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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

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**FORM 10-K**

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

For the Fiscal Year Ended **December 31, 2016**

Commission File No. **0-22750**

**ROYALE ENERGY, INC.**

(Name of registrant in its charter)

**California**

(State or other jurisdiction of  
incorporation or organization)

**33-0224120**

(I.R.S. Employer  
Identification No.)

**1870 Cordell Court**

**El Cajon, CA 92020**

(Address of principal executive offices)

Issuer's telephone number: **619-383-6600**

Securities registered pursuant to Section 12(b) of the Act:  
**None**

Securities to be registered pursuant to Section 12(g) of the Act:  
**Common Stock, no par value per share**  
(Title of Class)

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

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

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act during the past 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes  No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes  No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-B 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.

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller Reporting Company

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

At June 30, 2016, the end of the registrant's most recently completed second fiscal quarter; the aggregate market value of common equity held by non-affiliates was \$5,395,938.

At March 24, 2017, 21,836,033 shares of registrant's Common Stock were outstanding.

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## TABLE OF CONTENTS

<b>PART I</b>		
Item 1	<a href="#">Description of Business</a>	1
	<a href="#">Plan of Business</a>	2
	<a href="#">Competition, Markets and Regulation</a>	3
Item 1A	Risk Factors	
Item 1B	Unresolved Staff Comments	
Item 2	<a href="#">Description of Property</a>	4
	<a href="#">Northern California</a>	4
	<a href="#">Developed and Undeveloped Leasehold Acreage</a>	4
	<a href="#">Gross and Net Productive Wells</a>	4
	<a href="#">Drilling Activities</a>	5
	<a href="#">Production</a>	5
	<a href="#">Net Proved Oil and Natural Gas Reserves</a>	6
Item 3	<a href="#">Legal Proceedings</a>	6
Item 4	<a href="#">Mine Safety Disclosures</a>	6
<b>PART II</b>		
Item 5	<a href="#">Market for Common Equity and Related Stockholder Matters</a>	7
	<a href="#">Dividends</a>	7
	<a href="#">Recent Sales of Unregistered Securities</a>	7
Item 6	<a href="#">Management's Discussion and Analysis of financial Condition and Results of Operations</a>	7
	<a href="#">Critical Accounting Policies</a>	8
	<a href="#">Results of Operations for the Twelve Months Ended December 31, 2015, as Compared to the Twelve Months Ended December 31, 2014</a>	10
	<a href="#">Capital Resources and Liquidity</a>	12
	<a href="#">Changes in Reserve Estimates</a>	13
Item 7	<a href="#">Qualitative and Quantitative Disclosures About Market Risk</a>	13
Item 8	<a href="#">Financial Statements</a>	13
Item 9	<a href="#">Changes in and Disagreements With Accountants on Accounting and Financial Disclosure</a>	14
Item 9A	<a href="#">Controls and Procedures</a>	14
	<a href="#">Disclosure Controls</a>	14
	<a href="#">Management Report on Internal Control over Financial Reporting</a>	14
	<a href="#">Changes in Internal Control over Financial Reporting</a>	15
	<a href="#">Limitations on Effectiveness of Controls</a>	15
<b>PART III</b>		
Item 10	<a href="#">Directors and Executive Officers of the Registrant</a>	16
Item 11	<a href="#">Executive Compensation</a>	16
Item 12	<a href="#">Security ownership of Certain Beneficial Owners and Management</a>	16
Item 13	<a href="#">Certain Relationships and Related Transactions</a>	16
Item 14	<a href="#">Principal Accountant Fees and Services</a>	16
<b>PART IV</b>		
Item 15	<a href="#">Exhibits and Financial Statement Schedules</a>	17
<a href="#">SIGNATURES</a>		18
<a href="#">FINANCIAL STATEMENTS</a>		F-1

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**ROYALE ENERGY, INC.**

**PART I**

**Item 1 Description of Business**

Royale Energy, Inc. ("Royale Energy" or the "Company") is an independent oil and natural gas producer. Royale Energy's principal lines of business are the production and sale of natural gas, acquisition of oil and gas lease interests and proved reserves, drilling of both exploratory and development wells, and sales of fractional working interests in wells to be drilled by Royale Energy. Royale Energy was incorporated in California in 1986 and began operations in 1988. Royale Energy's common stock is traded on the Over-The-Counter QB (OTCQB) Market System (symbol ROYL). On December 31, 2016, Royale Energy had 11 full time employees.

**Merger with Matrix Oil Management Corporation**

In July 2016, we entered into a letter of intent with Matrix Oil Management Corporation ("Matrix") to merge Royale Energy and Matrix in a combined stock and assumption of debt transaction. On November 30, 2016, we entered into an Agreement and Plan of Merger and Reorganization dated November 30, 2016, among Royale, Royale Energy Holdings, Inc., a Delaware corporation (the "Parent"), Royale Merger Sub, Inc., a California corporation and wholly-owned subsidiary of Parent, Matrix Merger Sub, Inc., a California corporation and wholly-owned subsidiary of Parent, and Matrix. The Merger Agreement was subsequently amended and restated as of December 31, 2016 (the "Merger Agreement").

The Merger Agreement is part of a series of related transactions in which the Parent will (i) issue its common stock to acquire all of (A) the common stock of Royale Energy, Matrix and Matrix's affiliate, Matrix Oil Corporation, a California corporation, and (B) the partnership interests of three limited partnerships affiliated with Matrix and (ii) issue newly created Series B 3.5% Convertible Preferred Stock in exchange for approximately \$20,124,000 of subordinated debt issued by Matrix and its affiliates.

Immediately after the mergers and the related transactions, it is expected that (i) former holders of Matrix common stock, Matrix Oil Corporation capital stock and the three limited partnerships affiliated with Matrix will collectively own 50% of the Parent's common stock then outstanding, (ii) former holders of Royale Energy common stock will collectively own 50% of the Parent's common stock then outstanding, in each case giving effect to the number of shares of the Parent's common stock issuable under all options and warrants outstanding immediately after the mergers other than shares issuable on exercise of certain options and warrants issued by Royale Energy and (iii) former holders of subordinated debt issued by Matrix and its affiliates will collectively own 100% of all of the Parent's Series B Convertible Preferred Stock then outstanding.

The merger and related transactions will require the approval of the shareholders of each company and registration of the Royale Energy equity securities to be issued in the merger under the Securities Act of 1933 prior to completion of the transaction.

Matrix is an independent oil and natural gas producer based in Santa Barbara, California. Matrix and its affiliates are privately held by fewer than ten equity holders and partners.

**Royale Energy, Inc.**

Royale Energy owns wells and leases located mainly in the Sacramento Basin and San Joaquin Basin in California as well as in Utah, Texas, Oklahoma, and Louisiana. Royale Energy usually sells a portion of the working interest in each well it drills or participates in to third party investors and retains a portion of the prospect for its own account. Selling part of the working interest to others allows Royale Energy to reduce its drilling risk by owning a diversified inventory of properties with less of its own funds invested in each drilling prospect, than if Royale Energy owned all the working interest and paid all drilling and development costs of each prospect itself. Royale Energy generally sells working interests in its prospects to accredited investors in exempt securities offerings. The prospects are bundled into multi-well investments, which permit the third party investors to diversify their investments by investing in several wells at once instead of investing in single well prospects.

During its fiscal year ended December 31, 2016, Royale Energy continued to explore and develop natural gas properties with a concentration in California. Additionally, we own proved developed producing and non-producing reserves of oil and natural gas in Utah, Texas, Oklahoma and Louisiana, as well as holding an overriding royalty interest in a discovery in Alaska. In 2016, Royale Energy drilled three wells in northern California; which were all commercially productive. Royale Energy's estimated total reserves were approximately 2.1 and 2.5 BCFE (billion cubic feet equivalent) at December 31, 2016 and 2015, respectively. According to the reserve reports furnished by Netherland, Sewell & Associates, Inc., Royale Energy's independent petroleum engineers, the undiscounted net reserve value of its proved developed and undeveloped reserves was approximately \$3.0 million at December 31, 2016, based on the natural gas average PG&E city-gate spot price of \$2.76 per MCF. Netherland, Sewell & Associates, Inc. supplied reserve value estimates for the Company's California, Texas, Oklahoma, Utah and Louisiana properties.

Of course, net reserve value does not represent the fair market value of our reserves on that date, and we cannot be sure what return we will eventually receive on our reserves. Net reserve value of proved developed and undeveloped reserves was calculated by subtracting estimated future development costs, future production costs and other operating expenses from estimated net future cash flows from our developed and undeveloped reserves.

Our standardized measure of discounted future net cash flows at December 31, 2016, was estimated to be \$1,483,272. This figure was calculated by subtracting our estimated future income tax expense from the net reserve value of proved developed and undeveloped reserves, and by further applying a 10% annual discount for estimated timing of cash flows. A detailed calculation of our standardized measure of discounted future net cash flow is contained in Supplemental Information about Oil and Gas Producing Activities – Changes in Standardized Measure of Discounted Future Net Cash Flow from Proved Reserve Quantities, page F-24.

Royale Energy reported a gain on turnkey drilling in connection with the drilling of wells on a "turnkey contract" basis in the amount of \$460,210 and \$2,330,969 for the years ended December 31, 2016 and 2015, respectively.

In addition to Royale Energy's own staff, Royale Energy hires independent contractors to drill, test, complete and equip the wells that it drills. Approximately 44.4% of Royale Energy's total revenue for the year ended December 31, 2016, came from sales of oil and natural gas from production of its wells in the amount of \$538,631. In 2015, this amount was \$1,018,928, which represented 59.5% of Royale Energy's total revenues.

### **Plan of Business**

Royale Energy acquires interests in oil and natural gas reserves and sponsors private joint ventures. Royale Energy believes that its stockholders are better served by diversification of its investments among individual drilling prospects. Through its sale of joint ventures, Royale Energy can acquire interests and develop oil and natural gas properties with greater diversification of risk and still receive an interest in the revenues and reserves produced from these properties. By selling some of its working interest in most projects, Royale Energy decreases the amount of its investment in the projects and diversifies its oil and gas property holdings, to reduce the risk of concentrating a large amount of its capital in a few projects that may not be successful.

After acquiring the leases or lease participation, Royale Energy drills or participates in the drilling of development and exploratory oil and natural gas wells on its property. Royale Energy pays its proportionate share of the actual cost of drilling, testing, and completing the project to the extent that it retains all or any portion of the working interest.

Royale Energy also may sell fractional working interests in undeveloped wells to finance part of the drilling cost. A drilling contract that calls for a company to drill a well, for a fixed price, to a specified depth or geological formation is called a "turnkey contract." When Royale Energy sells fractional working interests in unproved property to raise capital to drill oil and natural gas wells, generally it agrees to drill these wells on a turnkey contract basis, so that the holders of the fractional interests prepay a fixed amount for the drilling and completion of a specified number of wells. Under a turnkey contract, Royale Energy may record a gain if total funds received to drill a well were more than the actual cost to drill those wells including costs incurred on behalf of the participants and costs incurred for its own account.

Although Royale Energy's operating agreements do not usually address whether investors have a right to participate in subsequent wells in the same area of interest as a proposed well, it is the Company's policy to offer to investors in a successful well the right to participate in subsequent wells at the same percentage level as their working interest investment in the prior successful well.

Our policy for turnkey drilling agreements is to recognize a gain on turnkey drilling programs after our obligations have been fulfilled, and a gain is only recorded when funds received from participants are in excess of all costs Royale incurs during the drilling programs (e.g., lease acquisition, exploration and development costs), including costs incurred on behalf of participants and costs incurred for its own account. See Note 1 to our Financial Statements, at page F-8.

Once drilling has commenced, it is generally completed within 10-30 days. See Note 1 to Royale Energy's Financial Statements, at page F-8. Royale Energy maintains internal records of the expenditure of each investor's funds for drilling projects.

Royale Energy generally operates the wells it completes. As operator, it receives fees set by industry standards from the owners of fractional interests in the wells and from expense reimbursements. For the year ended December 31, 2016, Royale Energy earned gross revenues from operation of the wells in the amount of \$406,560 representing 33.5% of its total revenues for the year. In 2015, the amount was \$503,441, which represented about 29.4% of total revenues. At December 31, 2016, Royale Energy operated 31 natural gas wells in California. Royale also has non-operating interests in three natural gas wells in Utah, four oil and gas wells in Texas, two in Oklahoma, four in California, and two in Louisiana.

Royale Energy currently sells most of its California natural gas production through PG&E pipelines to independent customers on a monthly contract basis, while some gas is delivered through privately owned pipelines to independent customers. Since many users are willing to make such purchase arrangements, the loss of any one customer would not affect our overall sales operations.

All oil and natural gas properties are depleting assets in which production naturally decreases over time as the finite amount of existing reserves are produced and sold. It is Royale Energy's business as an oil and natural gas exploration and production company to continually search for new development properties. The Company's success will ultimately depend on its ability to continue locating and developing new oil and natural gas resources. Natural gas demand and the prices paid for gas are seasonal. In recent years, natural gas demand and prices in Northern California have fluctuated unpredictably throughout the year.

In 2016, Royale Energy formed a wholly owned subsidiary, Royale DWI Investors, LLC, a California limited liability company, to hold legal title to certain oil and gas working interests which Royale Energy owns for the benefit of its working interest investors. Royale Energy had no subsidiaries in 2015.

## **Competition, Markets and Regulation**

### Competition

The exploration and production of oil and natural gas is an intensely competitive industry. The sale of interests in oil and gas projects, like those Royale Energy sells, is also very competitive. Royale Energy encounters competition from other oil and natural gas producers, as well as from other entities that invest in oil and gas for their own account or for others, and many of these companies are substantially larger than Royale Energy.

### Markets

Market factors affect the quantities of oil and natural gas production and the price Royale Energy can obtain for the production from its oil and natural gas properties. Such factors include: the extent of domestic production; the level of imports of foreign oil and natural gas; the general level of market demand on a regional, national and worldwide basis; domestic and foreign economic conditions that determine levels of industrial production; political events in foreign oil-producing regions; and variations in governmental regulations including environmental, energy conservation, and tax laws or the imposition of new regulatory requirements upon the oil and natural gas industry.

### Regulation

Federal and state laws and regulations affect, to some degree, the production, transportation, and sale of oil and natural gas from Royale Energy's operations. States in which Royale Energy operates have statutory provisions regulating the production and sale of oil and natural gas, including provisions regarding deliverability. These statutes, along with the regulations interpreting the statutes, generally are intended to prevent waste of oil and natural gas, and to protect correlative rights to produce oil and natural gas by assigning allowable rates of production to each well or proration unit.

The exploration, development, production and processing of oil and natural gas are subject to various federal and state laws and regulations to protect the environment. Various federal and state agencies are considering, and some have adopted, other laws and regulations regarding environmental controls that could increase the cost of doing business. These laws and regulations may require: the acquisition of permits by operators before drilling commences; the prohibition of drilling activities on certain lands lying within wilderness areas or where pollution arises; and the imposition of substantial liabilities for pollution resulting from drilling operations, particularly operations in offshore waters or on submerged lands. The cost of oil and natural gas development and production also may increase because of the cost of compliance with such legislation and regulations, together with any penalties resulting from failing to comply with the legislation and regulations. Ultimately, Royale Energy may bear some of these costs.

Presently, Royale Energy does not anticipate that compliance with federal, state and local environmental regulations will have a material adverse effect on capital expenditures, earnings, or its competitive position in the oil and natural gas industry; however, changes in the laws, rules or regulations, or the interpretation thereof, could have a materially adverse effect on Royale Energy's financial condition or results of operation.

Royale Energy files quarterly, yearly and other reports with the Securities Exchange Commission. You may obtain a copy of any materials filed by Royale Energy with the SEC at 100 F Street, N.W., Washington, D.C. 20549, by calling 1-800-SEC-0300. The SEC also maintains an Internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC at <http://www.sec.gov>. Royale Energy also provides access to its SEC reports and other public announcements on its website, <http://www.royl.com>.

## Item 2 Description of Property

Since 1993, Royale Energy has concentrated on development of properties in the Sacramento Basin and the San Joaquin Basin of Northern and Central California. In 2016, Royale Energy drilled three wells in northern California, two exploratory producing wells and one developmental producing well.

Following industry standards, Royale Energy generally acquires oil and natural gas acreage without warranty of title except as to claims made by, though, or under the transferor. In these cases, Royale Energy attempts to conduct due diligence as to title before the acquisition, but it cannot assure that there will be no losses resulting from title defects or from defects in the assignment of leasehold rights. Title to property most often carries encumbrances, such as royalties, overriding royalties, carried and other similar interests, and contractual obligations, all of which are customary within the oil and natural gas industry.

