IsoRay, Inc.
Form 10-K
September 30, 2013

United States Securities And Exchange Commission

Washington, D.C. 20549

FORM 10-K

x Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934
For the fiscal year ended June 30, 2013

or

¨ Transition Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934
For the transition period from _____ to _____

Commission File No. 001-33407

IsoRay, Inc

(Exact name of registrant as specified in its charter)

Minnesota	41-1458152
(State of incorporation)	(I.R.S. Employer Identification No.)
350 Hills St., Suite 106	99354
Richland, Washington	(Zip code)

(Address of principal executive offices)

Registrant's telephone number, including area code: (509) 375-1202

Securities registered pursuant to Section 12(b) of the Exchange Act – Common Stock – $0.001 par value

(NYSE MKT)

Securities registered pursuant to Section 12(g) of the Exchange Act – Series C Preferred Share Purchase Rights

Number of shares outstanding of each of the issuer's classes of common equity:

Class	Outstanding as of September 27, 2013
Common stock, $0.001 par value	38,419,502

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ¨ No x

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ¨ No x

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the 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 x 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 during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes x No ¨

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ¨

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ¨ Accelerated filer ¨ Non-accelerated filer ¨ Smaller reporting company x

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

State the aggregate market value of the voting and non-voting common equity held by non-affiliates computed by reference to the price at which the common equity was last sold, or the average bid and asked price of such common equity, as of the last business day of the registrant's most recently completed second fiscal quarter – $26,996,983 as of December 31, 2012.

Documents incorporated by reference – none.

ISORAY, INC.

Table of Contents

Caution Regarding Forward-Looking Information

In addition to historical information, this Form 10-K contains certain "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995 (PSLRA). This statement is included for the express purpose of availing IsoRay, Inc. of the protections of the safe harbor provisions of the PSLRA.

All statements contained in this Form 10-K, other than statements of historical facts, that address future activities, events or developments are forward-looking statements, including, but not limited to, statements containing the words "believe," "expect," "anticipate," "intends," "estimate," "forecast," "project," and similar expressions. All statements other than statements of historical fact are statements that could be deemed forward-looking statements, including any statements of the plans, strategies and objectives of management for future operations; any statements concerning proposed new products, services, developments or industry rankings; any statements regarding future revenue, economic conditions or performance; any statements of belief; and any statements of assumptions underlying any of the foregoing. These statements are based on certain assumptions and analyses made by us in light of our experience and our assessment of historical trends, current conditions and expected future developments as well as other factors we believe are appropriate under the circumstances. However, whether actual results will conform to the expectations and predictions of management is subject to a number of risks and uncertainties described under Item 1A – Risk Factors beginning on page 29 below that may cause actual results to differ materially.

Consequently, all of the forward-looking statements made in this Form 10-K are qualified by these cautionary statements and there can be no assurance that the actual results anticipated by management will be realized or, even if substantially realized, that they will have the expected consequences to or effects on our business operations. Readers are cautioned not to place undue reliance on such forward-looking statements as they speak only of the Company's views as of the date the statement was made. The Company undertakes no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

PART I

As used in this Form 10-K, unless the context requires otherwise, "we" or "us" or the "Company" means IsoRay, Inc. and its subsidiaries.

ITEM 1 – BUSINESS

General

Century Park Pictures Corporation (Century) was organized under Minnesota law in 1983. Century had no operations since its fiscal year ended September 30, 1999 through June 30, 2005.

On July 28, 2005, IsoRay Medical, Inc. (Medical) became a wholly-owned subsidiary of Century pursuant to a merger. Century changed its name to IsoRay, Inc. (IsoRay or the Company). In the merger, the Medical stockholders received approximately 82% of the then outstanding securities of the Company.

Medical, a Delaware corporation, was incorporated on June 15, 2004 to develop, manufacture and sell isotope-based medical products and devices for the treatment of cancer and other malignant diseases. Medical is headquartered in Richland, Washington.

IsoRay International LLC (International), a Washington limited liability company, was formed on November 27, 2007 and is a wholly-owned subsidiary of the Company. International has not had any significant transactions since its inception.

Available Information

The Company electronically files its annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and all amendments to these reports and other information with the Securities and Exchange Commission (SEC). These reports can be obtained by accessing the SEC's website at www.sec.gov. The public can also obtain copies by visiting the SEC's Public Reference Room at 100 F Street NE, Washington, DC 20549 or by calling the SEC at 1-800-SEC-0330. In addition, the Company makes copies of its annual and quarterly reports available to the public on its website at www.isoray.com. Information on this website is not a part of this Report.

Business Operations

Overview

In 2003, IsoRay obtained clearance from the FDA for treatment for all solid tumor applications using Cesium-131. Such applications include prostate cancer; ocular melanoma; head, neck and lung tumors; breast cancer; liver cancer; brain cancer; colorectal cancer; gynecological cancer; esophageal cancer; and pancreatic cancer. The brachytherapy seed form of Cesium-131 may be used in surface, interstitial and intracavity applications for tumors with known radio sensitivity. Management believes its Cs-131 technology will allow it to become a leader in the brachytherapy market. Management believes that the IsoRay Proxcelan Cesium-131 brachytherapy seed represents the first major advancement in brachytherapy technology in over 21 years with attributes that could make it the long-term "seed of choice" for internal radiation therapy procedures.

Brachytherapy seeds are small devices used in an interstitial radiation procedure. The procedure has become one of the primary treatments for prostate cancer. The brachytherapy procedure places radioactive seeds as close as possible to (in or near) the cancerous tumor (the word "brachytherapy" means close therapy). The seeds deliver therapeutic radiation thereby killing the cancerous tumor cells while minimizing exposure to adjacent healthy tissue. This procedure allows doctors to administer a higher dose of radiation directly to the tumor. Each seed contains a radioisotope sealed within a welded titanium capsule. When brachytherapy is the only treatment (monotherapy) used in the prostate, approximately 70 to 120 seeds are permanently implanted in the prostate in an outpatient procedure lasting less than one hour. The number of seeds used varies based on the size of the prostate and the activity level specified by the physician. When brachytherapy is combined with external beam radiation or intensity modulated radiation therapy (dual therapy), then approximately 40 to 80 seeds are used in the procedure. The isotope decays over time and eventually the seeds become inert. The seeds may be used as a primary treatment or in conjunction with other treatment modalities, such as chemotherapy, or as treatment for residual disease after excision of primary tumors. The number of seeds for other treatment sites will vary from as few as 8 to16 to as many as 117 to 123 depending on the type of cancer, the location of the tumor being treated and the type of therapy being utilized.

IsoRay began production and sales of Proxcelan® Cesium-131 brachytherapy seeds in October 2004 for the treatment of prostate cancer after clearance of its premarket notification (510(k)) by the Food and Drug Administration (FDA). In December 2007, IsoRay began selling its Proxcelan Cs-131 seeds for the treatment of ocular melanoma, however, the market for the treatment has been limited generating a minimal amount of revenue for the Company. The Company continues to make the treatment available to interested physicians and medical facilities. In June 2009, the Company began selling its Proxcelan Cs-131 seeds for treatment of head and neck tumors, commencing with treatment of a tumor that could not be accessed by other treatment modalities. The Company obtained clearance in August 2009 from the FDA to permit loading Cesium-131 into bioabsorbable braided strands, facilitating treatment of lung, head and neck tumors as well as tumors in other organs with Proxcelan Cs-131. During the fiscal year ended June 30, 2010, the Company expanded the number of areas of the body in which the Proxcelan Cs-131 seeds were being utilized for treatment by adding lung cancer in August 2009, colorectal cancer in October 2009, and chest wall cancer in December 2009. During the fiscal year ended June 30, 2011, the Company continued the expansion in the

number of areas of the body in which the Proxcelan Cs-131 seeds were being utilized through the addition of the treatment of brain cancer in September 2010 and the treatment of gynecological cancer in December 2010.

In March 2011, the Company received clearance to commercially deliver Proxcelan Cesium-131 brachytherapy seeds that are preloaded into bioabsorbable braided strands into Europe. This clearance permits the product to be commercially distributed for treatment of lung, head and neck tumors as well as tumors in other organs in Europe.

In August 2011, IsoRay Medical received clearance from the FDA for its premarket notification (510(k)) for the GliaSite® radiation therapy system. The GliaSite® Radiation Therapy System is the only FDA-cleared balloon catheter device used in the treatment of brain cancer.

In May 2012, IsoRay Medical received a CE mark for the GliaSite® Radiation Therapy System which states that the Company conforms with the product requirements of the European Council Directive 93/42/EEC. The CE mark allows the GliaSite® Radiation Therapy System to be sold in 31 European countries and to be marketed in the European Free Trade Associate member states and the European Union. In June 2012, the first Cesium-131 brachytherapy seed sutured mesh was implanted on a patient suffering from a recurring meningioma tumor.

Management focused in fiscal 2012 and 2013 on obtaining its regulatory clearances and final research and development of its GliaSite® Radiation Therapy System, entering into international distribution agreements to sell the product in Europe and Australia, and marketing its brain and lung products. The GliaSite® Radiation Therapy System is the world's only system that enables doctors to use liquid radiation in areas where the cancer is most likely to remain after brain surgery and tumor removal. In fiscal 2013, the Company began using a system developed at the Barrow Neurologic Institute to deliver doses of Cesium-131 to treat malignant meningioma, brain metastases, and primary cancers of the brain. A multi-institutional study was conducted to explore use by Cesium-131 laden strands placed directly into the cavity following surgical resection of brain metastases.

While management has not identified new opportunities to expand treatment to other sites in the body, it continues to investigate opportunities with interested physicians and medical facilities. Management is now focusing primarily on the brain and lung markets while the Company is researching delivery systems other than those historically used by the Company.

In August 2013, IsoRay Medical received an approval for an extension to the scope of the CE mark for the GliaSite Radiation Therapy System. This approval allows IsoRay Medical to implement certain product improvements that management believes will enhance GliaSite's acceptance by customers in the European market.

