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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, 2017

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

Yes  No

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

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

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

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

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

Class

Outstanding as November 3, 2017

Common Stock, \$.001 Par Value

11,730,981 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, 2017 (Unaudited)	December 31, 2016 (Audited)
<b>ASSETS</b>		
Current assets:		
Cash	\$ 1,055	\$ 163
Accounts receivable, net of allowance for doubtful accounts of \$356 and \$272, respectively	8,791	8,705
Unbilled receivables - current	4,529	2,926
Inventories	328	370
Prepaid and other assets	3,340	2,358
Current assets related to discontinued operations	96	85
Total current assets	<u>18,139</u>	<u>14,607</u>
Property and equipment:		
Buildings and land	22,550	22,544
Equipment	33,427	33,454
Vehicles	398	409
Leasehold improvements	11,549	11,626
Office furniture and equipment	1,736	1,738
Construction-in-progress	246	667
Total property and equipment	<u>69,906</u>	<u>70,438</u>
Less accumulated depreciation	<u>(56,399)</u>	<u>(53,323)</u>
Net property and equipment	13,507	17,115
Property and equipment related to discontinued operations	81	81
Intangibles and other long term assets:		
Permits	8,434	8,474
Other intangible assets - net	1,546	1,721
Accounts receivable - non-current	—	212
Unbilled receivables - non-current	167	216
Finite risk sinking fund	15,642	21,487
Other assets	974	1,154
Other assets related to discontinued operations	214	268
Total assets	<u>\$ 58,704</u>	<u>\$ 65,335</u>

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

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

(Amounts in Thousands, Except for Share and per Share Amounts)	September 30, 2017 (Unaudited)	December 31, 2016 (Audited)
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>		
Current liabilities:		
Accounts payable	\$ 3,638	\$ 4,244
Accrued expenses	5,350	4,094
Disposal/transportation accrual	2,113	1,390
Deferred revenue	3,353	2,691
Accrued closure costs - current	2,927	2,177
Current portion of long-term debt	1,184	1,184
Current liabilities related to discontinued operations	594	958
Total current liabilities	<u>19,159</u>	<u>16,738</u>
Accrued closure costs, net of current portion	4,297	5,138
Other long-term liabilities	979	931
Deferred tax liabilities	2,467	2,362
Long-term debt, less current portion	2,959	7,649
Long-term liabilities related to discontinued operations	705	361
Total long-term liabilities	<u>11,407</u>	<u>16,441</u>
Total liabilities	30,566	33,179
Commitments and Contingencies (Note 8)		
Series B Preferred Stock of subsidiary, \$1.00 par value; 1,467,396 shares authorized, 1,284,730 shares issued and outstanding, liquidation value \$1.00 per share plus accrued and unpaid dividends of \$979 and \$931, respectively	1,285	1,285
Stockholders' Equity:		
Preferred Stock, \$.001 par value; 2,000,000 shares authorized, no shares issued and outstanding	—	—
Common Stock, \$.001 par value; 30,000,000 shares authorized; 11,721,570 and 11,677,025 shares issued, respectively; 11,713,928 and 11,669,383 shares outstanding, respectively	11	11
Additional paid-in capital	106,305	106,048
Accumulated deficit	(78,153)	(74,213)
Accumulated other comprehensive loss	(123)	(162)
Less Common Stock held in treasury, at cost; 7,642 shares	(88)	(88)
Total Perma-Fix Environmental Services, Inc. stockholders' equity	<u>27,952</u>	<u>31,596</u>
Non-controlling interest in subsidiary	(1,099)	(725)
Total stockholders' equity	<u>26,853</u>	<u>30,871</u>
Total liabilities and stockholders' equity	<u>\$ 58,704</u>	<u>\$ 65,335</u>

The accompanying notes are an integral part of these condensed 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,	
	2017	2016	2017	2016
Net revenues	\$ 11,758	\$ 12,921	\$ 37,179	\$ 37,768
Cost of goods sold	10,013	11,114	30,362	34,111
Gross profit	1,745	1,807	6,817	3,657
Selling, general and administrative expenses	2,653	2,732	8,337	8,162
Research and development	293	441	1,300	1,570
Loss (gain) on disposal of property and equipment	—	12	(1)	16
Impairment loss on tangible assets	672	—	672	1,816
Impairment loss on intangible assets	—	—	—	8,288
Loss from operations	(1,873)	(1,378)	(3,491)	(16,195)
Other income (expense):				
Interest income	34	31	105	78
Interest expense	(59)	(101)	(249)	(377)
Interest expense-financing fees	(9)	(14)	(27)	(99)
Other	1	(1)	2	20
Loss from continuing operations before taxes	(1,906)	(1,463)	(3,660)	(16,573)
Income tax expense (benefit)	71	37	218	(3,093)
Loss from continuing operations, net of taxes	(1,977)	(1,500)	(3,878)	(13,480)
Loss from discontinued operations, net of taxes of \$0	(145)	(191)	(436)	(622)
Net loss	(2,122)	(1,691)	(4,314)	(14,102)
Net loss attributable to non-controlling interest	(78)	(135)	(374)	(472)
Net loss attributable to Perma-Fix Environmental Services, Inc. common stockholders	\$ (2,044)	\$ (1,556)	\$ (3,940)	\$ (13,630)
Net loss per common share attributable to Perma-Fix Environmental Services, Inc. stockholders - basic and diluted:				
Continuing operations	\$ (.16)	\$ (.12)	\$ (.30)	\$ (1.12)
Discontinued operations	(.01)	(.01)	(.04)	(.06)
Net loss per common share	\$ (.17)	\$ (.13)	\$ (.34)	\$ (1.18)
Number of common shares used in computing net loss per share:				
Basic	11,714	11,632	11,698	11,588
Diluted	11,714	11,632	11,698	11,588

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

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

(Amounts in Thousands)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Net loss	\$ (2,122)	\$ (1,691)	\$ (4,314)	\$ (14,102)
Other comprehensive income (loss):				
Foreign currency translation income (loss)	12	5	39	(12)
Comprehensive loss	(2,110)	(1,686)	(4,275)	(14,114)
Comprehensive loss attributable to non-controlling interest	(78)	(135)	(374)	(472)
Comprehensive loss attributable to Perma-Fix Environmental Services, Inc. stockholders	<u>\$ (2,032)</u>	<u>\$ (1,551)</u>	<u>\$ (3,901)</u>	<u>\$ (13,642)</u>

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

**PERMA-FIX ENVIRONMENTAL SERVICES, INC**  
**Consolidated Statement of Stockholders' Equity**  
**For the Nine Months Ended September 30, 2017**

(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, 2016 (Audited)</b>	11,677,025	\$ 11	\$ 106,048	\$ (88)	\$ (162)	\$ (725)	\$ (74,213)	\$ 30,871
Net loss	—	—	—	—	—	(374)	(3,940)	(4,314)
Foreign currency translation	—	—	—	—	39	—	—	39
Issuance of Common Stock for services	44,545	—	161	—	—	—	—	161
Stock-Based Compensation	—	—	96	—	—	—	—	96
<b>Balance at September 30, 2017 (Unaudited)</b>	<u>11,721,570</u>	<u>\$ 11</u>	<u>\$ 106,305</u>	<u>\$ (88)</u>	<u>\$ (123)</u>	<u>\$ (1,099)</u>	<u>\$ (78,153)</u>	<u>\$ 26,853</u>

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

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

(Amounts in Thousands)	Nine Months Ended September 30,	
	2017	2016
<b>Cash flows from operating activities:</b>		
Net loss	\$ (4,314)	\$ (14,102)
Less: loss from discontinued operations, net of taxes of \$0	(436)	(622)
Loss from continuing operations, net of taxes	(3,878)	(13,480)
Adjustments to reconcile loss from continuing operations to cash used in operating activities:		
Depreciation and amortization	3,394	2,986
Amortization of debt issuance costs	27	164
Deferred tax expense (benefit)	105	(3,095)
Provision for (recovery of) bad debt reserves	85	(336)
(Gain) loss on disposal of property and equipment	(1)	16
Impairment loss on tangible assets	672	1,816
Impairment loss on intangible assets	—	8,288
Issuance of common stock for services	161	178
Stock-based compensation	96	69
Changes in operating assets and liabilities of continuing operations		
Restricted cash	—	35
Accounts receivable	41	(140)
Unbilled receivables	(1,554)	1,808
	293	2,225
Prepaid expenses, inventories and other assets		
Accounts payable, accrued expenses and unearned revenue	914	(1,869)
Cash provided by (used in) continuing operations	355	(1,335)
Cash used in discontinued operations	(464)	(710)
Cash used in operating activities	(109)	(2,045)
<b>Cash flows from investing activities:</b>		
Purchases of property and equipment	(200)	(104)
Proceeds from sale of property and equipment	7	30
Proceeds from/(payment to) finite risk sinking fund	5,845	(76)
Cash provided by (used in) investing activities of continuing operations	5,652	(150)
Cash provided by investing activities of discontinued operations	52	68
Cash provided by (used in) investing activities	5,704	(82)
<b>Cash flows from financing activities:</b>		
Repayments of revolving credit borrowings	(34,979)	(41,223)
Borrowing on revolving credit	31,176	44,137
Proceeds from issuance of common stock upon exercise of warrants/options	—	156
Release of proceeds for stock subscription for Perma-Fix Medical S.A. previously held in escrow	—	64
Payment of debt issuance costs	—	(97)
Principal repayments of long term debt	(914)	(1,199)
Principal repayments of long term debt-related party	—	(1,000)
Cash (used in) provided by financing activities of continuing operations	(4,717)	838
Effect of exchange rate changes on cash	14	(1)
Increase (decrease) in cash	892	(1,290)
Cash at beginning of period	163	1,435
Cash at end of period	\$ 1,055	\$ 145
<b>Supplemental disclosure:</b>		
Interest paid	\$ 252	\$ 309
Income taxes paid	17	41

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

**PERMA-FIX ENVIRONMENTAL SERVICES, INC.**  
**Notes to Consolidated Condensed Financial Statements**  
**September 30, 2017**  
**(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, 2016.

