or less.

#### **Performance Obligation**

A performance obligation is a promise in a contract to transfer a distinct good or service to the customer and is the unit of account in Topic 606. A contract’s transaction price is allocated to each distinct performance obligation and recognized as revenue as the performance obligation is satisfied.

#### *Treatment Segment Revenues:*

Contracts in our Treatment Segment have a single performance obligation as the promise to receive, treat and dispose of waste is not separately identifiable in the contract and, therefore, not distinct. Performance obligations are generally satisfied over time using the input method. Under the input method, the Company uses a measure of progress divided into major phases which include receipt, treatment/processing and shipment/final disposal. As major processing phases are completed and the costs are incurred, the proportional percentage of revenue is recognized. Transaction price for Treatment Segment contracts are determined by the stated fixed rate per unit price as stipulated in the contract.

### Services Segment Revenues:

Revenues for our Services Segment are generated from time and materials, cost reimbursement or fixed price arrangements:

The Company's primary obligation to customers in time and materials contracts relate to the provision of services to the customer at the direction of the customer. This provision of services at the request of the customer is the performance obligation, which is satisfied over time. Revenue earned from time and materials contracts is determined using the input method and is based on contractually defined billing rates applied to services performed and materials delivered.

The Company's primary performance obligation to customers in cost reimbursement contracts is to complete certain tasks and work streams. Each specified work stream or task within the contract is considered to be a separate performance obligation. The transaction price is calculated using an estimated cost to complete the various scope items to achieve the performance obligation as stipulated in the contract. An estimate is prepared for each individual scope item in the contract and the transaction price is allocated on a time and materials basis as services are provided. Revenue from cost reimbursement contracts is recognized over time using the input method based on costs incurred, plus a proportionate amount of fee earned.

Under fixed price contracts, the objective of the project is not attained unless all scope items within the contract are completed and all of the services promised within fixed fee contracts constitute a single performance obligation. Transaction price is estimated based upon the estimated cost to complete the overall project. Revenue from fixed price contracts is recognized over time using the output method based on the percentage of project completion multiplied by the total fee as a measure of progress.

The nature of our contracts does not give rise to variable consideration.

### Significant Payment Terms

Invoicing is based on schedules established in customer contracts. Payment terms vary by customers but are generally established at 30 days from invoicing.

### 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 following tables present further disaggregation of our revenues by different categories for our Services and Treatment Segments:

#### Revenue by Contract Type (In thousands)

	Three Months Ended			Three Months Ended		
	September 30, 2018			September 30, 2017		
	Treatment	Services	Total	Treatment	Services	Total
Fixed price	\$ 9,103	\$ 304	\$ 9,407	\$ 9,355	\$ 383	\$ 9,738
Cost reimbursement	—	—	—	—	—	—
Time and materials	—	2,577	2,577	—	2,020	2,020
Total	\$ 9,103	\$ 2,881	\$ 11,984	\$ 9,355	\$ 2,403	\$ 11,758

#### Revenue by Contract Type (In thousands)

	Nine Months Ended			Nine Months Ended		
	September 30, 2018			September 30, 2017		
	Treatment	Services	Total	Treatment	Services	Total
Fixed price	\$ 27,207	\$ 1,040	\$ 28,247	\$ 29,019	\$ 623	\$ 29,642
Cost reimbursement	—	—	—	—	—	—
Time and materials	—	9,554	9,554	—	7,537	7,537
Total	\$ 27,207	\$ 10,594	\$ 37,801	\$ 29,019	\$ 8,160	\$ 37,179

Revenue by generator  
(In thousands)

	Three Months Ended			Three Months Ended		
	September 30, 2018			September 30, 2017		
	Treatment	Services	Total	Treatment	Services	Total
Domestic government	\$ 6,552	\$ 1,848	\$ 8,400	\$ 7,170	\$ 1,376	\$ 8,546
Domestic commercial	2,437	718	3,155	2,185	523	2,708
Foreign government	114	294	408	—	483	483
Foreign commercial	—	21	21	—	21	21
<b>Total</b>	<b>\$ 9,103</b>	<b>\$ 2,881</b>	<b>\$ 11,984</b>	<b>\$ 9,355</b>	<b>\$ 2,403</b>	<b>\$ 11,758</b>

Revenue by generator  
(In thousands)

	Nine Months Ended			Nine Months Ended		
	September 30, 2018			September 30, 2017		
	Treatment	Services	Total	Treatment	Services	Total
Domestic government	\$ 19,098	\$ 8,231	\$ 27,329	\$ 21,764	\$ 5,919	\$ 27,683
Domestic commercial	7,995	1,661	9,656	7,255	1,417	8,672
Foreign government	114	632	746	—	762	762
Foreign commercial	—	70	70	—	62	62
<b>Total</b>	<b>\$ 27,207</b>	<b>\$ 10,594</b>	<b>\$ 37,801</b>	<b>\$ 29,019</b>	<b>\$ 8,160</b>	<b>\$ 37,179</b>

### Contract Balances

The timing of revenue recognition, billings, and cash collections results in accounts receivable and unbilled receivables (contract assets). The Company's contract liabilities consist of deferred revenues which represents advance 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:

(In thousands)	September 30, 2018	January 1, 2018	Year-to-date Change (\$)	Year-to-date Change (%)
<b>Contract assets</b>				
Account receivables, net of allowance	\$ 8,300	\$ 7,940	\$ 360	4.5%
Unbilled receivables - current	3,389	4,547	(1,158)	(25.5)%
Unbilled receivables - non-current	—	184	(184)	(100.0)%
<b>Contract liabilities</b>				
Deferred revenue	\$ 5,872	\$ 5,083	\$ 789	15.5%

The net decrease in our contract assets was primarily due to timing of our invoicing and accounts receivable collections. The Company provides various payment terms to our customers; therefore, our accounts receivable are impacted by these terms and the related timing of accounts receivable collections.

During the three and nine months ended September 30, 2018, the Company recognized revenue of \$1,032,000 and \$6,605,000, respectively, which was included in the deferred revenue balance at the beginning of the year. During the three and nine months ended September 30, 2017, the Company recognized revenue of \$389,000 and \$4,735,000, respectively, which was included in the deferred revenue balance at the beginning of the year. All revenue recognized in each period related to performance obligations satisfied within the respective period.

### Incremental Costs to Obtain a Contract

Costs incurred to obtain contracts with our customers are immaterial and as a result, the Company expenses (within selling, general and administration expenses ("SG&A")) incremental costs incurred in obtaining contracts with our customer as incurred.

### Remaining Performance Obligations

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

The Company applies the transition practical expedient in paragraph 606-10-65-1(f)(3) and does not disclose the amount of the transaction price allocated to the remaining performance obligations or an explanation of when the Company expects to recognize that amount as revenue for periods prior to the adoption of Topic 606.

#### 4. Intangible Assets

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

	Useful Lives (Years)	September 30, 2018			December 31, 2017		
		Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
<u>Intangibles (amount in thousands)</u>							
Patent	1-17	\$ 710	\$ (330)	\$ 380	\$ 657	\$ (306)	\$ 351
Software	3	410	(403)	7	410	(398)	12
Customer relationships	12	3,370	(2,430)	940	3,370	(2,246)	1,124
Permit	10	545	(523)	22	545	(483)	62
<b>Total</b>		<b>\$ 5,035</b>	<b>\$ (3,686)</b>	<b>\$ 1,349</b>	<b>\$ 4,982</b>	<b>\$ (3,433)</b>	<b>\$ 1,549</b>

The intangible assets noted above are amortized on a straight-line basis over their estimated useful lives with the exception of customer relationships which are being amortized using an accelerated method. The Company has only one definite-lived permit that is subject to amortization.

The following table summarizes the expected amortization over the next five years for our definite-lived intangible assets (including the one definite-lived permit):

Year	Amount (In thousands)
2018 (remaining)	\$ 84
2019	256
2020	220
2121	199
2022	173

Amortization expense relating to the definite-lived intangible assets as discussed above was \$84,000 and \$253,000 for the three and nine months ended September 30, 2018, respectively, and \$93,000 and \$281,000 for the three and nine months ended September 30, 2017, respectively.

#### 5. Capital Stock, Stock Plans and Stock-Based Compensation

The Company has certain stock option plans under which it awards incentive stock options ("ISOs") and non-qualified stock options ("NQSOs") to employees, officers, and outside directors.

On January 18, 2018, the Company granted 6,000 NQSOs from the Company's 2003 Outside Directors Stock Plan ("2003 Plan") to a new director elected by the Company's Board of Directors ("Board") to fill a vacancy on the Board. The options granted were for a contractual term of ten years with a vesting period of six months. The exercise price of the options was \$4.05 per share, which was equal to our closing stock price the day preceding the grant date, pursuant to the 2003 Plan.

On July 26, 2018, the Company granted an aggregate of 12,000 NQSOs from the Company's 2003 Plan to five of the six re-elected directors at the Annual Meeting. Dr. Louis F. Centofanti (a Board member) was not eligible to receive options under the 2003 Plan as an employee of the Company, pursuant to the 2003 Plan. The NQSOs granted were for a contractual term of ten years with a vesting period of six months. The exercise price of the NQSO was \$4.30 per share, which was equal to our closing stock price the day preceding the grant date, pursuant to the 2003 Plan.



On January 13, 2017, the Company granted 6,000 NQSOs from the Company's 2003 Plan to a new director elected by the Company's Board to fill a vacancy on the Board. The options granted were for a contractual term of ten years with a vesting period of six months. The exercise price of the options was \$3.79 per share, which was equal to our closing stock price the day preceding the grant date, pursuant to the 2003 Plan.

On July 27, 2017, the Company granted an aggregate of 12,000 NQSOs from the Company's 2003 Plan to five of the six re-elected directors at the Annual Meeting. Dr. Louis F. Centofanti (a Board member) was not eligible to receive options under the 2003 Plan as an employee of the Company, pursuant to the 2003 Plan. The NQSOs granted were for a contractual term of ten years with a vesting period of six months. The exercise price of the NQSO was \$3.55 per share, which was equal to our closing stock price the day preceding the grant date, pursuant to the 2003 Plan.

On July 27, 2017, the Company granted an aggregate of 200,000 ISOs from the 2017 Stock Option Plan ("2017 Plan") to the Company's named executive officers. The ISOs granted were for a contractual term of six years with one-fifth yearly vesting over a five year period. The exercise price of the ISO was \$3.65 per share, which was equal to the fair market value of the Company's common stock on the date of grant.