Industry Information

Incidence of Prostate Cancer

The prostate is a walnut-sized gland located in front of the rectum and underneath the urinary bladder. Prostate cancer is a malignant tumor that begins most often in the periphery of the gland and, like other forms of cancer, may spread beyond the prostate to other parts of the body. According to the American Cancer Society, approximately one man in six will be diagnosed with prostate cancer during his lifetime and one man in thirty-six will die of prostate cancer. It is the most common form of cancer in men after skin cancer, and the second leading cause of cancer deaths in men following lung and bronchus cancers. The American Cancer Society estimates there will be about 238,590 new cases of prostate cancer diagnosed and an estimated 29,720 deaths associated with the disease in the United States in 2013. (American Cancer Society, 2013)

Prostate cancer accounts for about 10% of cancer related deaths in men. Prostate cancer incidence and mortality increase with age. The American Cancer Society has reported that the average age of diagnosis for prostate cancer is 67. Almost 2 of 3 prostate cancers are found in men over the age of 65. (American Cancer Society, 2013)

Incidence of Lung Cancer

An estimated 228,190 new cases of lung cancer are expected in 2013, accounting for 14% of all cancer diagnoses in the United States. Lung cancer accounts for the most cancer related deaths in both men and women in the United States. An estimated 159,480 deaths, accounting for about 27% of all cancer deaths, are expected to occur in 2013. (American Cancer Society 2013) This exceeds the combined number of deaths from the next three leading causes of cancer (breast, prostate, and colon cancers). Lung cancer also accounts for 6% of all deaths from any source in the United States. (*Cancer Management: A Multidisciplinary Approach*, 11th ed. (2008). Richard Pazdur, Lawrence R. Coia, William J. Hoskins, Lawrence D. Wagman; American Cancer Society, 2009.)

Cigarette smoking is by far the most important risk factor for lung cancer. Tobacco smoke causes nearly 80% of cases of lung cancer. The risk increases depending on duration of time smoking and number of packs smoked. Other risk factors include occupational or environmental exposure to secondhand smoke, radon, asbestos (particularly among smokers), certain minerals and metals (chromium, cadmium, arsenic), some organic chemicals, radiation, air pollution, family history of lung cancer, certain vitamins (beta carotene supplements), radiation treatment to the lungs to treat other cancers, and a history of tuberculosis. Genetic susceptibility plays a contributing role in the development of lung cancer, especially in those who develop the disease at a younger age. (American Cancer Society, 2013)

The 5-year survival rate is 49% for cases detected when the disease is still localized. (American Cancer Society, 2013)

Incidence of Brain Cancer

An estimated 23,130 new cases of malignant tumors of the brain or spinal cord are expected in 2013. The chances of a person developing a malignant tumor of the brain or spinal cord are approximately 1%. The estimated deaths related to malignant tumors in the brain or spinal cord is 14,080 (approximately 7,930 men and 6,150 women). (American Cancer Society, 2013)

The risk factors for developing malignant brain or spinal cord tumors are radiation exposure (i.e. most commonly some form of radiation therapy to the head to treat other cancers), family history, genetic disorders, people with a history of tuberous sclerosis, and immune system disorders. (American Cancer Society, 2013)

The survival rates for brain cancer depend on the type of malignant brain or spinal cord tumor and the age of the person. The survival rates for the most common types of malignant brain and spinal cord tumors are as follows: low-grade (diffuse) astrocytoma between 42% and 60%, anaplastic astrocytoma between 9% and 49%, glioblastoma between 4% and 17%, oligodendroglioma between 64% and 85%, anaplastic oligodendroglioma between 36% and 65%, and ependymoma/anaplastic ependymoma between 84% and 91%. (American Cancer Society, 2013)

Incidence of Head and Neck Cancers

An estimated 53,640 new cases of head and neck cancer are expected to be diagnosed in the United States in 2013 including 27,450 cases of oral cavity cancer (i.e. tongue, mouth and other oral cavity), 12,260 cases of laryngeal cancer, and 13,930 cases of pharyngeal cancer. (American Cancer Society, 2013)

Symptoms may include a sore in the throat or mouth that bleeds easily and does not heal, a lump or thickening in the cheek, ear pain, numbness of the mouth, voice changes, a neck mass, coughing up blood, and a red or white patch that persists on the gums, tongue, tonsil, or lining of the mouth. Difficulties in chewing, swallowing, or moving the tongue or jaw are often late symptoms. (American Cancer Society, 2013)

Known risk factors include all forms of smoked and smokeless tobacco products and excessive consumption of alcohol. Many studies have reported a synergism between smoking and alcohol use, resulting in more than a 100 times

the risk of these cancers to those individuals who both smoke and drink heavily. Human Papilloma Virus (HPV) infection is associated with certain types of oropharyngeal cancer. Other risk factors for developing head and neck cancers include genetic syndromes, poor nutrition, and a weakened immune system. (American Cancer Society, 2013)

Incidence of Gynecological Cancers (Vaginal and Vulvar Cancer)

An estimated 7,590 new cases of vaginal (2,890) and vulvar (4,700) cancers are expected to be diagnosed in the United States in 2013. The estimated deaths related to vaginal and vulvar cancer are estimated to be 1,830 (990 vaginal and 840 vulvar). (American Cancer Society, 2013)

There are different types of vaginal and vulvar cancers. Vaginal cancers and vulvar cancer can include squamous cell carcinoma, adenocarcinoma, melanoma, sarcoma, and basal cell carcinoma (vulvar cancer only). Vaginal cancer is rare and about 1 in 100 cancers that occur in the female reproduction system is a vaginal cancer. Vulvar cancer makes up 4% of cancers within the female reproductive organs and it accounts approximately 0.6% of all cancers in women. (American Cancer Society, 2013)

Common known risk factors for vaginal cancers (cancers that start in the vagina) and vulvar cancers (cancers that start in the vulva) include age, human papilloma virus (HPV), cervical cancer or other genital cancers, smoking, and human immunodeficiency virus. (American Cancer Society, 2013)

Incidence of Ocular Melanoma

The American Cancer Society estimates that 2,800 new cases of cancers of the eye and orbit (primarily melanoma) will be diagnosed in 2013 and about 320 deaths from cancer of the eye will occur in 2013 in the United States. Primary eye cancer can occur at any age but most occur in people over 50 years of age. Secondary eye cancers, i.e. cancers that spread to the eye from a different part of the body, are more common than primary eye cancer. (American Cancer Society, 2013)

Many patients with eye melanoma (cancer) have no symptoms unless the cancer grows in certain parts of the eye or becomes more advanced. Signs and symptoms of eye melanomas can include problems with vision including blurry vision or sudden loss of vision, floaters or flashes of light, visual field loss, a growing dark spot on the iris, change in the size or shape of the pupil, change in position of the eyeball within its socket, bulging of the eye, and/or change in the way the eye moves within the socket. Known risk factors for ocular melanoma include sun exposure, certain occupations (e.g. welders, farmers, fishermen, chemical workers and laundry workers), race/ethnicity/eye and skin color, and certain inherited conditions such as dysplastic nevus syndrome. (American Cancer Society, 2013)

Incidence of Colorectal Cancer

An estimated 142,820 new cases of colorectal cancer are expected in the United States in 2013 including 102,480 new cases of colon cancer and 40,340 new cases of rectal cancer. (American Cancer Society, 2013)

Symptoms may include a change in bowel habits including diarrhea, constipation, or narrowing of the stool that lasts for more than a few days, a feeling of the need to have a bowel movement which is not relieved by doing so, rectal bleeding, dark stools or blood in the stool, cramping or abdominal pain, weakness and fatigue, and unintended weight loss. The symptoms generally occur in the more advanced disease stage. (American Cancer Society, 2013)

Risk factors related to colorectal cancers are classified in two groups: those that patients cannot control and those that patients can control. The risk of developing colorectal cancer in a lifetime is about 1 in 20 or approximately 5%. Colorectal cancer is the third leading cancer death in the Unites States when men and women are combined and third when they are considered separately. (American Cancer Society, 2013)

Known risk factors that patients cannot control include age (9 out of 10 people with colorectal cancer are older than 50), personal history of colorectal polyps or colorectal cancer, personal history of inflammatory bowel disease, personal history of Type 2 diabetes, family history of colorectal cancer, certain family inherited syndromes (i.e. gene

changes or inherited mutations) and racial or ethnic background. (American Cancer Society, 2013)

Known risk factors that are linked to things patients can control include certain types of diets (those high in red and processed meats can increase risk while a diet high in fruits and vegetables have been linked to a lower risk), lack of exercise, being overweight, smoking, and alcohol use. (American Cancer Society, 2013)

The 5-year relative survival rates for rectal cancer are 74% in stage I, a range of 32% to 65% in stage II, a range of 33% to 74% in stage III and 6% in stage IV. (American Cancer Society, 2013)

Prostate Cancer Treatment Options and Protocol

The industry has experienced an overall decrease in the number of cases of prostate cancer treated with brachytherapy as physicians have elected to utilize other treatment modalities, or to defer treatment altogether at a higher rate than historically.

Minimally invasive brachytherapy has significant advantages over competing treatments including lower cost, equal or better survival data, fewer side effects, faster recovery time and the convenience of a single outpatient implant procedure that generally lasts less than one hour (Grimm, et al., British Journal of Urology International, Vol. 109 (Suppl 1), 2012; Merrick, et al., Techniques in Urology, Vol. 7, 2001; Potters, et al., Journal of Urology, May 2005; Sharkey, et al., Current Urology Reports, 2002).

5

In addition to brachytherapy, localized prostate cancer can be treated with prostatectomy surgery (RP for radical prostatectomy), external beam radiation therapy (EBRT), three-dimensional conformal radiation therapy (3D-CRT), intensity modulated radiation therapy (IMRT), dual or combination therapy, permanent low dose rate brachytherapy (LDR), high dose rate brachytherapy (HDR), cryosurgery, hormone therapy, and watchful waiting. The success of any treatment is measured by the feasibility of the procedure for the patient, morbidities associated with the treatment, overall survival, and cost. When the cancerous tissue is not completely eliminated, the cancer typically returns to the primary site, often with metastases to other areas of the body.