**1. Basis of Presentation**

The consolidated condensed financial statements included herein have been prepared by the Company (which may be referred to as we, us or our), without an audit, pursuant to the rules and regulations of the Securities and Exchange Commission (“the Commission”). Certain information and note disclosures normally included in financial statements prepared in accordance with accounting principles generally accepted in the United States of America (“U.S. GAAP”) have been condensed or omitted pursuant to such rules and regulations, although the Company believes the disclosures which are made are adequate to make the information presented not misleading. Further, the consolidated condensed 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, 2017 are not necessarily indicative of results to be expected for the fiscal year ending December 31, 2017.

The Company suggests that these consolidated condensed 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, 2016.

**Reclassification**

Certain prior year amounts have been reclassified to conform to the current year presentation.

**2. Summary of Significant Accounting Policies**

**Recently Adopted Accounting Standards**

In January 2017, the Financial Accounting Standards Board (“FASB”) issued Accounting Standards Update (“ASU”) No. 2017-03, “Accounting Changes and Error Corrections (Topic 250) and Investments – Equity Method and Joint Ventures (Topic 232) – Amendments to SEC Paragraphs Pursuant to staff Announcements at the September 22, 2016 and November 17, 2016 EITF Meetings.” This amendment states that registrants should consider additional qualitative disclosures if the impact of an issued but not yet adopted ASU is unknown or cannot be reasonably estimated and to include a description of the effect of the accounting policies that the registrant expects to apply, if determined. Transition guidance included in certain issued but not yet adopted ASUs were also updated to reflect this update. This update is effective immediately. The adoption of ASU 2017-13 by the Company in the first quarter did not have a material impact on the Company’s financial position, results of operations and cash flows. The Company will revise its disclosures for the standards not yet adopted as required by ASU 2017-03 as the Company progresses through its impact assessments.

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

In May 2014, the FASB issued 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 will supersede 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). Early adoption is permitted, as amended, to the original effective date of the period beginning after December 15, 2016 (including interim reporting periods within those periods). Topic 606 may be applied retrospectively to each prior period presented or retrospectively with the cumulative effect recognized as of the date of initial application. The Company has developed a project plan to guide the implementation. The Company is in the process of comparing its current revenue recognition policies to the requirements under Topic 606 while analyzing any subsequent impact on the Company’s contract portfolio, comparing historical accounting policies and practices to the requirements of the new guidance, reviewing the various revenue streams, and identifying potential differences from applying the requirements of the new guidance as outlined in the project plan. The Company has assigned internal and external resources to assist in this implementation project and believes that the project is progressing timely. The Company plans to adopt the standard in the first quarter of 2018 under the modified retrospective approach, resulting in a cumulative adjustment to retained earnings. The Company is still evaluating the impact of adopting Topic 600 on our financial statements.

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. For public companies, ASU 2016-02 is effective for annual reporting periods beginning after December 15, 2018, including interim periods within that reporting period, and requires a modified retrospective adoption, with early adoption permitted. The Company is still evaluating the potential impact of adopting this guidance on our financial statements.

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. Therefore, amounts generally described as restricted cash or 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 does not expect the adoption of these ASUs to have a material impact on the Company’s financial position, results of operations, or cash flows.

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 will be 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 Company does not expect the adoption of this ASU to 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 Company does not expect the adoption of this ASU to 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 Company does not expect the adoption of the new accounting rules to have a material impact on the Company’s financial position, results of operations and cash flows.

In July 2017, the FASB issued ASU 2017-11, “Earnings Per Share (Topic 260); Distinguishing Liabilities from Equity (Topic 480); Derivatives and Hedging (Topic 815): (Part I) Accounting for Certain Financial Instruments with Down Round Features, (Part II) Replacement of the Indefinite Deferral for Mandatorily Redeemable Financial Instruments of Certain Nonpublic Entities and Certain Mandatorily Redeemable Noncontrolling Interests with a Scope Exception.” Part I of this update addresses the complexity of accounting for certain financial instruments with down round features. Down round features are features of certain equity-linked instruments (or embedded features) that result in the strike price being reduced on the basis of the pricing of future equity offerings. When determining whether certain financial instruments should be classified as liabilities or equity instruments, a down round feature no longer precludes equity classification when assessing whether the instrument is indexed to an entity’s own stock. Part II of this update addresses the difficulty of navigating Topic 480, Distinguishing Liabilities from Equity, because of the existence of extensive pending content in the FASB Accounting Standards Codification and does not have an accounting effect. This ASU is effective for fiscal years, and interim periods within those years, beginning after December 15, 2018. Early adoption is permitted. The Company is currently assessing the impact that this standard will have on its financial statements.

### 3. Intangible Assets

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

	Useful Lives (Years)	September 30, 2017			December 31, 2016		
		Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
<u>Intangibles (amount in thousands)</u>							
Patent	3-17	\$ 643	(298)	\$ 345	\$ 577	(274)	\$ 303
Software	3	405	(396)	9	405	(383)	22
Customer relationships	12	3,370	(2,178)	1,192	3,370	(1,974)	1,396
Permit	10	545	(468)	77	545	(428)	117
<b>Total</b>		<b>\$ 4,963</b>	<b>\$ (3,340)</b>	<b>\$ 1,623</b>	<b>\$ 4,897</b>	<b>\$ (3,059)</b>	<b>\$ 1,838</b>

The intangible assets noted above are amortized on a straight-line basis over their useful lives with the exception of customer relationships which are being amortized using an accelerated method. The 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)
2017 (remaining)	\$ 92
2018	336
2019	254
2020	218
2021	198
Total	\$ 1,098

Amortization expense relating to the definite-lived intangible assets as discussed above was \$93,000 and \$281,000 for the three and nine months ended September 30, 2017, respectively, and \$101,000 and \$340,000 for the three and nine months ended September 30, 2016, respectively.

#### **4. Capital Stock, Stock Plans and Stock-Based Compensation**

##### *Stock Plans*

The Company adopted the 2017 Stock Option Plan (“2017 Plan”), which was approved by the Company’s stockholders at the Company’s Annual Meeting of Stockholders held on July 27, 2017 (the “Annual Meeting”). The 2017 Plan authorizes the grant of options to officers and employees of the Company, including any employee who is also a member of the Board of Directors (the “Board”), as well as to consultants of the Company. The 2017 Plan authorizes an aggregate grant of 540,000 non-qualified stock options (“NQSOs”) and incentive stock options (“ISOs”), which includes a rollover of 140,000 shares remaining available for issuance under the 2010 Stock Option Plan (the “2010 Plan”). As a result of the approval of the 2017 Plan, no further options will be granted under the 2010 Plan. In all other respects, the 2010 Plan will remain in full force and effect with respect to all outstanding options issued and unexercised under the 2010 Plan, which stands at 60,000. Consultants of the Company can only be granted NQSOs. The term of each stock option granted under the 2017 Plan shall be fixed by the Compensation and Stock Option Committee (the “Compensation Committee”), but no stock options will be exercisable more than ten years after the grant date, or in the case of an ISO granted to a 10% stockholder, five years after the grant date. The exercise price of any ISO granted under the 2017 Plan to an individual who is not a 10% stockholder at the time of the grant shall not be less than the fair market value of the shares at the time of the grant, and the exercise price of any incentive stock option granted to a 10% stockholder shall not be less than 110% of the fair market value at the time of grant. The exercise price of any NQSOs granted under the plan shall not be less than the fair market value of the shares at the time of grant.

At the Annual Meeting, the Company’s shareholders also approved an amendment to the 2003 Outside Directors Stock Plan (“2003 Plan”) which authorizes the issuance of an additional 300,000 shares of the Company’s common stock under the plan. Immediately prior to the approval of this amendment by the Company’s shareholders, the 2003 Plan had available for issuance approximately 99,868 shares.

##### *Stock Options to Employees and Outside Directors*

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 the vacancy left by Mr. Jack Lahav who retired from the Board in October 2016. The options granted were for a contractual term of ten years with a vesting period of six months. The exercise price of the NQSO 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 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, who is a member of the Board, is not eligible to receive options under the 2003 Plan since he is also an employee of the Company, pursuant to the 2003 Plan. The NQSOs granted to the five directors 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 ISOs from the 2017 Plan (following the approval of the 2017 Plan by the Company's stockholders as discussed above) to the named executive officers as follows: 50,000 ISOs to our Chief Executive Officer ("CEO") (Louis F. Centofanti); 100,000 ISOs to our Executive Vice President ("EVP")/Chief Operating Officer ("COO") (Mr. Mark Duff); and 50,000 ISOs to our Chief Financial Officer ("CFO") (Mr. Ben Naccarato). Effective September 8, 2017, Mr. Duff succeeded Dr. Centofanti as the CEO with Dr. Centofanti serving as EVP of Strategic Initiatives and continues to serve as a member of the Board (see "Note 12 – Related Party Transaction for further detail of this transition"). 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.

On May 15, 2016, the Company granted 50,000 ISOs from the Company's 2010 Plan to Mr. Duff. The ISOs granted were for a contractual term of six years with one-third yearly vesting over a three year period. The exercise price of the ISO was \$3.97 per share, which was equal to the fair market value of the Company's Common Stock on the date of grant.

On July 28, 2016, the Company granted an aggregate of 12,000 NQSOs from the 2003 Plan to five of the seven re-elected directors at our Annual Meeting of Stockholders held on July 28, 2016. Two of the directors were not eligible to receive options under the 2003 Stock Plan as they were employees of the Company or its subsidiaries. The NQSOs granted were for a contractual term of ten years with a vesting period of six months. The exercise price of the NQSOs was \$4.60 per share, which was equal to the Company's closing stock price the day preceding the grant date, pursuant to the 2003 Plan.