The Company estimates fair value of stock options using the Black-Scholes valuation model. Assumptions used to estimate the fair value of stock options granted include the exercise price of the award, the expected term, the expected volatility of the Company's stock over the option's expected term, the risk-free interest rate over the option's expected term, and the expected annual dividend yield. The fair value of the options granted as discussed above and the related assumptions used in the Black-Scholes option model used to value the options granted were as follows:

	<u>Employee Stock Option Granted</u>			
	<u>July 27, 2017</u>			
Weighted-average fair value per share	\$			1.88
Risk -free interest rate <sup>(1)</sup>				1.98%
Expected volatility of stock <sup>(2)</sup>				53.15%
Dividend yield				None
Expected option life <sup>(3)</sup>				6.0 years

  

	<u>Outside Director Stock Options Granted</u>			
	<u>January 18, 2018</u>	<u>July 26, 2018</u>	<u>January 13, 2017</u>	<u>July 27, 2017</u>
Weighted-average fair value per share	\$ 2.55	3.02	\$ 2.63	\$ 2.48
Risk -free interest rate <sup>(1)</sup>	2.62%	2.98%	2.40%	2.32%
Expected volatility of stock <sup>(2)</sup>	57.29%	55.34%	56.32%	57.21%
Dividend yield	None	None	None	None
Expected option life <sup>(3)</sup>	10.0 years	10.0 years	10.0 years	10.0 years

(1) The risk-free interest rate is based on the U.S. Treasury yield in effect at the grant date over the expected term of the option.

(2) The expected volatility is based on historical volatility from our traded Common Stock over the expected term of the option.

(3) The expected option life is based on historical exercises and post-vesting data.

The following table summarizes stock-based compensation recognized for the three and nine months ended September 30, 2018 and 2017 for our employee and director stock options.

Stock Options	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Employee Stock Options	\$ 37,000	\$ 22,000	\$ 110,000	\$ 43,000
Director Stock Options	15,000	12,000	33,000	32,000
Total	<u>\$ 52,000</u>	<u>\$ 34,000</u>	<u>\$ 143,000</u>	<u>\$ 75,000</u>

At September 30, 2018, the Company has approximately \$487,000 of total unrecognized compensation cost related to unvested options, of which \$55,000 is expected to be recognized in remaining 2018, \$130,000 in 2019, \$114,000 in 2020, \$114,000 in 2021, with the remaining \$74,000 in 2022.

The summary of the Company's total Stock Option Plans as of September 30, 2018 and September 30, 2017, and changes during the periods then ended, are presented below. The Company's Plans consist of the 2017 Stock Plan and the 2003 Plan:

	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (years)	Aggregate Intrinsic Value (2)
Options outstanding January 1, 2018	624,800	\$ 4.42		
Granted	18,000	4.22		
Exercised	(10,000)	3.65		
Forfeited/expired	(16,800)	11.70		
Options outstanding end of period <sup>(1)</sup>	<u>616,000</u>	\$ 4.23	5.0	\$ 279,630
Options exercisable at September 30, 2018 <sup>(1)</sup>	<u>227,333</u>	\$ 5.17	4.6	\$ 72,296
Options exercisable and expected to be vested at September 30, 2018	<u>616,000</u>	\$ 4.23	5.0	\$ 279,630

	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (years)	Aggregate Intrinsic Value (2)
Options outstanding January 1, 2017	247,200	\$ 6.69		
Granted	318,000	3.65		
Exercised	—	—		
Forfeited/expired	(50,400)	8.95		
Options outstanding end of period <sup>(1)</sup>	<u>514,800</u>	\$ 4.59	5.7	\$ 65,490
Options exercisable at September 30, 2017 <sup>(1)</sup>	<u>169,467</u>	\$ 6.45	4.8	\$ 17,490
Options exercisable and expected to be vested at September 30, 2017	<u>514,800</u>	\$ 4.59	5.7	\$ 65,490

(1) Options with exercise prices ranging from \$2.79 to \$13.35

(2) 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, 2018, the Company issued a total of 46,630 shares of its Common Stock under the 2003 Plan to its outside directors as compensation for serving on our Board. The Company has recorded approximately \$191,000 in compensation expense for the nine months ended September 30, 2018 (included in SG&A) in connection with the issuance of shares of its common stock to outside directors.

On May 1, 2018, Robert Ferguson exercised an option related to the Company's 2017 Plan for the purchase of 10,000 shares of the Company's Common Stock at \$3.65 per share, resulting in total proceeds received by the Company in the amount of \$36,500. Robert Ferguson is a consultant to the Company in connection with the Company's Test Bed Initiative ("TBI") at its Perma-Fix Northwest Richland, Inc. facility and is also an advisor to the Company's Board of Directors. The option exercised by Robert Ferguson was granted to him on July 27, 2017 in connection with his consulting work for the TBI.

## 6. 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 (loss) 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)	
	2018	2017	2018	2017
Net income (loss) attributable to Perma-Fix Environmental Services, Inc., common stockholders:				
Income (loss) from continuing operations, net of taxes	\$ 317	(1,977)	1,358	(3,878)
Net loss attributable to non-controlling interest	(35)	(78)	(102)	(374)
Income (loss) from continuing operations attributable to Perma-Fix Environmental Services, Inc. common stockholders	\$ 352	\$ (1,899)	\$ 1,460	\$ (3,504)
Loss from discontinuing operations attributable to Perma-Fix Environmental Services, Inc. common stockholders	(131)	(145)	(495)	(436)
Net income (loss) attributable to Perma-Fix Environmental Services, Inc. common stockholders	<u>\$ 221</u>	<u>\$ (2,044)</u>	<u>\$ 965</u>	<u>\$ (3,940)</u>
Basic income (loss) per share attributable to Perma-Fix Environmental Services, Inc. common stockholders	<u>\$ .02</u>	<u>\$ (.17)</u>	<u>\$ .08</u>	<u>\$ (.34)</u>
Diluted income (loss) per share attributable to Perma-Fix Environmental Services, Inc. common stockholders	<u>\$ .02</u>	<u>\$ (.17)</u>	<u>\$ .08</u>	<u>\$ (.34)</u>
Weighted average shares outstanding:				
Basic weighted average shares outstanding	11,922	11,714	11,828	11,698
Add: dilutive effect of stock options	105	—	81	—
Add: dilutive effect of warrants	—	—	—	—
Diluted weighted average shares outstanding	<u>12,027</u>	<u>11,714</u>	<u>11,909</u>	<u>11,698</u>
Potential shares excluded from above weighted average share calculations due to their anti-dilutive effect include:				
Stock options	83	185	83	497

## 7. Long Term Debt

Long-term debt consists of the following at September 30, 2018 and December 31, 2017:

(Amounts in Thousands)	September 30, 2018	December 31, 2017
<b>Revolving Credit</b> facility dated October 31, 2011, as amended, borrowings based upon eligible accounts receivable, subject to monthly borrowing base calculation, balance due March 24, 2021. Effective interest rate for the first nine months of 2018 was 5.5% <sup>(1)</sup>	\$ 1,283	\$ —
<b>Term Loan</b> dated October 31, 2011, as amended, payable in equal monthly installments of principal of \$102, balance due on March 24, 2021. Effective interest rate for the first nine months of 2018 was 5.4%. <sup>(1)</sup>	2,959 <sup>(2)</sup>	3,847 <sup>(2)</sup>
<b>Capital Lease</b> <sup>(3)</sup>	181	—
Total debt	4,423	3,847
Less current portion of long-term debt	1,244	1,184
Long-term debt	<u>\$ 3,179</u>	<u>\$ 2,663</u>

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

<sup>(2)</sup> Net of debt issuance costs of (\$88,000) and (\$115,000) at September 30, 2018 and December 31, 2017, respectively.

<sup>(3)</sup> One capital lease payable through December 2020, interest at rate of 11.9%.

### Revolving Credit and Term Loan Agreement

The Company entered into an Amended and Restated Revolving Credit, Term Loan and Security Agreement, dated October 31, 2011 (“Amended Loan Agreement”), with PNC National Association (“PNC”), acting as agent and lender. The Amended Loan Agreement has been amended from time to time since the execution of the Amended Loan Agreement. The Amended Loan Agreement, as subsequently amended (“Revised Loan Agreement”), provides the Company with the following credit facility with a maturity date of March 24, 2021: (a) up to \$12,000,000 revolving credit (“revolving credit”) and (b) a term loan (“term loan”) of approximately \$6,100,000, which requires monthly installments of approximately \$101,600 (based on a seven-year amortization). The maximum that we can borrow under the revolving credit is based on a percentage of eligible receivables (as defined) at any one time reduced by outstanding standby letters of credit and borrowing reductions that our lender may impose from time to time.

Under the Revised Loan Agreement, we have the option of paying an annual rate of interest due on the revolving credit at prime (5.25% at September 30, 2018) plus 2% or London Inter Bank Offer Rate (“LIBOR”) plus 3% and the term loan at prime plus 2.5% or LIBOR plus 3.5%.

Pursuant to the Revised Loan Agreement, the Company may terminate the Revised Loan Agreement, upon 90 days’ prior written notice upon payment in full of its obligations under the Revised Loan Agreement. The Company agreed to pay PNC 1.0% of the total financing had the Company paid off its obligations on or before March 23, 2017, .50% of the total financing had the Company paid off its obligations after March 23, 2017 but prior to or on March 23, 2018, and .25% of the total financing if the Company pays off its obligations after March 23, 2018 but prior to or on March 23, 2019. No early termination fee shall apply if the Company pays off its obligations after March 23, 2019.

At September 30, 2018, the borrowing availability under our revolving credit was approximately \$2,524,000, based on our eligible receivables and includes an indefinite reduction of borrowing availability of \$1,000,000 that the Company’s lender has imposed. The Company’s borrowing availability under our revolving credit was also reduced by outstanding standby letters of credit totaling approximately \$2,660,000. Previously, the Company’s lender had imposed an indefinite reduction of borrowing availability of \$2,000,000; however, on July 26, 2018, the Company entered into an amendment to our Revised Loan Agreement with our lender which provided, among other things, for the release of \$1,000,000 of the \$2,000,000 reduction in borrowing availability by our lender. The release of this \$1,000,000 in borrowing availability reduction is to be used by the Company for working capital purposes. Most of the other terms of the Revised Loan Agreement remain principally unchanged.