Following is a discussion of Royale Energy's significant oil and natural gas properties. Reserves at December 31, 2016, for each property discussed below, have been determined by Netherland, Sewell & Associates, Inc., registered professional petroleum engineers, in accordance with reports submitted to Royale Energy on February 22, 2017.

### Northern California

Royale Energy owns lease interests in nine gas fields with locations ranging from Glenn County in the north to Madera County in the south, in the Sacramento Basin in California. At December 31, 2016, Royale operated 31 wells in California with estimated total proven, developed, and undeveloped reserves at approximately 2.0 BCF, according to Royale's independently prepared reserve report as of December 31, 2016.

### Developed and Undeveloped Leasehold Acreage

As of December 31, 2016, Royale Energy owned leasehold interests in the following developed and undeveloped properties in both gross and net acreage.

	Developed		Undeveloped	
	Gross Acres	Net Acres	Gross Acres	Net Acres
California	5,092.76	3,778.97	11,432.00	3,308.42
All Other States	3,083.12	1,634.58	7,721.00	6,859.00
Total	8,175.88	5,413.55	19,153.00	10,167.42

### Gross and Net Productive Wells

As of December 31, 2016, Royale Energy owned interests in the following oil and gas wells in both gross and net acreage:

	Gross Wells	Net Wells
	Natural Gas	41.00
Oil	5.00	.36
Total	46.00	18.60

**Drilling Activities**

The following table sets forth Royale Energy's drilling activities during the years ended December 31, 2015 and 2016. All wells are located in the Continental U.S., in California, Texas, Louisiana and Utah.

Year	Type of Well(a)	Total	Gross Wells(b)		Net Wells(e)	
			Producing(c)	Dry(d)	Producing(c)	Dry(d)
2015	Exploratory	2	1	1	0.5172	0.5243
	Developmental	2	1	1	0.3933	0.4725
2016	Exploratory	2	2	-	0.3613	-
	Developmental	1	1	-	0.2097	-

- a) An exploratory well is one that is drilled in search of new oil and natural gas reservoirs, or to test the boundary limits of a previously discovered reservoir. A developmental well is one drilled on a previously known productive area of an oil and natural gas reservoir with the objective of completing that reservoir.
- b) Gross wells represent the number of actual wells in which Royale Energy owns an interest. Royale Energy's interest in these wells may range from 1% to 100%.
- c) A producing well is one that produces oil and/or natural gas that is being purchased on the market.
- d) A dry well is a well that is not deemed capable of producing hydrocarbons in paying quantities.
- e) One "net well" is deemed to exist when the sum of fractional ownership working interests in gross wells or acres equals one. The number of net wells is the sum of the fractional working interests owned in gross wells expressed as a whole number or a fraction.

**Production**

The following table summarizes, for the periods indicated, Royale Energy's net share of oil and natural gas production, average sales price per barrel (BBL), per thousand cubic feet (MCF) of natural gas, and the MCF equivalent (MCFE) for the barrels of oil based on a 6 to 1 ratio of the price per barrel of oil to the price per MCF of natural gas. "Net" production is production that Royale Energy owns either directly or indirectly through partnership or joint venture interests produced to its interest after deducting royalty, limited partner or other similar interests. Royale Energy generally sells its oil and natural gas at prices then prevailing on the "spot market" and does not have any material long term contracts for the sale of natural gas at a fixed price.

	2016	2015
<b>Net volume</b>		
Oil (BBL)	193	403
Gas (MCF)	232,539	363,168
MCFE	233,697	365,586
<b>Average sales price</b>		
Oil (BBL)	\$ 12.11	\$ 46.11
Gas (MCF)	\$ 2.31	\$ 2.75
Net production costs and taxes	\$ 594,241	\$ 1,000,769
Lifting costs (per MCFE)	\$ 2.54	\$ 2.74

**Net Proved Oil and Natural Gas Reserves**

As of December 31, 2016, Royale Energy had proved developed reserves of 1,700 MMCF and total proved reserves of 2,015 MMCF of natural gas on all of the properties Royale Energy leases. For the same period, Royale Energy also had proved developed oil and natural gas liquid combined reserves of 6 MBBL and total proved oil and natural gas liquid combined reserves of 6 MBBL.

Oil and gas reserve estimates and the discounted present value estimates associated with the reserve estimates are based on numerous engineering, geological and operational assumptions that generally are derived from limited data.

**Item 3                    Legal Proceedings**

None

**Item 4                    Mine Safety Disclosures**

Not Applicable



**PART II****Item 5 Market for Common Equity and Related Stockholder Matters**

Royale Energy's Common Stock is traded under the symbol "ROYL". Since January 21, 2016, Royale Energy's Common Stock has been traded on the OTC QB Market. Prior to that, Royale energy's Common Stock was traded on the Nasdaq Stock Market. As of December 31, 2016, 21,836,033 shares of Royale Energy's Common Stock were held by approximately 6,008 stockholders. The following table reflects the high and low quarterly closing sales prices on the Nasdaq Stock Market and OTC QB Market from January 2015 through December 2016.

	1st Qtr		2nd Qtr		3rd Qtr		4th Qtr	
	High	Low	High	Low	High	Low	High	Low
2015	2.16	1.55	1.82	1.15	1.27	0.63	0.81	0.30
2016	0.57	0.07	0.47	0.34	0.80	0.43	0.74	0.58

**Dividends**

The Board of Directors did not issue cash or stock dividends in 2016 or 2015.

**Recent Sales of Unregistered Securities**

None.

**Item 6 Management's Discussion and Analysis of Financial Condition and Results of Operations**

The following discussion should be read in conjunction with Royale Energy's Financial Statements and Notes thereto and other financial information relating to Royale Energy included elsewhere in this document.

Since 1993, Royale Energy has primarily acquired and developed producing and non-producing natural gas properties in California. In 2004, Royale Energy began developing leases in Utah and in 2012 began acquiring leases in Alaska. The most significant factors affecting the results of operations are (i) the change in commodities price of natural gas and oil reserves owned by Royale Energy, (ii) changes in oil and natural gas production levels and reserves, and (iii) turnkey drilling activities and (iv) the impairment of our Alaska leases.

**Merger with Matrix Oil Management Corporation**

Royale Energy has entered into an amended and restated merger agreement dated as of December 31, 2016, among Royale Energy, Royale Energy Holdings, Inc., a Delaware corporation (the "Parent"), Royale Merger Sub, Inc., Matrix Merger Sub, Inc., a wholly-owned subsidiary of Parent, and Matrix Oil Management Corporation ("Matrix"). The Merger Agreement is part of a series of related transactions in which the Parent will (i) issue its common stock to acquire all of (A) the common stock of Royale Energy, Matrix and Matrix's affiliate, Matrix Oil Corporation, and (B) the partnership interests of three limited partnerships affiliated with Matrix and (ii) issue newly created Series B 3.5% Convertible Preferred Stock in exchange for approximately \$20,124,000 of subordinated debt issued by Matrix and its affiliates.

Immediately after the mergers and the related transactions, it is expected that (i) former holders of Matrix common stock, Matrix Oil Corporation capital stock and the three limited partnerships affiliated with Matrix will collectively own 50% of the Parent's common stock then outstanding, (ii) former holders of Royale Energy common stock will collectively own 50% of the Parent's common stock then outstanding, in each case giving effect to the number of shares of the Parent's common stock issuable under all options and warrants outstanding immediately after the mergers other than shares issuable on exercise of certain options and warrants issued by Royale Energy and (iii) former holders of subordinated debt issued by Matrix and its affiliates will collectively own 100% of all of the Parent's Series B Convertible Preferred Stock then outstanding.

## **Critical Accounting Policies**

### Revenue Recognition

Royale's primary business is oil and gas production. Natural gas flows from the wells into gathering line systems, which are equipped occasionally with compressor systems, which in turn flow into metered transportation and customer pipelines. Monthly, price data and daily production are used to invoice customers for amounts due to Royale Energy and other working interest owners. Royale Energy operates most of its own wells and receives industry standard operator fees.

Royale Energy generally sells crude oil and natural gas under short-term agreements at prevailing market prices. Revenues are recognized when the products are delivered, which occurs when the customer has taken title and has assumed the risks and rewards of ownership, prices are fixed or determinable and collectability is reasonably assured.

Revenues from the production of oil and natural gas properties in which the Royale Energy has an interest with other producers are recognized on the basis of Royale Energy's net working interest. Differences between actual production and net working interest volumes are not significant.

Royale Energy's financial statements include its *pro rata* ownership of wells. Royale Energy usually sells a portion of the working interest in each well it drills or participates in to third party investors and retains a portion of the prospect for its own account. Royale Energy generally retains about a 50% working interest. All results, successful or not, are included at its pro rata ownership amounts: revenue, expenses, assets, and liabilities as defined in FASB ASC 932-323-25 and 932-360.

### Oil and Gas Property and Equipment

Depreciation, depletion and amortization, based on cost less estimated salvage value of the asset, are primarily determined under either the unit-of-production method or the straight-line method, which is based on estimated asset service life taking obsolescence into consideration. Maintenance and repairs, including planned major maintenance, are expensed as incurred. Major renewals and improvements are capitalized and the assets replaced are retired.

The project construction phase commences with the development of the detailed engineering design and ends when the constructed assets are ready for their intended use. Interest costs, to the extent they are incurred to finance expenditures during the construction phase, are included in property, plant and equipment and are depreciated over the service life of the related assets.

Royale Energy uses the "successful efforts" method to account for its exploration and production activities. Under this method, Royale Energy accumulates its proportionate share of costs on a well-by-well basis with certain exploratory expenditures and exploratory dry holes being expensed as incurred, and capitalizes expenditures for productive wells. Royale Energy amortizes the costs of productive wells under the unit-of-production method.

Royale Energy carries, as an asset, exploratory well costs when the well has found a sufficient quantity of reserves to justify its completion as a producing well and where Royale Energy is making sufficient progress assessing the reserves and the economic and operating viability of the project. Exploratory well costs not meeting these criteria are charged to expense. Other exploratory expenditures, including geophysical costs and annual lease rentals, are expensed as incurred.

Acquisition costs of proved properties are amortized using a unit-of-production method, computed on the basis of total proved oil and gas reserves.

Capitalized exploratory drilling and development costs associated with productive depletable extractive properties are amortized using unit-of-production rates based on the amount of proved developed reserves of oil and gas that are estimated to be recoverable from existing facilities using current operating methods. Under the unit-of-production method, oil and gas volumes are considered produced once they have been measured through meters at custody transfer or sales transaction points at the outlet valve on the lease or field storage tank.

Production costs are expensed as incurred. Production involves lifting the oil and gas to the surface and gathering, treating, field processing and field storage of the oil and gas. The production function normally terminates at the outlet valve on the lease or field production storage tank. Production costs are those incurred to operate and maintain Royale Energy's wells and related equipment and facilities. They become part of the cost of oil and gas produced. These costs, sometimes referred to as lifting costs, include such items as labor costs to operate the wells and related equipment; repair and maintenance costs on the wells and equipment; materials, supplies and energy costs required to operate the wells and related equipment; and administrative expenses related to the production activity.

Proved oil and gas properties held and used by Royale Energy are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amounts may not be recoverable.

Royale Energy estimates the future undiscounted cash flows of the affected properties to judge the recoverability of carrying amounts. Cash flows used in impairment evaluations are developed using annually updated evaluation assumptions for crude oil commodity prices. Annual volumes are based on field production profiles, which are also updated annually. Prices for natural gas and other products are based on assumptions developed annually for evaluation purposes.

Impairment analyses are generally based on proved reserves. An asset group would be impaired if the undiscounted cash flows were less than its carrying value. Impairments are measured by the amount the carrying value exceeds fair value. During 2016 and 2015, impairment losses of \$2,071,849 and \$424,163, respectively, were recorded on various capitalized lease and land costs where the carrying value exceeded the fair value or where the leases were no longer viable.

Significant unproved properties are assessed for impairment individually, and valuation allowances against the capitalized costs are recorded based on the estimated economic chance of success and the length of time that Royale Energy expects to hold the properties. The valuation allowances are reviewed at least annually.

Upon the sale or retirement of a complete field of a proved property, Royale Energy eliminates the cost from its books, and the resultant gain or loss is recorded to Royale Energy's Statement of Operations. Upon the sale of an entire interest in an unproved property where the property has been assessed for impairment individually, a gain or loss is recognized in Royale Energy's Statement of Operations. If a partial interest in an unproved property is sold, any funds received are accounted for as a recovery of the cost in the interest retained with any excess funds recognized as a gain. Should Royale Energy's turnkey drilling agreements include unproved property, total drilling costs incurred to satisfy its obligations are recovered by the total funds received under the agreements. Any excess funds are recorded as a Gain on Turnkey Drilling Programs, and any costs not recovered are capitalized and accounted for under the "successful efforts" method.

Royale Energy sponsors turnkey drilling agreement arrangements in unproved properties as a pooling of assets in a joint undertaking, whereby proceeds from participants are reported as Deferred Drilling Obligations, and then reduced as costs to complete its obligations are incurred with any excess booked against its property account to reduce any basis in its own interest. Gains on Turnkey Drilling Programs represent funds received from turnkey drilling participants in excess of all costs Royale incurs during the drilling programs (e.g., lease acquisition, exploration and development costs), including costs incurred on behalf of participants and costs incurred for its own account; and are recognized only upon making this determination after Royale's obligations have been fulfilled.

The contracts require the participants pay Royale Energy the full contract price upon execution of the agreement. Royale Energy completes the drilling activities typically between 10 and 30 days after drilling begins. The participant retains an undivided or proportional beneficial interest in the property, and is also responsible for its proportionate share of operating costs. Royale Energy retains legal title to the lease. The participants purchase a working interest directly in the well bore.

In these working interest arrangements, the participants are responsible for sharing in the risk of development, but also sharing in a proportional interest in rights to revenues and proportional liability for the cost of operations after drilling is completed.

Since the participant's interest in the prospect is limited to the well, and not the lease, the investor does not have a legal right to participate in additional wells drilled within the same lease. However, it is the Company's policy to offer to participants in a successful well the right to participate in subsequent wells at the same percentage level as their working interest investment in the prior successful well with similar turnkey drilling agreement terms.

A certain portion of the turnkey drilling participant's funds received are non-refundable. The company records a liability for all funds invested as deferred drilling obligations until each individual well is complete. Occasionally, drilling is delayed for various reasons such as weather, permitting, drilling rig availability and/or contractual obligations. At December 31, 2016 and 2015, Royale Energy had deferred drilling obligations of \$7,894,001 and \$8,415,528 respectively.

If Royale Energy is unable to drill the wells, and a suitable replacement well is not found, Royale would retain the non-refundable portion of the contract and return the remaining funds to the participant. Included in cash and cash equivalents are amounts for use in completion of turnkey drilling programs in progress.

Losses on properties sold are recognized when incurred or when the properties are held for sale and the fair value of the properties is less than the carrying value.

### Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. The most significant estimates pertain to proved oil, plant products and gas reserve volumes and the future development costs. Actual results could differ from those estimates.

### Deferred Income Taxes

Deferred income taxes reflect the net tax effects, calculated at currently enacted rates, of (a) future deductible/taxable amounts attributable to events that have been recognized on a cumulative basis in the financial statements or income tax returns, and (b) operating loss and tax credit carry forwards. All available evidence, both positive and negative, must be considered to determine whether, based on the weight of that evidence, a valuation allowance for deferred tax assets is needed. The Company uses information about the Company's financial position and its results of operations for the current and preceding years.

The Company must use its judgment in considering the relative impact of negative and positive evidence. The weight given to the potential effect of negative and positive evidence is commensurate with the extent to which it can be objectively verified. The more negative evidence that exists, the more positive evidence is necessary and the more difficult it is to support a conclusion that a valuation allowance is not needed for some portion or all of the deferred tax asset. A cumulative loss in recent years is a significant piece of negative evidence that is difficult to overcome.

Future realization of a tax benefit sometimes will be expected for a portion, but not all, of a deferred tax asset, and the dividing line between the two portions may be unclear. In those circumstances, application of judgment based on a careful assessment of all available evidence is required to determine the portion of a deferred tax asset for which it is more likely than not a tax benefit will not be realized.