The Company estimates the 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 during the nine months ended September 30, 2017 and 2016 and the related assumptions used in the Black-Scholes option model used to value the options granted were as follows:

	Employee Stock Option Granted	
	July 27, 2017	May 15, 2016
Weighted-average fair value per share	\$ 1.88	\$ 2.00
Risk -free interest rate <sup>(1)</sup>	1.98%	1.27%
Expected volatility of stock <sup>(2)</sup>	53.15%	53.12%
Dividend yield	None	None
Expected option life <sup>(3)</sup>	6.0 years	6.0 years

	Outside Director Stock Options Granted		
	January 13, 2017	July 27, 2017	July 28, 2016
Weighted-average fair value per share	\$ 2.63	\$ 2.48	\$ 3.00
Risk -free interest rate <sup>(1)</sup>	2.40%	2.32%	1.52%
Expected volatility of stock <sup>(2)</sup>	56.32%	57.21%	55.99%
Dividend yield	None	None	None
Expected option life <sup>(3)</sup>	10.0 years	10.0 years	10.0 years

<sup>(1)</sup> 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.

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

<sup>(3)</sup> 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, 2017 and 2016 for our employee and director stock options.

Stock Options	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Employee Stock Options	\$ 22,000	\$ 12,000	\$ 43,000	\$ 42,000
Director Stock Options	12,000	13,000	32,000	27,000
Total	\$ 34,000	\$ 25,000	\$ 75,000	\$ 69,000

As of September 30, 2017, the Company has approximately \$436,000 of total unrecognized compensation cost related to unvested employee and director options, of which \$42,000 is expected to be recognized in remaining 2017, \$112,000 in 2018, \$87,000 in 2019, \$75,000 in 2020, \$75,000 in 2021, with the remaining \$45,000 in 2022.

#### *Stock Options to Consultant*

Mr. Robert Ferguson (“Ferguson”) is a consultant to the Board and a consultant to the Company in connection with the Company’s Test Bed Initiative (“TBI”) at its Perma-Fix Northwest Richland, Inc. (“PFNWR”) facility. For Ferguson’s consulting work with the Board, he has been receiving monthly compensation of \$4,000. For Ferguson’s consulting work in connection with the Company’s TBI, on July 27, 2017 (“grant date”), the Company granted Ferguson a stock option from the Company’s 2017 Plan (see above for a discussion of the 2017 Plan) for the purchase of up to 100,000 shares of the Company’s common stock at an exercise price of \$3.65 a share, which was the fair market value of the Company’s common stock on the date of grant (“Ferguson Stock Option”). The vesting of the Ferguson Stock Option is subject to the achievement of the following milestones (“waste” as noted below is defined as liquid law (“low activity waste”) and/or liquid TRU (“transuranic waste”)):

- Upon treatment and disposal of three gallons of waste at the PFNWR facility by January 27, 2018, 10,000 shares of the Ferguson Stock Option shall become exercisable;
- Upon treatment and disposal of 2,000 gallons of waste at the PFNWR facility by January 27, 2019, 30,000 shares of the Ferguson Stock Option shall become exercisable; and
- Upon treatment and disposal of 50,000 gallons of waste at the PFNWR facility and assistance, on terms satisfactory to the Company, in preparing certain justifications of cost and pricing data for the waste and obtaining a long-term commercial contract relating to the treatment, storage and disposal of waste by January 27, 2021, 60,000 shares of the Ferguson Stock Option shall become exercisable.

The term of the Ferguson Stock Option is seven (7) years from the grant date. Each of the milestones is exclusive of each other; therefore, achievement of any of the milestones above by Ferguson by the designated date will provide Ferguson the right to exercise the number of options in accordance with the milestone attained.

The Company accounts for stock-based compensation issued to consultants in accordance with the provisions of ASC 505-50, “Equity-Based Payments to Non-Employees.” Measurement of stock-based payment transactions with consultants is based on the fair value of whichever is more reliably measurable: (a) the goods or services received; or (b) the equity instrument issued. The measurement date for the fair value of the stock-based payment transaction is determined at the earlier of performance commitment date or performance completion date. In accordance with ASC 505-50, when it is appropriate for the Company to recognize the cost of a transaction during financial reporting periods prior to the measurement date, for purpose of recognition of costs during those periods, the equity instrument is measured at the then-current fair value at each of those interim financial reporting dates. The equity instrument is ultimately recorded at its fair value at its measurement date. Accordingly, at September 30, 2017, the Company has recorded approximately \$21,000 in consulting expenses (included in selling, general and administrative expenses (“SG&A”)) and additional paid-in capital in connection with this transaction which amount was estimated to be the fair value of the 10,000 options in the first milestone at September 30, 2017 using the Black-Scholes valuation model with the following assumptions: 52.64% volatility, risk free interest rate of 2.12%, and an expected life of approximately 6.8 years and no dividends.

*Summary of Stock Option Plans*

The summary of the Company's total Stock Option Plans as of September 30, 2017, as compared to September 30, 2016, and changes during the periods then ended, are presented below. The Company's Plans consist of the 2010 and 2017 Plans and the 2003 Plan:

	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (years)	Aggregate Intrinsic Value <sup>(3)</sup>
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

	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (years)	Aggregate Intrinsic Value <sup>(3)</sup>
Options outstanding January 1, 2016	218,200	\$ 7.65		
Granted	62,000	4.09		
Exercised	—	—		
Forfeited/expired	(33,000)	8.14		
Options outstanding end of period <sup>(2)</sup>	<u>247,200</u>	\$ 6.69	4.6	\$ 126,267
Options exercisable at September 30, 2016 <sup>(2)</sup>	<u>181,867</u>	\$ 7.61	4.0	\$ 69,516
Options exercisable and expected to be vested at September 30, 2016	<u>239,750</u>	\$ 6.78	4.6	\$ 118,542

<sup>(1)</sup> Options with exercise prices ranging from \$2.79 to \$13.35

<sup>(2)</sup> Options with exercise prices ranging from \$2.79 to \$14.75

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

*Stock Issuance for Services*

During the nine months ended September 30, 2017, the Company issued a total of 44,545 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 \$175,000 in compensation expenses for the nine months ended September 30, 2017 (included in selling, general and administration expenses) in connection with the issuance of shares of its common stock to outside directors.

## 5. (Loss) Income Per Share

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

(Amounts in Thousands, Except for Per Share Amounts)	Three Months Ended September 30, (Unaudited)		Nine Months Ended September 30, (Unaudited)	
	2017	2016	2017	2016
Net loss attributable to Perma-Fix Environmental Services, Inc., common stockholders:				
Loss from continuing operations attributable to Perma-Fix Environmental Services, Inc. common stockholders	\$ (1,899)	\$ (1,365)	\$ (3,504)	\$ (13,008)
Loss from discontinuing operations attributable to Perma-Fix Environmental Services, Inc. common stockholders	(145)	(191)	(436)	(622)
Net loss attributable to Perma-Fix Environmental Services, Inc. common stockholders	<u>\$ (2,044)</u>	<u>\$ (1,556)</u>	<u>\$ (3,940)</u>	<u>\$ (13,630)</u>
Basic loss per share attributable to Perma-Fix Environmental Services, Inc. common stockholders	<u>\$ (.17)</u>	<u>\$ (.13)</u>	<u>\$ (.34)</u>	<u>\$ (1.18)</u>
Diluted loss per share attributable to Perma-Fix Environmental Services, Inc. common stockholders	<u>\$ (.17)</u>	<u>\$ (.13)</u>	<u>\$ (.34)</u>	<u>\$ (1.18)</u>
Weighted average shares outstanding:				
Basic weighted average shares outstanding	11,714	11,632	11,698	11,588
Add: dilutive effect of stock options	—	—	—	—
Add: dilutive effect of warrants	—	—	—	—
Diluted weighted average shares outstanding	<u>11,714</u>	<u>11,632</u>	<u>11,698</u>	<u>11,588</u>
Potential shares excluded from above weighted average share calculations due to their anti-dilutive effect include:				
Stock options	185	98	497	150

## 6. Long Term Debt

Long-term debt consists of the following at September 30, 2017 and December 31, 2016:

(Amounts in Thousands)	September 30, 2017	December 31, 2016
<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 2017 was 4.2%. <sup>(1)</sup>	\$ —	\$ 3,803
<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 first nine months of 2017 was 4.5%. <sup>(1) (2)</sup>	4,143 <sup>(3)</sup>	5,030 <sup>(3)</sup>
Total debt	4,143	8,833
Less current portion of long-term debt	1,184	1,184
Long-term debt	<u>\$ 2,959</u>	<u>\$ 7,649</u>

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

<sup>(2)</sup> Prior to April 1, 2016, the monthly installment payment under the term loan was approximately \$190,000.

<sup>(3)</sup> Net of debt issuance costs of (\$124,000) and (\$151,000) at September 30, 2017 and December 31, 2016, respectively.

## **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 (“Loan Agreement”), with PNC National Association (“PNC”), acting as agent and lender. The Loan Agreement, as subsequently amended (“Amended 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”), subject to the amount of borrowings based on a percentage of eligible receivables (as defined) 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).

Under the Amended Loan Agreement, the Company has the option of paying an annual rate of interest due on the revolving credit at prime (4.25% at September 30, 2017) 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 Amended Loan Agreement, the Company may terminate the Amended Loan Agreement, upon 90 days’ prior written notice upon payment in full of its obligations under the Amended Loan Agreement. The Company agreed to pay PNC 1.0% of the total financing in the event the Company had paid off its obligations on or before March 23, 2017, .50% of the total financing if the Company pays 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, 2017, the availability under our revolving credit was \$4,257,000, based on our eligible receivables and includes an indefinite reduction of borrowing availability of \$2,000,000 that the Company’s lender has imposed, which includes \$750,000 that was imposed immediately upon the Company’s receipt of finite risk sinking funds on May 1, 2017, in connection with the cancellation of the closure policy for the Company’s PFNWR subsidiary (see “Note 8 – Commitments and Contingencies – Insurance” below for further information of the PFNWR closure policy and the receipt of the related sinking funds).