The Company's credit facility 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 met its quarterly financial covenants in the first, second, and third quarters of 2018 and expects to meet its quarterly financial covenants in each of the remaining quarters of 2018 and 2019.

#### **8. East Tennessee Materials and Energy Corporation ("M&EC")**

The Company continues its plan to close its M&EC facility. Operations at the M&EC facility are limited to the decommissioning and deconstruction of leased premises and related improvements, and equipment removal. The Company continues to transition operational capabilities to our other Treatment Segment facilities, subject to customer requirements and regulatory approvals. The Company continues with closure and decommissioning activities in accordance with M&EC's license and permit requirements and currently expects to complete on-site M&EC facility closure activities on or before December 31, 2018.

At September 30, 2018, total accrued closure liabilities for our M&EC subsidiary totaled approximately \$1,039,000 which are recorded as current liabilities. During the second quarter and third quarter of 2018, the Company recorded an additional \$1,215,000 and \$1,093,000, respectively, in closure costs and current closure liabilities due to changes in estimated future closure costs. The following reflects changes to the closure liabilities for the M&EC facility from year end 2017:

<u>Amounts in thousands</u>	
Balance as of December 31, 2017	\$ 2,791
Accretion expense	19
Adjustment to closure liabilities	2,308
Payments	(4,079)
Balance as of September 30, 2018	<u>\$ 1,039</u>

Revenues for the M&EC subsidiary were \$23,000 and \$155,000 for the three and nine months ended September 30, 2018, respectively, and \$578,000 and \$5,650,000 for the corresponding periods of 2017, respectively.

#### **9. Commitments and Contingencies**

##### **Hazardous Waste**

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

##### **Legal Matters**

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

## **Insurance**

The Company has a 25-year finite risk insurance policy entered into in June 2003 with American International Group, Inc. (“AIG”), which provides financial assurance to the applicable states for our permitted facilities in the event of unforeseen closure. The policy, as amended, provides for a maximum allowable coverage of \$39,000,000 and has available capacity to allow for annual inflation and other performance and surety bond requirements. At September 30, 2018, our financial assurance coverage amount under this policy totaled approximately \$29,911,000. The Company has recorded \$15,888,000 and \$15,676,000 in sinking funds related to this policy in other long term assets on the accompanying Consolidated Balance Sheets at September 30, 2018 and December 31, 2017, respectively, which includes interest earned of \$1,417,000 and \$1,205,000 on the sinking funds as of September 30, 2018 and December 31, 2017, respectively. Interest income for the three and nine months ended September 30, 2018 was approximately \$82,000 and \$212,000, respectively. Interest income for the three and nine month periods ended September 30, 2017, was approximately \$35,000 and \$96,000, respectively. If the Company so elects, AIG is obligated to pay us an amount equal to 100% of the sinking fund account balance in return for complete release of liability from both us and any applicable regulatory agency using this policy as an instrument to comply with financial assurance requirements.

## **Letter of Credits and Bonding Requirements**

From time to time, the Company is required to post standby letters of credit and various bonds to support contractual obligations to customers and other obligations, including facility closures. At September 30, 2018, the total amount of standby letters of credit outstanding totaled approximately \$2,660,000 and the total amount of bonds outstanding totaled approximately \$11,081,000.

## **10. Discontinued Operations**

The Company’s discontinued operations consist of all our subsidiaries included in our Industrial Segment: (1) subsidiaries divested in 2011 and prior, (2) two previously closed locations, and (3) our Perma-fix of South Georgia, Inc. (“PFSG”) facility, which is currently in the process of undergoing closure, subject to regulatory approval of necessary plans and permits.

The Company’s discontinued operations had losses of \$131,000 and \$145,000 for the three months ended September 30, 2018 and 2017, respectively (net of taxes of \$0 for each period) and losses of \$495,000 and \$436,000 for the nine months ended September 30, 2018 and 2017, respectively (net of taxes of \$0 for each period). The net loss for the six months ended September 30, 2018 included an increase of approximately \$50,000 in remediation reserve recorded in the second quarter of 2018 for our Perma-Fix of Dayton (“PFD”) subsidiary due to reassessment of the remediation reserve. The remaining losses for each of the periods noted above were primarily due to costs incurred in the administration and continued monitoring of our discontinued operations. The Company’s discontinued operations had no revenues for each of the periods noted above.

The following table presents the major class of assets of discontinued operations at September 30, 2018 and December 31, 2017.

(Amounts in Thousands)	September 30, 2018	December 31, 2017
<b>Current assets</b>		
Other assets	\$ 95	\$ 89
Total current assets	95	89
<b>Long-term assets</b>		
Property, plant and equipment, net <sup>(1)</sup>	81	81
Other assets	138	195
Total long-term assets	219	276
<b>Total assets</b>	<b>\$ 314</b>	<b>\$ 365</b>
<b>Current liabilities</b>		
Accounts payable	\$ 14	\$ 8
Accrued expenses and other liabilities	268	265
Environmental liabilities	658	632
Total current liabilities	940	905
<b>Long-term liabilities</b>		
Closure liabilities	125	120
Environmental liabilities	229	239
Total long-term liabilities	354	359
<b>Total liabilities</b>	<b>\$ 1,294</b>	<b>\$ 1,264</b>

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

The Company's discontinued operations include a note receivable in the amount of approximately \$375,000 recorded in May 2016 resulting from the sale of property at our Perma-Fix of Michigan, Inc. subsidiary. This note requires 60 equal monthly installment payments by the buyer of approximately \$7,250 (which includes interest). At September 30, 2018, the outstanding amount on this note receivable totaled approximately \$214,000, of which approximately \$76,000 is included in "Current assets related to discontinued operations" and approximately \$138,000 is included in "Other assets related to discontinued operations" in the accompanying Consolidated Balance Sheets.

## 11. Operating Segments

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

Our reporting segments are defined as below:

TREATMENT SEGMENT, which includes:

- nuclear, low-level radioactive, mixed waste (containing both hazardous and low-level radioactive constituents), hazardous and non-hazardous waste treatment, processing and disposal services primarily through three 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, 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.

MEDICAL SEGMENT reporting includes: R&D costs for the new medical isotope production technology from our majority-owned Polish subsidiary, PF Medical. The Medical Segment has not generated any revenue as it continues to be primarily in the R&D stage. All costs incurred for the Medical Segment are reflected within R&D in the accompanying Consolidated Statements of Operations. As previously disclosed, during 2016, the Medical Segment ceased a substantial portion of its R&D activities for the medical isotope production technology due to the need for substantial capital to fund such activities. The Company does not anticipate that the Medical Segment will restart such activities until it obtains such funding.

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, 2018 and 2017 (in thousands).



### Segment Reporting for the Quarter Ended September 30, 2018

	Treatment	Services	Medical	Segments Total	Corporate <sup>(1)</sup>	Consolidated Total
Revenue from external customers	\$ 9,103	\$ 2,881	—	\$ 11,984	\$ —	\$ 11,984
Intercompany revenues	174	16	—	190	—	—
Gross profit	1,564	261	—	1,825	—	1,825
Research and development	126	—	88	214	15	229
Interest income	—	—	—	—	82	82
Interest expense	(8)	(1)	—	(9)	(53)	(62)
Interest expense-financing fees	—	—	—	—	(10)	(10)
Depreciation and amortization	234	122	—	356	8	364
Segment income (loss) before income taxes	506	(224)	(88)	194	(1,219)	(1,025)
Income tax (benefit) expense	(1,342) <sup>(4)</sup>	—	—	(1,342)	—	(1,342)
Segment income (loss)	1,848	(224)	(88)	1,536	(1,219)	317
Expenditures for segment assets	525	22	—	547	1	548

### Segment Reporting for the Quarter Ended September 30, 2017

	Treatment	Services	Medical	Segments Total	Corporate <sup>(1)</sup>	Consolidated Total
Revenue from external customers	\$ 9,355	\$ 2,403	—	\$ 11,758	\$ —	\$ 11,758
Intercompany revenues	77	10	—	87	—	—
Gross profit	1,613	132	—	1,745	—	1,745
Research and development	96	—	197	293	—	293
Interest income	—	—	—	—	34	34
Interest expense	(1)	(1)	—	(2)	(57)	(59)
Interest expense-financing fees	—	—	—	—	(9)	(9)
Depreciation and amortization	964	134	—	1,098	9	1,107
Segment income (loss) before income taxes	40 <sup>(2)</sup>	(478)	(197)	(635)	(1,271)	(1,906)
Income tax expense	70	—	—	70	1	71
Segment (loss) income	(30)	(478)	(197)	(705)	(1,272)	(1,977)
Expenditures for segment assets	81	3	—	84	—	84

### Segment Reporting for the Nine Months Ended September 30, 2018

	Treatment	Services	Medical	Segments Total	Corporate <sup>(1)</sup>	Consolidated Total
Revenue from external customers	\$ 27,207	\$ 10,594	—	\$ 37,801	\$ —	\$ 37,801
Intercompany revenues	463	55	—	518	—	—
Gross profit	5,867	1,322	—	7,189	—	7,189
Research and development	355	—	259	614	66	680
Interest income	—	—	—	—	212	212
Interest expense	(16)	(2)	—	(18)	(159)	(177)
Interest expense-financing fees	—	—	—	—	(27)	(27)
Depreciation and amortization	702	367	—	1,069	26	1,095
Segment income (loss) before income taxes	4,279 <sup>(3)</sup>	(194)	(259)	3,826	(3,740)	86
Income tax (benefit) expense	(1,277) <sup>(4)</sup>	—	—	(1,277)	5	(1,272)
Segment income (loss)	5,556	(194)	(259)	5,103	(3,745)	1,358
Expenditures for segment assets	1,016	82	—	1,098	4	1,102

### Segment Reporting for the Nine Months Ended September 30, 2017

	Treatment	Services	Medical	Segments Total	Corporate <sup>(1)</sup>	Consolidated Total
Revenue from external customers	\$ 29,019	\$ 8,160	—	\$ 37,179	\$ —	\$ 37,179
Intercompany revenues	191	21	—	212	—	—
Gross profit	6,474	343	—	6,817	—	6,817
Research and development	339	—	947	1,286	14	1,300
Interest income	—	—	—	—	105	105
Interest expense	(27)	(2)	—	(29)	(220)	(249)
Interest expense-financing fees	—	—	—	—	(27)	(27)
Depreciation and amortization	2,960	405	—	3,365	29	3,394
Segment income (loss) before income taxes	2,880 <sup>(2)</sup>	(1,738)	(947)	195	(3,855)	(3,660)
Income tax expense	215	—	—	215	3	218
Segment income (loss)	2,665	(1,738)	(947)	(20)	(3,858)	(3,878)
Expenditures for segment assets	188	12	—	200	—	200

- (1) Amounts reflect the activity for corporate headquarters not included in the segment information.
- (2) Amounts include tangible asset impairment loss of \$672,000 for the Company's M&EC subsidiary.
- (3) Amounts included a net gain of \$1,596,000 recorded resulting from the exchange offer of the Series B Preferred Stock of our M&EC subsidiary (see "Note 13 – M&EC Series B Preferred Stock" below).
- (4) Amounts included a tax benefit recorded in the amount of approximately \$1,380,000 during the third quarter. (see "Note 12 – Income Taxes" below).