### Going Concern

At December 31, 2016, the Company has an accumulated deficit of \$45,778,521, a working capital deficiency of \$5,905,165 and a stockholders' deficit of \$4,513,072. As a result, our financial statements include a "going concern qualification" reflecting substantial doubt as to our ability to continue as a going concern. *See Note 1 to our audited financial statements.* We are seeking to merge with Matrix to increase efficiency and reduce costs to both companies, thereby allowing a return to positive cash flow. We have no commitments to provide any additional financing and there is no guarantee that we will be able to secure additional financing on acceptable terms, or at all, if needed to fully fund our 2017 drilling budget and to support future operations.

### **Results of Operations for the Twelve Months Ended December 31, 2016, as Compared to the Twelve Months Ended December 31, 2015**

For the year ended December 31, 2016, we recorded a net loss of \$4,144,462, compared to net loss of \$2,010,816 during 2015. Total revenues from operations in 2016 were \$1,213,839, a decrease of \$499,249, or 29.1% from the total revenues of \$1,713,088 in 2015, due to lower natural gas production and commodity prices during 2016. Total expenses for operations in 2016 were \$6,505,716, a decrease of \$432,025, or 6.2%, from the total expenses of \$6,937,741 in 2015, mainly due to cost reduction measures in most of our operating expense categories.

In 2016, revenues from oil and gas production decreased by 47.1% to \$538,631 from \$1,018,928 in 2015. This decrease was due to lower production volumes and lower natural gas commodity prices received during 2016. The net sales volume of natural gas for the year ended December 31, 2016, was approximately 232,539 MCF with an average price of \$2.31 per MCF, versus 363,168 MCF with an average price of \$2.75 per MCF for 2015. This represents a decrease in net sales volume of 130,629 MCF or 36%. This decrease in production volume was mainly due to the natural declines in our wells, and the sale of our Victor Ranch field interests which had an effective date of September 1, 2016. The net sales volume for oil and condensate (natural gas liquids) production was approximately 193 barrels with an average price of \$12.11 per barrel, which was lower due to the inclusion of oil byproducts in the barrel count, for the year ended December 31, 2016, compared to 403 barrels at an average price of \$46.11 per barrel for the year in 2015. This represents a decrease in net sales volume of 210 barrels, or 52.1%, also due to the natural declines on existing oil and condensate wells. Northern and central California accounted for approximately 97% of the Company's successful natural gas production in 2016.

Oil and natural gas lease operating expenses decreased by \$406,528, or 40.6% to \$594,241 for the year ended December 31, 2016, from \$1,000,769 for the year in 2015. This decrease was due to lower production volumes and to cost reduction measures especially in lower workover costs and operating costs for non-operated wells during 2016. When measuring lease operating costs on a production or lifting cost basis, in 2016, the \$594,241 equates to a \$2.54 per MCFE lifting cost versus a \$2.74 per MCFE lifting cost in 2015, a 7.3% decrease, due to lower production volumes in 2016. For the year ended December 31, 2016, delay rental costs decreased by \$448,313, as there were no delay rental costs paid in 2016.

At December 31, 2016, Royale Energy had a deferred drilling obligation of \$7,894,001. During 2016, we disposed of \$4,502,026 of obligations relating to 2015, upon completing the drilling of three wells, two exploratory and one developmental. This resulted in a gain of \$460,210. During 2015, we disposed of \$4,955,734 of obligations relating to 2014, upon completing the drilling of four wells, two exploratory and two developmental. Additionally we purchased an interest in an existing well from an industry partner. In 2015, we also recorded a gain of \$564,346 on accounts payable invoices in dispute as the vendor went into bankruptcy, and under the opinion of legal counsel, these invoices were deemed no longer payable. This resulted in a gain of \$2,330,969. The three wells drilled in 2016 were higher in costs than those drilled in 2015, due to their locations, depths completion costs and additional directional costs associated with one of the wells. Royale Energy expects to dispose of approximately \$3.5 million of its deferred drilling obligation in the first six months of 2017 with \$6.4 million of its deferred drilling obligation disposed of by the end of 2017.

During 2016, we recorded a gain of \$284,419 on the sale of interests in our Victor Ranch field wells and leases. During 2016, we also recorded a gain of \$198,975 on the sale of our Company owned office building located in El Cajon, California. During the year in 2016, we recorded a gain of \$341,751 on the settlement of accounts payable. In 2016, we recorded a loss on disposal of assets of \$23,781, on fixed assets that were no longer viable. During 2016, we also recorded a write down of \$19,151 on certain oil and gas well equipment to its current estimated market value. During 2015, we recorded a gain of \$468,759 related to the sale of a portion of our western block oil and gas lease acreage in Alaska. During this period, we also recorded a gain of \$87,127 on the settlement of accounts payable due to vendors. In 2015, we also recorded a gain of \$403,000 on the sale of a license agreement to our Alaska seismic survey. Additionally in 2015, we recorded a gain of \$10,070 on the sale of a Company owned condominium located in San Diego, California. During 2015, we recorded a write down of \$60,960 on certain oil and gas well equipment to its current estimated market value.

Impairment losses of \$2,071,849 and \$424,163 were recorded in 2016 and 2015, respectively. In 2016, \$2,025,546 of the impairment loss was due to termination of our remaining Alaska leases which were not renewed due to nonpayment of the delay rental payments. Also in 2016, \$46,303 of the impairment loss was due to capitalized lease and land costs on a Texas lease that was no longer viable. In 2015, \$327,727 of the impairment loss was due to two Utah wells, one Louisiana well, and our Alaska acreage where the carrying value exceeded the fair value. For the balance of the loss in 2015, we recorded impairments on various capitalized lease and land costs that were no longer viable.

Bad debt expense for 2016 and 2015 were \$0 and \$536,538, respectively. The expenses in 2015 arose from identified uncollectable receivables relating to our oil and natural gas properties either plugged and abandoned or scheduled for plugging and abandonment and our year-end oil and natural gas reserve values. We periodically review our accounts receivable from working interest owners to determine whether collection of any of these charges appears doubtful. By contract, the Company may not collect some charges from its Direct Working Interest owners for certain wells that ceased production or had been sold during the year, to the extent that these charges exceed production revenue.

The aggregate of supervisory fees and other income was \$675,208 for the year ended December 31, 2016, a decrease of \$18,952 or 2.7% from \$694,160 during the year in 2015. This decrease was mainly due to lower operations overhead and pipeline fees during 2016, due to lower production volumes. Supervisory fees are charged in accordance with the Council for Petroleum Accountants Societies (COPAS) policy for reimbursement of expenses associated with the joint accounting for billing, revenue disbursement, and payment of taxes and royalties. These charges are reevaluated each year and adjusted up or down as deemed appropriate by a published report to the industry by Ernst & Young, LLP, Certified Public Accountants. Supervisory fees decreased \$96,881 or 19.2%, to \$406,560 in 2016 from \$503,441 in 2015.

Depreciation, depletion and amortization expense decreased to \$283,874 from \$400,813 a decrease of \$116,939 or 29.2% for the year ended December 31, 2016, as compared to 2015. The depletion rate is calculated using production as a percentage of reserves. This decrease in depreciation expense was due to a lower depletion rate as reserve volumes were higher at the end of 2016 and a lower asset base due to the sale of our Victor Ranch field interests.

General and administrative expenses decreased by \$567,069 or 17.8%, to \$2,614,502 for the year ended December 31, 2016, from \$3,181,571 for the year in 2015. This decrease was primarily due to employee related, salaries, insurance and taxes, cost reduction measures. Legal and accounting expense increased to \$627,577 for the year, compared to \$558,471 for 2015, a \$69,106 or 12.4% increase. The increase in 2016 was mainly due to legal and accounting expenses related to the proposed merger.

Marketing expense for the year ended December 31, 2016, decreased \$31,621 or 9.7%, to \$294,522, compared to \$326,143 for the year in 2015. Marketing expense varies from period to period according to the number of marketing events attended by personnel and their associated costs.

During 2016, interest expense increased to \$114,159 from \$86,088 in 2015, a \$28,071 or 32.6% increase. This increase resulted from interest accrued on its convertible promissory notes issued in August 2016. Further details concerning Royale's notes payable can be found in *Capital Resources and Liquidity*, below.

In 2016 and 2015, we did not have an income tax expense due to the use of a percentage depletion carryover valuation allowance created from the current and past operations resulting in an effective tax rate less than the normal federal rate of 34% plus the relevant state rates (mostly California, 8.8%).

### **Capital Resources and Liquidity**

At December 31, 2016, Royale Energy had current assets totaling \$6,038,081 and current liabilities totaling \$11,943,246, a \$5,905,165 working capital deficit. We had cash and cash equivalents at December 31, 2016 of \$4,994,598 compared to \$3,763,819 at December 31, 2015.

Ordinarily, we fund our operations and cash needs from our available credit and cash flows generated from operations. We believe that, should the merger be consummated, for the foreseeable future we will be able to meet our liquidity demands. However, should the merger fail to close, there is doubt as to the ability to meet liquidity demands through cash flow or ongoing operations. In that event, the Company will seek alternative capital sources through additional sales of equity or debt securities.

At December 31, 2016, our other receivables, which consist of receivables from direct working interest investors and industry partners, totaled \$676,647, compared to \$381,192 at December 31, 2015, a \$295,455 or 77.5% decrease. This increase was mainly due to new well placed into production during the year whose operating costs were not yet recovered. Royale's revenue receivable at the end of 2016 was \$303,528, a decrease of \$155,592 or 105.2%, compared to \$147,936 at the end of 2015, due to higher oil and gas production from two new wells which began production during the fourth quarter of 2016, and higher natural gas commodity prices. At December 31, 2016, our accounts payable and accrued expenses totaled \$2,469,245, a decrease of \$467,981 or 15.9% over the accounts payable at the end of 2015 of \$2,937,226, mainly due to payments and settlements of trade accounts payable during the year in 2016.

In July 2016, we entered in negotiations with two separate investors to issue convertible promissory notes of \$1,280,000 and \$300,000, with a conversion price of \$0.40 per share, with warrants to purchase one share of common stock for every three shares of common stock issuable upon conversion of the notes. The notes mature one year from the date of issuance and carry a 10% interest rate, which is due at maturity. The conversion of the notes to shares is subject to shareholder approval. The funds from these transactions is to be used to continue drilling activities, fund expenses to be incurred in connection with completion of Royale Energy's proposed merger with Matrix Oil Corporation and for general corporate purposes. Both of these negotiations are expected to conclude in the first quarter of 2017 and as such were included as Cash Advances on Pending Transactions as December 31, 2016.

In December of 2013, Royale purchased an office building for \$2,000,000, of which \$500,000 was paid in cash on the date of purchase, and \$1,500,000 was borrowed from AmericanWest Bank, with a note secured by the property being purchased. The note carried an interest rate of 5.75% until paid in full. In February 2016, Royale Energy entered into a purchase and sale agreement for the sale of the office building for \$2.5 million. In June 2016, the sale of the building was completed which resulted in a gain of \$198,975 and the related principal and interest payments were paid in full.

In May 2015, we entered into a sales agreement with Roth Capital, LLC (Roth) relating to the sale of shares of our common stock. Pursuant to the sales agreement, we sold 701,397 shares of common stock to the public for \$556,123 in 2015. In October 2015, we discontinued such sales and the sales agreement was terminated.

On November 25, 2015, we entered into a securities purchase agreement and related agreements with a group of individual investors pursuant to a registered direct offering. Under the terms of the agreements, the investors purchased 497,948 shares of Royale's common stock at \$0.408 per share, and received warrants to purchase up to 248,973 shares (the "Warrants") of stock at \$1.00 per share for three (3) years, for a total of \$203,165 in gross proceeds. Each Warrant becomes exercisable one year from the date of issuance. Each Warrant contains customary adjustments for corporate events such as reorganizations, splits, and dividends.

We do not engage in hedging activities or use derivative instruments to manage market risks.

The following schedule summarizes our known contractual cash obligations at December 31, 2016, and the effect such obligations are expected to have on our liquidity and cash flow in future periods.

	<u>Total Obligations</u>	<u>2017</u>	<u>2018-2019</u>	<u>2020</u>	<u>Beyond</u>
Office Lease	\$ 612,562	\$ 97,266	\$ 242,537	\$ 127,355	\$ 145,404

*Operating Activities.* For the years ended December 31, 2016 and 2015, cash used by operating activities totaled \$3,271,631 and \$3,973,180, respectively. This \$701,549 or 17.7% decrease in cash used was mainly due to cost reduction measures and higher stock based compensation as executive management and members of the board of directors received common stock in lieu of cash compensation. During the year in 2016, executive management and directors received 2,335,461 compensatory shares of the Company's common stock valued at \$645,986.

*Investing Activities.* For the years ended December 31, 2016 and 2015, cash provided by investing activities was \$3,208,378 and \$4,014,879, respectively. This \$806,501 or 20.1% decrease in cash provided in 2016 was primarily due to the sale of a portion of our leases in Alaska in 2015, from which we received proceeds of approximately \$1.4 million. In 2015, we also received approximately \$400,000 from the sale of a license agreement to our Alaska seismic survey and we received proceeds of approximately \$500,000 from the sale of the company owned condominium located in San Diego, California. During 2016, approximately \$936,000 was received from the sale of our office building and \$350,000 was received from the sale of our interests in the Victor Ranch leases. Additionally, our turnkey drilling program proceeds and expenditures were higher in 2015, when we drilled four wells and purchased an interest in an existing well, while in 2016 we drilled three wells. The wells drilled in 2015 were higher in costs due to their locations and depths.

*Financing Activities.* For the years ended December 31, 2016 and 2015, cash provided by financing activities was \$1,294,032 and \$660,279, respectively. During 2016, \$1,580,000 was provided by the Cash Advances from Investors, mentioned earlier and \$1,446,853 was used for principal payments on the Company's note payable in the sale of its office building. Also in 2016, we issued 3,027,070 restricted common shares and 789,658 additional warrants and received cash proceeds of \$1,160,884 under private placement stock sales. During 2015, Royale issued 701,397 shares of its common stock and received net proceeds of \$534,274 in a registered market equity offering program. Also in 2015, we received net proceeds of \$153,876 and issued 485,486 shares of its common stock and 242,746 additional warrants in a registered direct offering. During the period in 2015, \$29,031 was used for principal payments on the Company's note payable. In 2016 and 2015, cash used from financing activities were added to working capital and used for ordinary operating expenses.

**Changes in Reserve Estimates**

During 2016, our overall proved developed and undeveloped reserves decreased by 19% and our previously estimated proved developed and undeveloped reserve quantities were revised upward by approximately .07 million cubic feet of natural gas. This upward revision reflected higher than previously estimated proved producing and non-producing natural gas reserves at eight California wells and one Louisiana well. See Supplemental Information about Oil and Gas Producing Activities (Unaudited), page F-20.

During 2015, our overall proved developed and undeveloped reserves decreased by 39% and our previously estimated proved developed and undeveloped reserve quantities were revised downward by approximately 1.3 million cubic feet of natural gas. This downward revision reflected lower than previously estimated proved producing and non-producing natural gas reserves at seven California wells and one Utah well. See Supplemental Information about Oil and Gas Producing Activities (Unaudited), page F-20.

**Item 7 Qualitative and Quantitative Disclosures About Market Risk**

Royale Energy is exposed to market risk from changes in commodity prices and in interest rates. In 2016, we sold a majority of our natural gas at the daily market rate through the Pacific Gas & Electric pipeline. In 2016, our natural gas revenues were approximately \$536,000 with an average price of \$2.31 per MCF. At current production levels, a 10% per MCF increase or decrease in our average price received could potentially increase or decrease our natural gas revenues by approximately \$50,000. We currently do not sell any of our natural gas or oil through hedging contracts.

**Item 8 Financial Statements and Supplementary Data**

See pages F-1, et seq., included herein.



**Item 9 Changes in and Disagreements with Accountants on Accounting and Financial Disclosure**

None

**Item 9A Controls and Procedures**

**Disclosure Controls**

Disclosure controls are controls and other procedures that are designed to ensure that information required to be disclosed by us in reports that we file or submit under the Securities Exchange Act of 1934 is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms. Our disclosure controls and procedures are designed to insure that the information required to be filed is accumulated and communicated to our management in a manner designed to enable them to make timely decisions regarding required disclosure.

Our executive officers, Jonathan Gregory, Chief Executive Officer, Donald H. Hosmer, President of Business Development and Stephen M. Hosmer, President and Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures as of the end of the 2016 fiscal year. Based on their evaluation, they concluded that our disclosure controls are effective as of December 31, 2016.