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 2017 and expects to meet its quarterly financial covenants in the next twelve months.

### **7. East Tennessee Materials and Energy Corporation (“M&EC”)**

The Company continues its plan to close its M&EC facility by the end of the M&EC’s lease term of January 21, 2018. Operations at the M&EC facility are continuing during the remaining term of the lease and the facility continues to transition waste shipments and operational capabilities to our other Treatment Segment facilities, subject to customer requirements and regulatory approvals. Simultaneously, the Company continues with closure and decommissioning activities in accordance with M&EC’s license and permit requirements.

In accordance with ASC 360, “Property, Plant, and Equipment,” the Company performed an updated financial valuation of M&EC’s remaining long-lived tangible assets (inclusive of the capitalized asset retirement costs) for further potential impairment during the third quarter of 2017. Based on our analysis using an undiscounted cash flow approach, the Company concluded that the carrying value of the remaining tangible assets for M&EC was not recoverable and exceeded its fair value. Consequently, the Company fully impaired the remaining tangible assets at M&EC resulting in \$672,000 in tangible asset impairment loss.

At September 30, 2017, total accrued closure liabilities for our M&EC subsidiary totaled approximately \$2,927,000 which is recorded as current liabilities. At December 31, 2016, M&EC had long-term closure liabilities of approximately \$881,000 which were reclassified to current at March 31, 2017. The Company recorded an additional \$550,000 in closure costs and current closure liabilities during the third quarter of 2017 due to a change in estimated closure costs. The following reflects changes to the closure liabilities for the M&EC subsidiary from year end 2016:

<u>Amounts in thousands</u>	
Balance as of December 31, 2016	<u>\$ 3,058</u>
Accretion expense	149
Adjustment to closure liability	550
Payments	(830)
Balance as of September 30, 2017	<u>\$ 2,927</u>

Revenues for the M&EC subsidiary were \$578,000 and \$5,650,000 for the three and nine months ended September 30, 2017, respectively, and \$703,000 and \$3,458,000 for the corresponding periods of 2016, respectively.

## **8. 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 may be 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. All of the required payments for this finite risk insurance policy, as amended, were previously made by the Company. At September 30, 2017, our financial assurance coverage amount under this policy totaled approximately \$29,473,000. The Company has recorded \$15,642,000 and \$15,546,000 in sinking funds related to this policy in other long term assets on the accompanying Consolidated Balance Sheets at September 30, 2017 and December 31, 2016, respectively, which includes interest earned of \$1,171,000 and \$1,075,000 on the sinking funds as of September 30, 2017 and December 31, 2016, respectively. Interest income for the three and nine months ended September 30, 2017 was approximately \$35,000 and \$96,000, respectively. Interest income for the three and nine month periods ended September 30, 2016, was approximately \$24,000 and \$62,000, 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.

The Company also had a finite risk insurance policy dated August 2007 for our PFNWR facility with AIG (“PFNWR policy”) which provided financial assurance to the State of Washington in the event of closure of the PFNWR facility. The Company had recorded \$5,941,000 in finite risk sinking funds at December 31, 2016 in other long term assets on the accompanying Consolidated Balance Sheets which included interest earned of \$241,000 on the sinking fund. In April 2017, the Company received final releases from state and federal regulators for the PFNWR policy which enabled the Company to cancel the PFNWR policy resulting in the release of approximately \$5,951,000 on May 1, 2017 in finite sinking funds previously held by AIG as collateral for the PFNWR policy. The Company used the released finite sinking funds to pay off its revolving credit with the remaining funds to be used for general working capital needs. The Company has acquired new bonds in the required amount of approximately \$7,000,000 (“new bonds”) to replace the PFNWR policy in providing financial assurance for the PFNWR facility. Upon receipt of the \$5,951,000 in finite sinking funds from AIG, the Company and its lender executed a standby letter of credit in the amount of \$2,500,000 as collateral for the new bonds for the PFNWR facility. In addition, the Company’s lender placed an additional \$750,000 restriction on the Company’s borrowing availability pursuant to a “Condition Subsequent” clause in the November 17, 2016 amendment that the Company entered into with its lender. Interest income earned under the PFNWR policy for the three and nine months ended September 30, 2017 was approximately \$2,000 and \$10,000, respectively. Interest income for the three and nine month periods ended September 30, 2016, was approximately \$7,000 and \$14,000, respectively.

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

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, 2017, the total amount of standby letters of credit outstanding totaled approximately \$2,675,000 and the total amount of bonds outstanding totaled approximately \$8,253,000.

### **9. 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 \$145,000 and \$191,000 for the three months ended September 30, 2017 and 2016, respectively (net of taxes of \$0 for each period) and losses of \$436,000 and \$622,000 for the nine months ended September 30, 2017 and 2016, respectively (net of taxes of \$0 for each period). The losses were primarily due to costs incurred in the administration and continued monitoring of our discontinued operations. The Company’s discontinued operations had no revenues for each of the periods noted above.

The following table presents the major class of assets of discontinued operations at September 30, 2017 and December 31, 2016.

(Amounts in Thousands)	September 30, 2017	December 31, 2016
<b>Current assets</b>		
Other assets	\$ 96	\$ 85
Total current assets	96	85
<b>Long-term assets</b>		
Property, plant and equipment, net <sup>(1)</sup>	81	81
Other assets	214	268
Total long-term assets	295	349
<b>Total assets</b>	<b>\$ 391</b>	<b>\$ 434</b>
<b>Current liabilities</b>		
Accounts payable	\$ 38	\$ 13
Accrued expenses and other liabilities	260	268
Environmental liabilities	296	677
Total current liabilities	594	958
<b>Long-term liabilities</b>		
Closure liabilities	118	113
Environmental liabilities	587	248
Total long-term liabilities	705	361
<b>Total liabilities</b>	<b>\$ 1,299</b>	<b>\$ 1,319</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, 2017, the outstanding amount on this note receivable totaled approximately \$286,000, of which approximately \$72,000 is included in "Current assets related to discontinued operations" and approximately \$214,000 is included in "Other assets related to discontinued operations" in the accompanying Consolidated Balance Sheets.

## 10. 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 maker ("CODM") to make decisions about resources to be allocated to the segment and assess its performance; and (3) for which discrete financial information is available.

Our reporting segments are defined as below:

TREATMENT SEGMENT reporting includes:

- nuclear, low-level radioactive, mixed, hazardous and non-hazardous waste treatment, processing and disposal services primarily through four uniquely licensed and permitted treatment and storage facilities (see "Note 7 – East Tennessee Materials and Energy Corporation ("M&EC") for further detail of pending closure of the M&EC facility); and
- R&D activities to identify, develop and implement innovative waste processing techniques for problematic waste streams.

SERVICES SEGMENT, which includes:

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

- o integrated Occupational Safety and Health services including industrial hygiene (“IH”) assessments; hazardous materials surveys, e.g., exposure monitoring; lead and asbestos management/abatement oversight; indoor air quality evaluations; health risk and exposure assessments; health & safety plan/program development, compliance auditing and training services; and Occupational Safety and Health Administration (“OSHA”) citation assistance;
  - o global technical services providing consulting, engineering, project management, waste management, environmental, and decontamination and decommissioning field, technical, and management personnel and services to commercial and government customers;
- Nuclear services, which include:
- o technology-based services including engineering, decontamination and decommissioning (“D&D”), specialty services and construction, logistics, transportation, processing and disposal;
  - o remediation of nuclear licensed and federal facilities and the remediation cleanup of nuclear legacy sites. Such services capability includes: project investigation; radiological engineering; partial and total plant D&D; facility decontamination, dismantling, demolition, and planning; site restoration; site construction; logistics; transportation; and emergency response; and
- A company owned equipment calibration and maintenance laboratory that services, maintains, calibrates, and sources (i.e., rental) of 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 and consist primarily of employee salaries and benefits, laboratory costs, third party fees, and other related costs associated with the development of this new technology.

Our reporting segments exclude our corporate headquarters and our discontinued operations (see Note 9 – “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, 2017 and 2016 (in thousands).

### 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>(3)</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 Quarter Ended September 30, 2016

	Treatment	Services	Medical	Segments Total	Corporate <sup>(1)</sup>	Consolidated Total
Revenue from external customers	\$ 7,643	\$ 5,278	—	\$ 12,921	\$ —	\$ 12,921
Intercompany revenues	28	8	—	36	—	—
Gross profit	837	970	—	1,807	—	1,807
Research and development	95	4	342	441	—	441
Interest income	—	—	—	—	31	31
Interest expense	(2)	(2)	—	(4)	(97)	(101)
Interest expense-financing fees	—	—	—	—	(14)	(14)
Depreciation and amortization	1,019	161	—	1,180	9	1,189
Segment (loss) income before income taxes	(90)	360	(342)	(72)	(1,391)	(1,463)
Income tax expense	35	—	—	35	2	37
Segment (loss) income	(125)	360	(342)	(107)	(1,393)	(1,500)
Expenditures for segment assets	63	13	—	76	—	76

### 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>(3)</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

### Segment Reporting for the Nine Months Ended September 30, 2016

	Treatment	Services	Medical	Segments Total	Corporate <sup>(1)</sup>	Consolidated Total
Revenue from external customers	\$ 22,832	\$ 14,936	—	\$ 37,768	\$ —	\$ 37,768
Intercompany revenues	38	23	—	61	—	—
Gross profit	1,280	2,377	—	3,657	—	3,657
Research and development	321	38	1,196	1,555	15	1,570
Interest income	3	—	—	3	75	78
Interest expense	(19)	(2)	—	(21)	(356)	(377)
Interest expense-financing fees	—	—	—	—	(99)	(99)
Depreciation and amortization	2,437	482	—	2,919	67	2,986
Segment (loss) income before income taxes	(11,895) <sup>(2)</sup>	682	(1,196)	(12,409)	(4,164)	(16,573)
Income tax (benefit) expense	(3,095) <sup>(2)</sup>	—	—	(3,095)	2	(3,093)

Segment (loss) income	(8,800)	687	(1,196)	(9,304)	(4,166)	(13,480)
Expenditures for segment assets						

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

(2) Amounts include tangible and intangible asset impairment losses of \$1,816,000 and \$8,288,000, respectively for the Company's M&EC subsidiary. Also includes a tax benefit of approximately \$3,203,000 recorded resulting from the intangible impairment loss recorded for our M&EC subsidiary.