## **12. Income Taxes**

In December 2017, the Tax Cuts and Jobs Act of 2017 (the "TCJA") was signed into law making significant changes to the Internal Revenue Code. Changes include, but are not limited to, a federal corporate tax rate decrease from 35% to 21% for tax years beginning after December 31, 2017, the transition of U.S international taxation from a worldwide tax system to a territorial system, the elimination of alternative minimum tax ("AMT") for corporations and a one-time transition tax on the mandatory deemed repatriation of foreign earnings.

Due to the timing of the new tax law and the substantial changes it brings, the Commission issued Staff Accounting Bulletin No. 118 ("SAB 118"), which provides registrants a measurement period to report the impact of the new US tax law. During the measurement period, provisional amounts for the effects of the law are recorded to the extent a reasonable estimate can be made. To the extent that all information necessary is not available, prepared or analyzed, companies may recognize provisional estimated amounts for a period of up to one year following enactment of the TCJA. As permitted by SAB 118, the Company recognized a tax benefit in the fourth quarter of 2017 specific to the enactment of the TCJA. The benefit of approximately \$1,695,000 recorded at the fourth quarter of 2017 related to the remeasurement of deferred taxes and the refundability of AMT credit carryforwards.

An additional provision of the TCJA was to provide an indefinite carryforward period for net operating losses ("NOLs") generated starting in 2018. Also, the law limits the utilization of these NOLs to 80% of taxable income in the year in which the NOL is utilized. The Company has been carrying on its balance sheet a deferred tax liability related to indefinite-lived intangible assets. A common accounting interpretation of the new TCJA provisions is that deferred tax assets related to indefinite-lived NOLs may now be used to offset indefinite-lived deferred tax liabilities, up to 80% of the amount of the liability. As the Company is now forecasting a substantial tax loss for the full year, due to the closure of the M&EC facility, the Company is releasing a portion of the valuation allowance against deferred tax assets equal to 80% of the deferred tax liability related to indefinite-lived intangible assets. As such, during the third quarter of 2018, the Company recorded a tax benefit in the amount of approximately \$1,380,000 in accordance to the provisions of the TCJA.

The Company had income tax benefits of \$1,342,000 and \$1,272,000 for continuing operations for the three and nine months ended September 30, 2018, respectively. The Company had income tax expenses of \$71,000 and \$218,000 for continuing operations for the three and nine months ended September 30, 2017, respectively. The Company's effective tax rates were approximately 130.9% and 1,479.1% for the three and nine months ended September 30, 2018, respectively, and 3.7% and 6.0% for the three and nine months ended September 30, 2017, respectively.

### **13. M&EC Series B Preferred Stock**

The 1,284,730 shares of the Series B Preferred Stock (the “Series B Preferred Stock”) of the Company’s wholly-owned consolidated subsidiary, M&EC, were non-voting and non-convertible, had a \$1.00 liquidation preference per share and may be redeemed at the option and sole discretion of M&EC at any time, and from time to time, from and after one year from the date of issuance of the Series B Preferred Stock for the purchase price of \$1.00 per share. Holders of shares of M&EC Series B Preferred Stock were entitled to receive, when, as and if declared by M&EC’s board of directors out of funds legally available for payment, cumulative dividends at the rate per annum of 5% per share on the liquidation preference of \$1.00 per share of Series B Preferred Stock. Dividends on the Series B Preferred Stock accrued without interest beginning one year from the date of original issuance (June 25, 2001), and was payable in cash, if, when, and as declared by M&EC board, quarterly each year commencing on the first dividend due date following the expiration of one year from the date of original issuance. On April 24, 2018, the Company announced a private exchange offer (“Exchange Offer”), to all 13 holders of the M&EC Series B Preferred Stock, to exchange in a private placement exempt from registration, for every share of Series B Preferred Stock tendered, (a) 0.1050805 shares of newly issued Common Stock of the Company, par value \$.001 per share (“Common Stock”), and (b) cash in lieu of fractional shares of Common Stock that would otherwise be issuable to the tendering holder of Series B Preferred Stock, in an amount equal to such fractional share of Common Stock multiplied by the closing price per share of the Common Stock on the last trading day immediately preceding the expiration date of the Exchange Offer. The Exchange Offer was made on an all-or-none basis, for all 1,284,730 shares of Series B Preferred Stock outstanding and had an expiration date of May 30, 2018. The Company owns 100% of the voting capital stock of M&EC. On May 30, the Exchange Offer was consummated, resulting in the issuance of an aggregate 134,994 shares of the Company’s Common Stock for the 1,284,730 shares of Series B Preferred Stock and the payment of an aggregate of approximately \$29.00 in cash in lieu of the fractional shares of the Company’s Common Stock that would otherwise have been issuable to the tendering holder of the Series B Preferred Stock. The fair value of the 134,994 shares of the Company’s Common Stock issued was determined to be approximately \$648,000 which was based on the closing price of the Company’s Common Stock on May 30, 2018 of \$4.80 per share. Upon the consummation of the Exchange Offer, the previous holders of the M&EC Series B Preferred Stock forfeited all rights of a holder of Series B Preferred Shares, including the right to receive quarterly cash dividends, and the rights to the cumulative accrued and unpaid dividends with M&EC Series B Preferred Stock in the amount of approximately \$1,022,000 at May 30, 2018. The M&EC Board never declared dividends on the Series B Preferred Stock and our credit facility prohibits the payment of cash dividends without the lender’s consent. After the Exchange Offer, the 1,284,730 shares of the Series B Preferred Stock acquired by the Company were contributed by the Company to M&EC and the Series B Preferred Stock was no longer outstanding. The Company recorded a gain of approximately \$1,596,000 during the second quarter of 2018, which was net of approximately \$63,000 in legal costs incurred for the completion of the transaction.

The shares of Company Common Stock issued in exchange for shares of M&EC’s Series B Preferred Stock were issued pursuant to an exemption from registration under the Securities Act of 1933, as amended, and, as a result, are considered restricted securities that have restrictions on transferability.

## **Item 2. Management’s Discussion and Analysis of Financial Condition and Results of Operations**

### **Forward-looking Statements**

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

- demand for our services;
- reductions in the level of government funding in future years;
- ability of our Medical Segment to fund its R&D program;
- reducing operating costs;
- expect to meet our quarterly financial covenant requirements in the next twelve months;

- cash flow requirements;
- government funding for our services;
- may not have liquidity to repay debt if our lender accelerates payment of our borrowings;
- our cash flows from operations, our available liquidity from our credit facility, and finite risk sinking funds that we expect to receive are sufficient to service our segments' obligations for the next twelve months;
- manner in which the government will be required to spend funding to remediate federal sites;
- fund capital expenditures from cash from operations and/or financing;
- fund remediation expenditures for sites from funds generated from operations;
- compliance with environmental regulations;
- potential effect of being a PRP;
- release of finite risk sinking funds by AIG by the end of the first quarter of 2019 as result of M&EC closure;
- closure of M&EC;
- working capital improvement;
- late waste shipments should bode well for us in the fourth quarter of 2018 and into the first quarter of 2019;
- further reduce, delay or eliminate R&D program if the Medical Segment is unable to raise the necessary capital;
- violations of environmental laws and remediation of facilities; and
- borrowing availability.

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;
- material reduction in revenues;
- ability to meet PNC covenant requirements;
- inability to collect in a timely manner a material amount of receivables;
- increased competitive pressures;
- inability to maintain and obtain required permits and approvals to conduct operations;
- public not accepting our new technology;
- inability to develop new and existing technologies in the conduct of operations;
- inability to maintain and obtain closure and operating insurance requirements;
- inability to retain or renew certain required permits;
- discovery of additional contamination or expanded contamination at any of the sites or facilities leased or owned by us or our subsidiaries which would result in a material increase in remediation expenditures;
- delays at our third party disposal site can extend collection of our receivables greater than twelve months;
- refusal of third party disposal sites to accept our waste;
- changes in federal, state and local laws and regulations, especially environmental laws and regulations, or in interpretation of such;
- requirements to obtain permits for TSD activities or licensing requirements to handle low level radioactive materials are limited or lessened;
- potential increases in equipment, maintenance, operating or labor costs;
- management retention and development;
- financial valuation of intangible assets is substantially more/less than expected;
- the requirement to use internally generated funds for purposes not presently anticipated;
- inability to continue to be profitable on an annualized basis;
- inability of the Company to maintain the listing of its Common Stock on the NASDAQ;

- terminations of contracts with federal agencies or subcontracts involving federal agencies, or reduction in amount of waste delivered to the Company under the contracts or subcontracts;
- renegotiation of contracts involving the federal government;
- federal government's inability or failure to provide necessary funding to remediate contaminated federal sites;
- disposal expense accrual could prove to be inadequate in the event the waste requires re-treatment;
- inability to raise capital on commercially reasonable terms;
- inability to increase profitable revenue;
- lender refuses to waive non-compliance or revise our covenant so that we are in compliance; and
- risk factors and other factors set forth in "Special Note Regarding Forward-Looking Statements" contained in the Company's 2017 Form 10-K and forward-looking statements contained in the Company's Form 10-Q for the quarters ended March 31, 2018 and June 30, 2018.