**Management Report on Internal Control over Financial Reporting**

Our management is responsible for establishing and maintaining adequate internal control over financial reporting to provide reasonable assurance regarding the reliability of our financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. Internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the assets of the company, (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and directors of the Company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the Company's assets that could have a material effect on the financial statements. Management assessed our internal control over financial reporting as of December 31, 2016, which was the end of our fiscal year. Management based its assessment on criteria established in the SEC Commission Guidance Regarding Management's Report on Internal Control Over Financial Reporting Under Section 13(a) or 15(d) of the Securities Exchange Act of 1934. The guidance sets forth an approach by which management can conduct a top-down, risk-based evaluation of internal control over financial reporting. Management's assessment included an evaluation of risks to reliable financial reporting, whether controls exist to address those risks and evaluated evidence about the operation of the controls included in the evaluation based on its assessment of risk.

A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis. Management identified an internal control deficiency that represents a material weakness in or internal control over financial reporting as of December 31, 2016, in that, certain legal documents, such as debt and equity financing transactions, during the fiscal year were not supported by fully executed agreements.

The control deficiency that gave rise to the material weakness did not result in a material misstatement of our financial statements for the fiscal year ending December 31, 2016.

Because of the material weakness described above, our management was unable to conclude that our internal control over financial reporting was effective as of the end of the fiscal year to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external reporting purposes in accordance with generally accepted accounting principles. Management is seeking written acknowledgement of the note transactions from the note holders in order to remediate the material weakness described above and will require written acknowledgement from counterparties of all similar future transactions.

Except for the actions described above that were taken to address the material weaknesses, there were no changes in our internal controls during the fiscal year ended December 31, 2016 that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting. We reviewed the results of management's assessment with the Audit Committee of our Board of Directors.



This annual report does not include an attestation report of the company's registered public accounting firm regarding internal control over financial reporting. Management's report was not subject to attestation by the company's registered public accounting firm pursuant to temporary rules of the Securities and Exchange Commission that permit the company to provide only management's report in this annual report.

**Changes in Internal Control over Financial Reporting**

No changes in our internal control over financial reporting occurred during the last fiscal quarter of 2016 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

**Limitations on Effectiveness of Controls**

Our management, including our CEO and CFO, does not expect that our disclosure controls or internal controls over financial reporting will prevent all error or fraud. A control system, no matter how well conceived and operated, can provide only reasonable, but not absolute, assurance that the objectives of a control system are met. Any control system contains limitations imposed by resources and relevant cost considerations. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues have been addressed. These inherent limitations include the realities that judgments can be faulty and that breakdowns can occur because of simple error or mistake. In addition, controls can be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of a control. Our control system design is also based on assumptions about the likelihood of future events, and we cannot be sure that we have considered all possible future circumstances and events.

**PART III**

**Item 10 Directors and Executive Officers of the Registrant**

Pursuant to General Instruction G to Form 10-K, we incorporate by reference into this Item the information to be disclosed in our definitive proxy statement/prospectus for our 2016 Annual Meeting of Shareholders.

**Item 11 Executive Compensation**

Pursuant to General Instruction G to Form 10-K, we incorporate by reference into this Item the information to be disclosed in our definitive proxy statement/prospectus for our 2016 Annual Meeting of Shareholders.

**Item 12 Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters**

Pursuant to General Instruction G to Form 10-K, we incorporate by reference into this Item the information to be disclosed in our definitive proxy statement/prospectus for our 2016 Annual Meeting of Shareholders.

**Item 13 Certain Relationships and Related Transactions**

Pursuant to General Instruction G to Form 10-K, we incorporate by reference into this Item the information to be disclosed in our definitive proxy statement/prospectus for our 2016 Annual Meeting of Shareholders.

**Item 14 Principal Accountant Fees and Services**

Pursuant to General Instruction G to Form 10-K, we incorporate by reference into this Item the information to be disclosed in our definitive proxy statement/prospectus for our 2016 Annual Meeting of Shareholders.

**PART IV**

**Item 15 Exhibits and Financial Statement Schedules**

The agreements included as exhibits to this report are included to provide information about their terms and not to provide any other factual or disclosure information about Royale Energy or the other parties to the agreements. The agreements contain representations and warranties by each of the parties to the applicable agreement that were made solely for the benefit of the other agreement parties and:

should not be treated as categorical statements of fact, but rather as a way of allocating the risk among the parties if those statements prove to be inaccurate;

have been qualified by disclosures that were made to the other party in connection with the negotiation of the applicable agreement, which disclosures are not necessarily reflected in the agreement;

may apply standards of materiality in a way that is different from the way investors may view materiality; and

were made only as of the date of the applicable agreement or such other date or dates as may be specified in the agreement and are subject to more recent developments.

1. **Financial Statements.** See Index to Financial Statements, page F-1
2. **Schedules.** Supplemental Information About Oil and Gas Producing Activities (Unaudited) begins on page F-20.
3. **Exhibits.** Certain of the exhibits listed in the following index are incorporated by reference.
  - 2.1 Amended and Restated Agreement and Plan of Merger among Royale Energy, Inc., Royale Energy Holdings, Inc., Royale Merger Sub, Inc., Matrix Merger Sub, Inc., and Matrix Oil Management Corporation, incorporated by reference to Exhibit 2.1, Annex A to Royale Energy's Registration Statement on Form S-4 filed February 14, 2017.
  - 2.2 Form of Preferred Exchange Agreement with the holders of all of the Matrix Preferred Interests, incorporated by reference to Exhibit 2.2, Annex B to Royale Energy's Registration Statement on Form S-4 filed February 14, 2017.
  - 2.3 Form of LP Exchange Agreement between Royale Energy, Inc., Royale Energy Holdings, Inc., and holders of LP Interests of Matrix Investments, L.P. other than Preferred LP Interests, incorporated by reference to Exhibit 2.3, Annex C to Royale Energy's Registration Statement on Form S-4 filed February 14, 2017.
  - 2.4 Form of LP Exchange Agreement between Royale Energy, Inc., Royale Energy Holdings, Inc., and holders of LP Interests of Matrix Las Cienegas Limited Partnership, incorporated by reference to Exhibit 2.4, Annex D to Royale Energy's Registration Statement on Form S-4 filed February 14, 2017.
  - 2.5 Form of LP Exchange Agreement between Royale Energy, Inc., Royale Energy Holdings, Inc., and holders of all LP Interests of Matrix Permian Investments, L.P., incorporated by reference to Exhibit 2.5, Annex E to Royale Energy's Registration Statement on Form S-4 filed February 14, 2017.
  - 2.6 Form of Matrix Operator Stock Exchange Agreement between Royale Energy, Inc., Royale Energy Holdings, Inc., and the holders of all outstanding common stock of Matrix Oil Corporation, incorporated by reference to Exhibit 2.6, Annex F to Royale Energy's Registration Statement on Form S-4 filed February 14, 2017.
  - 2.7 Form of Section 351 Plan of Merger and Exchange, incorporated by reference to Exhibit 2.7, Annex G to Royale Energy's Registration Statement on Form S-4 filed February 14, 2017.
  - 2.8 [This Amendment No. 1 to the Amended and Restated Agreement and Plan of Merger dated March 30, 2017, filed herewith.](#)
  - 3.1 Restated Articles of Incorporation of Royale Energy, Inc., incorporated by reference to Exhibit 3.1 of Royale Energy's Form 10-Q filed August 14, 2009.
  - 3.2 Amended and Restated Bylaws of Royale Energy, Inc., incorporated by reference to Exhibit 3.2 of Royale Energy's Form 10-K filed March 27, 2009.
  - 21.1 [Subsidiaries, filed herewith.](#)
  - 23.1 [Consent of SingerLewak L.L.P., filed herewith.](#)
  - 31.1 [Rule 13a-14\(a\), 115d-14\(a\) Certification, filed herewith.](#)
  - 31.2 [Rule 13a-14\(a\), 115d-14\(a\) Certification, filed herewith.](#)
  - 31.3 [Rule 13a-14\(a\), 115d-14\(a\) Certification, filed herewith.](#)
  - 32.1 [Section 1350 Certification, filed herewith.](#)
  - 32.2 [Section 1350 Certification, filed herewith.](#)
  - 32.3 [Section 1350 Certification, filed herewith.](#)
  - 99.1 [Report of Netherland Sewell & Associates, Inc., filed herewith.](#)
  - 101.INS\* XBRL Instance Document
  - 101.SCH\* XBRL Taxonomy Extension Schema
  - 101.CAL\* XBRL Taxonomy Extension Calculation Linkbase
  - 101.DEF\* XBRL Taxonomy Extension Definition Linkbase
  - 101.LAB\* XBRL Taxonomy Extension Label Linkbase
  - 101.PRE\* XBRL Taxonomy Extension Presentation Linkbase

\* Pursuant to Rule 406T of Regulation S-T, these interactive data files are deemed not filed or part of a registration statement or prospectus for purposes of Sections 11 or 12 of the Securities Act of 1933 or Section 18 of the Securities Exchange Act of 1934 and otherwise are not subject to liability.

**SIGNATURES**

Pursuant to the requirements of Section 13 or 15(d) 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.

**Royale Energy, Inc.**

Date: March 31, 2017

/s/ Jonathan Gregory

Jonathan Gregory  
Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Date: March 31, 2017

/s/ Harry E. Hosmer

Harry E. Hosmer  
Chairman of the Board of Directors

Date: March 31, 2017

/s/ Donald H. Hosmer

Donald H. Hosmer  
Director, and President of Business Development

Date: March 31, 2017

/s/ Stephen M. Hosmer

Stephen M. Hosmer  
Director, President, Chief Financial Officer and Secretary

Date: March 31, 2017

/s/ Ronald Buck

Ronald Buck  
Director

Date: March 31, 2017

/s/ Ronald Verdier

Ronald Verdier  
Director

Date: March 31, 2017

/s/ Gary Grinsfelder

Gary Grinsfelder  
Director

Date: March 31, 2017

/s/ Jonathan Gregory

Jonathan Gregory  
Director, Chief Executive Officer

**ROYALE ENERGY, INC.  
INDEX TO FINANCIAL STATEMENTS  
AND SUPPLEMENTARY DATA**

<a href="#">REPORT OF SINGERLEWAK LLP, INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM</a>	F-2
<a href="#">BALANCE SHEETS</a>	F-3
<a href="#">STATEMENTS OF COMPREHENSIVE LOSS</a>	F-5
<a href="#">STATEMENTS OF STOCKHOLDERS' DEFICIT</a>	F-6
<a href="#">STATEMENTS OF CASH FLOWS</a>	F-7
<a href="#">NOTES TO FINANCIAL STATEMENTS</a>	F-8
<a href="#">SUPPLEMENTAL INFORMATION ABOUT OIL AND GAS PRODUCING ACTIVITIES</a>	F-22

**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

To the Board of Directors and Stockholders

Royale Energy, Inc.

We have audited the accompanying balance sheets of Royale Energy Inc. (the "Company" as of December 31, 2016 and 2015, and the related statements of comprehensive loss, stockholders' deficit and cash flows for the years then ended. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Royale Energy Inc. as of December 31, 2016 and 2015, and the results of its operations and its cash flows for the years then ended, in conformity with U.S. generally accepted accounting principles.

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the financial statements, the Company has suffered recurring losses from operations, its total liabilities exceed its total assets and it has an accumulated stockholders' deficit. This raises substantial doubt about the Company's ability to continue as a going concern. Management's plans in regard to these matters also are described in Note 1. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

SingerLewak LLP

Los Angeles, California  
March 31, 2017

**ROYALE ENERGY, INC.**  
**BALANCE SHEETS**  
**DECEMBER 31, 2016 AND 2015**

	<u>2016</u>	<u>2015</u>
<b>ASSETS</b>		
Current Assets:		
Cash	\$ 4,994,598	\$ 3,763,819
Other Receivables, net	676,647	381,192
Revenue Receivables	303,528	147,936
Prepaid Expenses	63,308	114,036
	<u>6,038,081</u>	<u>4,406,983</u>
Total Current Assets		
Other Assets	610,779	730,844
Oil And Gas Properties (Successful Efforts Basis), Real Property and Equipment and Fixtures, net	1,733,424	6,532,478
	<u>\$ 8,382,284</u>	<u>\$ 11,670,305</u>
Total Assets		

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

**ROYALE ENERGY, INC.**  
**BALANCE SHEETS**  
**DECEMBER 31, 2016 AND 2015**

	<u>2016</u>	<u>2015</u>
<b>LIABILITIES AND STOCKHOLDERS' DEFICIT</b>		
Current Liabilities:		
Accounts Payable and Accrued Expenses	\$ 2,469,245	\$ 2,937,226
Cash Advances on Pending Transactions	1,580,000	-
Current Portion of Long-Term Debt	-	30,528
Deferred Drilling Obligations	7,894,001	8,415,528
<b>Total Current Liabilities</b>	<u>11,943,246</u>	<u>11,383,282</u>
Noncurrent Liabilities:		
Asset Retirement Obligation	952,110	1,096,179
Note Payable, less current portion	-	1,416,325
<b>Total Noncurrent Liabilities</b>	<u>952,110</u>	<u>2,512,504</u>
<b>Total Liabilities</b>	<u>12,895,356</u>	<u>13,895,786</u>
Stockholders' Deficit:		
Convertible Preferred Stock, Series AA, No Par Value, 147,500 Shares Authorized; 0 and 46,662 Shares Issued and Outstanding, at December 31, 2016 and 2015, Respectively	-	136,149
Common Stock, No Par Value, 30,000,000 Shares Authorized; 21,836,033 and 16,396,579 Shares Issued and Outstanding, at December 31, 2016 and 2015, respectively	41,265,449	39,272,429
Accumulated Deficit	<u>(45,778,521)</u>	<u>(41,634,059)</u>
<b>Total Stockholders' Deficit</b>	<u>(4,513,072)</u>	<u>(2,225,481)</u>
<b>Total Liabilities and Stockholders' Deficit</b>	<u>\$ 8,382,284</u>	<u>\$ 11,670,305</u>

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



**ROYALE ENERGY, INC.**  
**STATEMENTS OF COMPREHENSIVE LOSS**  
**FOR THE YEARS ENDED DECEMBER 31, 2016, AND 2015**

	<u>2016</u>	<u>2015</u>
Revenues:		
Sale of Oil and Gas	\$ 538,631	\$ 1,018,928
Supervisory Fees and Other	675,208	694,160
Total Revenues	1,213,839	1,713,088
Costs and Expenses:		
General and Administrative	2,614,502	3,181,571
Lease Operating	594,241	1,000,769
Delay Rentals	-	448,313
Lease Impairment	2,071,849	424,163
Well Equipment Write Down	19,151	60,960
Bad Debt Expense	-	536,538
Legal and Accounting	627,577	558,471
Marketing	294,522	326,143
Depreciation, Depletion and Amortization	283,874	400,813
Total Costs and Expenses	6,505,716	6,937,741
Gain on Turnkey Drilling Programs	460,210	2,330,969
Loss from Operations	(4,831,667)	(2,893,684)
Other Income (Expense):		
Interest Expense	(114,159)	(86,088)
Gain on Sale of Assets	483,394	968,956
Gain on Settlement of Accounts Payable	341,751	-
Loss on Disposal of Assets	(23,781)	-
Loss Before Income Tax Expense	(4,144,462)	(2,010,816)
Provision for Income Taxes	-	-
Net Loss	(4,144,462)	(2,010,816)
Basic Loss Per Share	(0.22)	(0.13)
Diluted Loss Per Share	(0.22)	(0.13)
Other Comprehensive Income (Loss)		
Unrealized Loss on Equity Securities	-	-
Less: Reclassification Adjustment for Losses Included in Net Income	-	(6,503)
Other Comprehensive Gain (Loss) before tax	-	6,503
Other Comprehensive Gain (Loss), net of tax	-	6,503
Comprehensive Loss	(4,144,462)	(2,004,313)