(3) Amounts include tangible asset impairment loss of \$672,000 for the Company's M&EC subsidiary (see "Note 7 – East Tennessee Materials and Energy Corporation ("M&EC")").

## **11. Income Taxes**

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

The Company had income tax expenses of \$71,000 and \$218,000 for continuing operations for the three and nine months ended September 30, 2017, respectively, and income tax expense of \$37,000 and income tax benefit of \$3,093,000 for continuing operations for the three and nine months ended September 30, 2016, respectively. The Company's effective tax rates were approximately 3.7% and 6.0% for the three and nine months ended September 30, 2017, respectively, and 2.5% and (18.7%) for the three and nine months ended September 30, 2016, respectively. The Company's income tax benefit for the nine months ended September 30, 2016 was primarily the result of a tax benefit recorded in the amount of \$3,203,000 resulting from the permit impairment loss recorded for the Company's M&EC subsidiary.

## **12. Related Party Transactions**

### *Employment Agreements*

On September 8, 2017, the Company's Board approved the appointment of Mr. Mark Duff as the Company's new CEO, succeeding Dr. Louis Centofanti, who will serve as EVP of Strategic Initiatives and continue to serve as a member of the Board.

Immediately after the appointment of Mark Duff as the Company's new CEO, the Company's Compensation Committee and the Board approved, and the Company entered into, an employment agreement with each of Mark Duff, CEO (the "CEO Employment Agreement"), Dr. Louis Centofanti, EVP of Strategic Initiatives (the "EVP Employment Agreement"), and Ben Naccarato, CFO (the "CFO Employment Agreement") and, collectively with the CEO Employment Agreement, the EVP Employment Agreement, and the CFO Employment Agreement, the "New Employment Agreements" and each individually the "New Employment Agreement". The Company had previously entered into an employment agreement with each of Dr. Louis Centofanti and Ben Naccarato on July 10, 2014 which both employment agreements are due to expire on July 10, 2018, as amended (the "July 10, 2014 Employment Agreements"). The Company also had previously entered into an employment agreement dated January 19, 2017 (which was effective June 11, 2016) with Mark Duff which is due to expire on June 11, 2019 (the "January 19, 2017 Employment Agreement"). The July 10, 2014 Employment Agreements and the January 19, 2017 Employment Agreement were terminated effective September 8, 2017.

Pursuant to New Employment Agreements, which are effective September 8, 2017 (the "Initial Term"), (a) Mark Duff will serve as the Company's CEO, with an annual salary of \$267,000; (b) Dr. Louis Centofanti will serve as the Company's EVP of Strategic Initiative, with an annual salary of \$223,400; and (c) Ben Naccarato will continue to serve as the Company's CFO, with an annual salary of \$229,494. In addition, each of these executive officers is entitled to participate in the Company's broad-based benefits plans and to certain performance compensation payable under separate Management Incentive Plans ("MIPs") as approved by the Company's Compensation Committee. The Company's Compensation Committee and the Board approved individual 2017 MIPs on January 19, 2017 (which are effective January 1, 2017) for each Mark Duff, Dr. Louis Centofanti, and Ben Naccarato, which remain effective for fiscal year 2017.

Each of the New Employment Agreements is effective for three years from the Initial Term unless earlier terminated by the Company or by the executive officer. At the end of the Initial Term of each New Employment Agreement, each New Employment Agreement will automatically be extended for one additional year, unless at least six months prior to the expiration of the Initial Term, the Company or the executive officer provides written notice not to extend the terms of the New Employment Agreement.

Pursuant to the New Employment Agreements, if the executive officer's employment is terminated due to death/disability or for cause (as defined in the agreements), the Company will pay to the executive officer or to his estate an amount equal to the sum of any unpaid base salary and accrued unused vacation time through the date of termination and any benefits due to the executive officer under any employee benefit plan (the "Accrued Amounts") plus any performance compensation payable pursuant to the MIP.

If the executive officer terminates his employment for "good reason" (as defined in the agreements) or is terminated without cause (including the executive officer terminating his employment for "good reason" or is terminated without cause within 24 months after a Change in Control (as defined in the agreement)), the Company will pay the executive officer a sum equal to the total Accrued Amounts, two years of full base salary, performance compensation (under the MIP) earned with respect to the fiscal year immediately preceding the date of termination, and an additional year of performance compensation (under the MIP) earned, if not already paid, with respect to the fiscal year immediately preceding the date of termination. If the executive terminates his employment for a reason other than for good reason, the Company will pay to the executive the amount equal to the Accrued Amounts plus any performance compensation payable pursuant to the MIP.

If there is a Change in Control (as defined in the agreements), all outstanding stock options to purchase common stock held by the executive officer will immediately become exercisable in full commencing on the date of termination through the original term of the options. In the event of the death of an executive officer, all outstanding stock options to purchase common stock held by the executive officer will immediately become exercisable in full commencing on the date of termination, with such options exercisable for the lesser of the original option term or twelve months from the date of the executive officer's death. Severance benefits payable with respect to a termination (other than Accrued Amounts) shall not be payable until the termination constitutes a "separation from service" (as defined under Treasury Regulation Section 1.409A-1(h)).

*Robert L. Ferguson*

Mr. Robert Ferguson ("Ferguson") is a consultant to the Board and a consultant to the Company. In connection with his consulting work for the Company, on July 27, 2017, the Company granted an option to Ferguson for the purchase of up to 100,000 shares of the Company's common stock (see information of this option in "Note 4 – Capital Stock, Stock Plans and Stock-Based Compensation").

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

### **Forward-looking Statements**

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

- demand for our services;
- reductions in the level of government funding in future years;
- reducing operating costs;
- 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 and our available liquidity from our credit facility are sufficient to fund our operations;
- 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 internally;
- compliance with environmental regulations;
- potential effect of being a PRP;
- further reduce or delay or eliminate R&D program if the Medical Segment is unable to raise the necessary capital; and
- potential sites for violations of environmental laws and remediation of our facilities.

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 in the event of default; and
- risk factors and other factors set forth in “Special Note Regarding Forward-Looking Statements” contained in the Company’s 2016 Form 10-K and Form 10-Q for the quarters ended March 31, 2017, June 30, 2017, and September 30, 2017.

## Overview

Revenue decreased \$1,163,000 or 9.0% to \$11,758,000 for the three months ended September 30, 2017 from \$12,921,000 for the corresponding period of 2016. Revenue from our Services Segment decreased \$2,875,000 or 54.5% primarily due the completion of a significant nuclear services project in December 2016. Revenue from our Treatment Segment increased \$1,712,000 or 22.4% due to higher waste volume and higher averaged price waste. Total gross profit decreased \$62,000 or 3.4% for the three months ended September 30, 2017 as compared to the corresponding period of 2016. Total gross profit for the third quarter of 2017 included additional closure costs recorded in the amount of \$550,000 in connection with our East Tennessee Material and Energy Corporation (“M&EC”) facility as discussed below. Excluding the \$550,000 in closure costs recorded, total gross profit increased by \$488,000 or 27.0% primarily due to increased revenue in our Treatment Segment. Total Selling, General, and Administrative (“SG&A”) expenses decreased \$79,000 or 2.9% for the three months ended September 30, 2017 as compared to the corresponding period of 2016.

Revenue decreased \$589,000 or 1.6% to \$37,179,000 for the nine months ended September 30, 2017 from \$37,768,000 for the corresponding period of 2016. The decrease in revenue was primarily due to the decrease in revenue of approximately \$6,776,000 or 45.4% to \$8,160,000 from \$14,936,000 in the Services Segment. Treatment Segment revenue increased approximately \$6,187,000 or 27.1% from higher waste volume and higher averaged price waste. Total gross profit increased \$3,160,000 or 86.4% for the nine months ended September 30, 2017 as compared to the corresponding period of 2016 primarily due to higher revenue generated from our Treatment Segment. Total SG&A expenses increased \$175,000 or 2.1% for the nine months ended September 30, 2017 as compared to the corresponding period of 2016.

We continue our plan to close our M&EC facility by the end of the M&EC’s lease term of January 21, 2018. In accordance with Accounting Standards Codification 360, “Property, Plant, and Equipment,” we performed an updated financial valuation of M&EC’s remaining long-lived tangible assets (inclusive of the capitalized asset retirement costs) for further potential impairment during the third quarter of 2017. Based on our analysis using an undiscounted cash flow approach, we concluded that the carrying value of the remaining tangible assets for M&EC was not recoverable and exceeded its fair value. Consequently, we fully impaired the remaining tangible assets for M&EC resulting in \$672,000 in tangible asset impairment loss. During the third quarter of 2017, we also recorded an additional \$550,000 in closure liabilities due to a change in estimated closure costs for our M&EC facility.

As previously reported, at the direction of Dr. Louis Centofanti, our former Chief Executive Officer (“CEO”) and President, and the Board of Directors (the “Board”), we instituted our succession plan during the third quarter of 2017, in which Dr. Centofanti resigned his position as our CEO and President and the Board elected Mr. Mark Duff as the new CEO and President of the Company. In order to have Dr. Centofanti remain active in the operation of the Company, the Board then elected Dr. Centofanti as Executive Vice President of Strategic Initiatives. Dr. Centofanti continues to serve as a member of the Board.