Prostatectomy Surgery Options. Radical prostatectomy is surgery that is done to cure prostate cancer. It is used most often if it looks like the cancer has not spread outside of the gland. In this operation, a surgeon will remove the entire prostate gland plus some of the tissue around it, including the seminal vesicles. According to a study published in the *Journal of the American Medical Association* in January 2000, approximately 60% of men who had a RP reported erectile dysfunction as a result of surgery. This same study stated that approximately 40% of the patients observed reported at least occasional incontinence. New methods such as laparoscopic and robotic prostatectomy surgeries are currently being used more frequently in order to minimize the nerve damage that leads to impotence and incontinence, but these techniques require a high degree of surgical skill. (American Cancer Society, 2013)

Primary External Beam Radiation Therapy (EBRT). EBRT involves directing a beam of radiation from outside the body at the prostate gland to destroy cancerous tissue. EBRT treatments are received on an outpatient basis five days per week usually over a period of seven to nine weeks. Today, standard EBRT is used much less often than in the past. Side effects of EBRT can include bowel problems, bladder problems, urinary incontinence, impotence, fatigue, lymphedema, and urethral stricture. (American Cancer Society, 2013)

Three-dimensional Conformal Radiation Therapy (3D-CRT). 3D-CRT uses a special computer to map the location of the prostate and then radiation beams are aimed at the prostate from several directions. This makes it less likely that the radiation will damage healthy normal tissue. This radiation therapy has been determined to be at least as effective as EBRT with fewer side effects. (American Cancer Society, 2013)

Intensity Modulated Radiation Therapy. IMRT is considered a more advanced form of 3D-CRT in which sophisticated computer control is used to aim the beam at the prostate from multiple different angles and to vary the intensity of the beam. Thus, damage to normal tissue and critical structures is minimized by distributing the unwanted radiation over a larger geometric area. This course of treatment is similar to EBRT but requires daily doses over a period of seven to nine weeks to deliver the total dose of radiation prescribed to kill the tumor. An increasingly popular therapy for patients with more advanced prostate cancer is a combination of IMRT with seed brachytherapy, known as combination or dual therapy. IMRT is generally more expensive than other common treatment modalities. (American Cancer Society, 2013)

Dual or Combination Therapy. Dual therapy is the combination of IMRT or 3-dimensional conformal external beam radiation and seed brachytherapy to treat extra-prostatic extensions or high risk prostate cancers that have grown outside the prostate. Combination therapy treats high risk patients with a full course of IMRT or EBRT over a period of several weeks. When this initial treatment is completed, the patient must then wait for several more weeks to months to have the prostate seed implant. (American Cancer Society, 2013) Management estimates that at least 25% of all U.S. prostate implants are now dual therapy cases.

Low Dose Rate Permanent Brachytherapy. LDR permanent brachytherapy involves placing pellets or seeds of radioactive material inside thin needles which are then placed into the prostate. The pellets/seeds are left in place and emit low dose rate radiation for weeks or months. The pellets/seeds can deliver a large dose of radiation to a small area of the body thereby reducing the damage done to healthy tissue that is close to the prostate. (American Cancer Society, 2013)

High Dose Rate Temporary Brachytherapy. HDR temporary brachytherapy involves placing very tiny plastic catheters into the prostate gland, and then giving a series of radiation treatments through these catheters. The catheters are then removed, and no radioactive material is left in the prostate gland. A computer-controlled machine inserts a single highly radioactive iridium-192 seed into the catheters one by one. This procedure is typically repeated at least three times while the patient is hospitalized for at least 24 hours. (American Cancer Society, 2013)

Cryosurgery. Cryosurgery is sometimes used to treat prostate cancer by freezing the cells with cold metal probes. It is used only for prostate cancer that has not spread, and may not be a good option for men with large prostate glands. The probes are placed through cuts (incisions) between the anus and the scrotum. Cold gases are then passed through the probes, which creates ice balls that destroy the prostate gland. There are benefits and drawbacks to cryosurgery. Because it is less invasive than radical surgery, there is less loss of blood, a shorter hospital stay, shorter recovery time, and less pain. But freezing can damage nerves near the prostate, which results in a high rate of impotence. For this reason, most doctors do not include cryosurgery among the first options they recommend for treating prostate cancer. (American Cancer Society, 2013)

Additional Treatments. Additional treatments include hormone therapy, vaccine treatment and chemotherapy. Hormone therapy is generally used to shrink the tumor or make it grow more slowly but will not eradicate the cancer. Likewise, chemotherapy will not eradicate the cancer but can slow the tumor growth and can be given by mouth or by an injection into a vein. Additionally, vaccine treatment can be used to extend the life of a patient with advanced prostate cancer that does not respond to hormone therapy. The vaccine is made specifically for each individual man and it is made with the man’s own white blood cells and the cells are used to help other immune system cells fight the prostate cancer. Generally, these treatment alternatives are used by doctors to extend patients' lives once the cancer has reached an advanced stage or in conjunction with other treatment methods. Hormone therapy can cause impotence, decreased libido, fatigue, weight gain, depression, osteoporosis, anemia, hot flashes, and breast enlargement. Most recently, hormone therapy has been linked to an increased risk of cardiovascular disease in men with certain pre-existing conditions such as heart disease or diabetes. Chemotherapy can cause anemia, nausea, hair loss, loss of appetite, diarrhea, mouth sores, lowered resistance to infection, and fatigue. The vaccine treatment is milder than the hormone or chemotherapy treatments but some common side effects include fever, back and joint pain, chills, fatigue, and headaches. (American Cancer Society, 2013)

Watchful Waiting and Active Surveillance. Because prostate cancer often grows very slowly, some men (especially those who are older or who have other major health problems) may never need treatment for their cancer. Instead, their doctor may suggest approaches called watchful waiting (also called expectant management or active surveillance). Until recently, watchful waiting meant waiting until the cancer was causing symptoms before starting any treatment. Now, it is more common to watch the patient closely with a combination of regular PSA tests, rectal exams, and ultrasound exams to see if the cancer is growing. If the cancer seems to be growing or getting worse, the doctor may suggest starting treatment.

Not all experts agree how often testing should occur for active surveillance. There is also debate about the best time to start treatment. Still, some early studies have shown that among men who choose active surveillance, those who elect not to be treated do as well as those who decide to start treatment right away. Active surveillance may be a good choice if the cancer is not causing any symptoms, is likely to grow slowly, and is small and contained in one place in the prostate. If the patient is young, healthy, and has a cancer that is growing fast, active surveillance may not provide adequate protection from the cancer spreading to other parts of the body. Some men choose watchful waiting because, in their view, the side effects of strong treatment outweigh the benefits. Others are willing to accept the possible side effects of active treatments in order to try to remove or destroy the cancer. (American Cancer Society, 2013)

Comparing Cesium-131 to I-125 and Pd-103 Clinical Results

Long-term survival data is now available for brachytherapy with I-125 and Pd-103, which support the efficacy of brachytherapy in the treatment of clinically localized cancer of the prostate gland. Clinical data indicate that brachytherapy offers success rates for early-stage prostate cancer treatment that are equal to or better than those of RP or EBRT. While historically clinical studies of brachytherapy have focused primarily on results from brachytherapy with I-125 and Pd-103, management believes that these data are also relevant for brachytherapy with Cesium-131. In fact, it appears that Cesium-131 offers improved clinical outcomes over I-125 and Pd-103, perhaps due to its shorter half-life. The most recent evidence is described in the multi-institutional 5 year outcome presentation by Prestidge and others, wherein a group of nearly 100 patients, heavily weighted towards “intermediate risk” patients (who are at greater risk of failure compared to most prostate cancer patients) exhibited a PSA disease-free rate of 98% at five years (Prestidge B. et al. Five-year biochemical control following Cesium-131 Permanent Prostate Brachytherapy in a Multi-Institutional Trial. *Brachytherapy* 2011 10(3S1)S27.)

Improved patient outcomes. A number of published studies describing the use of I-125 and Pd-103 brachytherapy in the treatment of early-stage prostate cancer have been very positive when compared to other treatment options. A study of 2,963 prostate cancer patients who underwent brachytherapy as their sole therapeutic modality at 11 institutions across the U.S. concluded that low-risk patients (who make up the majority of localized cases) who underwent adequate implants experienced rates of PSA relapse survival of greater than 90% between eight and ten years (Zelefsky MJ, et al, "Multi-institutional analysis of long-term outcome for stages T1-T2 prostate cancer treated with permanent seed implantation" *International Journal of Radiation Oncology Biology Physics*, Volume 67, Issue 2, 2007, 327-333).

Other studies have demonstrated similar, durably high rates of control following brachytherapy for localized prostate cancer out to 15 years post-treatment (Sylvester J, et al. "15-year biochemical relapse free survival in clinical stage T1-T3 prostate cancer following combined external beam radiotherapy and brachytherapy; Seattle experience", *International Journal of Radiation Oncology Biology Physics*, Vol. 67, Issue 1, 2007, 57-64). The cumulative effect of these studies has been the conclusion by leaders in the field that brachytherapy offers a disease control rate as high as surgery, though with a lesser side-effect profile than surgery (Ciezki JP. "Prostate brachytherapy for localized prostate cancer" *Current Treatment Options in Oncology*, Volume 6, 2005, 389-393).

Reduced Incidence of Side Effects. Sexual impotence and urinary incontinence are two major concerns men face when choosing among various forms of treatment for prostate cancer. Studies have shown that brachytherapy with existing sources results in lower rates of impotence and incontinence than surgery (Buron C, et al. "Brachytherapy versus prostatectomy in localized prostate cancer: results of a French multicenter prospective medico-economic study". *International Journal of Radiation Oncology, Biology, Physics*, Volume 67, 2007, 812-822). Combined with the high disease control rates described in many studies, these findings have driven the adoption of brachytherapy as a front-line therapy for localized prostate cancer.

It has been noted, however, that a significant proportion of patients who undergo I-125 or Pd-103 brachytherapy experience acute urinary irritative symptoms following treatment – in fact more so than with surgery or external beam radiation therapy (Frank SJ, et al, "An assessment of quality of life following radical prostatectomy, high dose external beam radiation therapy, and brachytherapy iodine implantation as monotherapies for localized prostate cancer" *Journal of Urology*, Volume 177, 2007, 2151-2156). These irritative symptoms can range from an increased frequency of urination to significant pain upon urination. Because the portion of the urethra that runs through the prostate takes high doses from the implant, these side effects are fairly common following prostate brachytherapy.

Recent completed studies show that Cesium-131, with the shortest available half-life of the commonly used implantable isotopes, results in a quicker resolution of these irritative symptoms based on the shorter time interval over which normal tissue receives radiation from the implanted sources than for longer lived isotopes such as I-125. (Shah H, et al. A comparison of AUA symptom scores following permanent low-dose-rate prostate brachyhtherapy with iodine-125 and cesium-131. Brachytherapy 2013:12(SI)S64)).

A Cesium-131 monotherapy trial for the treatment of prostate cancer was fully enrolled in February 2007. The trial was a 100 patient multi-institutional study that sought to (1) document the dosimetric characteristics of Cesium-131, (2) summarize the side effect profile of Cesium-131 treatment, and (3) track biochemical (PSA) results in patients following Cesium-131 therapy.

The investigators responsible for conducting the study concluded based on the results of the monotherapy trial that Cesium-131 is a viable alternative as an isotope for permanent seed prostate brachytherapy (Prestidge BR, Bice WS, "Clinical outcomes of a Phase II, multi-institutional Cesium-131 permanent prostate brachytherapy trial". *Brachytherapy*, Volume 6, Issue 2, April-June 2007, Page 78).

Some of the significant and specific findings were as follows:

1. Patient reported irritative urinary symptoms (IPSS Scores) were mild to moderate with relatively rapid resolution within 4-6 months. The figure below depicts the symptom scores in the Cesium-131 study as compared to published reports of patients who underwent I-125 brachytherapy. Especially notable is the steep drop in the Cesium-131 group scores (purple line) as opposed to the more gradual drop in the I-125 group scores (green and blue lines).