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

**ROYALE ENERGY, INC.**  
**STATEMENTS OF STOCKHOLDERS' DEFICIT**  
**FOR THE YEARS ENDED DECEMBER 31, 2016 and 2015**

	<u>Common Stock</u>		<u>Preferred Stock Series AA</u>		<u>Accumulated Deficit</u>	<u>Accumulated Other Comprehensive Income (Loss)</u>	<u>Total</u>
	<u>Number of Shares Issued and Outstanding</u>	<u>Amount</u>	<u>Number of Shares Issued and Outstanding</u>	<u>Amount</u>			
Balance, December 31, 2014	14,945,789	\$ 38,352,370	46,662	\$ 136,149	\$ (39,623,243)	\$ (6,503)	\$ (1,141,227)
Common Stock Private Placement Sale	701,397	\$ 490,116					490,116
Director's Stock Option Grant		86,877					86,877
Common Stock RDO Private Placement Sale	485,486	199,195					199,195
Common Stock Issued to Executives in lieu of Compensation	263,907	143,871					143,871
Available for Sale Securities – Reclassification Adjustment for Losses Included in Net Income						6,503	6,503
<b>Net Loss</b>					<b>(2,010,816)</b>		<b>(2,010,816)</b>
Balance, December 31, 2015	16,396,579	\$ 39,272,429	46,662	\$ 136,149	\$ (41,634,059)	\$ -	\$ (2,225,481)
Common Stock Private Placement Sale	3,027,070	1,160,885					1,160,885
Common Stock Issued to Executives in lieu of Compensation	2,335,461	645,986					645,986
Issuance of Common Stock in Settlement of AP	76,923	50,000					50,000
Preferred Series AA Converted to Common Stock	23,331	136,149	(46,662)	(136,149)			-
<b>Net Loss</b>					<b>(4,144,462)</b>		<b>(4,144,462)</b>
Balance, December 31, 2016	<u>21,859,364</u>	<u>\$ 41,265,449</u>	<u>-</u>	<u>\$ -</u>	<u>\$ (45,778,521)</u>	<u>\$ -</u>	<u>\$ (4,513,072)</u>

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

**ROYALE ENERGY, INC.**  
**STATEMENTS OF CASH FLOWS**  
**FOR THE YEARS ENDED DECEMBER 31, 2016 and 2015**

	<u>2016</u>	<u>2015</u>
<b>CASH FLOWS FROM OPERATING ACTIVITIES:</b>		
Net (Loss)	\$ (4,144,462)	\$ (2,010,816)
Adjustments to Reconcile Net Loss to Net Cash Used by Operating Activities:		
Depreciation, Depletion, and Amortization	283,874	400,813
Lease Impairment	2,071,849	424,163
Gain on Sale of Assets	(483,394)	(968,956)
Gain on Turnkey Drilling Programs	(460,210)	(2,330,969)
Gain on Settlement of Accounts Payable	(341,751)	-
Loss on Disposal of Assets	23,781	-
Bad Debt Expense	-	536,538
Stock-Based Compensation	645,986	230,749
Realized Loss on Equity Securities	-	6,503
Well Equipment and Other Assets Write Down	19,151	60,960
(Increase) Decrease in:		
Other & Revenue Receivables	(451,047)	1,187,810
Prepaid Expenses and Other Assets	151,642	(236,615)
Increase (Decrease) in:		
Accounts Payable and Accrued Expenses	(587,050)	(1,273,360)
Net Cash Used by Operating Activities	<u>(3,271,631)</u>	<u>(3,973,180)</u>
<b>CASH FLOWS FROM INVESTING ACTIVITIES:</b>		
Expenditures for Oil And Gas Properties	(2,058,357)	(3,753,134)
Proceeds from Turnkey Drilling Programs	3,980,499	5,433,476
Proceeds from Sale of Assets	1,286,236	2,334,537
Net Cash Provided by Investing Activities	<u>3,208,378</u>	<u>4,014,879</u>
<b>CASH FLOWS FROM FINANCING ACTIVITIES:</b>		
Cash Advances From Investors	1,580,000	-
Principal Payments on Long-Term Debt	(1,446,853)	(29,031)
Proceeds from Issuance of Common Stock	1,160,885	689,310
Net Cash Provided by Financing Activities	<u>1,294,032</u>	<u>660,279</u>
Net Increase in Cash	1,230,779	701,978
Cash at Beginning of Year	<u>3,763,819</u>	<u>3,061,841</u>
Cash at End of Year	<u>\$ 4,994,598</u>	<u>\$ 3,763,819</u>
Cash Paid for Interest	<u>\$ 48,325</u>	<u>86,088</u>
Cash Paid for Taxes	<u>\$ 2,100</u>	<u>1,000</u>
<b>Supplemental Schedule of Non-Cash Investing and Financing Transactions:</b>		
Conversion of Series AA Stock to Common Stock	<u>\$ 136,149</u>	<u>\$ -</u>
Reclassification Adjustment for Losses Included in Net Income	<u>\$ -</u>	<u>\$ (6,503)</u>
Warrants Issued with Common Stock	<u>\$ 156,205</u>	<u>\$ -</u>

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

**ROYALE ENERGY, INC.  
NOTES TO FINANCIAL STATEMENTS**

**NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

This summary of significant accounting policies of Royale Energy, Inc. (“Royale Energy,” “Royale,” or the “Company”) is presented to assist in understanding Royale Energy's financial statements. The financial statements and notes are representations of Royale Energy's management, which is responsible for their integrity and objectivity. These accounting policies conform to accounting principles generally accepted in the United States of America and have been consistently applied in the preparation of the financial statements.

Description of Business

Royale Energy is an independent oil and gas producer which also has operations in the area of turnkey drilling. Royale Energy owns wells and leases in major geological basins located primarily in California, Texas, Oklahoma and Utah. Royale Energy offers fractional working interests and seeks to minimize the risks of oil and gas drilling by selling multiple well drilling projects which do not include the use of debt financing.

Use of Estimates

The accompanying financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America and requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates. As reflected in the accompanying financial statements, the Company has negative working capital, losses from operations and negative cash flows from operations.

Material estimates that are particularly susceptible to significant change relate to the estimate of Company oil and gas reserves prepared by an independent engineering consultant. Such estimates are subject to numerous uncertainties inherent in the estimation of quantities of proven reserves. Estimated reserves are used in the calculation of depletion, depreciation and amortization, unevaluated property costs, impairment of oil and natural gas properties, estimated future net cash flows, taxes, and contingencies.

Liquidity and going concern

The primary sources of liquidity have historically been issuances of common stock and operations. We believe that the completion of the contemplated merger with will enable us to return to positive cash flow. There is some doubt about the company's ability to meet liquidity demands, and we anticipate that our primary sources of liquidity will be from the issuance of debt and/or equity, and the sale of oil and natural gas property participation interest.

The Company's consolidated financial statements reflect an accumulated deficit of \$45,778,521, a working capital deficiency of \$5,905,165 and a stockholders' deficit of \$4,513,072. These factors raise substantial doubt about our ability to continue as a going concern. The accompanying consolidated financial statements do not include any adjustments that might be necessary if the Company is unable to continue as a going concern.

Management's plans to alleviate the going concern include the proposed merger with Matrix and additional financing through issuances of common stock and the reduction of overhead costs. There is no assurance that additional financing will be available when needed or that management will be able to obtain financing on terms acceptable to the Company and whether the Company will become profitable and generate positive operating cash flow. If the Company is unable to raise sufficient additional funds, it will have to develop and implement a plan to further extend payables, attempt to extend note repayments, and reduce overhead until sufficient additional capital is raised to support further operations. There can be no assurance that such a plan will be successful.

Revenue Recognition

Royale's primary business is oil and gas production. Natural gas flows from the wells into gathering line systems, which are equipped occasionally with compressor systems, which in turn flow into metered transportation and customer pipelines. Monthly, price data and daily production are used to invoice customers for amounts due to Royale Energy and other working interest owners. Royale Energy operates virtually all of its own wells and receives industry standard operator fees.

Royale Energy generally sells crude oil and natural gas under short-term agreements at prevailing market prices. Revenues are recognized when the products are delivered, which occurs when the customer has taken title and has assumed the risks and rewards of ownership, prices are fixed or determinable and collectability is reasonably assured.

## [Table of Contents](#)

Revenues from the production of oil and natural gas properties in which the Royale Energy has an interest with other producers are recognized on the basis of Royale Energy's net working interest. Differences between actual production and net working interest volumes are not significant.

Royale Energy's financial statements include its *pro rata* ownership of wells. Royale Energy usually sells a portion of the working interest in each well it drills or participates in to third party investors and retains a portion of the prospect for its own account. Royale Energy generally retains about a 50% working interest. All results, successful or not, are included at its *pro rata* ownership amounts: revenue, expenses, assets, and liabilities as defined in FASB ASC 932-323-25 and 932-360.

### Oil and Gas Property and Equipment

Depreciation, depletion and amortization, based on cost less estimated salvage value of the asset, are primarily determined under either the unit-of-production method or the straight-line method, which is based on estimated asset service life taking obsolescence into consideration. Maintenance and repairs, including planned major maintenance, are expensed as incurred. Major renewals and improvements are capitalized and the assets replaced are retired.

The project construction phase commences with the development of the detailed engineering design and ends when the constructed assets are ready for their intended use. Interest costs, to the extent they are incurred to finance expenditures during the construction phase, are included in property, plant and equipment and are depreciated over the service life of the related assets.

Royale Energy uses the "successful efforts" method to account for its exploration and production activities. Under this method, Royale Energy accumulates its proportionate share of costs on a well-by-well basis with certain exploratory expenditures and exploratory dry holes being expensed as incurred, and capitalizes expenditures for productive wells. Royale Energy amortizes the costs of productive wells under the unit-of-production method.

Royale Energy carries, as an asset, exploratory well costs when the well has found a sufficient quantity of reserves to justify its completion as a producing well and where Royale Energy is making sufficient progress assessing the reserves and the economic and operating viability of the project. Exploratory well costs not meeting these criteria are charged to expense. Other exploratory expenditures, including geophysical costs and annual lease rentals, are expensed as incurred.

Acquisition costs of proved properties are amortized using a unit-of-production method, computed on the basis of total proved oil and gas reserves.

Capitalized exploratory drilling and development costs associated with productive depletable extractive properties are amortized using unit-of-production rates based on the amount of proved developed reserves of oil and gas that are estimated to be recoverable from existing facilities using current operating methods. Under the unit-of-production method, oil and gas volumes are considered produced once they have been measured through meters at custody transfer or sales transaction points at the outlet valve on the lease or field storage tank.

Production costs are expensed as incurred. Production involves lifting the oil and gas to the surface and gathering, treating, field processing and field storage of the oil and gas. The production function normally terminates at the outlet valve on the lease or field production storage tank. Production costs are those incurred to operate and maintain Royale Energy's wells and related equipment and facilities. They become part of the cost of oil and gas produced. These costs, sometimes referred to as lifting costs, include such items as labor costs to operate the wells and related equipment; repair and maintenance costs on the wells and equipment; materials, supplies and energy costs required to operate the wells and related equipment; and administrative expenses related to the production activity.

Proved oil and gas properties held and used by Royale Energy are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amounts may not be recoverable.

Royale Energy estimates the future undiscounted cash flows of the affected properties to judge the recoverability of carrying amounts. Cash flows used in impairment evaluations are developed using annually updated evaluation assumptions for crude oil commodity prices. Annual volumes are based on field production profiles, which are also updated annually. Prices for natural gas and other products are based on assumptions developed annually for evaluation purposes.

Impairment analyses are generally based on proved reserves. An asset group would be impaired if the undiscounted cash flows were less than its carrying value. Impairments are measured by the amount the carrying value exceeds fair value. During 2016 and 2015, impairment losses of \$2,071,849 and \$424,163, respectively, were recorded on various capitalized lease and land costs that were no longer viable.

Significant unproved properties are assessed for impairment individually, and valuation allowances against the capitalized costs are recorded based on the estimated economic chance of success and the length of time that Royale Energy expects to hold the properties. The valuation allowances are reviewed at least annually.

Upon the sale or retirement of a complete field of a proved property, Royale Energy eliminates the cost from its books, and the resultant gain or loss is recorded to Royale Energy's Statement of Operations. Upon the sale of an entire interest in an unproved property where the property has been assessed for impairment individually, a gain or loss is recognized in Royale Energy's Statement of Operations. If a partial interest in an unproved property is sold, any funds received are accounted for as a recovery of the cost in the interest retained with any excess funds recognized as a gain. Should Royale Energy's turnkey drilling agreements include unproved property, total drilling costs incurred to satisfy its obligations are recovered by the total funds received under the agreements. Any excess funds are recorded as a Gain on Turnkey Drilling Programs, and any costs not recovered are capitalized and accounted for under the "successful efforts" method.

Royale Energy sponsors turnkey drilling agreement arrangements in unproved properties as a pooling of assets in a joint undertaking, whereby proceeds from participants are reported as Deferred Drilling Obligations, and then reduced as costs to complete its obligations are incurred with any excess booked against its property account to reduce any basis in its own interest. Gains on Turnkey Drilling Programs represent funds received from turnkey drilling participants in excess of all costs Royale incurs during the drilling programs (e.g., lease acquisition, exploration and development costs), including costs incurred on behalf of participants and costs incurred for its own account; and are recognized only upon making this determination after Royale's obligations have been fulfilled.

The contracts require the participants pay Royale Energy the full contract price upon execution of the agreement. Royale Energy completes the drilling activities typically between 10 and 30 days after drilling begins. The participant retains an undivided or proportional beneficial interest in the property, and is also responsible for its proportionate share of operating costs. Royale Energy retains legal title to the lease. The participants purchase a working interest directly in the well bore.

In these working interest arrangements, the participants are responsible for sharing in the risk of development, but also sharing in a proportional interest in rights to revenues and proportional liability for the cost of operations after drilling is completed and the interest is conveyed to the participant.

A certain portion of the turnkey drilling participant's funds received are non-refundable. The company holds all funds invested as Deferred Drilling Obligations until drilling is complete. Occasionally, drilling is delayed for various reasons such as weather, permitting, drilling rig availability and/or contractual obligations. At December 31, 2016 and 2015, Royale Energy had Deferred Drilling Obligations of \$7,894,001 and \$8,415,528, respectively.

If Royale Energy is unable to drill the wells, and a suitable replacement well is not found, Royale would retain the non-refundable portion of the contact and return the remaining funds to the participant. Included in cash and cash equivalents are amounts for use in completion of turnkey drilling programs in progress.

Losses on properties sold are recognized when incurred or when the properties are held for sale and the fair value of the properties is less than the carrying value.

#### Other Receivables

Our other receivables consists of receivables from direct working interest investors and industry partners. We provide for uncollectible accounts receivable using the allowance method of accounting for bad debts. Under this method of accounting, a provision for uncollectible accounts is charged directly to bad debt expense when it becomes probable the receivable will not be collected. The allowance account is increased or decreased based on past collection history and management's evaluation of accounts receivable. All amounts considered uncollectible are charged against the allowance account and recoveries of previously charged off accounts are added to the allowance. At December 31, 2016 and 2015, the Company established an allowance for uncollectible accounts of \$2,270,773 and \$2,270,773, respectively, for receivables from direct working interest investors whose expenses on non-producing wells were unlikely to be collected from revenue.

#### Revenue Receivables

Our revenue receivables consists of receivables related to the sale of our natural gas and oil. Once a production month is completed we receive payment approximately 15 to 30 days later.

Equipment and Fixtures

Equipment and fixtures are stated at cost and depreciated over the estimated useful lives of the assets, which range from three to seven years, using the straight-line method. Repairs and maintenance are charged to expense as incurred. When assets are sold or retired, the cost and related accumulated depreciation are removed from the accounts and any resulting gain or loss is included in income. Maintenance and repairs, which neither materially add to the value of the property nor appreciably prolong its life, are charged to expense as incurred. Gains or losses on dispositions of property and equipment, other than oil and gas, are reflected in operations.

## Income (Loss) Per Share

Basic and diluted losses per share are calculated as follows:

	<b>For the Year Ended December 31, 2016</b>		
	<b>Loss (Numerator)</b>	<b>Shares (Denominator)</b>	<b>Per-Share Amount</b>
Basic Loss Per Share:			
Net loss available to common stock	\$ (4,144,462)	19,185,896	\$ (0.22)
Loss Per Share:			
Effect of dilutive securities and stock options		-	\$ -
Net loss available to common stock	<u>\$ (4,144,462)</u>	<u>19,185,896</u>	<u>\$ (0.22)</u>
	<b>For the Year Ended December 31, 2015</b>		
	<b>Loss (Numerator)</b>	<b>Shares (Denominator)</b>	<b>Per-Share Amount</b>
Basic Loss Per Share:			
Net income available to common stock	\$ (2,010,816)	15,194,534	\$ (0.13)
Loss Per Share:			
Effect of dilutive securities and stock options		-	\$ -
Net loss available to common stock	<u>\$ (2,010,816)</u>	<u>15,194,534</u>	<u>\$ (0.13)</u>

For the years ended December 31, 2016 and 2015, Royale Energy had dilutive securities of 0 and 23,331, respectively. These securities were not included in the dilutive loss per share due to their antidilutive nature.