## 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, during the latter part of 2016, our Medical Segment reduced substantially 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 it obtains the necessary capital through obtaining 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 or delay or eliminate its R&D program.

## 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.

Summary – Three and Nine Months Ended September 30, 2017 and 2016

Consolidated (amounts in thousands)	Three Months Ended September 30,				Nine Months Ended September 30,			
	2017	%	2016	%	2017	%	2016	%
Net revenues	\$ 11,758	100.0	\$ 12,921	100.0	\$ 37,179	100.0	\$ 37,768	100.0
Cost of goods sold	10,013	85.2	11,114	86.0	30,362	81.7	34,111	90.3
Gross profit	1,745	14.8	1,807	14.0	6,817	18.3	3,657	9.7
Selling, general and administrative	2,653	22.6	2,732	21.1	8,337	22.4	8,162	21.6
Research and development	293	2.4	441	3.4	1,300	3.5	1,570	4.3
Loss (gain) on disposal of property and equipment	—	—	12	.1	(1)	—	16	—
Impairment loss on tangible assets	672	5.7	—	—	672	1.8	1,816	4.8
Impairment loss on intangible assets	—	—	—	—	—	—	8,288	21.9
Loss from operations	(1,873)	(15.9)	(1,378)	(10.6)	(3,491)	(9.4)	(16,195)	(42.9)
Interest income	34	.3	31	.2	105	.3	78	.2
Interest expense	(59)	(.5)	(101)	(.8)	(249)	(.7)	(377)	(1.0)
Interest expense-financing fees	(9)	(.1)	(14)	(.1)	(27)	—	(99)	(.2)
Other	1	—	(1)	—	2	—	20	—
Loss from continuing operations before taxes	(1,906)	(16.2)	(1,463)	(11.3)	(3,660)	(9.8)	(16,573)	(43.9)
Income tax expense (benefit)	71	.6	37	.3	218	.6	(3,093)	(8.2)
Loss from continuing operations	\$ (1,977)	(16.8)	\$ (1,500)	(11.6)	\$ (3,878)	(10.4)	\$ (13,480)	(35.7)

### Net Revenues

Net revenues decreased \$1,163,000 for the three months ended September 30, 2017, compared to the three months ended September 30, 2016, as follows:

(In thousands)	2017	% Revenue	2016	% Revenue	Change	% Change
<b>Treatment</b>						
Government waste	\$ 7,114	60.5	\$ 5,127	39.7	\$ 1,987	38.8
Hazardous/non-hazardous	1,243	10.6	1,307	10.1	(64)	(4.9)
Other nuclear waste	998	8.5	1,209	9.4	(211)	(17.5)
Total	9,355	79.6	7,643	59.2	1,712	22.4
<b>Services</b>						
Nuclear services	1,476	12.5	4,829	37.3	(3,353)	(69.4)
Technical services	927	7.9	449	3.5	478	106.5
Total	2,403	20.4	5,278	40.8	(2,875)	(54.5)
Total	\$ 11,758	100.0	\$ 12,921	100.0	\$ (1,163)	(9.0)

Treatment Segment revenue increased \$1,712,000 or 22.4% for the three months ended September 30, 2017 over the same period in 2016. The revenue increase was primarily due to higher revenue generated from government clients of approximately \$1,987,000 or 38.8% due to higher waste volume and higher averaged price waste. Other nuclear waste revenue decreased by approximately \$211,000 primarily due to lower waste volume. Services Segment revenue decrease by \$2,875,000 or 54.5% in the three months ended September 30, 2017 from the corresponding period of 2016 primarily due to the completion of a nuclear services project in December 2016 which had generated revenues of approximately \$3,055,000 in the third quarter of 2016. The decrease in revenue in the Services Segment was also partially due to delays in a large nuclear services project in May 2017 due to government funding uncertainties. This project commenced at the end of August 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.

Net revenues decreased \$589,000 for the nine months ended September 30, 2017, as compared to the nine months ended September 30, 2016, as follows:

(In thousands)	2017	% Revenue	2016	% Revenue	Change	% Change
<b>Treatment</b>						
Government waste	\$ 21,548	58.0	\$ 15,062	39.9	\$ 6,486	43.1
Hazardous/non-hazardous	3,717	10.0	3,544	9.4	173	4.9
Other nuclear waste	3,754	10.1	4,226	11.2	(472)	(11.2)
Total	29,019	78.1	22,832	60.5	6,187	27.1
<b>Services</b>						
Nuclear services	5,971	16.0	13,671	36.2	(7,700)	(56.3)
Technical services	2,189	5.9	1,265	3.3	924	73.0
Total	8,160	21.9	14,936	39.5	(6,776)	(45.4)
Total	\$ 37,179	100.0	\$ 37,768	100.0	\$ (589)	(1.6)

Treatment Segment revenue increased \$6,187,000 or 27.1% for the nine months ended September 30, 2017 over the same period in 2016. The revenue increase was primarily due to higher revenue generated from government clients of approximately \$6,486,000 or 43.1% primarily due to higher waste volume and higher averaged price waste. Other nuclear waste revenue decreased by approximately \$472,000 or 11.2% primarily due to lower waste volume. Services Segment revenue decrease by \$6,776,000 or 45.4% in the nine months ended September 30, 2017 from the corresponding period of 2016 primarily due to the completion of a nuclear services project in December 2016 which had generated revenues of approximately \$8,145,000 during the first nine months of 2016. The decrease in revenue in the Services Segment was also partially due to delays in a large nuclear services project in May 2017 due to government funding uncertainties. This project commenced at the end of August 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 decreased \$1,101,000 for the quarter ended September 30, 2017, as compared to the quarter ended September 30, 2016, as follows:

(In thousands)	2017	% Revenue	2016	% Revenue	Change
Treatment	\$ 7,742	82.8	\$ 6,806	89.0	\$ 936
Services	2,271	94.5	4,308	81.6	(2,037)
Total	<u>\$ 10,013</u>	<u>85.2</u>	<u>\$ 11,114</u>	<u>86.0</u>	<u>\$ (1,101)</u>

Cost of goods sold for the Treatment Segment increased by \$936,000 or approximately 13.8%. Treatment Segment costs of goods sold for the third quarter of 2017 included additional closure costs recorded in the amount of \$550,000 for our M&EC facility due to a change in estimated closure costs in connection with the pending closure of our M&EC facility. Excluding this \$550,000 in closure costs, Treatment Segment costs increased \$386,000 or 5.7%. Total Treatment Segment variable cost increased by approximately \$481,000 primarily in disposal, transportation and material and supplies costs due to higher revenue. Treatment Segment overall fixed costs were lower by approximately \$95,000 resulting from the following: salaries and payroll related expenses were lower by approximately \$225,000 due to lower headcount from normal attrition and employees working on the pending closure of the M&EC facility (resulting in salaries and payroll related expenses charged to closure accrual); depreciation expense was lower by approximately \$55,000 as certain tangible assets became fully depreciated during the second quarter of 2017; maintenance expense was higher by \$152,000; and general expense was higher by approximately \$33,000 in various categories. Services Segment cost of goods sold decreased \$2,037,000 or 47.3% primarily due to the decrease in revenue as discussed above. The decrease in Services Segment's cost of goods sold was primarily in salaries and payroll related expenses, travel, and outside services expenses totaling approximately \$1,533,000 with the remaining decrease primarily in material and supplies and disposal costs. Included within cost of goods sold is depreciation and amortization expense of \$1,086,000 and \$1,158,000 for the three months ended September 30, 2017, and 2016, respectively.

Cost of goods sold decreased \$3,749,000 for the nine months ended September 30, 2017, as compared to the nine months ended September 30, 2016, as follows:

(In thousands)	2017	% Revenue	2016	% Revenue	Change
Treatment	\$ 22,545	77.7	\$ 21,552	94.4	\$ 993
Services	7,817	95.8	12,559	84.1	(4,742)
Total	<u>\$ 30,362</u>	<u>81.7</u>	<u>\$ 34,111</u>	<u>90.3</u>	<u>\$ (3,749)</u>

Cost of goods sold for the Treatment Segment increased by \$993,000 or approximately 4.6%. Cost of goods sold for the Treatment Segment for 2016 included a write-off of approximately \$587,000 in prepaid fees recorded in the second quarter of 2016 resulting from the impairment of certain equipment at our M&EC facility due to its pending closure by January 2018. Such fees were incurred for emission performance testing certification requirements as mandated by the state. Also, costs of goods sold for the Treatment Segment for 2017 included \$550,000 in additional closure costs recorded in the third quarter of 2017 in connection with the pending closure of our M&EC facility as discussed above. Excluding the write-off of \$587,000 for 2016 and the additional closure costs of \$550,000 recorded in the third quarter of 2017, total Treatment Segment cost of goods sold increased \$1,030,000 or 4.9%. Treatment Segment variable costs increased by approximately \$556,000 primarily in disposal, transportation, and material and supplies costs due to higher revenue. Treatment Segment overall fixed costs were higher by approximately \$474,000 resulting from the following: depreciation expense was higher by approximately \$523,000 due to the re-evaluation of the estimated useful lives of our M&EC facility's remaining tangible assets conducted during the second quarter of 2016 due to the pending closure of the facility by January 2018; maintenance expense was higher by \$203,000; general expense was higher by approximately \$145,000 in various categories; regulatory expense was higher by \$149,000; and salaries and payroll related expenses were lower by approximately \$546,000 due to lower headcount from normal attrition and employees working on the pending closure of the M&EC facility (resulting in salaries and payroll related expenses charged to closure accrual). Services Segment cost of goods sold decreased \$4,742,000 or 37.8% primarily due to the decrease in revenue as discussed above. The decrease in Services Segment's cost of goods sold was primarily in salaries and payroll related expenses, travel, and outside services expenses totaling approximately \$3,239,000 with the remaining decrease primarily in material and supplies and disposal costs. Included within cost of goods sold is depreciation and amortization expense of \$3,331,000 and \$2,853,000 for the nine months ended September 30, 2017, and 2016, respectively.