2. Gland coverage was excellent and the dose delivered to critical structures outside the prostate was well within acceptable limits. (Bice WS, Prestidge BR, "Cesium-131 permanent prostate brachytherapy: The dosimetric analysis of a multi-institutional Phase II trial". *Brachytherapy* 2007(6); 88-89.).

3. An abstract detailing the outcomes of the 100 patient multi-institutional Cesium-131 study was prepared for the 32nd Annual Meeting of the American Brachytherapy Society (April 2011), Notably, the PSA control rate at 5 years was reported as 98%. No other study of brachytherapy utilizing the competing isotopes Iodine-125 and Palladium-103 has reported five year rates as high as 98%.

Several other studies have been reported that have compared dosimetric parameters (indicators of dose) among Cesium-131, Pd-103, and I-125. These comparative studies have shown a clear advantage to Cesium-131 from a dosimetric point-of-view, in terms of successful gland coverage obtained (typically measured by D90 – the radiation dose covering 90% of the prostate gland) while keeping unnecessary gland over-dosing (typically measured by V150 or V200 – the volume of the gland absorbing, respectively, 1.5 and 2 times the target dose) to a minimum (Musmacher JS, et al, "Dosimetric Comparison of Cesium-131 and Palladium-103 for Permanent Prostate Brachytherapy" *International Journal of Radiation Oncology Biology Physics*, Volume 69, (Supplement 3), 2007, S730-1; Yaparpalvi R, et al, "Is Cs-131 or I-125 or Pd-103 the Ideal Isotope for Prostate Boost Brachytherapy? A Dosimetric View Point." *International Journal of Radiation Oncology Biology Physics*, Volume 69 (Supplement 3), 2007, S677-8; Sutlief S and Wallner K, "Cs-131 Prostate Brachytherapy and Treatment Plan Parameters." *Medical Physics*, Volume 34, 2007, 2431; Kurtzman S, "Dosimetric Evaluation of Permanent Prostate Brachytherapy Using Cs-131 Sources" *International Journal of Radiation Oncology Biology Physics*, Volume 66 (Supplement 3), S395).

The prospective randomized monotherapy trial headed by Dr. Brian Moran of The Chicago Prostate Cancer Center issued four year PSA results at the 32nd Annual Meeting of the American Brachytherapy Society (April 2011). Dr. Moran's study revealed a 95% PSA control rate at four years. When considering risk grouping, the four year results were 98% for low risk, 91% for intermediate risk, and 88% for high risk patients. (Moran B, et al. Cesium-131 Prostate Brachytherapy:PSA outcome. International Journal of Radiation Oncology Biology Physics 2010, 78(2 Suppl):S375.)

9

As of April 2011, the 100 subject clinical study of Cesium-131 for the treatment of localized prostate cancer (originally enrolled beginning in 2005) had reached the point where a five-year result had been obtained and reported in a supplement to the official journal of the American Brachytherapy Society (*Brachytherapy*) documenting the scientific program for the Society's 2011 annual meeting. In this supplement, Drs. Bradley Prestidge, William Bice, Brian Moran and colleagues reported the five-year Freedom from Biochemical Failure (FFBF – a measure of success using prostate specific antigen) for the 100 patients as 97.9%.

Although several long-term reports exist in the literature describing outcomes for Iodine-125 and Palladium-103 as highly effective, there has been no report made at five years after the introduction of these isotopes detailing a FFBF as high as 97.9%. Management believes that these impressive results at the five-year mark should create further scientific support for Cesium-131 as an attractive treatment for localized prostate cancer, overcoming at least some of the initial resistance predicated on the lack of long-term follow-up reports.

A combined therapy study incorporating a slightly attenuated dose of Cesium-131 in concert with intensity modulated radiation therapy (IMRT) has now opened and is enrolling intermediate and high risk patients. The investigators for this study are hoping to evaluate the hypothesis that a successful combination therapy can be developed that controls locally advanced prostate cancer while providing a very low rate of urinary side effects. To date, the combined therapy study has accrued 44 patients.

During the Summer of 2011, the Company launched an online data collection system that enables standardized data collection for the Company's studies providing participating institutions and physicians with a means to share data and increase collaboration.

Non-Prostate Product Offerings

Lung Cancer Treatment Options

Lung cancer has historically been treated utilizing surgery, radiation therapy, other local treatments, chemotherapy and targeted therapy. More than one kind of treatment may be used, depending on the stage of the patient's cancer and other factors. (American Cancer Society, 2013)

1. Surgery generally involves removing a portion of the lung (lobectomy, segmentectomy, and wedge resection), the entire lung (pneumonectomy) or a sleeve resection for some cancers in the large airways in the lungs. The type of operation depends on the size and place of the tumor and on how well the patient's lungs are working. (American

Cancer Society, 2013)

2. Chemotherapy may be used either as a primary treatment or a secondary treatment depending on the type and stage of the lung cancer. Chemotherapy ("chemo") is treatment with anti-cancer drugs that are put into a vein or taken by mouth. These drugs enter the bloodstream and go throughout the body, making this treatment useful for cancer that has spread (metastasized) to organs beyond the lung. Doctors give chemo in cycles, with each round of treatment followed by a break to allow the body time to recover. Chemo cycles generally last about 3 to 4 weeks, and the treatments may involve 4 to 6 cycles. Chemotherapy may be used as a main treatment for more advanced cancers or for some people who are not healthy enough for surgery, to try to shrink a tumor before surgery, or after surgery to try to kill any cancer cells that may have been left behind. (American Cancer Society, 2013)

3. Radiation treatment is the use of high-energy rays to kill cancer cells or shrink tumors. The radiation may come from outside the body (external radiation) or from radioactive seeds placed into or next to the tumor (brachytherapy).

· External Beam Radiation Therapy (EBRT) is focused from outside the body on the cancer. This is the type of radiation most often used to treat a primary lung cancer or its spread to other organs. Most often, radiation treatments are given 5 days a week for 5 to 7 weeks. Newer types of this type of radiation are called 3D-CRT, IMRT, and stereotactic body radiation therapy (SBRT). (American Cancer Society, 2013)

· High Dose Rate (HDR) Brachytherapy (internal radiation therapy) is used most often to shrink tumors to relieve symptoms caused by lung cancer that is blocking an airway and is increasingly being used as part of a larger treatment plan to attempt to cure the cancer. For this type of treatment, the doctor places a small source of radioactive material (often in the form of seeds or pellets) right into the cancer or into the airway next to the cancer. This is usually done through a bronchoscope, and is increasingly done during surgery. The pellets are usually removed after a short time. (American Cancer Society, 2013)

· Low Dose Rate Brachytherapy is most often used in combination with surgery in early stage (stages I and II) non-small cell lung cancers for patients who cannot tolerate the surgical removal of a large portion of their lung. In these cases, a smaller amount of lung tissue than usual is removed at surgery, at which time a number of permanently implanted seeds are placed into the cut tissue. The addition of brachytherapy to surgery in these patients has been shown to reduce the recurrence of cancer regrowth (Colonias A, et al. International Journal of Radiation Oncology, Biology, Physics Volume 79, p 105-9, 2011.)

The Company believes that Cesium-131, with its shorter half-life (faster rate of decay) and relatively high energy, is better suited for treating lung cancer in Stages I and II than I-125. The bioabsorbable mesh used in this procedure to apply the Proxcelan Cesium-131 brachytherapy seeds generally dissolves after about 45 days. Cesium-131 delivers 90% of its dose in 33 days and is therefore well-suited to use with bioabsorbable mesh. A report was published in November 2011 describing the more technical details applicable to Cesium-131 implants (Parashar B, et al. Cesium-131 Permanent Seed Brachytherapy: Dosimetric Evaluation and Radiation Exposure to Surgeons, Radiation Oncology, and Staff. Brachytherapy 10(6):508-513, 2011).

In April 2012, the Company initiated a 100 patient study of Cesium-131 brachytherapy in the treatment of early stage non-small cell lung cancer (NSCLC). In this study, patients who are poor candidates for large surgical resections undergo a limited (sub-lobar) resection followed by Cesium-131 mesh brachytherapy. This study is based upon strong evidence collected to date suggesting that Iodine-125 mesh implants utilized in a similar way assist the limited surgical resection in achieving high rates of local cancer control. (see Colonias, et al. Mature Follow-up for High Risk Stage I Non-Small Cell Lung Carcinoma Treated with Sub-lobar Resection and Intra-operative Iodine-125 Brachytherapy. International Journal of Radiation Oncology Biology Physics 2011, 79(1), 105.) As of June 30, 2013, thirty-one patients were enrolled in the study and entered in the study database.

Brain Cancer Treatment Options

Most brain and spinal cord tumors are difficult to treat and require several specialists. The most common forms of treatment are resection at surgery (craniotomy); radiation therapy which may include external beam radiation therapy (EBRT), three-dimensional conformal radiation therapy (3D-CRT), intensity modulated radiation therapy (IMRT),

conformal proton beam radiation therapy, stereotactic radiosurgery, and brachytherapy; chemotherapy; targeted therapy; and other types of drugs (including corticosteroids and anti-seizure drugs). (American Cancer Society, 2013)

Treatment is determined based on an individual's specific type of tumor as well as other factors and in many cases the best course of action is a combination of the treatment options discussed above.

The treatment of brain cancer with Cesium-131 now has several delivery methods, including the implantable mesh described above, single seed applications, implantable strands, and by implantable device, including GliaSite® Radiation Therapy System (which uses only Iotrex, a form of liquid Iodine, as of the date of this report, and not Cesium-131), the world's only liquid radiation balloon catheter device used in the treatment of brain cancer. During the year ended June 30, 2013, there were forty-one patients treated with Company products for brain cancer.

Head and Neck Cancer Treatment Options

Most head and neck cancers historically have been treated with some combination of surgery including tumor resection; Mohs micrographic surgery; full or partial mandible (jaw bone) resection; maxillectomy; laryngectomy; full or partial glossectomy (tongue); neck dissection; pedicle or free flap reconstruction; tracheostomy; gastrostomy tube or dental extraction and implants; chemotherapy and radiation therapy including external beam radiation therapy (EBRT) accelerated and hyperfractionated radiation therapy, three-dimensional conformal radiation therapy (3D-CRT) and intensity modulated radiation therapy (IMRT), and brachytherapy (both high-dose rate (HDR) and low-dose rate (LDR)). (American Cancer Society, 2013)

Surgery is the most common option. Chemotherapy is often used in conjunction with surgery or radiation therapy depending on the type and stage of the cancer. External beam radiation therapy and brachytherapy have been used together or in combination with surgery or chemotherapy. (American Cancer Society, 2013)

Management believes Proxcelan Cesium-131 continues to represent an improved approach to brachytherapy treatment of specific head and neck cancers. During the year ended June 30, 2013, there were eight patients that were treated with Company products for head and neck cancers.