Stock Based Compensation

Royale Energy has a stock-based employee compensation plan, which is more fully described in Note 11. Effective January 1, 2006, the Company adopted the Compensation – Stock Compensation Topic of the FASB Accounting Standards Codification, which addresses the accounting for stock-based payment transactions in which an enterprise receives employee services in exchange for (a) equity instruments of the enterprise or (b) liabilities that are based on the fair value of the enterprise's equity instruments or that may be settled by the issuance of such equity instruments. The Company uses the Black-Scholes option-pricing model to determine the fair value of stock-based awards.

Income Taxes

Royale utilizes the asset and liability approach to measure deferred tax assets and liabilities based on temporary differences existing at each balance sheet date using currently enacted tax rates in accordance with the Income Taxes Topic of the FASB Accounting Standards Codification. Deferred tax assets and liabilities are adjusted for the effects of changes in tax laws and rates on the date of enactment. Under the Topic, deferred tax assets are reduced by a valuation allowance when, in the opinion of management, it is more likely than not that some portion or all of the deferred tax assets will not be realized.

The provision for income taxes is based on pretax financial accounting income. Deferred tax assets and liabilities are recognized for the expected tax consequences of temporary differences between the tax basis of assets and liabilities and their reported net amounts.

#### Fair Value Measurements

According to Fair Value Measurements and Disclosures Topic of the FASB Accounting Standards Codification, assets and liabilities that are measured at fair value on a recurring and nonrecurring basis in period subsequent to initial recognition, the reporting entity shall disclose information that enable users of its financial statements to assess the inputs used to develop those measurements and for recurring fair value measurements using significant unobservable inputs, the effect of the measurements on earnings for the period.

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. In determining fair value, the Company utilizes valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs to the extent possible as well as considers counterparty credit risk in its assessment of fair value. Carrying amounts of the Company's financial instruments, including cash equivalents, accounts receivable, accounts payable and accrued liabilities, approximate their fair values as of the balance sheet dates because of their generally short maturities.

The fair value hierarchy distinguishes between (1) market participant assumptions developed based on market data obtained from independent sources (observable inputs) and (2) an entity's own assumptions about market participant assumptions developed based on the best information available in the circumstances (unobservable inputs). The fair value hierarchy consists of three broad levels, which gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1) and the lowest priority to unobservable inputs (Level 3). The three levels of the fair value hierarchy are described below:

Level 1: Quoted prices (unadjusted) in active markets that are accessible at the measurement date for assets or liabilities.

Level 2: Directly or indirectly observable inputs as of the reporting date through correlation with market data, including quoted prices for similar assets and liabilities in active markets and quoted prices in markets that are not active. Level 2 also includes assets and liabilities that are valued using models or other pricing methodologies that do not require significant judgment since the input assumptions used in the models, such as interest rates and volatility factors, are corroborated by readily observable data from actively quoted markets for substantially the full term of the financial instrument.

Level 3: Unobservable inputs that are supported by little or no market activity and reflect the use of significant management judgment. These values are generally determined using pricing models for which the assumptions utilize management's estimates of market participant assumptions

At December 31, 2016 and 2015, Royale Energy does not have any financial assets measured and recognized at fair value on a recurring basis. The Company estimates asset retirement obligations pursuant to the provisions of FASB ASC Topic 410, "*Asset Retirement and Environmental Obligations*" ("FASB ASC 410"). The initial measurement of asset retirement obligations at fair value is calculated using discounted cash flow techniques and based on internal estimates of future retirement costs associated with oil and gas properties. Given the unobservable nature of the inputs, including plugging costs and reserve lives, the initial measurement of the asset retirement obligation liability is deemed to use Level 3 inputs. See Note 3 for further discussion of the Company's asset retirement obligations.

#### Accounts Payable and Accrued Expenses

At December 31, 2016, the components of accounts payable and accrued expenses consisted of \$1,205,740 in trade accounts payable due to various vendors, \$699,068 in payables and accruals related to direct working interest investors revenues and operating costs, \$98,172 in accrued expenses related to current drilling efforts, \$266,110 for accrued liabilities for amounts set aside mainly for the plugging and abandonment of certain wells, \$103,212 for employee related taxes and accruals, \$65,833 related to interest payable on cash advances from investors and \$18,662 in federal and state income taxes payable. At December 31, 2015, the components of accounts payable and accrued expenses consisted of \$2,167,809 in trade accounts payable due to various vendors, \$238,320 in payables and accruals related to direct working interest investors operating costs, \$369,837 for accrued liabilities for amounts set aside mainly for the plugging and abandonment of certain wells, \$140,798 for employee related taxes and accruals and \$20,462 in federal and state income taxes payable.



### Cash Advances on Pending Transactions

In July 2016, Royale entered into negotiations for certain equity and debt financing transactions, described below. The funds from these transactions is to be used to continue drilling activities, fund expenses to be incurred in connection with completion of Royale Energy's proposed merger with Matrix Oil Corporation and for general corporate purposes. At December 31, 2016, the paperwork for these transactions had not been finalized and as such have been included as Cash Advances from Investors:

The Company entered in negotiations with two separate investors for convertible promissory notes of \$1,280,000 and \$300,000, with a conversion price of \$0.40 per share, with warrants to purchase one share of common stock for every three shares of common stock issuable upon conversion of the notes. The notes mature one year from the date of issuance and carry a 10% interest rate, which is due at maturity. The conversion of the notes to shares is subject to shareholder approval.

### Reclassifications

Certain items in the financial statements have been reclassified to maintain consistency and comparability for all periods presented herein.

### Recently Issued Accounting Pronouncements

The Company has reviewed the updates issued by the Financial Accounting Standards Board (FASB) during the year ended December 31, 2016.

ASU 2015-17: Income Taxes (Topic 740) Balance Sheet Classification of Deferred Taxes – In November 2015, FASB issued ASU 2015-17 which eliminates the requirement to present deferred tax assets and liabilities as current and noncurrent amounts in a classified balance sheet. The new standard requires deferred tax assets and liabilities to be classified as noncurrent. The amendments in this update are effective for financial statements issued for annual periods beginning after December 15, 2016, and interim periods within those annual periods. Earlier application is permitted for all entities as of the beginning of an interim or annual reporting period and may be applied either prospectively or retrospectively to all periods presented. In 2016, the Company adopted Accounting Standards Update (ASU) 2015-17 and has classified all of its deferred tax assets and liabilities as noncurrent on its balance sheet. The adoption of this guidance has no impact on our results of operations or cash flows.

ASU 2016-01: Financial Instruments – Overall – Recognition and Measurement of Financial Assets and Financial Liabilities (Subtopic 825-10) In January 2016, FASB issued ASU 2016-01 which requires an entity to: (i) measure equity investments at fair value through net income, with certain exceptions; (ii) present in Other Comprehensive Income the changes in instrument-specific credit risk for financial liabilities measured using the fair value option; (iii) present financial assets and financial liabilities by measurement category and form of financial asset; (iv) calculate the fair value of financial instruments for disclosure purposes based on an exit price and; (v) assess a valuation allowance on deferred tax assets related to unrealized losses of AFS debt securities in combination with other deferred tax assets. The Update provides an election to subsequently measure certain nonmarketable equity investments at cost less any impairment and adjusted for certain observable price changes. The Update also requires a qualitative impairment assessment of such equity investments and amends certain fair value disclosure requirements. The new standard becomes effective for fiscal years beginning after December 15, 2017. Early adoption is only permitted for the provision related to instrument-specific credit risk and the fair value disclosure exemption provided to nonpublic entities. The Company is currently evaluating the effects of adopting ASU 2016-01 on its consolidated financial statements but the adoption is not expected to have a significant impact on the Company's consolidated financial statements.

ASU No. 2016-02: Leases (Topic 842). In February 2016, FASB issued ASU 2016-02 which aims to increase transparency and comparability among organizations by recognizing lease assets and lease liabilities on the balance sheet and requiring disclosure of key information about leasing agreements. Entities are required to recognize and measure leases at the beginning of the earliest period presented using a modified retrospective approach. ASU 2016-02 is effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. Early adoption is permitted. The Company is currently evaluating the effects of adopting ASU 2016-02 on its consolidated financial statements but the adoption is not expected to have a significant impact on the Company's financial statements.

ASU 2016-09: Compensation—Stock Compensation (Topic 718): Improvements to Employee Share- Based Payment Accounting. In March 2016, FASB issued ASU 2016-09 which amends several aspects of the accounting for share-based payment transactions including the income tax consequences, classification of awards as either equity or liabilities and classification on the statement of cash flows. ASU 2016-09 is effective for fiscal years beginning after December 15, 2016, including interim periods within those fiscal years. Early adoption is permitted. If early adopted, an entity must adopt all of the amendments in the same period. The Company is currently evaluating the impact of the adoption of ASU 2016-09 on the Company's financial statements.

ASU 2016-13: Financial Instruments – Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments. In June 2016, FASB issued ASU 2016-13 which was issued to provide more decision-useful information about the expected credit losses on financial instruments and changes the loss impairment methodology. To achieve this objective, the amendments in ASU 2016-13 replace the incurred loss impairment methodology in current GAAP with a methodology that reflects expected credit losses and requires consideration of a broader range of reasonable and supportable information to inform credit loss estimates. The amendments affect entities holding financial assets and net investment in leases that are not accounted for at fair value through net income. The amendments affect loans, debt securities, trade receivables, net investments in leases, off-balance-sheet credit exposures, reinsurance receivables, and any other financial assets not excluded from the scope that have the contractual right to receive cash. This pronouncement is effective for reporting periods beginning after December 15, 2019 using a modified retrospective adoption method. A prospective transition approach is required for debt securities for which an other-than-temporary impairment had been recognized before the effective date. The Company is currently evaluating the impact of the adoption of ASU 2016-13 on the Company's financial statements.

ASU 2016-15: Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments. In August 2016, FASB issued ASU 2016-15 which addresses several specific cash flow issues. ASU 2016-15 is effective for annual and interim periods beginning January 1, 2018, with early adoption permitted, and requires full retrospective application on adoption. The Company is currently evaluating the effects of adopting ASU 2016-15 on its financial statements but the adoption is not expected to have a significant impact on the Company's financial statements.

ASU 2014-15: Presentation of Financial Statements - Going Concern (Subtopic 205-40) - Disclosure of Uncertainties about an Entity's Ability to Continue as a Going Concern. The Company adopted ASU 2014-15 as of December 31, 2016. This ASU requires management to assess a company's ability to continue as a going concern and to provide related disclosures in certain circumstances.

**NOTE 2 - OIL AND GAS PROPERTIES, EQUIPMENT AND FIXTURES**

Oil and gas properties, equipment and fixtures consist of the following at December 31:

	<u>2016</u>	<u>2015</u>
Oil and Gas		
Producing properties, including intangible drilling costs	\$ 3,755,705	\$ 5,217,637
Undeveloped properties	307,158	2,381,564
Lease and well equipment	<u>4,128,178</u>	<u>4,339,122</u>
	8,191,041	11,938,323
Accumulated depletion, depreciation and amortization	<u>(6,468,279)</u>	<u>(7,656,731)</u>
	<u>\$ 1,722,762</u>	<u>\$ 4,281,592</u>
Commercial and Other		
	<u>2016</u>	<u>2015</u>
Real estate, including furniture and fixtures	\$ -	\$ 2,266,050
Vehicles	40,061	118,061
Furniture and equipment	<u>1,089,648</u>	<u>1,120,760</u>
	1,129,709	3,504,871
Accumulated depreciation	<u>(1,119,047)</u>	<u>(1,253,985)</u>
	10,662	2,250,886
	<u>\$ 1,733,424</u>	<u>\$ 6,532,478</u>

The following sets forth costs incurred for oil and gas property acquisition and development activities, whether capitalized or expensed:

	<u>2016</u>	<u>2015</u>
Acquisition - Proved	\$ -	69,446
Acquisition- Unproved	\$ -	113,749
Development	\$ 1,210,261	672,651
Exploration	\$ 2,603,209	1,845,585

The guidance set forth in the Continued Capitalization of Exploratory Well Costs paragraph of the Extractive Activities Topic of the FASB Accounting Standards Codification requires that we evaluate all existing capitalized exploratory well costs and disclose the extent to which any such capitalized costs have become impaired and are expensed or reclassified during a fiscal period. We did not make any additions to capitalized exploratory well costs pending a determination of proved reserves during 2016 or 2015. We did not charge any previously capitalized exploratory well costs to expense upon adoption of Topic. Undeveloped properties are not subject to depletion, depreciation or amortization.

	<u>12 Months Ended December 31,</u>	
	<u>2016</u>	<u>2015</u>
Beginning balance at January 1	\$ -	\$ -
Additions to capitalized exploratory well costs pending the determination of proved reserves	\$ -	\$ 85,640
Reclassifications to wells, facilities, and equipment based on the determination of proved reserves	\$ -	\$ (85,640)
Ending balance at December 31	<u>\$ -</u>	<u>\$ -</u>

Results of Operations from Oil and Gas Producing and Exploration Activities

The results of operations from oil and gas producing and exploration activities (excluding corporate overhead and interest costs) for the two years ended December 31, are as follows:

	<u>2016</u>	<u>2015</u>
Oil and gas sales	\$ 538,631	1,018,928
Production related costs	(594,241)	(1,449,082)
Lease Impairment	(2,071,849)	(424,163)
Depreciation, depletion and amortization	(283,874)	(400,813)
Results of operations from producing and exploration activities	\$ (2,411,333)	(1,255,130)
Income Taxes (Benefit)	-	-
Net Results	<u>\$ (2,411,333)</u>	<u>(1,255,130)</u>

**NOTE 3 - ASSET RETIREMENT OBLIGATION**

The Asset Retirement and Environmental Obligations Topic of the FASB Accounting Standards Codification requires that an asset retirement obligation (ARO) associated with the retirement of a tangible long-lived asset be recognized as a liability in the period in which it is incurred or becomes determinable (as defined by the standard), with an associated increase in the carrying amount of the related long-lived asset. The cost of the tangible asset, including the initially recognized asset retirement cost, is depreciated over the useful life of the asset. The ARO is recorded at fair value, and accretion expense will be recognized over time as the discounted liability is accreted to its expected settlement value. The fair value of the ARO is measured using expected future cash outflows discounted at the Company's credit-adjusted risk-free interest rate. The provisions of this Topic apply to legal obligations associated with the retirement of long-lived assets that result from the acquisition, development, and operation of a long-lived asset.

	<b>2016</b>	<b>2015</b>
Asset retirement obligation, Beginning of the year	\$ 1,096,179	\$ 804,206
Liabilities incurred during the period	90,000	321,560
Settlements	(10,498)	(68,360)
Sales	(229,465)	-
Accretion expense	5,894	38,773
Asset retirement obligation, End of year	<u>\$ 952,110</u>	<u>\$ 1,096,179</u>

**NOTE 4 - TURNKEY DRILLING OBLIGATION**

Royale Energy receives funds under turnkey drilling contracts, which require Royale Energy to drill oil and gas wells within a reasonable time period from the date of receipt of the funds. As of December 31, 2016 and 2015, Royale Energy had recorded deferred turnkey drilling associated with undrilled wells of \$7,894,001 and \$8,415,528, respectively, as a current liability.

**NOTE 5 - LONG-TERM DEBT**

	<b>2016</b>	<b>2015</b>
On December 24, 2013, Royale Energy, Inc. entered into an agreement between the Company, as buyer, and North Island Financial Credit Union as seller, for the purchase of commercial property in San Diego, California, for a purchase price of \$2,000,000, of which \$500,000 was paid in cash on the date of purchase, and \$1,500,000 was borrowed from AmericanWest Bank, NA, with a note secured by the property being purchased. The note carries an interest rate of 5.75% until paid in full. Royale will pay this loan in 119 regular payments of \$9,525 each and one balloon payment estimated at \$1,150,435. Royale's first payment was due February 1, 2014, and all subsequent payments are due on the same day of each month after that. Royale's final payment will be due on January 1, 2024, and will be for all principal and all accrued interest not yet paid. Payments include principal and interest. Stephen M Hosmer, President, CFO is named as a personal guarantor of the loan. The loan agreement contains certain covenants that, among other things, Royale must maintain a ratio of EBITDA-Debt Service Coverage in excess of 1.50 to 1.00. At December 31, 2015, Royale was not in compliance with this covenant, but obtained a forbearance from the bank from terms of that covenant to May 26, 2016. In June 2016, the sale of the building was completed and the related principal and interest payments were paid in full.	\$ -	\$ 1,446,853
Total Long Term Debt	<u>\$ -</u>	<u>\$ 1,446,853</u>
Less Current Maturity	<u>-</u>	<u>\$ 30,528</u>
Long Term Debt Less Current Portion	<u>\$ -</u>	<u>\$ 1,416,325</u>

**NOTE 6 - INCOME TAXES**

Deferred tax assets and liabilities reflect the net tax effect of temporary differences between the carrying amount of assets and liabilities for financial reporting purposes and amounts used for income tax purposes. Deferred tax assets are reduced by a valuation allowance when, in the opinion of management, it is more likely than not that some portion or all of the deferred tax assets will not be realized. Deferred tax assets and liabilities are adjusted for the effects of changes in tax laws and rates on the date of enactment. In 2016, the Company adopted Accounting Standards Update (ASU) 2015-17 and has classified all of its deferred tax assets and liabilities as noncurrent on its balance sheet.