## Overview

Revenue increased \$226,000 or 1.9% to \$11,984,000 for the three months ended September 30, 2018 from \$11,758,000 for the corresponding period of 2017. The increase was primarily due to increase in revenue from our Services Segment where revenue increased to \$2,881,000 from \$2,403,000, an increase of \$478,000 or 19.9%. Treatment Segment revenue decreased \$252,000 or 2.7% primarily due to lower averaged price waste resulting from waste mix. Our East Tennessee Materials and Energy Corporation ("M&EC") facility, which is currently in closure status, had minimum revenues of approximately \$23,000 in the third quarter of 2018 as compared to \$578,000 in the corresponding period of 2017; however, revenues from our remaining Treatment Segment facilities increased by approximately \$303,000 as we continue to transition operational capabilities from our M&EC facility to our other Treatment Segment facilities, subject to customer requirements and regulatory approvals. We continue with closure and decommissioning activities in accordance with M&EC's license and permit requirements and currently expect to complete on-site M&EC facility closure activities on or before December 31, 2018. Our Treatment Segment revenues for the third quarter of 2018 were also negatively impacted by delays in waste shipments which were not received until late in the quarter; however, we believe that these late waste shipments should bode well for us in the fourth quarter of 2018 and into the first quarter of 2019 as reflected in the increase in our backlog of approximately \$2,049,000 or 27.7% to \$9,442,000 at September 30, 2018 from \$7,393,000 at June 30, 2018. Total gross profit increased \$80,000 or 4.6% for the three months ended September 30, 2018. Our gross profit for the third quarter of 2018 and 2017 included an additional \$1,093,000 and \$550,000, respectively, in closure costs recorded in our Treatment Segment in connection with the pending closure of our M&EC facility as discussed above. Total Selling, General, and Administrative ("SG&A") expenses decreased slightly by \$13,000 or 0.5% for the three months ended September 30, 2018 as compared to the corresponding period of 2017.

Revenue increased \$622,000 or 1.7% to \$37,801,000 for the nine months ended September 30, 2018 from \$37,179,000 for the corresponding period of 2017. The increase in revenue was primarily due to the increase in revenue in our Services Segment of approximately \$2,434,000 or 29.8%. Treatment Segment revenue decreased approximately \$1,812,000 or 6.2% to \$27,207,000 from \$29,019,000. Our M&EC facility, which is currently in closure status, had revenues of approximately \$155,000 in the first nine months of 2018 as compared to \$5,650,000 in the corresponding period of 2017; however, revenues from our remaining Treatment Segment facilities increased by approximately \$3,683,000 as we continue to transition operational capabilities from our M&EC facility to our other Treatment Segment facilities, subject to customer requirements and regulatory approvals. As discussed previously, our Treatment Segment revenues were also negatively impacted by delays in waste shipments which were not received until late in the third quarter; however, as stated above, we believe that these late waste shipments should bode well for us in the fourth quarter of 2018 and first quarter of 2019. Treatment Segment backlog increased approximately \$1,776,000 or 23.2% to \$9,442,000 at September 30, 2018 from \$7,666,000 at December 31, 2018. Total gross profit increased \$372,000 or 5.5% for the nine months ended September 30, 2018 as compared to the corresponding period of 2018. Our gross profit for the first nine months ended September 30, 2018 and 2017 included an additional \$2,308,000 and \$550,000, respectively, in closure costs recorded in our Treatment Segment in connection with the pending closure of our M&EC facility as discussed above. Total SG&A expenses decreased by \$276,000 or 3.3% for the nine months ended September 30, 2018 as compared to the corresponding period of 2017.

Net income for the third quarter of 2018 and the nine months ended September 30, 2018 included a tax benefit of approximately \$1,380,000 recorded in connection with the pending closure of our M&EC facility (see “Income Taxes” in this “Management’s Discussion and Analysis of Financial Condition and Results of Operations” (“MD&A”) for a discussion of this tax benefit recorded). During the second quarter of 2018, we recorded a net gain of \$1,596,000 in connection with the exchange of our common stock for M&EC’s outstanding Series B Preferred Stock as discussed in this MD&A.

### **Business Environment and Outlook**

Our Treatment and Services Segments’ business continues to be heavily dependent on services that we provide to governmental clients directly as the contractor or indirectly as a subcontractor. We believe demand for our services will continue to be subject to fluctuations due to a variety of factors beyond our control, including the current economic conditions and the manner in which the government will be required to spend funding to remediate federal sites. In addition, our governmental contracts and subcontracts relating to activities at governmental sites are generally subject to termination or renegotiation on 30 days notice at the government’s option. 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. As previously disclosed, our Medical Segment substantially reduced its research and development (“R&D”) activities due to the need for capital to fund such activities. Our Medical Segment continues to seek various sources in order to raise this capital. We anticipate that our Medical Segment R&D activities will be limited until the necessary capital is obtained through its own credit facility or additional equity raise. If the Medical Segment is unable to raise the necessary capital, the Medical Segment could be required to further reduce, delay or eliminate its R&D program.

We are continually reviewing operating costs and are committed to further reducing operating costs to bring them in line with revenue levels, when needed. We continue to focus on expansion into both commercial and international markets to increase revenues in our Treatment and Services Segments to offset the uncertainties of government spending in the United States of America.

### **Results of Operations**

The reporting of financial results and pertinent discussions are tailored to three reportable segments: The Treatment, Services, and Medical Segments. Our Medical Segment encompasses the operations of our majority-owned Polish subsidiary, PF Medical, which has not generated any revenue and all costs incurred are included within R&D. As previously disclosed, during 2016, the Medical Segment ceased a substantial portion of its R&D activities for the medical isotope production technology due to the need for substantial capital to fund such activities. We do not anticipate that the Medical Segment will restart such activities until it obtains such funding.

Summary – Three and Nine Months Ended September 30, 2018 and 2017

Consolidated (amounts in thousands)	Three Months Ended September 30,				Nine Months Ended September 30,			
	2018	%	2017	%	2018	%	2017	%
Net revenues	\$ 11,984	100.0	\$ 11,758	100.0	\$ 37,801	100.0	\$ 37,179	100.0
Cost of goods sold	10,159	84.8	10,013	85.2	30,612	81.0	30,362	81.7
Gross profit	1,825	15.2	1,745	14.8	7,189	19.0	6,817	18.3
Selling, general and administrative	2,640	22.0	2,653	22.6	8,061	21.3	8,337	22.4
Research and development	229	1.9	293	2.4	680	1.8	1,300	3.5
Gain on disposal of property and equipment	(9)	(.1)	—	—	(34)	(.1)	(1)	—
Impairment loss on tangible assets	—	—	672	5.7	—	—	672	1.8
Loss from operations	(1,035)	(8.6)	(1,873)	(15.9)	(1,518)	(4.0)	(3,491)	(9.4)
Interest income	82	.6	34	.3	212	.6	105	.3
Interest expense	(62)	(.5)	(59)	(.5)	(177)	(.5)	(249)	(.7)
Interest expense-financing fees	(10)	(.1)	(9)	(.1)	(27)	(.1)	(27)	—
Net gain on exchange offer of Series B Preferred Stock	—	—	—	—	1,596	4.2	—	—
Other	—	—	1	—	—	—	2	—
(Loss) income from continuing operations before taxes	(1,025)	(8.6)	(1,906)	(16.2)	86	.2	(3,660)	(9.8)
Income tax (benefit) expense	(1,342)	(11.2)	71	.6	(1,272)	(3.4)	218	.6
Income (loss) from continuing operations	\$ 317	2.6	\$ (1,977)	(16.8)	\$ 1,358	3.6	\$ (3,878)	(10.4)

Revenues

Consolidated revenues increased \$226,000 for the three months ended September 30, 2018, compared to the three months ended September 30, 2017, as follows:

(In thousands)	2018	% Revenue	2017	% Revenue	Change	% Change
<b>Treatment</b>						
Government waste	\$ 6,332	52.9	\$ 7,165	60.9	\$ (833)	(11.6)
Hazardous/non-hazardous <sup>(1)</sup>	1,348	11.2	1,243	10.6	105	8.4
Other nuclear waste	1,423	11.9	947	8.1	476	50.3
Total	9,103	76.0	9,355	79.6	(252)	(2.7)
<b>Services</b>						
Nuclear services	2,061	17.2	1,476	12.5	585	39.6
Technical services	820	6.8	927	7.9	(107)	(11.5)
Total	2,881	24.0	2,403	20.4	478	19.9
Total	\$ 11,984	100.0	\$ 11,758	100.0	\$ 226	1.9

<sup>1)</sup> Includes wastes generated by government clients of \$334,000 and \$5,000 for the three month ended September 30, 2018 and the corresponding period of 2017, respectively.

Treatment Segment revenue decreased \$252,000 or 2.7 % for the three months ended September 30, 2018 over the same period in 2017. The revenue decrease was primarily due to lower revenue generated from government clients due to lower averaged price waste resulting from waste mix. Other nuclear waste increased by approximately \$476,000 or 50.3% primarily due to higher waste volume and higher averaged price waste. Revenue for our M&EC subsidiary (in closure status) decreased approximately \$555,000 for the three months ended September 30, 2018 as compared to the corresponding period of 2017 (\$23,000 in the third quarter of 2018 as compared to \$578,000 in the third quarter of 2017); however, our remaining Treatment Segment facilities had a total increase in revenue of approximately \$303,000 in the third quarter of 2018 as compared to the corresponding period of 2017 as we continue to transition operational capabilities from our M&EC subsidiary to our other Treatment Segment facilities, subject to customer requirements and regulatory approvals. Services Segment revenue increased by \$478,000 or 19.9% in the three months ended September 30, 2018 from the corresponding period of 2017. 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.

Consolidated revenues increased \$622,000 for the nine months ended September 30, 2018, as compared to the nine months ended September 30, 2017, as follows:

(In thousands)	2018	% Revenue	2017	% Revenue	Change	% Change
<b>Treatment</b>						
Government waste	\$ 18,038	47.7	\$ 21,745	58.5	\$ (3,707)	(17.0)
Hazardous/non-hazardous <sup>(1)</sup>	4,188	11.1	3,755	10.1	433	11.5
Other nuclear waste	4,981	13.2	3,519	9.5	1,462	41.5
Total	27,207	72.0	29,019	78.1	(1,812)	(6.2)
<b>Services</b>						
Nuclear services	8,655	22.9	5,971	16.0	2,684	45.0
Technical services	1,939	5.1	2,189	5.9	(250)	(11.4)
Total	10,594	28.0	8,160	21.9	2,434	29.8
Total	\$ 37,801	100.0	\$ 37,179	100.0	\$ 622	1.7

<sup>1)</sup> Includes wastes generated by government clients of \$1,174,000 and \$19,000 for the nine month ended September 30, 2018 and the corresponding period of 2017, respectively.