Gynecological Cancer Treatment Options (Vaginal and Vulvar Cancer)

In addition to brachytherapy to treat gynecological cancers such as vaginal and vulvar cancers, other treatment options include surgery, laser surgery, radiation therapy, chemotherapy, and topical treatments. Surgery is often only used for vaginal cancers when it is a small stage I tumor and for cancers that have not been cured by radiation alone. (American Cancer Society, 2013)

Surgery for vaginal cancers can include local excision, vaginectomy, trachelectomy, hysterectomy, vaginal reconstruction, lymphadenectomy, and pelvic exenteration. Surgery options for vulvar cancer include laser surgery, excision, vulvectomy, pelvic exenteration, inguinal lymph node dissection, and sentinel lymph node biopsy. (American Cancer Society, 2013)

Radiation therapy options for vaginal cancer and vulvar cancer includes external beam radiation and is delivered much like getting a diagnostic x-ray. The common side effects of radiation therapy include upset stomach, fatigue, and loose bowels. (American Cancer Society, 2013)

Chemotherapy uses anti-cancer drugs most often prescribed intravenously, taken by mouth or applied to the skin as an ointment. Often it may be given before or after surgery to assist in shrinking the cancer or to make radiation work better for vaginal cancers. In more advanced vulvar cancers, it is can be given with radiation therapy before surgery to attempt to shrink the tumor before surgery. The common side effects of chemotherapy for both vaginal and vulvar cancers include nausea and vomiting, temporary loss of hair, increased or decreased appetite, mouth or vaginal sores, and changes in menstrual cycles, premature menopause, or infertility. (American Cancer Society, 2013). During the year ended June 30, 2013, there were eleven patients treated with Company products for gynecological cancers.

Ocular Melanoma Treatment Options

In addition to brachytherapy to treat ocular melanoma, other treatment options include surgery, external beam radiation, chemotherapy, and laser therapy. Surgery could include removal of part of the iris, a portion of the outer eyeball, or the removal of the entire eyeball, and is used less often than in the past as the use of radiation therapy has grown. External beam radiation (including conformal proton beam radiation therapy and stereotactic radiosurgery) involves sending radiation from a source outside the body that is focused on the cancer but has not been as widely used to date for ocular melanoma. Laser therapy, rarely used now to treat ocular melanoma, burns the cancerous tissue by using a highly focused, high-energy light beam. (American Cancer Society, 2013)

Brachytherapy has become the most commonly used radiation treatment for most eye melanomas. Studies have shown that in many cases it is as effective as surgery (enucleation). Brachytherapy using Cesium-131, I-125, or Pd-103 is done by placing the seeds in a plaque (shaped like a small cap) that is attached to the eyeball with minute stitches in a procedure that lasts 1 to 2 hours and is usually kept in place for 4 to 7 days. The patient generally stays in the hospital until the plaque is removed from the eye following a procedure that takes less than 1 hour. Brachytherapy cures approximately 9 out of 10 small tumors and can preserve the vision of some patients. (American Cancer Society, 2013) Management believes that while Cesium-131 provides the best treatment alternative, it is at a disadvantage to I-125 or Pd-103 as a result of Cs-131's short half-life, which requires it to be ordered and manufactured and unable to be inventoried. Most patients are unwilling to wait for it to be ordered when the other products are often available immediately. The treatment of ocular melanoma was the first opportunity for the Company to utilize the Cs-131 brachytherapy seed in a treatment other than a prostate application but does not comprise a significant portion of the Company’s business.

Colorectal Treatment Options

Colorectal cancer has historically been treated using surgery, radiation therapy, chemotherapy, immunotherapy and other targeted therapies. (American Cancer Society, 2013)

For the treatment of early stage colon and rectal cancers, surgery is often the main treatment. Colorectal surgeries include open colectomy, laparoscopic-assisted colectomy, and polypectomy and local excision. Rectal surgeries include polypectomy and local excision, local transanal resection, transanal endoscopic microsurgery (TEM), lower anterior resection, proctectomy with coloanal anastomosis, abdominoperineal resection and pelvic exenteration. (American Cancer Society, 2013)

For the treatment of colorectal cancers beyond early stage, other surgery treatments (radiofrequency ablation, ethanol ablation, cryosurgery and hepatic artery embolization), radiation therapy (external beam radiation, endocavitary radiation, brachytherapy, yttrium-90 microsphere radioembolization), chemotherapy, and targeted therapies (Avastin, Erbitux, Vectibix, and Stivarga) can be used. (American Cancer Society, 2013)

Low-dose rate (LDR) brachytherapy including Proxcelan Cesium-131 is typically utilized in treating individuals with rectal cancer who are not healthy enough to tolerate curative surgery. This is generally a one-time only procedure and does not require ongoing visits for several weeks as is common with other types of radiation therapy such as external-beam radiation therapy and endocavitary radiation therapy. Management believes that the advantages provided by Cesium-131 shown through the treatment of other cancers will benefit patients utilizing Proxcelan Cesium -131 brachytherapy seeds in the treatment of their colorectal cancers with low-dose rate brachytherapy. The treatment of colorectal cancer is an additional non-prostate application of the Company’s product which by itself is not a significant portion of the Company’s business. However, when aggregated with the other non-prostate applications, it contributes to the overall growth in the Company’s non-prostate applications.

Brachytherapy Isotope Comparison

Increasingly, prostate cancer patients and their doctors who decide to use seed brachytherapy as a treatment option choose Cs-131 because of its significant advantages over Palladium-103 (Pd-103) and Iodine-125 (I-125), two other isotopes currently in use. These advantages include:

Higher Energy

Cesium-131 has a higher average energy than any other commonly used prostate brachytherapy isotope on the market. Energy is a key factor in how uniformly the radiation dose can be delivered throughout the prostate. This quality of a prostate implant is known as homogeneity. Early studies demonstrate Cesium-131 implants are able to deliver the required dose while maintaining homogeneity across the gland itself and potentially reducing unnecessary dose to critical structures such as the urethra and rectum. (Prestidge B.R., Bice W.S., Jurkovic I., et al. Cesium-131 Permanent Prostate Brachytherapy: An Initial Report. *Int. J. Radiation Oncology Biol. Phys*. 2005: 63 (1) 5336-5337.)

Shorter Half-Life

Cesium-131 has the shortest half-life of any commonly used prostate brachytherapy isotope at 9.7 days. Cesium-131 delivers 90% of the prescribed dose in just 33 days compared to 58 days for Pd-103 and 204 days for I-125. By far the most commonly reported side effects of prostate brachytherapy are irritative and obstructive symptoms in the acute phase post-implant (Neill B, et al. The Nature and Extent of Urinary Morbidity in Relation to Prostate Brachytherapy Urethral Dosimetry. *Brachytherapy* 2007:6(3)173-9.). The short half-life of Cesium-131 reduces the duration of time during which the patient experiences the irritating effects of the radiation.

Improved Coverage of the Prostate

Permanent prostate brachytherapy utilizing Cesium-131 seeds allows for better dose homogeneity and sparing of the urethra and rectuiv>

Other income

130

7

Income before income taxes

54,611

28,897

Income taxes

10,820

9,638

Net income

$
43,791

$
19,259

Other comprehensive income – periodic pension costs, net of income taxes of $3 and $9, respectively

13

17

Total comprehensive income

$
43,804

$
19,276

Weighted average number of Sub-share Certificates outstanding

7,818,168

7,919,085

Basic and dilutive earnings per Sub-share Certificate on net income

$
5.60

$
2.43

Cash dividends per Sub-share Certificate

$
4.05

$
1.35

See accompanying notes to condensed consolidated financial statements.

TEXAS PACIFIC LAND TRUST
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)
(Unaudited)

	Three Months Ended March 31,	
	2018	2017
Cash flows from operating activities:		
Net income	$43,791	$19,259
Adjustments to reconcile net income to net cash provided by operating activities:		
Deferred taxes	—	2,406
Depreciation and amortization	330	19
Gain on disposal of fixed assets	—	(4)
Changes in operating assets and liabilities:		
Accrued receivables and other assets	(12,099)	(3,758)
Prepaid income taxes	1,202	—
Accounts payable, accrued expenses and other liabilities	(172)	846
Income taxes payable	9,622	5,616
Cash provided by operating activities	42,674	24,384
Cash flows from investing activities:		
Proceeds from sale of fixed assets	—	28
Acquisition of land	(751)	—
Purchase of fixed assets	(11,841)	(1,912)
Cash used in investing activities	(12,592)	(1,884)
Cash flows from financing activities:		
Purchase of Sub-share Certificates in Certificates of Proprietary Interest	(6,709)	(8,672)
Dividends paid	(31,652)	(10,682)
Cash used in financing activities	(38,361)	(19,354)
Net increase in cash and cash equivalents	(8,279)	3,146
Cash and cash equivalents, beginning of period	79,580	49,418
Cash and cash equivalents, end of period	$71,301	$52,564
Supplemental disclosure of cash flow information:		
Income taxes paid	$—	$1,625

See accompanying notes to condensed consolidated financial statements.

TEXAS PACIFIC LAND TRUST
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(UNAUDITED)

1. Organization and Description of Business Segments

Texas Pacific Land Trust (which, together with its subsidiaries as the context requires, may be referred to as "Texas Pacific", the "Trust", "our", "we" or "us") is one of the largest landowners in the State of Texas with approximately 890,000 acres of land in West Texas. Texas Pacific was organized under a Declaration of Trust, dated February 1, 1888, to receive and hold title to extensive tracts of land in the State of Texas, previously the property of the Texas and Pacific Railway Company, and to issue transferable Certificates of Proprietary Interest pro rata to the original holders of certain debt securities of the Texas and Pacific Railway Company.

The Trust is organized to manage land, including royalty interests, for the benefit of its owners. The Trust's income is derived primarily from oil, gas and water service-related royalties, sales of water and land, easements and leases of the land.

We operate our business in two segments: Land and Resource Management and Water Service and Operations. Our segments provide management with a comprehensive financial view of our key businesses. The segments enable the alignment of strategies and objectives of the Trust and provide a framework for timely and rational allocation of resources within businesses. See Note 8, "Business Segment Reporting" for further information regarding our segments.