Significant components of the Company's deferred assets and liabilities at December 31, 2016 and 2015, respectively, are as follows:

	<u>2016</u>	<u>2015</u>
Deferred Tax Assets (Liabilities):		
Statutory Depletion Carry Forward	\$ 474,250	\$ 555,093
Net Operating Loss	5,392,208	4,651,428
Other	1,255,372	1,247,829
Share-Based Compensation	104,388	96,536
Capital Loss / AMT Credit Carry Forward	18,915	18,915
Charitable Contributions Carry Forward	13,102	21,644
Allowance for Doubtful Accounts	886,056	887,418
Oil and Gas Properties and Fixed Assets	5,922,031	4,980,324
	<u>\$ 14,066,322</u>	<u>\$ 12,459,187</u>
Valuation Allowance	(14,066,322)	(12,459,187)
Net Deferred Tax Asset	<u>\$ -</u>	<u>\$ -</u>

At the end of 2015, management reviewed the realizability of the Company's net deferred tax assets. Due to the Company's cumulative losses in recent years, Royale and its management concluded that it is not "more-likely-than-not" its deferred tax assets will be realized. As a result, the Company recorded a full valuation allowance against the net deferred tax assets in 2015. At the end of 2016, management reviewed the reliability of the Company's net deferred tax assets, and due to the Company's continued cumulative losses in recent years, Royale and its management concluded it is not "more-likely-than-not" its deferred tax assets will be realized. As a result, the Company will continue to record a full valuation allowance against the deferred tax assets in 2016. The Company will assess the realizability of the deferred tax assets at least yearly and make appropriate updates as needed. The Company had statutory percentage depletion carry forwards of approximately \$1.2 million at December 31, 2016. The depletion has no expiration date. The Company also has a net operating loss carry forward of approximately \$13.5 million at December 31, 2016, which will begin to expire in 2027.

A reconciliation of Royale Energy's provision for income taxes and the amount computed by applying the statutory income tax rates at December 31, 2016 and 2015, respectively, to pretax income is as follows:

	<u>2016</u>	<u>2015</u>
Tax (benefit) computed at statutory rate of 34%	\$ (1,400,617)	\$ (683,678)
Increase (decrease) in taxes resulting from:		
State tax / percentage depletion / other	937	957
Other non-deductible expenses	624	1,478
Change in valuation allowance	1,399,056	681,243
Provision (benefit)	<u>\$ -</u>	<u>\$ -</u>

The components of the Company's tax provision are as follows:

	<u>2016</u>	<u>2015</u>
Current tax provision (benefit) – federal	\$ -	-
Current tax provision (benefit) – state	-	-
Deferred tax provision (benefit) – federal	-	-
Deferred tax provision (benefit) – state	-	-
Total provision (benefit)	<u>\$ -</u>	<u>-</u>

In January 2007, Royale adopted additional provisions from the Income Taxes Topic of the FASB Accounting Standards Codification, which clarified the accounting for uncertainty in income taxes recognized in an entity's financial statements and prescribes a recognition threshold and measurement attribute for financial statement disclosure of tax positions taken or expected to be taken on a tax return. As a result of our implementation of the Topic at the time of adoption and at December 31, 2016, the Company did not recognize a liability for uncertain tax positions. Currently, the only differences between our financial statements and our income tax returns relate to normal timing differences such as depreciation, depletion and amortization, which are recorded as deferred taxes on our balance sheets. We do not expect our unrecognized tax benefits to change significantly over the next 12 months. The tax years 2011 through 2015 remain open to examination by the taxing jurisdictions in which we file income tax returns.

#### **NOTE 7 - SERIES AA PREFERRED STOCK**

In April 1992, Royale Energy's Board of Directors authorized the sale of 147,500 shares of Series AA Convertible Preferred Stock. The resolution authorizing the Series AA Convertible Preferred Stock provided for a stated value of \$4 per share. The Series AA Convertible Preferred Stock is convertible at the option of the security holder at the rate of one share of common stock for two shares of Series AA Convertible Preferred Stock. The Series AA Preferred Stock has never been registered under the Securities Exchange Act of 1934, and no market exists for the shares. No shares of Series AA Preferred Stock have been issued since the original shares were issued in 1992.

As of September 30, 2016, Royale Energy's transfer records reflected that certificates representing 46,662 shares of Series AA Preferred stock remained outstanding, but Royale Energy has lost contact with the registered holders of the Series AA Preferred Stock and does not have a means to communicate with them concerning the status of their shares.

In November 2016, Royale entered into a securities purchase agreement with one vendor for the settlement an outstanding accounts payable of \$25,000. Under the terms of the agreement, Royale issued 76,923 shares of its Series AA convertible preferred stock at \$0.325 per share. On the basis of a resolution by the Board of Directors', these Series AA shares were immediately converted to common stock on a one to one basis.

In late 2016, Royale Energy learned that the records of the Secretary of State of California do not reflect that a certificate of determination, amendment to the company's articles of incorporation, or any other document had ever been filed with the Secretary of State authorizing the issuance of the Series AA Preferred Stock. Royale Energy has reserved 23,331 shares of its common stock (the amount of common stock into which the Series AA Preferred shares would be convertible) for issuance to holders of the outstanding certificates for Series AA Preferred Stock at such time as Royale Energy is able to make contact with the Series AA Preferred shareholders.

#### **NOTE 8 - COMMON STOCK**

In April 2016, Royale entered in a securities purchase agreement and related agreements with one investor. Under the terms of the agreement, the investor purchased 622,316 shares of Royale's common stock at \$0.3214 per share, and received warrants to purchase up to 311,158 shares (the "Warrants") of stock at \$0.5356 per share for three (3) years, for a total of \$200,000 in gross proceeds. In July 2016, Royale entered in securities purchase agreements and related agreements with three investors. Under the terms of the agreement, the investors purchased 2,392,500 shares of Royale's common stock at \$0.40 per share, and received warrants to purchase up to 478,500 shares (the "Warrants") of stock at \$0.80 per share for two (2) years, for a total of \$957,000 in gross proceeds.

In May 2015 and April 2014, Royale Energy entered into Sales Agreements with Roth Capital Partners, LLC (Roth), under which the Company had the ability to issue and sell shares of its common stock from time to time in an at the market equity offering program with Roth acting as the Company's sales agent. Royale Energy sold 701,397 shares of common stock for total consideration of \$556,123 under the 2015 Sales Agreement and no shares of common stock under the 2014 Sales Agreement. Both agreements have been terminated as of December 31, 2015.

On November 25, 2015, Royale Energy entered into a securities purchase agreement and related agreements with a group of individual investors pursuant to a registered direct offering. Under the terms of the agreements, the investors purchased 497,948 shares of Royale's common stock at \$0.408 per share, and received warrants to purchase up to 248,973 shares (the "Warrants") of stock at \$1.00 per share for three (3) years, for a total of \$203,165 in gross proceeds. Each Warrant becomes exercisable one year from the date of issuance. Each Warrant contains customary adjustments for corporate events such as reorganizations, splits, and dividends. The fair value of each warrant was estimated on the grant date using the Black-Scholes option-pricing model. This model incorporates certain assumptions for inputs including a risk-free market interest rate, expected dividend yield of the underlying common stock, expected warrant life and expected volatility in the market value of the underlying common stock. For these warrants, the value was calculated with the following assumptions: expected volatility of 78.96%, risk-free market interest rate of 1.13%, an expected term of 1,460 days, and an exercise price of \$1.00.

#### **NOTE 9 - OPERATING LEASES**

Royale Energy occupies office space through the use of two leases, one for their office in El Cajon, CA and one for an office and yard in Woodland, CA. The El Cajon lease is under a 62 month lease contract, with a yearly increase of 3.5%, which expires in January 2020. The El Cajon lease calls for monthly payments ranging from \$6,148 to \$10,801, and the Woodland lease calls for monthly payments of \$500. Royale rents an office and yard in Woodland, CA on a month-to-month basis that currently calls for monthly payments of \$500. Rental expense for the years ended December 31, 2016 and 2015 was \$63,733 and \$10,400 respectively.

Year Ended <u>December 31,</u>	
2017	\$ 97,266
2018	\$ 119,286
2019	\$ 123,251
2020	\$ 127,355
2021	\$ 131,602
Thereafter	\$ 13,802
Total	<u>\$ 612,562</u>

#### **NOTE 10 - RELATED PARTY TRANSACTIONS**

##### Significant Ownership Interests

Harry E. Hosmer, Royale Energy's chairman of the board of directors, is the father of Royale Energy executives Donald H. Hosmer, president of business development and director; and Stephen M. Hosmer, chief financial officer and director.

As of March 20, 2017, Donald H. Hosmer owned 6.84% of Royale Energy common stock (as calculated under SEC Rule 13d-3). Donald Hosmer has participated individually in 179 wells under the 1989 policy. During 2016, Donald participated in fractional interests of one well in the amount of \$1,556 and in 2015 participated in fractional interests of two wells in the amount of \$3,143. At December 31, 2016, Royale had a receivable balance of \$2,318 due from Donald Hosmer for normal drilling and lease operating expenses.

As of March 20, 2017, Stephen M. Hosmer owned 6.31% of Royale Energy common stock (as calculated under SEC Rule 13d-3). Stephen Hosmer has participated individually in 179 wells under the 1989 policy. During 2016, Stephen participated in fractional interests of one well in the amount of \$1,556 and in 2015 participated in fractional interests of four wells in the amount of \$4,389. At December 31, 2016, Royale had a receivable balance of \$12,912 due from Stephen Hosmer for normal drilling and lease operating expenses.

As of March 20, 2017, Harry E. Hosmer owned 7.18% of Royale Energy common stock (as calculated under SEC Rule 13d-3). During 2016, Harry Hosmer participated in fractional interests of one well in the amount of \$1,556 and in 2015 participated in fractional interests of four wells in the amount of \$5,633. At December 31, 2016, Royale had a receivable balance of \$6,459 due from Harry Hosmer for normal drilling and lease operating expenses.

**NOTE 11 - STOCK COMPENSATION PLAN**

A summary of the status of Royale Energy's stock option plan as of December 31, 2016 and 2015, and changes during the years ending on those dates is presented below:

	2016		2015	
	Shares	Weighted-Average Exercise Price	Shares	Weighted-Average Exercise Price
Options				
Outstanding and Exercisable at Beginning of Year	100,000	\$ 5.00	281,308	\$ 3.25
Granted or Vested	-	-	100,000	5.00
Exercised	-	-	-	-
Forfeited	-	-	(281,308)	-
Options Outstanding and Exercisable at Year End	100,000	\$ 5.00	100,000	\$ 5.00
Weighted-average Fair Value of Options Granted During the Year	\$ -		\$ -	

At December 31, 2016, Royale Energy's stock price, \$0.62, was less than the weighted average exercise price, and as such the outstanding and exercisable stock options had no intrinsic value. The remaining outstanding stock options have a weighted-average remaining contractual term of one year as of December 31, 2016. There were no stock options granted during 2016.

A summary of the status of Royale Energy's non-vested stock options as of December 31, 2016 and 2015, and changes during the years ending on those dates is presented below:

	2016		2015	
	Shares	Weighted-Average Grant-Date Fair Value	Shares	Weighted-Average Grant-Date Fair Value
Non-vested Stock Options				
Non-vested at Beginning of Year	-	\$ -	105,000	\$ 0.97
Granted	-	-	-	-
Reinstated	-	-	-	-
Vested	-	-	90,000	0.97
Expired or Forfeited	-	-	15,000	0.97
Non-vested at End of Year	-	\$ -	-	\$ -

During 2016 and 2015, we recognized \$0 and \$86,877, respectively, in compensation costs for the vested stock options. The company will incur no future expense related to these options.



**NOTE 12 - SIMPLE IRA PLAN**

In April 1998, the Company established a Simple IRA pension plan covering all employees. The Company will contribute a matching contribution to each eligible employee's Simple IRA equal to the employee's salary reduction contributions up to a limit of 3% of the employee's compensation for the year. The employer contribution for the years ending December 31, 2016 and 2015, were \$29,011, and \$43,001 respectively.

**NOTE 13 - ENVIRONMENTAL MATTERS**

Royale Energy has established procedures for the continuing evaluation of its operations to identify potential environmental exposures and assure compliance with regulatory policies and procedures. Management monitors these laws and regulations and periodically assesses the propriety of its operational and accounting policies related to environmental issues. The nature of Royale Energy's business requires routine day-to-day compliance with environmental laws and regulations. Royale Energy incurred no material environmental investigation, compliance and remediation costs in 2016 or 2015.

Royale Energy is unable to predict whether its future operations will be materially affected by these laws and regulations. It is believed that legislation and regulations relating to environmental protection will not materially affect the results of operations of Royale Energy.

**NOTE 14 - CONCENTRATIONS OF CREDIT RISK**

The Company bids its gas sales on a month to month basis and generally sells to a single customer without commitment to future gas sales to any particular customer. The Company normally sells approximately 69% of its monthly natural gas production to one customer on a month to month basis. Since we are able to sell our natural gas to other readily available customers, the loss of any one customer would not have an adverse effect on our overall sales operations.

The Company maintains cash in depository institutions that are guaranteed by the Federal Deposit Insurance Corporation (FDIC) up to \$250,000 per institution for our interest bearing accounts in the years ended December 31, 2016, and 2015. At December 31, 2016, and 2015, the Company's non-interest bearing accounts were fully insured by the FDIC. At December 31, 2016 and 2015, cash in banks exceeded the FDIC limits by approximately \$4.5 million and \$3.4 million, respectively. The Company has not experienced any losses on deposits.

**NOTE 15 - COMMITMENTS AND CONTINGENCIES**

The Company may become involved from time to time in litigation on various matters, which are routine to the conduct of its business. The Company believes that none of these actions, individually or in the aggregate, will have a material adverse effect on its financial position or results of operations, though any adverse decision in these cases or the costs of defending or settling such claims could have a material effect on its business.

**NOTE 16 - CHANGE IN ESTIMATE**

During the year 2016, the Company changed the process by which it analyzed the collectability of its other receivables, mainly from direct working interest investors. *See Note 1, Other Receivables.* Prior to 2016, the Company estimated the collectability of its receivables on a well by well basis, based on its reserve report furnished by the Company's independent petroleum engineers. The reserve report provided an estimate of future revenues to be recovered from existing wells which was then compared to the receivables from those wells. An allowance for doubtful accounts was established if the receivables exceeded the future revenues. In 2016, the Company applied its reserve report values proportionally to its direct working interest investors to determine the potentially uncollectable amount on a per investor basis.

**NOTE 17 - SUBSEQUENT EVENTS**

On November 30, 2016, the Company entered into an Agreement and Plan of Merger and Reorganization (the "Merger Agreement") among the Company, Royale Energy Holdings, Inc., Royale Merger Sub, Inc., and Matrix Merger Sub, Inc., and Matrix Oil Management Corporation. The Merger Agreement was subsequently amended and restated as of December 31, 2016. The amended and restated Merger Agreement provided that it may be terminated by the Company or Matrix Oil Management Corporation if not consummated on or before an outside termination date of March 31, 2017. On March 30, 2017, the parties agreed to extend the outside termination date of the Merger Agreement until June 30, 2017.

**NOTE 18 - SUPPLEMENTAL INFORMATION ABOUT OIL AND GAS PRODUCING ACTIVITIES (UNAUDITED)**

The following estimates of proved oil and gas reserves, both developed and undeveloped, represent interests owned by Royale Energy which are located solely in the United States. Proved reserves represent estimated quantities of crude oil and natural gas which geological and engineering data demonstrate to be reasonably certain to be recoverable in the future from known reservoirs under existing economic and operating conditions. Proved developed oil and gas reserves are reserves that can be expected to be recovered through existing wells, with existing equipment and operating methods. Proved undeveloped oil and gas reserves are reserves that are expected to be recovered from new wells on undrilled acreage, or from existing wells for which relatively major expenditures are required for completion.