Treatment Segment revenue decreased \$1,812,000 or 6.2 % for the nine months ended September 30, 2018 over the same period in 2017. The revenue decrease was primarily due to lower revenue generated from government clients due to lower averaged price waste resulting from waste mix. Other nuclear waste increased by approximately \$1,462,000 or 41.5% primarily due to higher volume and higher averaged price waste. Revenue for our M&EC subsidiary (in closure status) decreased approximately \$5,495,000 for the nine months ended September 30, 2018 as compared to the corresponding period of 2017 (\$155,000 in the first nine months of 2018 as compared to \$5,650,000 in the first nine months of 2017); however, our remaining Treatment Segment facilities had a total increase in revenue of approximately \$3,683,000 in the first nine months of 2018 as compared to the corresponding period of 2017 as we continue to transition operational capabilities from our M&EC subsidiary to our other Treatment Segment facilities, subject to customer requirements and regulatory approvals. Services Segment revenue increased by \$2,434,000 or 29.8% for the nine month ended September 30, 2018 over the same period in 2017. Our Services Segment revenues are project based; as such, the scope, duration and completion of each project vary. As a result, our Services Segment revenues are subject to differences relating to timing and project value.

#### *Cost of Goods Sold*

Cost of goods sold increased \$146,000 for the quarter ended September 30, 2018, as compared to the quarter ended September 30, 2017, as follows:

(In thousands)	2018	% Revenue	2017	% Revenue	Change
Treatment	\$ 7,539	82.8	\$ 7,742	82.8	\$ (203)
Services	2,620	90.9	2,271	94.5	349
Total	\$ 10,159	84.8	\$ 10,013	85.2	\$ 146



Cost of goods sold for the Treatment Segment decreased by \$203,000 or approximately 2.6%. Treatment Segment costs of goods sold for the third quarter of 2018 and 2017 included additional closure costs recorded in the amount of \$1,093,000 and \$550,000, respectively, for our M&EC facility due to changes in estimated closure costs in connection with the pending closure of the facility. Excluding the closure costs in both periods, Treatment Segment costs decreased \$746,000 or 10.4%. Total Treatment Segment's variable costs decreased by approximately \$193,000 primarily in disposal, transportation and material and supplies costs. Treatment Segment overall fixed costs were lower by approximately \$553,000 resulting from the following: depreciation expense was lower by approximately \$728,000 as the tangible assets at our M&EC facility became fully depreciated by the end of the third quarter of 2017 resulting from the pending closure of the facility; maintenance expense was lower by \$74,000; regulatory expense was lower by \$88,000; general expenses were slightly lower by \$6,000; and salaries/payroll related/healthcare expenses were higher by \$343,000. Services Segment cost of goods sold increased \$349,000 or 15.4% primarily due to the increase in revenue as discussed above. The increase in Services Segment's cost of goods sold was primarily due to the following: salaries and payroll related, travel, and outside services expenses were higher by approximately \$409,000; material and supplies costs were higher by \$84,000; disposal and transportation costs were lower by approximately \$75,000; and general expenses were lower by approximately \$69,000 in various categories. Included within cost of goods sold is depreciation and amortization expense of \$350,000 and \$1,086,000 for the three months ended September 30, 2018, and 2017, respectively.

Cost of goods sold increased \$250,000 for the nine months ended September 30, 2018, as compared to the nine months ended September 30, 2017, as follows:

(In thousands)	2018	% Revenue	2017	% Revenue	Change
Treatment	\$ 21,340	78.4	\$ 22,545	77.7	\$ (1,205)
Services	9,272	87.5	7,817	95.8	1,455
Total	\$ 30,612	81.0	\$ 30,362	81.7	\$ 250

Cost of goods sold for the Treatment Segment decreased by \$1,205,000 or approximately 5.3%. Treatment Segment costs of goods sold for the nine months ended September 30, 2018 and 2017 included additional closure costs recorded in the amount of approximately \$2,308,000 and \$550,000, respectively, for our M&EC facility due to changes in estimated closure costs in connection with the pending closure of the facility. Excluding the closure costs in both periods, Treatment Segment costs decreased \$2,963,000 or 13.5%. Total Treatment Segment's variable costs decreased by approximately \$934,000 primarily in disposal, transportation and material and supplies costs. Treatment Segment overall fixed costs were lower by approximately \$2,029,000 resulting from the following: depreciation expense was lower by approximately \$2,255,000 as the tangible assets at our M&EC facility became fully depreciated by the end of the third quarter of 2017 resulting from the pending closure of the facility; maintenance expense was lower by \$22,000; regulatory expense was lower by \$109,000; and salaries/payroll related/healthcare expenses were higher by \$357,000. Services Segment cost of goods sold increased \$1,455,000 or 18.6% primarily due to the increase in revenue as discussed above. The increase in Services Segment's cost of goods sold was primarily due to higher salaries and payroll related expenses, travel, and outside services expenses totaling approximately \$1,849,000 and higher material and supplies cost of approximately \$468,000. This overall higher cost in Services Segment's cost of goods sold was offset by lower disposal/transportation costs totaling approximately \$675,000 with the remaining lower costs in general expenses in various categories and lower depreciation expenses. Included within cost of goods sold is depreciation and amortization expense of \$1,044,000 and \$3,331,000 for the nine months ended September 30, 2018, and 2017, respectively.

#### Gross Profit

Gross profit for the quarter ended September 30, 2018 increased \$80,000 over the same period of 2017, as follows:

(In thousands)	2018	% Revenue	2017	% Revenue	Change
Treatment	\$ 1,564	17.2	\$ 1,613	17.2	\$ (49)
Services	261	9.1	132	5.5	129
Total	\$ 1,825	15.2	\$ 1,745	14.8	\$ 80

Excluding the \$1,093,000 and \$550,000 in closure costs recorded in the third quarters of 2018 and 2017, respectively, within our Treatment Segment's costs of goods sold as discussed above in connection with the pending closure of the M&EC facility, our Treatment Segment had an increase in gross profit of 494,000 or 22.8% and gross margin increased to 29.2% from 23.1% primarily due to revenue mix and the reduction in our fixed costs. In the Services Segment, the increase in gross profit of \$129,000 or 97.7% and gross margin to 9.1% from 5.5% was primarily due to the increase in revenue as discussed above. Additionally, our overall Services Segment gross margin is impacted by our current projects which are competitively bid on and will therefore, have varying margin structures.

Gross profit for the nine months ended September 30, 2018 increased \$372,000 over the same period in 2017, as follows:

(In thousands)	2018	% Revenue	2017	% Revenue	Change
Treatment	\$ 5,867	21.6	\$ 6,474	22.3	\$ (607)
Services	1,322	12.5	343	4.2	979
Total	\$ 7,189	19.0	\$ 6,817	18.3	\$ 372

Excluding the \$2,308,000 and \$550,000 in closure costs recorded in the nine months ended September 30, 2018 and 2017, respectively, within Treatment Segment's costs of goods sold discussed above in connection with the pending closure of the M&EC facility, our Treatment Segment had a gross profit increase of \$1,151,000 or 16.4% and gross margin increased to 30.0% from 24.2% primarily due to the reduction in our fixed costs and revenue mix. In the Services Segment, the increases in gross profit of \$979,000 or 285.4% and gross margin to 12.5% from 4.2% was primarily due to the increase in revenue as discussed above. Additionally, our overall Services Segment gross margin is impacted by our current projects which are competitively bid on and will therefore, have varying margin structures.

#### SG&A

SG&A expenses decreased \$13,000 for the three months ended September 30, 2018, as compared to the corresponding period for 2017, as follows:

(In thousands)	2018	% Revenue	2017	% Revenue	Change
Administrative	\$ 1,223	—	\$ 1,238	—	\$ (15)
Treatment	923	10.1	806	8.6	117
Services	494	17.1	609	25.3	(115)
Total	\$ 2,640	22.0	\$ 2,653	22.6	\$ (13)

The decrease in total SG&A was primarily due to lower SG&A costs in the Services Segment. Services Segment SG&A decreased by approximately \$115,000 primarily due to the following: outside services expenses were lower by approximately \$23,000 resulting from fewer consulting/legal/subcontract matters; general expenses were lower by approximately \$85,000 in various categories; and travel expenses were lower by approximately \$7,000. The slight decrease in Administrative SG&A was due to the following: outside services expenses were lower by \$79,000 resulting from fewer consulting/business matters and travel and general expenses were lower by a total of approximately \$22,000. The lower overall costs in Administrative SG&A were partially offset by higher stock-based compensation expenses of approximately \$18,000 resulting from options granted to our executive officers in the latter part of July 2017 and higher salary/payroll related/healthcare costs of approximately \$68,000. Treatment SG&A was higher primarily due to the following: general expenses were higher by approximately \$45,000 in various categories; outside services expenses were higher by approximately \$30,000; travel expenses were higher by \$18,000; and payroll related costs were higher by approximately \$24,000 primarily due to healthcare costs. Included in SG&A expenses is depreciation and amortization expense of \$14,000 and \$21,000 for the three months ended September 30, 2018, and 2017, respectively.

SG&A expenses decreased \$276,000 for the nine months ended September 30, 2018, as compared to the corresponding period for 2017, as follows:

(In thousands)	2018	% Revenue	2017	% Revenue	Change
Administrative	\$ 3,700	—	\$ 3,699	—	\$ 1
Treatment	2,824	10.4	2,558	8.8	266
Services	1,537	14.5	2,080	25.5	(543)
Total	<u>\$ 8,061</u>	<u>21.3</u>	<u>\$ 8,337</u>	<u>22.4</u>	<u>\$ (276)</u>

The decrease in total SG&A was primarily due to lower SG&A costs in the Services Segment. The decrease in Services Segment SG&A of \$543,000 was primarily due to the following: outside services expenses were lower by approximately \$97,000 resulting from fewer consulting/legal/subcontract matters; bad debt expense was lower by approximately \$65,000 resulting from reversal of certain allowance for bad debt resulting from payment by customers; general expenses were lower by approximately \$340,000 in various categories which included a reduction in rent expense resulting from the end of our lease term for our business center office in Knoxville, Tennessee in the second quarter of 2018; salaries and payroll related expense were lower by approximately \$28,000; and travel expenses were lower by approximately \$13,000. The slight increase in Administrative SG&A was primarily due to the following: stock-based compensation expenses were higher by approximately \$67,000 resulting from options granted to our executive officers in July 2017 and options granted to certain of our employees in October 2017; salary/payroll related/healthcare costs were higher by approximately \$94,000; general expenses were lower by \$42,000 in various categories; outside services expenses were lower by \$108,000 resulting from fewer consulting/business matters; and travel expenses were lower by approximately \$10,000. Treatment SG&A expenses were higher primarily due to the following: general expenses were higher by approximately \$233,000 in various categories; travel expenses were higher by approximately \$48,000; outside services expenses were higher by \$83,000 resulting from more business/consulting matters; and salaries and payroll related expenses were lower by approximately \$98,000. Included in SG&A expenses is depreciation and amortization expense of \$51,000 and \$63,000 for the nine months ended September 30, 2018 and 2017, respectively.