2. Summary of Significant Accounting Policies

Interim Unaudited Financial Information

The results for the interim periods shown in this report are not necessarily indicative of future financial results. The accompanying condensed consolidated financial statements include all adjustments necessary to present fairly the financial position of the Trust as of March 31, 2018 and the results of its operations for the three month periods ended March 31, 2018 and 2017, respectively, and its cash flows for the three month periods ended March 31, 2018 and 2017, respectively. Such adjustments are of a normal recurring nature.

Principles of Consolidation and Basis of Presentation

The accompanying condensed consolidated financial statements include our accounts and the accounts of our wholly owned subsidiaries. All intercompany accounts and transactions have been eliminated in consolidation. The accompanying condensed consolidated financial statements should be read in conjunction with the annual financial statements and notes thereto included in the Trust's Annual Report on Form 10-K for the year ended December 31, 2017, which was filed with the SEC on February 28, 2018. Certain information and footnote disclosures normally included in financial statements prepared in accordance with accounting principles generally accepted in the United States of America ("GAAP") have been condensed or omitted from this report.

Use of Estimates in the Preparation of Financial Statements

The preparation of consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent asset and liabilities at the date of the financial statements and reported amounts of income and expenses during the reporting period. Actual results could differ from those estimates.

Recently Adopted Accounting Guidance

Revenue from Contracts with Customers

In May 2014, the Financial Accounting Standards Board (the "FASB") issued Accounting Standards Update ("ASU") No. 2014-09, "Revenue Recognition (Topic 606): Revenue from Contracts with Customers." The ASU provides a five-step revenue recognition model in which an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The ASU allows for a practical expedient for companies to exclude sales or similar taxes collected from customers from the transaction

price. Additionally, the ASU requires disclosures sufficient to enable users to understand the nature, amount, timing, and uncertainty of revenue and cash flows arising from contracts with customers, including qualitative and quantitative disclosures about contracts with customers, significant judgments and changes in judgments, and assets recognized from the costs to obtain or fulfill a contract.

The most significant impact of the standard relates to our accounting for easement agreements and to a lesser extent oil and gas royalties. Specifically, we recognize revenue for term easements upon execution of the easement agreements, and as a result, we no longer defer revenue on our term easements. Historically, oil and gas royalties have been adjusted for production taxes paid by operators with a charge to taxes, other than income taxes and a corresponding increase to revenue. We elected the practical expedient allowed by the ASU and exclude production taxes from revenue. Revenue recognition related to our land sales and other sundry income remains substantially unchanged. Adoption of the standard resulted in (i) the acceleration of easement and sundry income as unearned revenue decreases, (ii) a reduction in oil and gas royalty revenue with a corresponding reduction in taxes, other than income taxes, and (iii) an increase in income tax expense for the three months ended March 31, 2017.

We adopted the new standard on January 1, 2018 applying the full retrospective method with optional practical expedients. Adoption of the standard using the full retrospective method required us to restate certain previously reported results as though the new standard had always been in effect.

Adoption of the standard related to revenue recognition impacted our previously reported results as follows (in thousands, except per share amounts):

	As reported in prior year	Retrospective Adjustment	As reported in current year
Consolidated Statements of Income:			
For the three months ended March 31, 2017			
Revenue	$24,229	$ 6,178	$30,407
Taxes, other than income taxes	660	(605)	55
Income taxes	7,228	2,410	9,638
Net income	14,886	4,373	19,259
Net income per Sub-share Certificate	$1.88	$ 0.55	$2.43
Consolidated Balance Sheets:			
As of December 31, 2017			
Assets:			
Accrued receivables	$18,206	$ (433)	$17,773
Deferred tax asset (liability)	6,992	(7,106)	(114)
Liabilities and Capital:			
Unearned revenue	$41,375	$ (33,011)	$8,364
Other taxes payable	433	(433)	—
Net proceeds from all sources	79,997	25,905	105,902

Presentation of Net Periodic Pension Cost

In March 2017, the FASB issued ASU No. 2017-07, “Compensation - Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost.” This ASU requires employers to disaggregate the service cost component from the other components of net benefit cost in the income statement, provides explicit guidance on the presentation of the service cost component and the other components of net benefit cost in the income statement and allows only the service cost component of net benefit cost to be eligible

for capitalization. The service cost component is recorded within salaries and related employee benefits expense, and the other components of net benefit costs are recorded in other income.

We adopted the new standard on January 1, 2018 applying the retrospective method. Adoption of the standard using the retrospective method required us to restate certain previously reported results as though the new standard had always been in effect.

Adoption of the standard related to presentation of net periodic pension cost and the standard related to revenue recognition impacted our previously reported results for operating income and other income as follows (in thousands):

	As reported in prior year	Retrospective Adjustment	As reported in current year
Consolidated Statements of Income:			
For the three months ended March 31, 2017			
Operating income [1]	$ 22,104	$ 6,786	$ 28,890
Other income	9	(2)	7

(1) The retrospective adjustment amount includes approximately $6.8 million related to the adoption of the new revenue recognition guidance as discussed above. The retrospective adjustment amount related to the adoption of the presentation of net periodic pension cost had a minimal impact.

Impact of the 2017 Tax Cuts and Jobs Act on Certain Income Tax Effects

In March 2018, the FASB issued ASU 2018-05, “Amendments to SEC Paragraphs Pursuant to SEC Staff Accounting Bulletin No. 118.” The amendments in this update provide guidance on when to record and disclose provisional amounts for certain income tax effects of the 2017 Tax Cuts and Jobs Act ("Tax Reform Act"). The amendments also require any provisional amounts or subsequent adjustments to be included in net income from continuing operations. Additionally, this ASU discusses required disclosures that an entity must make with regard to the Tax Reform Act. This ASU is effective immediately as new information is available to adjust provisional amounts that were previously recorded. The Trust has adopted this standard and will continue to evaluate indicators that may give rise to a change in our tax provision as a result of the Tax Reform Act.

3. Recent Accounting Pronouncements

In February 2016, the FASB issued ASU No. 2016-02, “Leases (Topic 842).” This ASU requires lessees to recognize a right of use asset and lease liability on the balance sheet for all leases, with the exception of short-term leases. The new guidance will also require significant disclosures about the amount, timing and uncertainty of cash flows from leases. In January 2018, the FASB issued ASU No. 2018-01, “Land Easement Practical Expedient for Transition to Topic 842” that clarifies the application of the new lease guidance to land easements. The ASU allows an optional transition practical expedient, which if elected, would not require an entity to reassess the accounting treatment on existing or expired land easements not previously accounted for as leases under the current lease guidance. Any new or modified land easements would be evaluated under the new lease guidance upon adoption of the new lease standard. The new lease standard is effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years, which for the Trust is the first quarter of 2019. The Trust is currently evaluating the new guidance to determine the impact it will have on our consolidated financial statements.

In February 2018, the FASB issued ASU 2018-02, “Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income (Topic 220).” This ASU allows for stranded tax effects in accumulated other comprehensive income resulting from the Tax Reform Act to be reclassified as retained earnings. This standard is effective for fiscal years, and interim periods within those years, beginning after December 15, 2018. Early adoption is permitted. The Trust is currently evaluating the impact that ASU 2018-02 will have on our consolidated financial statements and disclosures.

4. Property, Plant and Equipment

Property, plant and equipment, net consisted of the following as of March 31, 2018 and December 31, 2017 (in thousands):

	March 31, 2018	December 31, 2017
Property, plant and equipment:		
Water service-related assets [1]	$28,679	$ 18,193
Furniture, fixtures and equipment	3,141	1,786
Property, plant and equipment at cost	31,820	19,979
Less: accumulated depreciation	(791)	(463)
Property, plant and equipment, net	$31,029	$ 19,516

(1) Water service-related assets include water wells and water well fields related to water sourcing and water re-use projects.

Depreciation expense was $0.3 million for the three months ended March 31, 2018. Depreciation expense was insignificant for the three months ended March 31, 2017.

5. Real Estate Activity

Land Sales

No value has been assigned to the land held by the Trust other than parcels which have been acquired through foreclosure and a limited number of parcels which have been acquired because they were offered for sale and were contiguous to parcels already owned by the Trust. Consequently, no allowance for depletion is computed, and no charge to income is made, with respect thereto, and no cost is deducted from the proceeds of the land sales in computing gain or loss thereon.

During the three months ended March 31, 2018, we completed the following sales of land parcels (in thousands, except number of acres):

Date of sale	Location	Approximate number of acres sold	Contract sale price
February 2018	Loving County	40.0	$ 1,150
March 2018	Culberson County	80.0	1,600
Total sales in 2018		120.0	$ 2,750

There were no land sales during the three months ended March 31, 2017.

Real Estate Acquired

Real estate acquired included the following activity for the three months ended March 31, 2018 and 2017 (in thousands, except number of acres):

	Three Months Ended March 31, 2018		Three Months Ended March 31, 2017	
	Acres	Book Value	Acres	Book Value
Balance at January 1,	10,064.78	$1,115	10,064.78	$1,115

Additions	640.60	751	—	—
Sales	—	—	—	—
Balance at March 31,	10,705.38	$1,866	10,064.78	$1,115

6. Income Taxes

Effective January 1, 2018, the statutory Federal income tax rate for the Trust decreased from 35% to 21%. The Trust's effective Federal income tax rate is less than the 21% statutory rate because taxable income is reduced by statutory percentage depletion allowed on mineral royalty income.

7. Capital

The Sub-shares and the Certificates of Proprietary Interest are freely interchangeable in the ratio of one Certificate of Proprietary Interest for 3,000 Sub-shares or 3,000 Sub-shares for one Certificate of Proprietary Interest.

Dividends

On March 16, 2018, we paid $31.7 million in dividends representing a cash dividend of $1.05 per Sub-share and a special dividend of $3.00 per Sub-share for sub-shareholders of record at the close of business on March 9, 2018.

On March 16, 2017, we paid $10.7 million in dividends representing a cash dividend of $0.35 per Sub-share and a special dividend of $1.00 per Sub-share for sub-shareholders of record at the close of business on March 9, 2017.

Repurchases of Sub-share Certificates

During the three months ended March 31, 2018, we purchased and retired 13,146 Sub-shares. During the three months ended March 31, 2017, we purchased and retired 29,496 Sub-shares.

8. Business Segment Reporting

During the periods presented, we reported our financial performance based on the following segments: Land and Resource Management and Water Service and Operations. Our segments provide management with a comprehensive financial view of our key businesses. The segments enable the alignment of strategies and objectives of the Trust and provide a framework for timely and rational allocation of resources within businesses. We eliminate any inter-segment revenues and expenses upon consolidation.