## Gross Profit

Gross profit for the quarter ended September 30, 2017 decreased \$62,000 over the same period of 2016, as follows:

(In thousands)	2017	% Revenue	2016	% Revenue	Change
Treatment	\$ 1,613	17.2	\$ 837	11.0	\$ 776
Services	132	5.5	970	18.4	(838)
Total	\$ 1,745	14.8	\$ 1,807	14.0	\$ (62)

Excluding the \$550,000 in additional closure costs (included within costs of goods sold) recorded in the third quarter of 2017 in connection with the pending closure of the M&EC as discussed above, our Treatment Segment gross profit increased \$1,326,000 or 158.4% and gross margin increased to 23.1% from 11.0% primarily due to increased revenue, revenue mix, and the reduction in our fixed costs. In the Services Segment, the decreases in gross profit of \$838,000 or 86.4% and gross margin from 18.4% to 5.5% was primarily due to the decrease 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, 2017 increased \$3,160,000 over the same period in 2016, as follows:

(In thousands)	2017	% Revenue	2016	% Revenue	Change
Treatment	\$ 6,474	22.3	\$ 1,280	5.6	\$ 5,194
Services	343	4.2	2,377	15.9	(2,034)
Total	\$ 6,817	18.3	\$ 3,657	9.7	\$ 3,160

Treatment Segment gross profit increased \$5,194,000 or 405.8%. Excluding the \$587,000 write off in prepaid fees recorded in the second quarter of 2016 and the \$550,000 in additional closure costs recorded in the third quarter of 2017 in connection with the pending closure of our M&EC facility discussed above, Treatment Segment gross profit increased \$5,157,000 or 276.2% and gross margin increased to 24.2% from 8.2% primarily due to increased revenue and revenue mix. In the Services Segment, the decreases in gross profit of \$2,034,000 or 85.6% and gross margin from 15.9% to 4.2% was primarily due to the decrease 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 \$79,000 for the three months ended September 30, 2017, as compared to the corresponding period for 2016, as follows:

(In thousands)	2017	%	2016	%	Change
		Revenue		Revenue	
Administrative	\$ 1,238	—	\$ 1,311	—	\$ (73)
Treatment	806	8.6	819	10.7	(13)
Services	609	25.3	602	11.4	7
Total	<u>\$ 2,653</u>	<u>22.6</u>	<u>\$ 2,732</u>	<u>21.1</u>	<u>\$ (79)</u>

The decrease in Administrative SG&A was primarily the result of lower salaries and payroll related expenses of approximately \$63,000 and lower outside services expenses of approximately \$10,000 resulting from fewer legal/consulting matters. The decrease in Treatment SG&A was primarily due to lower salaries and payroll related costs of approximately \$132,000. Salaries and payroll related costs included in Treatment SG&A in the third quarter of 2016 included approximately \$60,000 in severance costs related to a reduction in force in the marketing department. The lower cost in Treatment SG&A was partially offset by higher general expenses of \$112,000 mostly due to higher tradeshow/marketing expenses and slightly higher outside services costs of approximately \$7,000 from consulting. The slight increase in Services Segment SG&A was primarily due to higher salaries and payroll related expenses of approximately \$43,000. This increase in costs was partially offset by lower outside services expenses by approximately \$21,000 due to fewer consulting/legal matters, lower depreciation expenses of approximately \$11,000 as certain fixed assets became fully depreciated at year end 2016, and a small decrease in general expense of \$4,000. Included in SG&A expenses is depreciation and amortization expense of \$21,000 and \$31,000 for the three months ended September 30, 2017, and 2016, respectively.

SG&A expenses increased \$175,000 for the nine months ended September 30, 2017, as compared to the corresponding period for 2016, as follows:

(In thousands)	2017	%	2016	%	Change
		Revenue		Revenue	
Administrative	\$ 3,699	—	\$ 3,769	—	\$ (70)
Treatment	2,558	8.8	2,726	11.9	(168)
Services	2,080	25.5	1,667	11.2	413
Total	<u>\$ 8,337</u>	<u>22.4</u>	<u>\$ 8,162</u>	<u>21.6</u>	<u>\$ 175</u>

The increase in total SG&A was primarily due to higher SG&A costs in the Services Segment. Services Segment SG&A increased by \$413,000 primarily due to higher bad debt expense of approximately \$419,000. During the second quarter of 2016, the Services Segment recorded a reduction in bad debt expense of approximately \$364,000 resulting from a reduction in allowance for doubtful accounts as a previously uncertain account receivable was determined to be collectible at June 30, 2016. In addition, Services Segment salaries and payroll related expenses were higher by approximately \$65,000 and general expenses were higher by approximately \$17,000 in various categories. The higher costs in the Services Segment were partially offset by lower outside services costs of approximately \$57,000 resulting from fewer consulting/subcontract matters and lower depreciation expenses of \$31,000 as certain fixed assets became fully depreciated at year end 2016. The decrease in Administrative SG&A was primarily the result of lower salaries and payroll related expenses of approximately \$109,000 and lower amortization expense of approximately \$37,000 as we recorded a patent write-off during the second quarter of 2016. In addition, Administrative general expenses were lower by approximately \$49,000 in various categories. The total decrease in Administrative SG&A costs was partially offset by higher outside services expenses of approximately \$101,000 resulting from more legal/consulting matters and higher travel expenses of approximately \$24,000 made by our executives. Treatment SG&A was lower primarily due to lower salaries and payroll related costs of approximately \$297,000 and lower travel expenses of approximately \$15,000. As discussed above, salaries and payroll related costs included in Treatment SG&A in the third quarter of 2016 included approximately \$60,000 in severance costs related to a reduction in force in the marketing department. The overall lower costs in Treatment SG&A were partially offset by higher general expenses of \$105,000 mostly due to higher tradeshow/marketing expenses and higher outside services expenses of approximately \$39,000 due to more consulting matters. Included in SG&A expenses is depreciation and amortization expense of \$63,000 and \$133,000 for the nine months ended September 30, 2017 and 2016, respectively.

## R&D

R&D expenses decreased \$148,000 and \$270,000 for the three and nine months ended September 30, 2017, respectively, as compared to the corresponding period of 2016.

(In thousands)	Three Months Ended September 30,			Nine Months Ended September 30,		
	2017	2016	Change	2017	2016	Change
Administrative	\$ —	\$ —	—	\$ 15	\$ 15	—
Treatment	96	95	1	338	321	17
Services	—	4	(4)	—	38	(38)
PF Medical	197	342	(145)	947	1,196	(249)
Total	\$ 293	\$ 441	\$ (148)	\$ 1,300	\$ 1,570	\$ (270)

Research and development costs consist primarily of employee salaries and benefits, laboratory costs, third party fees, and other related costs associated with the development of new technologies and technological enhancement of new potential waste treatment processes. The decrease in R&D costs for the three and nine months ended September 30, 2017 as compared to the corresponding period of 2016 was primarily due to reduced R&D performed by our PF Medical Segment.

## Interest Expense

Interest expense decreased approximately \$42,000 for the three months ended September 30, 2017 as compared to the corresponding period of 2016. The decrease was primarily due to lower interest from our declining term loan balance and lower average revolver loan balance outstanding. Interest expense decreased approximately \$128,000 for the nine months ended September 30, 2017 as compared to the corresponding period of 2016 primarily due to a \$68,000 loss on debt extinguishment that we recorded in the first quarter of 2016 resulting from an amendment dated March 24, 2016 that we entered into with our lender which extended the due date of our credit facility, among other things, to March 24, 2021. Excluding this \$68,000 loss on debt extinguishment, the lower interest expense was primarily due to the same reasons as discussed above for the third quarter of 2017.

## Interest Expense- Financing Fees

Interest expense-financing fees decreased approximately \$5,000 and \$72,000 for the three and nine months ended September 30, 2017, respectively, as compared to the corresponding period of 2016. The decrease for each period was primarily due to lower monthly amortized financing fees resulting from our amended credit facility pursuant to the amendment dated March 24, 2016 as discussed above. The decrease was also the result of final amortization of debt discount as financing fees in August 2016 in connection with the issuance of our common stock and two warrants to certain lenders as consideration for the Company receiving a \$3,000,000 loan which was paid off by the Company in August 2016.

## 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, 2017 and the corresponding period of 2016. 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. We incurred net losses of \$191,000 and \$622,000 for our discontinued operations for the three and nine months ended September 30, 2016, respectively.

## Liquidity and Capital Resources

Our cash flow requirements during the nine months ended September 30, 2017 were primarily financed by our operations, credit facility availability, and the restricted finite risk sinking funds that were released back to us from the cancellation of the financial assurance policy for our Perma-Fix Northwest Richland, Inc. (“PFNWR”) subsidiary (see “Investing Activities” below for further information of this finite sinking fund and the new closure mechanism acquired for the PFNWR subsidiary). We anticipate that 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 the amount of approximately \$2,927,000 in connection with the pending shut down of our M&EC facility. We plan to fund these requirements from our operations and our credit facility. 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 and our available liquidity from our credit facility are sufficient to fund our operations for the next twelve months. As previously disclosed, during the latter part of 2016, 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 in order to raise this funding. If the Medical Segment is unable to raise the necessary capital, the Medical Segment could be required to further reduce or delay or eliminate its R&D program.

The following table reflects the cash flow activities during the first nine months of 2017:

(In thousands)	2017
Cash provided by operating activities of continuing operations	\$ 355
Cash used in operating activities of discontinued operations	(464)
Cash provided by investing activities of continuing operations	5,652
Cash provided by investing activities of discontinued operations	52
Cash used in financing activities of continuing operations	(4,717)
Effect of exchange rate changes in cash	14
Increase in cash	<u>\$ 892</u>

At September 30, 2017, we were in a positive cash position and no revolving credit balance. At September 30, 2017, we had cash on hand of approximately \$1,055,000 which includes account balances for our foreign subsidiaries totaling approximately \$187,000.