#### R&D

R&D expenses decreased \$64,000 and \$620,000 for the three and nine months ended September 30, 2018, respectively, as compared to the corresponding period of 2017.

(In thousands)	Three Months Ended September 30,			Nine Months Ended September 30,		
	2018	2017	Change	2018	2017	Change
Administrative	\$ 15	\$ —	\$ 15	\$ 66	\$ 15	\$ 51
Treatment	126	96	30	355	338	17
Services	—	—	—	—	—	—
PF Medical	88	197	(109)	259	947	(688)
Total	<u>\$ 229</u>	<u>\$ 293</u>	<u>\$ (64)</u>	<u>\$ 680</u>	<u>\$ 1,300</u>	<u>\$ (620)</u>

R&D costs consist primarily of employee salaries and benefits, laboratory costs, third party fees, and other related costs associated with the development of new technologies and technological enhancements of new potential waste treatment processes. The decreases in R&D costs for the three months ended September 30, 2018 and nine months ended September 30, 2018 as compared to the corresponding periods of 2017 were primarily due the decreases in R&D expenses in the Medical Segment. As disclosed previously, our Medical Segment has ceased a substantial portion of its R&D activities due to the need for substantial capital to fund such activities, and we anticipate that our Medical Segment will not resume any substantial R&D activities until it obtains the necessary funding.

#### Interest Income

Interest income increased \$48,000 for the three months ended September 30, 2018 as compared to the corresponding period of 2017 and increased \$107,000 for the nine months ended September 30, 2018 as compared to the corresponding period of 2017 primarily due to higher interest earned on the finite risk sinking funds resulting from higher interest rates.

### *Interest Expense*

Interest expense increased slightly by approximately \$3,000 for the three months ended September 30, 2018 as compared to the corresponding period of 2017. The increase was primarily due to interest on our new capital lease which we did not have in the prior year. The decrease in interest expense of approximately \$72,000 for the nine months ended September 30, 2018 as compared to the corresponding period of 2017 was primarily due to lower interest expense from our declining term loan balance and lower average revolver loan balance outstanding.

### *Income Taxes*

We had income tax benefits of \$1,342,000 and \$1,272,000 for continuing operations for the three and nine months ended September 30, 2018, respectively and income tax expenses of \$71,000 and \$218,000 for continuing operations for the three and nine months ended September 30, 2017, respectively. Our effective tax rates were approximately 130.9% and 1,479.1% for the three and nine months ended September 30, 2018, respectively, and 3.7% and 6.0% for the three and nine months ended September 30, 2017, respectively.

In December 2017, the Tax Cuts and Jobs Act of 2017 (the "TCJA") was signed into law making significant changes to the Internal Revenue Code. Due to the timing of the new tax law and the substantial changes it brings, the Commission issued Staff Accounting Bulletin No. 118 which provides registrants a measurement period to report the impact of the new US tax law. An additional provision of the TCJA was to provide an indefinite carryforward period for net operating losses ("NOLs") generated starting in 2018. Also, the law limits the utilization of these NOLs to 80% of taxable income in the year in which the NOL is utilized. We have been carrying on our balance sheet a deferred tax liability related to indefinite-lived intangible assets. A common accounting interpretation of the new TCJA provisions is that deferred tax assets related to indefinite-lived NOLs may now be used to offset indefinite-lived deferred tax liabilities, up to 80% of the amount of the liability. As we are now forecasting a substantial tax loss for the full year, due to the closure of the M&EC facility, we are releasing a portion of the valuation allowance against deferred tax assets equal to 80% of the deferred tax liability related to indefinite-lived intangible assets. As such, during the third quarter of 2018, we recorded a tax benefit in the amount of approximately \$1,380,000 in accordance to the provisions of the TCJA.

### **Discontinued Operations and Divestitures**

The Company's discontinued operations consist of all our subsidiaries included in our Industrial Segment: (1) subsidiaries divested in 2011 and prior, (2) two previously closed locations, and (3) our Perma-Fix of South Georgia, Inc. ("PFSG") facility which is currently undergoing closure, subject to regulatory approval of necessary plans and permits.

Our discontinued operations had no revenue for the three and nine months ended September 30, 2018 and the corresponding period of 2017. We incurred net losses of \$131,000 and \$495,000 for our discontinued operations for the three and nine months ended September 30, 2018, respectively. We incurred net losses of \$145,000 and \$436,000 for our discontinued operations for the three and nine months ended September 30, 2017, respectively. Our net loss for the nine months ended September 30, 2018 included an increase of approximately \$50,000 in remediation reserve recorded in the second quarter of 2018 for our Perma-Fix of Dayton ("PFD") subsidiary due to reassessment of the remediation reserve.

## Liquidity and Capital Resources

Our cash flow requirements during the nine months ended September 30, 2018 were primarily financed by our operations and credit facility availability. 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, planned capital expenditures, and closure spending requirements in connection with the pending closure of our M&EC facility. We plan to fund these requirements from our operations and our credit facility. Additionally, as a result of the M&EC facility closure, we expect to receive, by the end of the first quarter of 2019, a release of approximately \$5,000,000 of the \$15,888,000 restricted finite risk sinking funds held by American International Group ("AIG") as collateral under the financial assurance policy dated June 2003 that we currently have with AIG. We expect to use the released sinking funds for working capital purposes and to fund any remaining M&EC closure spending requirements. This release of finite risk sinking funds is subject to approval from AIG and the appropriate regulators. We continue to explore all sources of increasing revenue. We are continually reviewing operating costs and are committed to further reducing operating costs to bring them in line with revenue levels, when necessary. Although there are no assurances, we believe that our cash flows from operations, our available liquidity from our credit facility, and finite risk sinking funds that we expect to receive as a result of the M&EC facility closure as discussed above are sufficient to fund our operations for the next twelve months. As previously disclosed, our Medical Segment substantially reduced its R&D activities due to the need for capital to fund such activities. We anticipate that our Medical Segment will not resume full R&D activities until it obtains the necessary funding through obtaining its own credit facility or additional equity raise. Our Medical Segment continues to seek various sources of potential funding. If the Medical Segment is unable to raise the necessary capital, the Medical Segment could be required to further reduce, delay or eliminate its R&D program.

The following table reflects the cash flow activities during the first nine months of 2018:

(In thousands)	
Cash provided by operating activities of continuing operations	\$ 1,048
Cash used in operating activities of discontinued operations	(468)
Cash used in investing activities of continuing operations	(1,068)
Cash provided by investing activities of discontinued operations	54
Cash provided by financing activities of continuing operations	384
Effect of exchange rate changes in cash	(8)
Decrease in cash and finite risk sinking fund (restricted cash)	\$ (58)

At September 30, 2018, we were in a net borrowing position (revolving credit) of approximately \$1,283,000. At September 30, 2018, we had cash on hand of approximately \$793,000, which reflects primarily account balances for our foreign subsidiaries.

### *Operating Activities*

Accounts receivable, net of allowances for doubtful accounts, totaled \$8,300,000 at September 30, 2018, an increase of \$360,000 from the December 31, 2017 balance of \$7,940,000. The increase was primarily due to timing of invoicing and timing of accounts receivable collection. We provide a variety of payment terms to our customers; therefore, our accounts receivable are impacted by these terms and the related timing of accounts receivable collections.

Accounts payable, totaled \$4,521,000 at September 30, 2018, an increase of \$984,000 from the December 31, 2017 balance of \$3,537,000. The increase in accounts payable was attributed to closure related expenses for our M&EC facility which are pending payment. Additionally, 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.

Disposal/transportation accrual at September 30, 2018, totaled \$1,497,000, a decrease of \$574,000 over the December 31, 2017 balance of \$2,071,000. Our disposal accrual can vary based on revenue mix and the timing of waste shipments for final disposal. During 2018, we shipped more waste for disposal than 2017.

We had a working capital deficit of \$3,933,000 (which included working capital of our discontinued operations) at September 30, 2018 as compared to a working capital deficit of \$2,268,000 at December 31, 2017. The additional accrual of \$2,308,000 in closure costs we recorded in the first nine months of 2018 in connection with the pending closure of our M&EC facility negatively impacted our working capital. We anticipate that cash flows to be generated from our operations and the release of the restricted finite sinking funds by AIG which we anticipate to receive upon the closure of our M&EC facility as discussed above, will provide improvement to our working capital deficit.

### Investing Activities

For the nine months ended September 30, 2018, our purchases of capital equipment totaled approximately \$1,315,000, of which \$213,000 was financed, with the remaining funded from cash from operations. These expenditures were made primarily for our Treatment Segment. We have budgeted approximately \$2,000,000 for 2018 capital expenditures for our Treatment and Services Segments to maintain operations and regulatory compliance requirements and footprint expansion for one of our Treatment Segment facilities. Certain of these budgeted projects may either be delayed until later years or deferred altogether. We have traditionally incurred actual capital spending totals for a given year at less than the initial budgeted amount. We plan to fund our capital expenditures from cash from operations and/or financing. The initiation and timing of projects are also determined by financing alternatives or funds available for such capital projects.

### Financing Activities

We entered into an Amended and Restated Revolving Credit, Term Loan and Security Agreement, dated October 31, 2011 (“Amended Loan Agreement”), with PNC National Association (“PNC”), acting as agent and lender. The Amended Loan Agreement, as subsequently amended (“Revised Loan Agreement”), provides us with the following credit facility with a maturity date of March 24, 2021: (a) up to \$12,000,000 revolving credit (“revolving credit”) and (b) a term loan (“term loan”) of approximately \$6,100,000, which requires monthly installments of approximately \$101,600 (based on a seven-year amortization). The maximum that we can borrow under the revolving credit is based on a percentage of eligible receivables (as defined) at any one time reduced by outstanding standby letters of credit and borrowing reductions that our lender may impose from time to time.