The Land and Resource Management segment encompasses the business of managing approximately 890,000 acres of land and related resources in West Texas owned by the Trust. The revenue streams of this segment consist primarily of royalties from oil and gas, land sales, and revenues from easements and leases.
The Water Service and Operations segment encompasses the business of providing a full-service water offering to operators in the Permian Basin as well as managing agreements with energy companies and oilfield service businesses to allow such companies to explore for water, drill water wells, construct water-related infrastructure and purchase water sourced from land that we own. The revenue streams of this segment consist of revenues from royalties on water service-related activity as well as revenue generated from direct sales of water.

Segment financial results were as follows for the three months ended March 31, 2018 and 2017 (in thousands):

	Three Months Ended March 31,	
	2018	2017
Revenues:		
Land and resource management	$42,753	$25,579
Water service and operations	17,254	4,828
Total consolidated revenues	$60,007	$30,407
Net income:		
Land and resource management	$32,811	$14,445
Water service and operations	10,980	4,814
Total consolidated net income	$43,791	$19,259
Capital expenditures		
Land and resource management	$1,252	$174
Water service and operations	10,589	1,738
Total capital expenditures	$11,841	$1,912
Depreciation and amortization:		
Land and resource management	$70	$5
Water service and operations	260	14
Total depreciation and amortization	$330	$19

The following table presents total assets and property, plant and equipment, net by segment as of March 31, 2018 and December 31, 2017 (in thousands):

	March 31, 2018	December 31, 2017
Assets:		
Land and resource management	$92,676	$ 97,549
Water service and operations	42,240	22,486
Total consolidated assets	$134,916	$ 120,035
Property, plant and equipment, net		
Land and resource management	$2,633	$ 1,449
Water service and operations	28,396	18,067
Total consolidated property, plant and equipment, net	$31,029	$ 19,516

9. Subsequent Events

We evaluate events that occur after the balance sheet date but before consolidated financial statements are, or are available to be, issued to determine if a material event requires our amending the consolidated financial statements or disclosing the event. We evaluated subsequent events through the filing date we issued these consolidated financial statements and did not identify any subsequent events requiring disclosure.

10. Oil and Gas Producing Activities

There are a number of oil and gas wells that have been drilled but are not yet completed (DUC) where the Trust has a royalty interest. Currently, the Trust has identified 209 DUC wells affected by our royalty interest. The process of identifying these wells is ongoing and we anticipate updates going forward to be affected by a number of factors including, but not limited to, ongoing changes/updates to our identification process, changes/updates by Drilling Info (our main source of information in identifying these wells) in their identification process, the eventual completion of these DUC wells, and additional wells drilled but not completed by companies operating where we have a royalty interest.

*****

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

Cautionary Statement Regarding Forward-Looking Statements

Statements in this Quarterly Report on Form 10-Q that are not purely historical are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934, including statements regarding management's expectations, hopes, intentions or strategies regarding the future. Forward-looking statements include statements regarding the Trust's future operations and prospects, the markets for real estate in the areas in which the Trust owns real estate, applicable zoning regulations, the markets for oil and gas, production limits on prorated oil and gas wells authorized by the Railroad Commission of Texas, expected competition, management's intent, beliefs or current expectations with respect to the Trust's future financial performance and other matters. All forward-looking statements in this Report are based on information available to us as of the date this Report is filed with the Securities and Exchange Commission (the "SEC"), and we assume no responsibility to update any such forward-looking statements, except as required by law. All forward-looking statements are subject to a number of risks, uncertainties and other factors that could cause our actual results, performance, prospects or opportunities to differ materially from those expressed in, or implied by, these forward-looking statements. These risks, uncertainties and other factors include, but are not limited to, the factors discussed in Item 1A "Risk Factors" of Part I of our Annual Report on Form 10-K for the year ended December 31, 2017, and in Part I, Item 2 "Management's Discussion and Analysis of Financial Condition and Results of Operations" and Part II, Item 1A "Risk Factors" of this Quarterly Report on Form 10-Q.

The following discussion and analysis should be read together with (i) the factors discussed in Item 1A "Risk Factors" of Part I of our Annual Report on Form 10-K for the year ended December 31, 2017, (ii) the factors discussed in Part II, Item 1A "Risk Factors," if any, of this Quarterly Report on Form 10-Q and (iii) the Financial Statements, including the Notes thereto, and the other financial information appearing elsewhere in this Report. Period-to-period comparisons of financial data are not necessarily indicative, and therefore should not be relied upon as indicators, of the Trust's future performance. Words or phrases such as "expects" and "believes", or similar expressions, when used in this Form 10-Q or other filings with the SEC, are intended to identify "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995.

Overview

Texas Pacific Land Trust (which together with its subsidiaries as the context requires, may be referred to as "Texas Pacific", the "Trust", "our", "we" or "us", is one of the largest landowners in the State of Texas with approximately 890,000 acres of land in West Texas. We were organized under a Declaration of Trust, dated February 1, 1888, to receive and hold title to extensive tracts of land in numerous counties in West Texas, previously the property of the Texas and Pacific Railway Company. Our Trustees are empowered under the Declaration of Trust to manage the lands with all the powers of an absolute owner.

Our revenues are derived primarily from oil, gas and water service-related royalties, sales of water and land, easements and leases of the land. Due to the nature of our operations, our revenue is subject to substantial fluctuations from quarter to quarter and year to year. We are a passive seller of land and do not actively solicit sales of land. In addition, the demand for, and sale price of, particular tracts of land is influenced by many factors beyond our control, including general economic conditions, the rate of development in nearby areas and the suitability of the particular tract for the ranching uses prevalent in western Texas.

We are not an oil and gas producer. Rather, our oil and gas revenue is derived from our retained perpetual non-participating oil and gas royalty interests. Thus, in addition to being subject to fluctuations in response to the market prices for oil and gas, our oil and gas royalty revenues are also subject to decisions made by the owners and operators of the oil and gas wells to which our royalty interests relate as to investments in and production from those wells. We monitor production reports by the oil and gas companies to assure that we are being paid the appropriate

royalties. We review conditions in the agricultural industry in the areas in which our lands are located and seek to keep as much of our lands as possible under lease to local ranchers.

Our revenue from easements is generated from easement contracts covering activities such as oil and gas pipelines and subsurface wellbore easements. The majority of our easements have a ten-year term. We also enter into agreements with operators and mid-stream companies to lease land from us, primarily for facilities and roads.

In prior years, we entered into agreements with energy companies and oilfield service businesses to allow such companies to explore for water, drill water wells, construct water-related infrastructure and purchase water sourced from land

that we own. Energy businesses use water for their oil and gas projects while non-energy businesses (i.e., water management service companies) operate water facilities to produce and sell water to energy businesses. We collect revenue from royalties and water sales under these legacy agreements.

Demand for water solutions is expected to grow as drilling and completion activity in the Permian Basin continues to increase. In response to that anticipated demand, the Trust formed Texas Pacific Water Resources LLC ("TPWR") in June 2017. TPWR, a single member LLC and wholly owned subsidiary of the Trust, focuses on providing full-service water offerings to operators in the Permian Basin. These services include brackish water sourcing, produced-water gathering/treatment/recycling, infrastructure development/construction, disposal, water tracking, analytics and well testing services. TPWR is committed to sustainable water development with significant focus on the large-scale implementation of recycled water operations.

During the three months ended March 31, 2018, the Trust invested approximately $9.8 million in TPWR projects to develop brackish water sourcing and re-use assets.

Results of Operations

We operate our business in two segments: Land and Resource Management and Water Service and Operations. We eliminate any inter-segment revenues and expenses upon consolidation.

We analyze financial results for each of our reportable segments. The reportable segments presented are consistent with our reportable segments discussed in Note 8, "Business Segment Reporting" in Item 1. Financial Statements in this Quarterly Report on Form 10-Q. We monitor our reporting segments based upon revenue and net income calculated in accordance with accounting principles generally accepted in the United States of America ("GAAP").

For the three months ended March 31, 2018 as compared to the three months ended March 31, 2017

Revenues. Revenues increased $29.6 million, or 97.3%, to $60.0 million for the three months ended March 31, 2018 compared to $30.4 million for the three months ended March 31, 2017. Net income increased $24.5 million, or 127.3%, to $43.8 million for the three months ended March 31, 2018 compared to $19.3 million for the three months ended March 31, 2017.

The following is an analysis of our operating results for the comparable periods by reportable segment (in thousands):

	Three Months Ended March 31,					
	2018			2017		
Revenues:						
Land and resource management:						
Oil and gas royalties	$26,547	44	%	$10,588	35	%
Easements and sundry income	13,331	22	%	14,867	49	%
Land sales and other income	2,875	5	%	124	—	%
	42,753	71	%	25,579	84	%
Water service and operations:						
Water sales and royalties	13,607	23	%	4,828	16	%
Easements and sundry income	3,647	6	%	—	—	%
	17,254	29	%	4,828	16	%
Total consolidated revenues	$60,007	100	%	$30,407	100	%
Net income:						
Land and resource management	$32,811	75	%	$14,445	75	%
Water service and operations	10,980	25	%	4,814	25	%
Total consolidated net income	$43,791	100	%	$19,259	100	%

12

Land and Resource Management

Land and Resource Management segment revenues increased $17.2 million, or 67.1%, to $42.8 million for the three months ended March 31, 2018 as compared with revenues of $25.6 million for the comparable period of 2017.

Oil and gas royalties. Oil and gas royalty revenue was $26.5 million for the three months ended March 31, 2018 compared to $10.6 million for the three months ended March 31, 2017. Oil royalty revenue was $20.1 million for the three months ended March 31, 2018 compared to $7.7 million for the comparable period of 2017. This increase in oil royalty revenue is principally due to the combined effect of a 129.0% increase in crude oil production, subject to the Trust's royalty interest, and a 13.5% increase in the average price per royalty barrel of crude oil during the three months ended March 31, 2018 compared to the same period in 2017. Gas royalty revenue was $6.4 million for the three months ended March 31, 2018, an increase of 121.8% over the three months ended March 31, 2017 when gas royalty revenue was $2.9 million. This increase in gas royalty revenue resulted from a volume increase of 154.4% for the three months ended March 31, 2018 as compared to the same period of 2017, partially offset by a 13.9% decrease in the average price received.

Easements and sundry income. Easements and sundry income was $13.3 million for the three months ended March 31, 2018, a decrease of 10.3% compared to $14.9 million for the three months ended March 31, 2017. Easements and sundry income includes pipeline easement income, seismic and temporary permit income, and income from material sales. Pipeline easement income decreased 20.4% to $7.7 million for the three months ended March 31, 2018 compared to the three months ended March 31, 2017. This decrease was due to temporary timing differences resulting from a change in the form of our pipeline easement agreements. This decrease was partially offset by an increase of $1.4 million in seismic permit income and to a lesser extent, an increase of $0.3 million in material sales during this same time frame. Easements and sundry income is unpredictable and may vary significantly from period to period. Effective January 1, 2018, the Trust adopted the new revenue recognition accounting standard using the full retrospective method, and no longer defers revenue on its term easements. See more discussion in Note 2, "Summary of Significant Accounting Policies - Recently Adopted Accounting Guidance" for further discussion and analysis of impact on our condensed consolidated financial statements.