### *Operating Activities*

Accounts receivable (including Accounts receivable – non-current), net of allowances for doubtful accounts, totaled \$8,791,000 at September 30, 2017, a decrease of \$126,000 from the December 31, 2016 balance of \$8,917,000. The decrease was primarily due to increased accounts receivable collections. 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 \$3,638,000 at September 30, 2017, a decrease of \$606,000 from the December 31, 2016 balance of \$4,244,000. The decrease was primarily due to the timing of the payment of our accounts payables. Also, we continue to manage payment terms with our vendors to maximize our cash position throughout all segments.

Disposal/transportation accrual at September 30, 2017, totaled \$2,113,000, an increase of \$723,000 over the December 31, 2016 balance of \$1,390,000. Our disposal accrual can vary based on revenue mix and the timing of waste shipments for final disposal. During the nine months of 2017, we shipped less waste for disposal.

We had a working capital deficit of \$1,020,000 (which included working capital of our discontinued operations) at September 30, 2017, as compared to a working capital deficit of \$2,131,000 at December 31, 2016. The improvement in our working capital was primarily the result of the pay down of our payables and the receipt of the finite risk sinking funds from the cancellation of our PFNWR financial assurance policy. The funds received were used to pay off our revolver credit which is included in long-term liabilities on the Consolidated Balance Sheets. Our working capital was negatively impacted by the reclassification of approximately \$881,000 in accrued closure costs in the first quarter of 2017 from long-term to current and the additional closure costs of approximately \$550,000 recorded in the third quarter of 2017 resulting from expected spending relating to the pending closure of our M&EC facility.

#### *Investing Activities*

For the nine months ended September 30, 2017, our purchases of capital equipment totaled approximately \$200,000. These expenditures were primarily for improvements in our Treatment Segment. These capital expenditures were funded by cash from operations. We had budgeted approximately \$1,000,000 for 2017 capital expenditures for our Treatment and Services Segments to maintain operations and regulatory compliance requirements. During the second quarter of 2017, the Company's Board approved an additional \$630,000 in capital expenditure for expanding the range of waste streams that can be accepted for treatment and processing. 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.

We had a closure policy dated August 2007 for our PFNWR facility with AIG ("PFNWR policy") which provided financial assurance to the State of Washington in the event of closure of the PFNWR facility. In April 2017, we received final releases from state and federal regulators for the PFNWR policy which enabled us to cancel the PFNWR policy resulting in the release of approximately \$5,951,000 on May 1, 2017 in finite sinking funds previously held by AIG as collateral for the PFNWR policy. We used the released finite sinking funds to pay off our revolving credit with the remaining funds for general working capital needs. We have acquired new bonds in the required amount of approximately \$7,000,000 ("new bonds") to replace the PFNWR policy in providing financial assurance for the PFNWR facility. Upon receipt of the \$5,951,000 in finite sinking funds from AIG, we and our lender executed a standby letter of credit in the amount of \$2,500,000 as collateral for the new bonds for the PFNWR facility.

#### *Financing Activities*

We entered into an Amended and Restated Revolving Credit, Term Loan and Security Agreement, dated October 31, 2011 ("Loan Agreement"), with PNC National Association ("PNC"), acting as agent and lender. The Loan Agreement, as subsequently amended ("Amended 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"), subject to the amount of borrowings based on a percentage of eligible receivables (as defined) 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).

Under the Amended 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 Amended Loan Agreement, we may terminate the Amended Loan Agreement, upon 90 days' prior written notice upon payment in full of our obligations under the Amended Loan Agreement. We agreed to pay PNC 1.0% of the total financing in the event we had paid off our obligations on or before March 23, 2017, .50% of the total financing if we pay off our obligations after March 23, 2017 but prior to or on March 23, 2018, and .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, 2017, the availability under our revolving credit was \$4,257,000, based on our eligible receivables and includes an indefinite reduction of borrowing availability of \$2,000,000 that our lender has imposed, which includes \$750,000 that was imposed immediately upon the receipt of the \$5,951,000 in finite sinking funds by us in connection with cancellation of our PFNWR policy, pursuant a “Condition Subsequent” clause in the November 17, 2016 amendment that we entered into with our lender (see “Investing Activities” above for further discussion of the receipt of the finite risk sinking funds in connection with our PFNWR facility).

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, 2017.

(Dollars in thousands)	Quarterly Requirement	1st Quarter Actual	2nd Quarter Actual	3rd Quarter Actual
<b>Senior Credit Facility</b>				
Fixed charge coverage ratio	1.15:1	3.13:1	2.57:1	2.40:1
Minimum tangible adjusted net worth	\$ 26,000	\$ 30,148	\$ 28,850	\$ 26,853

We met our quarterly financial covenants in the first, second and third quarters of 2017 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.

#### **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, 2017, the total amount of standby letters of credit outstanding totaled approximately \$2,675,000 and the total amount of bonds outstanding totaled approximately \$8,253,000. The Company also provides closure and post-closure requirements through a financial assurance policy for certain of our Treatment Segment facilities through AIG. At September 30, 2017, the closure and post-closure requirements for these facilities were approximately \$29,473,000.

#### **Critical Accounting Policies and Estimates**

There were no significant changes in our accounting policies or critical accounting estimates that are discussed in our Annual Report on Form 10-K for the year ended December 31, 2016.

#### **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 the federal government, either directly as a prime contractor or indirectly as a subcontractor to the federal government, representing approximately \$8,490,000 or 72.2% and \$27,466,000 or 73.9% of our total revenue from continuing operations during the three and nine months ended September 30, 2017, respectively, as compared to \$6,568,000 or 50.8% and \$19,508,000 or 51.7% of our total revenue from continuing operations during the corresponding period of 2016, 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, 2017, we had total accrued environmental remediation liabilities of \$883,000, of which \$296,000 is recorded as a current liability, which reflects a decrease of \$42,000 from the December 31, 2016 balance of \$925,000. The decrease represents payments on remediation projects at Perma-Fix of PFSG and Perma-Fix of Dayton, Inc. ("PFD") of \$1,000 and \$41,000, respectively.

### **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, 2017.

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

There was no change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) in the Company's most recent 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 additional 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, 2016, 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, 2016 and Form 10-Q for the quarter ended June 30, 2017 except as follows:

#### **Loss of certain key personnel could have a material adverse effect on us.**

Our success depends on the contributions of our key management, environmental and engineering personnel. Our future success depends on our ability to retain and expand our staff of qualified personnel, including environmental specialists and technicians, sales personnel, and engineers. Without qualified personnel, we may incur delays in rendering our services or be unable to render certain services. We cannot be certain that we will be successful in our efforts to attract and retain qualified personnel as their availability is limited due to the demand for hazardous waste management services and the highly competitive nature of the hazardous waste management industry. We do not maintain key person insurance on any of our employees, officers, or directors.

### Item 6. Exhibits

(a) Exhibits

- 10.1 [Employment Agreement dated September 8, 2017 between Mark Duff, Chief Executive Officer, and Perma-Fix Environmental Services, Inc., as incorporated by reference from Exhibit 99.1 to the Company's Form 8-K filed on September 12, 2017.](#)
- 10.2 [Employment Agreement dated September 8, 2017 between Dr. Louis Centofanti, Executive Vice President of Strategic Initiatives, and Perma-Fix Environmental Services, Inc., as incorporated by reference from Exhibit 99.2 to the Company's Form 8-K filed on September 12, 2017.](#)
- 10.3 [Employment Agreement dated September 8, 2017 between Ben Naccarato, Chief Financial Officer, and Perma-Fix Environmental Services, Inc., as incorporated by reference from Exhibit 99.3 to the Company's Form 8-K filed on September 12, 2017.](#)
- 10.4 [Incentive Stock Option Agreement between Perma-Fix Environmental Services, Inc. and Dr. Louis Centofanti, dated July 27, 2017, as incorporated by reference from Exhibit 99.1 to the Company's 8-K filed August 2, 2017.](#)
- 10.5 [Incentive Stock Option Agreement between Perma-Fix Environmental Services, Inc. and Mark Duff, dated July 27, 2017, as incorporated by reference from Exhibit 99.2 to the Company's 8-K filed August 2, 2017.](#)

- 10.6 [Incentive Stock Option Agreement between Perma-Fix Environmental Services, Inc. and Ben Naccarato, dated July 27, 2017, as incorporated by reference from Exhibit 99.3 to the Company's 8-K filed August 2, 2017.](#)
- 10.7 [Stock Option Agreement dated July 27, 2017 between Mr. Robert L. Ferguson, and Perma-Fix Environmental Services, Inc., as incorporated by reference from Exhibit 10.6 to the Company Form 10-Q for the quarter ended June 30, 2017 filed August 9, 2017](#)
- 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 13, 2017

By: /s/ Mark Duff

Mark Duff

President and Chief (Principal) Executive Officer

Date: November 13, 2017

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 13, 2017

/s/ Mark Duff

Mark Duff

Chief Executive Officer, President  
and Principal 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 13, 2017

/s/ Ben Naccarato

Ben Naccarato

Vice President, Chief Financial Officer and  
Principal 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, 2017, as filed with the Securities and Exchange Commission on the date hereof (the "Form 10-Q"), I, Mark Duff, 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 13, 2017

*/s/ Mark Duff*

\_\_\_\_\_  
Mark Duff

Chief Executive Officer, President and  
and Principal Executive Officer

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

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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, 2017, as filed with the Securities and Exchange Commission on the date hereof (the "Form 10-Q"), I, Ben Naccarato, 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 13, 2017

*/s/ Ben Naccarato*

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

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

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