Under the Revised Loan Agreement, we have the option of paying an annual rate of interest due on the revolving credit at prime plus 2% or London Inter Bank Offer Rate (“LIBOR”) plus 3% and the term loan at prime plus 2.5% or LIBOR plus 3.5%.

Pursuant to the Revised Loan Agreement, we may terminate the Revised Loan Agreement, upon 90 days’ prior written notice upon payment in full of our obligations under the Revised Loan Agreement. We agreed to pay PNC 0.25% of the total financing if we pay off our obligations after March 23, 2018 but prior to or on March 23, 2019. No early termination fee shall apply if we pay off our obligations after March 23, 2019.

At September 30, 2018, the borrowing availability under our revolving credit was \$2,524,000, based on our eligible receivables and includes an indefinite reduction of borrowing availability of \$1,000,000 that our lender has imposed. Our borrowing availability under our revolving credit was also reduced by outstanding standby letters of credit totaling approximately \$2,660,000. Previously, our lender had imposed an indefinite reduction of borrowing availability of \$2,000,000; however, on July 26, 2018, we entered into an amendment to our Revised Loan Agreement with our lender which provided, among other things, for the release of \$1,000,000 of the \$2,000,000 reduction in borrowing availability by our lender. The release of this \$1,000,000 in borrowing availability reduction is to be used for working capital purposes. Most of the other terms of the Revised Loan Agreement remain principally unchanged.

Our credit facility 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 following table details the quarterly financial covenant requirements under our credit facility at September 30, 2018.

(Dollars in thousands)	Quarterly Requirement	1st Quarter Actual	2nd Quarter Actual	3rd Quarter Actual
Senior Credit Facility				
Fixed charge coverage ratio	1.15:1	1.22:1	1.72:1	1.39:1
Minimum tangible adjusted net worth	\$ 26,000	\$ 27,038	\$ 28,364	\$ 28,686

We met our quarterly financial covenants in the first, second and third quarters of 2018 and we expect to meet these quarterly financial covenant requirements in the next twelve months. If we fail to meet any of these quarterly financial covenant requirements as noted above and our lender does not waive the non-compliance or revise our covenant so that we are in compliance, our lender could accelerate the repayment of borrowings under our credit facility. In the event that our lender accelerates the payment of our borrowings, we may not have sufficient liquidity to repay our debt under our credit facility and other indebtedness.

### **M&EC Series B Preferred Stock**

The 1,284,730 shares of the non-voting Series B Preferred Stock (the "Series B Preferred Stock") of our consolidated wholly-owned subsidiary, M&EC, were exchanged by us for our Common Stock in a private exchange offer exempt from registration (the "Exchange Offer"). Holders of shares of M&EC Series B Preferred Stock were entitled to receive, when, as and if declared by M&EC's board of directors out of funds legally available for payment, cumulative dividends at the rate per annum of 5% per share on the liquidation preference of \$1.00 per share of Series B Preferred Stock. Dividends on the Series B Preferred Stock accrued without interest beginning one year from the date of original issuance (June 25, 2001), and was payable in cash, if, when, and as declared by M&EC board, quarterly each year commencing on the first dividend due date following the expiration of one year from the date of original issuance. The Exchange Offer, to all 13 holders of the M&EC Series B Preferred Stock, was to exchange, in a private placement exempt from registration, for every share of Series B Preferred Stock tendered, (a) 0.1050805 shares of our newly issued common stock, par value \$.001 per share ("Common Stock"), and (b) cash in lieu of fractional shares of Common Stock that would otherwise be issuable to the tendering holder of Series B Preferred Stock, in an amount equal to such fractional share of Common Stock multiplied by the closing price per share of the Common Stock on the last trading day immediately preceding the expiration date of the Exchange Offer. The Exchange Offer for all 1,284,730 shares of Series B Preferred Stock outstanding and had an expiration date of May 30, 2018. We own 100% of the voting capital stock of M&EC. On May 30, the Exchange Offer was consummated resulting in the issuance of an aggregate 134,994 shares of our Common Stock for the 1,284,730 shares of Series B Preferred Stock and the payment of an aggregate of approximately \$29.00 in cash in lieu of the fractional shares of our Common Stock that would otherwise have been issuable to the tendering holder of the Series B Preferred Stock. The fair value of the 134,994 shares of our Common Stock issued was determined to be approximately \$648,000 which was based on the closing price of our Common Stock on May 30, 2018 of \$4.80 per share. Upon the consummation of the Exchange Offer, the previous holders of the M&EC Series B Preferred Stock forfeited all rights of a holder of Series B Preferred Shares, including the right to receive quarterly cash dividends, and the rights to the cumulative accrued and unpaid dividends with M&EC Series B Preferred Stock in the amount of approximately \$1,022,000 at May 30, 2018. The M&EC Board never declared dividends on the Series B Preferred Stock and our credit facility prohibits the payment of cash dividends without the lender's consent. After the Exchange Offer, the 1,284,730 shares of the Series B Preferred Stock acquired by us were contributed by us to M&EC and the Series B Preferred Stock is no longer outstanding. We recorded a gain of approximately \$1,596,000 in the second quarter of 2018, which was net of approximately \$63,000 in legal expenses incurred for the completion of the transaction.

The shares of our Common Stock issued in exchange for shares of M&EC's Series B Preferred Stock were issued pursuant to an exemption from registration under the Securities Act of 1933, as amended, and, as a result, are considered restricted securities that have restrictions on transferability.

### **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, 2018, the total amount of standby letters of credit outstanding totaled approximately \$2,660,000 and the total amount of bonds outstanding totaled approximately \$11,081,000. 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, 2018, the closure and post-closure requirements for these facilities were approximately \$29,911,000.

## Critical Accounting Policies and Estimates

We adopted Accounting Standards Update (“ASU”) No. 2014-09, “Revenue from Contracts with Customers” followed by a series of related accounting standard updates (collectively referred to as “Topic 606”) effective January 1, 2018. The adoption of Topic 606 did not materially impact our revenues. 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, 2017.

## Known Trends and Uncertainties

*Significant Customers.* Our Treatment and Services Segments have significant relationships with the federal government, and continue to enter into contracts, directly as the prime contractor or indirectly for others as a subcontractor, with the federal government. The U.S. Department of Energy (“DOE”) and U.S. Department of Defense (“DOD”) represent major customers for our Treatment Segment and Services Segments. The contracts that we are a party to with the federal government or with others as a subcontractor to the federal government generally provide that the government may terminate or renegotiate the contracts on 30 days notice, at the government’s election. Our inability to continue under existing contracts that we have with the federal 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 (includes U.S. federal, state and local), either directly as a prime contractor or indirectly as a subcontractor to government entities, representing approximately \$8,400,000 or 70.1% and \$27,329,000 or 72.3% of our total revenue from continuing operations during the three and nine months ended September 30, 2018, respectively, as compared to \$8,546,000 or 72.7% and \$27,683,000 or 74.5% of our total revenue from continuing operations during the corresponding period of 2017, respectively.

## Environmental Contingencies

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

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

Our subsidiaries where remediation expenditures will be made are at three sites within our discontinued operations. While no assurances can be made that we will be able to do so, we expect to fund the expenses to remediate these sites from funds generated internally.

At September 30, 2018, we had total accrued environmental remediation liabilities of \$887,000, of which \$658,000 is recorded as a current liability, which reflects an increase of \$16,000 from the December 31, 2017 balance of \$871,000. The net increase presents an increase of approximately \$50,000 made to the reserve at our PFD subsidiary due to reassessment of the remediation reserve and payments of approximately \$34,000 on remediation projects for our PFD and PFSG subsidiaries.



### Item 3. Quantitative and Qualitative Disclosures about Market Risks

Not applicable

### 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, 2018

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

Effective January 1, 2018, we adopted ASU 2014-09, "Revenue from Contracts with Customers" (Topic 606) and a series of related accounting standard updates (collectively referred to as "Topic 606"). Although the adoption of the new revenue standards had no significant impact on our financial position, results of operations, or cash flows, we did implement changes to our controls related to revenue. These included the development of new policies and controls based on the five-step model provided in Topic 606, enhanced contract review requirements, and other ongoing monitoring activities. These controls were developed to provide assurance at a reasonable level for the fair presentation of our consolidated financial statements and related disclosures. 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, 2017, which Item 3 is incorporated herein by reference.

### 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, 2017.

### Item 6. Exhibits

(a) Exhibits

- 4.1 [Tenth Amendment to Amended and Restated Revolving Credit, Term Loan and Security Agreement between PNC Bank, National Association and Perma-Fix Environmental Services, Inc., dated July 26, 2018, as incorporated by reference from Exhibit 4.1 to the Company's 8-K filed on July 30, 2018.](#)
- 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 XBRL Instance Document\*

101.SCH XBRL Taxonomy Extension Schema Document\*

101.CAL XBRL Taxonomy Extension Calculation Linkbase Document\*

101.DEF XBRL Taxonomy Extension Definition Linkbase Document\*

101.LAB XBRL Taxonomy Extension Labels Linkbase Document\*

101.PRE XBRL Taxonomy Extension Presentation Linkbase Document\*

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

**SIGNATURES**

Pursuant to the requirements of the Securities 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 7, 2018

By: /s/ Mark Duff

Mark Duff  
President and Chief (Principal) Executive Officer

Date: November 7, 2018

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 7, 2018

/s/ Mark Duff

Mark Duff  
President and Chief  
Executive Officer

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**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 7, 2018

/s/ Ben Naccarato

Ben Naccarato

Vice President and Chief Financial Officer

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**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, 2018, as filed with the Securities and Exchange Commission on the date hereof (the "Form 10-Q"), I, Mark Duff, President and Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. §1350, as adopted pursuant to §906 of the Sarbanes-Oxley Act of 2002, that:

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

Dated: November 7, 2018

*/s/ Mark Duff*

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Mark Duff

President and

Chief 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.

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**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 Annual Report of Perma-Fix Environmental Services, Inc. ("PESI") on Form 10-Q for the quarter ended September 30, 2018, as filed with the Securities and Exchange Commission on the date hereof (the "Form 10-Q"), I, Ben Naccarato, Vice President and Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. §1350, as adopted pursuant to §906 of the Sarbanes-Oxley Act of 2002, that:

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

Dated: November 7, 2018

*/s/ Ben Naccarato*

\_\_\_\_\_  
Ben Naccarato  
Vice President and Chief 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.

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