Land sales and other income. Land sales and other income includes revenue generated from land sales and grazing leases. For the three months ended March 31, 2018, we sold approximately 120 acres of land for total consideration of $2.8 million, or approximately $22,917 per acre. There were no land sales for the three months ended March 31, 2017.

Net income. Net income for the Land and Resource Management segment was $32.8 million for the three months ended March 31, 2018 compared to $14.4 million for the three months ended March 31, 2017. As discussed above, revenues for the Land and Resource Management segment increased $17.2 million for the three months ended March 31, 2018 compared to the same period of 2017. Expenses, including income tax expense, for the Land and Resource Management segment were $10.0 million and $11.1 million for the three months ended March 31, 2018 and 2017, respectively. The decrease in expenses was due to the reduction in the federal income tax rate from 35% to 21% effective January 1, 2018. This decrease in expenses was partially offset by increased salary and general and administrative expenses. See further discussion of these expenses below under "Other Financial Data - Consolidated."

Water Service and Operations

Water Service and Operations segment revenues increased $12.5 million, or 257.4%, to $17.3 million for the three months ended March 31, 2018 as compared with revenues of $4.8 million for the comparable period of 2017.

Water sales and royalties. Water sales and royalty revenues for the three months ended March 31, 2018 of $13.6 million were more than double the amount of revenue for the comparable period of 2017. This increase is due primarily to the Trust's decision to develop water well fields on its own land along with an increase in the royalties received from existing agreements.

Easements and sundry income. Easements and sundry income for the Water Service and Operations segment includes pipeline easement royalties, commercial lease royalties and income from temporary permits. For the three months ended March 31, 2018, the combined revenue from these revenue streams was $3.6 million. There was no such revenue for the three months ended March 31, 2017.

Net income. Net income for the Water Service and Operations segment was $11.0 million for the three months ended March 31, 2018 compared to $4.8 million for the three months ended March 31, 2017. As discussed above, revenues for the Water Service and Operations segment increased $12.5 million for the three months ended March 31, 2018 compared to the same period of 2017. Expenses for the Water Service and Operations segment were $6.3 million for the three months ended

March 31, 2018. There were no expenses for the Water Service and Operations segment for the three months ended March 31, 2017. The increase in expenses during 2018 is directly related to the formation of TPWR at the end of the second quarter of 2017.

Other Financial Data - Consolidated

Salaries and related employee benefits. Salaries and related employee benefits were $2.3 million for the three months ended March 31, 2018 compared to $0.4 million for the comparable period of 2017. The increase in salaries and related employee benefits is directly related to the increase in the number of employees from 10 employees as of March 31, 2017 to 36 as of March 31, 2018 and additional contract labor expenses for the three months ended March 31, 2018 compared to the same period of 2017.

Water service-related expenses. Water service-related expenses of $1.3 million for the three months ended March 31, 2018, include expenses for equipment rental, propane and fuel and other equipment-related expenses associated with TPWR. The Trust did not incur water service-related expenses during the three months ended March 31, 2017.

General and administrative expenses. General and administrative expenses increased $0.5 million to $0.8 million for the three months ended March 31, 2018 from $0.3 million for the same period of 2017. Approximately $0.2 million of the increase is related to an increase in insurance expenses which are partially attributable to the increase in the number of employees subsequent to March 31, 2017. Travel expenses, office rent and other general expenses increased as a result of the opening of an additional office in Midland, Texas for our TPWR operations.

Legal and professional expenses. Legal and professional fees decreased $0.1 million to $0.6 million for the three months ended March 31, 2018 from $0.7 million for the comparable period of 2017. Legal and professional fees for the three months ended March 31, 2017 included consulting fees related to a 2017 strategic review of the Trust.

Depreciation and amortization. Depreciation and amortization was $0.3 million for the three months ended March 31, 2018 compared to minimal depreciation and amortization for the three months ended March 31, 2017. The increase in depreciation and amortization is directly related to the Trust’s investment in water service-related assets during 2017 and 2018.

Cash Flow Analysis

For the three months ended March 31, 2018 as compared to the three months ended March 31, 2017

Cash flows provided by operating activities for the three months ended March 31, 2018 and 2017 were $42.7 million and $24.4 million, respectively. This increase in operating cash flows is principally due to increases in oil and gas royalties collected, easements and sundry payments received and water sales and royalties collected during the three months ended March 31, 2018 over the three months ended March 31, 2017.

Cash flows used in investing activities were $12.6 million compared to $1.9 million for the three months ended March 31, 2018 and 2017, respectively. The increased use of investing cash flows is due to our investment of $10.5 million in water service-related assets during the three months ended March 31, 2018.

Cash flows used in financing activities were $38.4 million compared to $19.4 million for the three months ended March 31, 2018 and 2017, respectively. During the three months ended March 31, 2018, the Trust paid total dividends of $31.7 million consisting of a cash dividend of $1.05 per Sub-share and a special dividend of $3.00 per Sub-share to each sub-shareholder of record at the close of business on March 9, 2018. During the three months ended March 31, 2017, the Trust paid total dividends of $10.7 million consisting of a cash dividend of $0.35 per Sub-share and a special dividend of $1.00 per Sub-share to each sub-shareholder of record at the close of business on March 9, 2017.

Liquidity and Capital Resources

The Trust’s principal sources of liquidity are its revenues from oil, gas and water service-related royalties, easements and sundry income, and water and land sales.

Our primary liquidity and capital requirements are for capital expenditures related to our water service and operations segment, working capital and general corporate needs. As of March 31, 2018, we had a cash and cash equivalents balance of $71.3 million that we expect to utilize, along with cash flow from operations, to provide capital to support

the growth of our

business, particularly the growth of TPWR, to repurchase additional Sub-share Certificates subject to market conditions, and for general corporate purposes. We believe that cash from operations, together with our cash and cash equivalents balances, will be enough to meet ongoing capital expenditures, working capital requirements and other cash needs for the foreseeable future.

Off-Balance Sheet Arrangements

The Trust has not engaged in any off-balance sheet arrangements.

Critical Accounting Policies and Estimates

This discussion and analysis of our financial condition and results of operations is based on our consolidated financial statements, which have been prepared in accordance with GAAP. The preparation of these financial statements requires us to make judgments, estimates, and assumptions that affect the reported amounts of assets, liabilities, revenues, expenses and disclosures of contingent assets and liabilities. For a full discussion of our accounting policies please refer to Note 2 to the Consolidated Financial Statements included in our 2017 Annual Report on Form 10-K filed with the SEC on February 28, 2018. Our most critical accounting policies and estimates include: valuation of real estate acquired through foreclosure and gain on recognition on land sales. We continually evaluate our judgments, estimates and assumptions. We base our estimates on the terms of underlying agreements, historical experience and other factors that we believe are reasonable based on the circumstances, the results of which form our management's basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates. There have been no material changes to our critical accounting policies and estimates from the information provided in Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations included in our 2017 Annual Report on Form 10-K.

New Accounting Pronouncements

For further information regarding recently issued accounting pronouncements, see Note 3, "Recent Accounting Pronouncements" in the notes to the consolidated financial statements included in Item 1. Financial Statements in this Quarterly Report on Form 10-Q.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

There have been no material changes in the information related to market risk of the Trust since December 31, 2017.

Item 4. Controls and Procedures

Pursuant to Rule 13a-15, management of the Trust under the supervision and with the participation of Tyler Glover, the Trust's Chief Executive Officer, and Robert J. Packer, the Trust's Chief Financial Officer, carried out an evaluation of the effectiveness of the design and operation of the Trust's disclosure controls and procedures as of the end of the Trust's fiscal quarter covered by this Report on Form 10-Q. Based upon that evaluation, Mr. Glover and Mr. Packer concluded that the Trust's disclosure controls and procedures are effective in timely alerting them to material information relating to the Trust required to be included in the Trust's periodic SEC filings.

There have been no changes in the Trust's internal control over financial reporting during the Trust's most recently completed fiscal quarter that have materially affected, or are reasonably likely to materially affect, the Trust's internal control over financial reporting.

PART II
OTHER INFORMATION

Item 1. Legal Proceedings.

Texas Pacific is not involved in any material pending legal proceedings.

Item 1A. Risk Factors

There have been no material changes in the risk factors previously disclosed in response to Item 1A “Risk Factors” of Part I of the Trust’s Annual Report on Form 10-K for the year ended December 31, 2017.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

During the three months ended March 31, 2018, the Trust repurchased Sub-share certificates as follows:

Period	Total Number of Sub-shares Purchased	Average Price Paid per Sub-share	Total Number of Sub-shares Purchased as Part of Publicly Announced Plans or Programs	Maximum Number (or Approximate Dollar Value) of Sub-shares that May Yet Be Purchased Under the Plans or Programs
January 1 through January 31, 2018	2,343	$ 509.65	—	—
February 1 through February 28, 2018	2,958	498.06	—	—
March 1 through March 31, 2018	7,845	515.14	—	—
Total	13,146	$ 510.32	—	—

(1) The Trust purchased and retired 13,146 Sub-shares in the open market.

Item 3. Defaults Upon Senior Securities

Not applicable

Item 4. Mine Safety Disclosures

Not applicable

Item 5. Other Information

None

16

Item 6. Exhibits

EXHIBIT NUMBER	DESCRIPTION
31.1*	Rule 13a-14(a) Certification of Chief Executive Officer.
31.2*	Rule 13a-14(a) Certification of Chief Financial Officer.
32.1*	Certification of Chief Executive Officer furnished pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2*	Certification of Chief Financial Officer furnished pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101*	The following information from the Trust's Quarterly Report on Form 10-Q for the quarter ended March 31, 2018 formatted in XBRL (eXtensible Business Reporting Language): (i) Condensed Consolidated Balance Sheets; (ii) Condensed Consolidated Statements of Income and Total Comprehensive Income, (iii) Condensed Consolidated Statements of Cash Flows and (iv) Notes to Condensed Consolidated Financial Statements.

*Filed or furnished herewith.

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 thereunto duly authorized.

TEXAS PACIFIC LAND TRUST
(Registrant)

Date: May 7, 2018 By: /s/ Tyler Glover
Tyler Glover, General Agent and
Chief Executive Officer

Date: May 7, 2018 By: /s/ Robert J. Packer
Robert J. Packer, General Agent and
Chief Financial Officer