Disclosures of oil and gas reserves, which follow, are based on estimates prepared by independent petroleum engineering consultant Netherland, Sewell & Associates, Inc., the net reserve value of its proved developed and undeveloped reserves was approximately \$3.0 million at December 31, 2016, based on the average PG&E city-gate natural gas price spot price of \$2.76 per MCF and for oil volumes, the average West Texas Intermediate price of \$39.25 per barrel as applied on a field-by-field basis. Netherland, Sewell & Associates, Inc. provided reserve value information for the Company's California, Texas, Oklahoma, Utah and Louisiana properties. Such estimates are subject to numerous uncertainties inherent in the estimation of quantities of proved reserves and in the projection of future rates of production and the timing of development expenditures. These estimates do not include probable or possible reserves.

The technical persons responsible for preparing the reserves estimates presented in the report of Netherland, Sewell & Associates, Inc., meet the requirements regarding qualifications, independence, objectivity, and confidentiality set forth in the Standards Pertaining to the Estimating and Auditing of Oil and Gas Reserves Information promulgated by the Society of Petroleum Engineers. Netherland, Sewell & Associates, Inc. is a firm of independent petroleum engineers, geologists, geophysicists, and petrophysicists; and do not own an interest in our properties and are not employed on a contingent basis. All activities and reports performed and completed by Netherland, Sewell & Associates, Inc. with regards to our reserve valuation estimates are reviewed Royale's management.

These estimates are furnished and calculated in accordance with requirements of the Financial Accounting Standards Board and the Securities and Exchange Commission (SEC). Because of unpredictable variances in expenses and capital forecasts, crude oil and natural gas price changes, largely influenced and controlled by U.S. and foreign government actions, and the fact that the bases for such estimates vary significantly, management believes the usefulness of these projections is limited. Estimates of future net cash flows presented do not represent management's assessment of future profitability or future cash flows to Royale Energy. Management's investment and operating decisions are based upon reserve estimates that include proved reserves prescribed by the SEC as well as probable reserves, and upon different price and cost assumptions from those used here.

It should be recognized that applying current costs and prices and a 10 percent standard discount rate does not convey absolute value. The discounted amounts arrived at are only one measure of the value of proved reserves.

Changes in Estimated Reserve Quantities

The net interest in estimated quantities of proved developed reserves of crude oil and natural gas at December 31, 2016 and 2015, and changes in such quantities during each of the years then ended, were as follows:

	<u>2016</u>		<u>2015</u>	
	<u>Oil (BBL)</u>	<u>Gas (MCF)</u>	<u>Oil (BBL)</u>	<u>Gas (MCF)</u>
Proved developed and undeveloped reserves:				
Beginning of period	3,600	2,510,700	1,781	4,131,806
Revisions of previous estimates	2,446	74,983	(178)	(1,323,750)
Production	(193)	(232,539)	(403)	(363,168)
Extensions, discoveries and improved recovery	-	112,265	-	48,912
Purchase of minerals in place	-	-	2,400	16,900
Sales of minerals in place	-	(450,488)	-	-
Proved reserves end of period	<u>5,853</u>	<u>2,014,921</u>	<u>3,600</u>	<u>2,510,700</u>
	<u>2016</u>		<u>2015</u>	
	<u>Oil (BBL)</u>	<u>Gas (MCF)</u>	<u>Oil (BBL)</u>	<u>Gas (MCF)</u>
Proved developed reserves:				
Beginning of period	-	2,174,100	587	3,786,785
End of period	<u>5,823</u>	<u>1,699,997</u>	<u>-</u>	<u>2,174,100</u>
	<u>2016</u>		<u>2015</u>	
	<u>Oil (BBL)</u>	<u>Gas (MCF)</u>	<u>Oil (BBL)</u>	<u>Gas (MCF)</u>
Proved undeveloped reserves:				
Beginning of period	3,600	336,600	1,194	345,021
End of period	<u>-</u>	<u>314,925</u>	<u>3,600</u>	<u>336,600</u>

For December 31, 2016, natural gas extensions, discoveries and improved recovery were 112,265 MCF which was added due to the drilling of two new exploratory wells and one new developmental well during 2016. The three new wells consisted of 99,762 MCF of proved developed producing reserves at year end. A location which had 187,500 MCF in proved developed reserves at December 31, 2015, was drilled and began producing prior to 2000, was revised downward 150,609 MCF at December 31, 2016. A location which was drilled and began producing in 2009, which had proved developed reserves of 400,400 was revised upward 71,607 MCF at December 31, 2016. A location which was drilled and began producing in 2015, was revised downward 44,600 MCF at December 31, 2016. A location which was drilled and began producing in 2010, had proved developed reserves of 592,700 at December 31, 2015, was revised upward 31,843 MCF at December 31, 2016. A location which was drilled and began producing in 2015, which had proved undeveloped reserves of 16,900, was revised upward 20,099 MCF at December 31, 2016. Four locations which were drilled prior to 2015, had a total of 249,500 MCF of proved developed reserves at December 31, 2015, were revised upward 37,181 MCF at December 31, 2016. Additionally in 2016, two locations which were drilled prior to 2009, were revised upward 44,175 MCF at December 31, 2016.

For December 31, 2015, natural gas extensions, discoveries and improved recovery were 48,912 MCF which was added due to the drilling one new exploratory well during 2015. This new well consisted of 4,312 MCF of proved developed producing reserves and 44,600 proved developed non-producing reserves. A location which had 658,894 MCF in proved developed reserves at December 31, 2014, was drilled and began producing in 2014, was revised downward 566,405 MCF at December 31, 2015. A location which was drilled in 2011 and began producing in 2013, was revised downward 135,729 MCF at December 31, 2015. A location which was drilled and began producing in 2012, had proved developed producing reserves of 229,287 at December 31, 2014, was revised downward 184,436 MCF at December 31, 2015. A location which was drilled and began producing in 2013, had proved developed producing reserves of 111,445 at December 31, 2014, was revised downward 80,486 MCF at December 31, 2015. Additionally in 2015, four locations which were drilled prior to 2011, had a total of 905,646 MCF of proved developed reserves at December 31, 2014, were revised downward 306,366 MCF at December 31, 2015.

**Standardized Measure of Discounted Future Net Cash Flows Relating to Proved Oil and Gas Reserves**

The standardized measure of discounted future net cash flows is presented below for the two years ended December 31, 2016.

The future net cash inflows are developed as follows:

- Estimates are made of quantities of proved reserves and the future periods during which they are expected to be produced based on year-end economic conditions.
- The estimated future production of proved reserves is priced on the basis of year-end prices.
- The resulting future gross revenue streams are reduced by estimated future costs to develop and to produce proved reserves, based on year-end estimates. Estimated future development costs by year are as follows:

2017	\$	467,400
2018		-
2019		34,000
Thereafter		55,100
Total	\$	<u>556,500</u>

The resulting future net revenue streams are reduced to present value amounts by applying a ten percent discount.

Disclosure of principal components of the standardized measure of discounted future net cash flows provides information concerning the factors involved in making the calculation. In addition, the disclosure of both undiscounted and discounted net cash flows provides a measure of comparing proved oil and gas reserves both with and without an estimate of production timing. The standardized measure of discounted future net cash flow relating to proved reserves reflects estimated income taxes.

Changes in standardized measure of discounted future net cash flow from proved reserve quantities

This statement discloses the sources of changes in the standardized measure from year to year. The amount reported as “Net changes in prices and production costs” represents the present value of changes in prices and production costs multiplied by estimates of proved reserves as of the beginning of the year. The “accretion of discount” was computed by multiplying the ten percent discount factor by the standardized measure on a pretax basis as of the beginning of the year. The “Sales of oil and gas produced, net of production costs” are expressed in actual dollar amounts. “Revisions of previous quantity estimates” is expressed at year-end prices. The “Net change in income taxes” is computed as the change in present value of future income taxes.

	<u>2016</u>	<u>2015</u>
Future cash inflows	\$ 5,270,400	6,962,900
Future production costs	(1,744,200)	(3,066,200)
Future development costs	(556,500)	(662,800)
Future income tax expense	(890,910)	(970,170)
Future net cash flows	2,078,790	2,263,730
10% annual discount for estimated timing of cash flows	(595,518)	(704,014)
Standardized measure of discounted future net cash flows	<u>\$ 1,483,272</u>	<u>1,559,716</u>
Sales of oil and gas produced, net of production costs	\$ (55,272)	(155,847)
Revisions of previous quantity estimates	120,833	(5,089,087)
Net changes in prices and production costs	(253,313)	(2,238,956)
Sales of minerals in place	(402,900)	-
Purchases of minerals in place	-	6,000
Extensions, discoveries and improved recovery	184,476	36,000
Accretion of discount	296,970	220,000
Net change in income tax	<u>32,762</u>	<u>2,166,567</u>
Net increase (decrease)	<u>\$ (76,444)</u>	<u>(5,055,323)</u>

**Future Development Costs**

In order to realize future revenues from our proved reserves estimated in our reserve report, it will be necessary to incur future costs to develop and produce the proved reserves. The following table estimates the costs to develop and produce our proved reserves in the years 2017 through 2019.

Future development cost of:	<u>2017</u>	<u>2018</u>	<u>2019</u>
Proved developed reserves	\$ -	\$ -	\$ -
Proved non-producing reserves	124,700	-	34,000
Proved undeveloped reserves	342,700	-	-
<b>Total</b>	<b>\$ 467,400</b>	<b>\$ -</b>	<b>\$ 34,000</b>

Common assumptions include such matters as the real extent and average thickness of a particular reservoir, the average porosity and permeability of the reservoir, the anticipated future production from existing and future wells, future development and production costs and the ultimate hydrocarbon recovery percentage. As a result, oil and gas reserve estimates and discounted present value estimates are frequently revised in subsequent periods to reflect production data obtained after the date of the original estimate. If the reserve estimates are inaccurate, production rates may decline more rapidly than anticipated, and future production revenues may be less than estimated.

Additional data relating to Royale Energy's oil and natural gas properties is disclosed in Supplemental Information About Oil and Gas Producing Activities (Unaudited), attached to Royale Energy's Financial Statements, beginning on page F-1.

**Historic Development Costs for Proved Reserves**

In each year we expend funds to drill and develop some of our proved undeveloped reserves. The following table summarizes our historic costs incurred in each of the past three fiscal years to drill and develop reserves that were classified as proved undeveloped reserves as of December 31 of the immediately preceding year:

2016	\$ 243,583
2015	\$ -
2014	\$ 549,236

**AMENDMENT TO THE AGREEMENT AND PLAN OF MERGER**

This Amendment to the Amended and Restated Agreement and Plan of Merger (this “**Amendment**”) is dated as of March 30, 2017, among Royale Energy, Inc., a California corporation (“**Royale**”), Royale Energy Holdings, Inc., a Delaware corporation (“**Parent**”), Royale Merger Sub, Inc., a California corporation and a direct, wholly-owned Subsidiary of Parent (“**Royale Merger Sub**”), Matrix Merger Sub, Inc., a California corporation and a direct, wholly-owned Subsidiary of Parent (“**Matrix Merger Sub**”), and Matrix Oil Management Corporation, a California corporation (“**Matrix**” and, together with Matrix Merger Sub, Royale and Royale Merger Sub, the “**Constituent Corporations**”), and amends that certain Agreement and Plan of Merger made as of November 30, 2016, among Royale, Parent, Royale Merger Sub, Matrix Merger Sub and Matrix (as amended and restated as of December 31, 2016, the “**Merger Agreement**”). Capitalized terms used and not otherwise defined in this Amendment shall have the respective meanings set forth in the Merger Agreement. Royale, Parent, Royale Merger Sub, Matrix Merger Sub and Matrix are sometimes referred to herein individually as a “**Party**” and, collectively, as the “**Parties**.”

WHEREAS, the Parties desire to modify the Merger Agreement on the terms herein.

NOW, THEREFORE, in consideration of the premises and mutual promises, representations, warranties, covenants, conditions and agreements contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties, intending to be legally bound by the terms hereof, agree as follows:

**ARTICLE I  
AMENDMENTS**

Section 1.1 Definitions – Aggregate Royale Number. The definition of “**Aggregate Royale Number**” contained in **Article I** of the Merger Agreement is amended by deleting “Section 3.02(c)” and inserting in its place, “Section 3.01(c)”.

Section 1.2 Deferred Drilling Obligation. **Section 8.06(h)** of the Merger Agreement is deleted in its entirety.

Section 1.3 Outside Date. **Section 9.01(b)(ii)** of the Merger Agreement is deleted in its entirety and replaced with the following:

“(ii) any of the conditions set forth in **Section 8.01** or **Section 8.02** shall not have been fulfilled by June 30, 2017 (the “**Outside Date**”), or if it becomes impossible or extremely unlikely for any such conditions to be fulfilled by the Outside Date, unless such failure shall be due to the failure of the Royale Parties to perform or comply with any of the covenants, agreements or conditions hereof to be performed or complied with by it prior to the Closing.”

Section 1.4 Termination Fee. **Section 9** of the Merger Agreement is amended to add a new **Section 9.02** as follows and **Section 9.02** shall be renumbered as **Section 9.03**:

---

“**Section 9.02 Termination Fee.** Matrix shall pay to Royale a termination fee in the amount equal to \$100,000.00 (the “**Termination Fee**”) in the event that either Matrix or Royale terminates this Agreement pursuant to either **Section 9.01(d)(i)** (unless one or more conditions to closing set forth in any of **Section 8.01**, **Section 8.02** or **Section 8.03** are not satisfied, and such failure to satisfy such condition is not due to the failure of Matrix to perform or comply with any of its covenants or agreements to be performed hereunder) or **Section 9.01(d)(iv)**. Payment of the Termination Fee under this **Section 9.02** shall be paid to Royale within five (5) Business Days following the date of termination of this Agreement.”

## ARTICLE II LEGAL FEES

Section 2.1 Legal Fees. Royale shall pay to Matrix \$100,000.00 as legal fees, which shall be delivered by Royale to Matrix or its designee by wire transfer concurrently with the execution and delivery of this Amendment.

## ARTICLE III MISCELLANEOUS

Section 3.1 No Further Amendments. Except as expressly set forth in this Amendment, the Merger Agreement is hereby ratified and confirmed in accordance with its terms.

Section 3.2 Governing Law. This Amendment will be governed by and construed in accordance with the laws of the State of Delaware without giving effect to any choice or conflict of law provision or rule (whether of the State of Delaware or any other jurisdiction).

Section 3.3 Counterparts. This Amendment may be executed in counterparts, each of which shall be deemed an original instrument, but all such counterparts together shall constitute but one agreement. Any Party’s delivery of an executed counterpart signature page by facsimile or email is as effective as executing and delivering this Amendment in the presence of the other Party. No Party shall be bound until such time as all of the Parties have executed counterparts of this Amendment.

*[Remainder of Page Intentionally Left Blank]*

IN WITNESS WHEREOF, the undersigned have executed this Amendment as of the date first above written.

**MATRIX OIL MANAGEMENT CORPORATION**

By: \_\_\_\_\_  
Name: Johnny Jordan  
Title: Vice President

**ROYALE ENERGY, INC.**

By: \_\_\_\_\_  
Name: Jonathan Gregory  
Title: CEO

**ROYALE ENERGY HOLDINGS, INC.**

By: \_\_\_\_\_  
Name: Jonathan Gregory  
Title: CEO

**ROYALE MERGER SUB, INC.**

By: \_\_\_\_\_  
Name: Jonathan Gregory  
Title: CEO

**MATRIX MERGER SUB, INC.**

By: \_\_\_\_\_  
Name: Jonathan Gregory  
Title: CEO



**ROYALE ENERGY, INC.  
SUBSIDIARIES  
December 31, 2016**

Royale DWI Investors, LLC, a California limited liability company.

**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We consent to the incorporation by reference in this Registration Statement on Form S-3 of Royale Energy, Inc. of our report dated March 31, 2017, relating to the financial statements, appearing in the Annual Report on Form 10-K of Royale Energy, Inc. for the year ended December 31, 2016 and incorporated by reference in Registration Statement on Form S-3.

SingerLewak LLP

Los Angeles, California  
March 31, 2017

**Exhibit 31.1**

I, Jonathan Gregory, certify that:

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

Date: March 31, 2017

/s/ Jonathan Gregory

Jonathan Gregory, Chief Executive Officer

**Exhibit 31.2**

I, Donald H. Hosmer, certify that:

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

Date: March 31, 2017

/s/ Donald H. Hosmer

Donald H. Hosmer, President of Business Development

**Exhibit 31.3**

I, Stephen M. Hosmer, certify that:

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

Date: March 31, 2017

/s/ Stephen M. Hosmer

Stephen M. Hosmer, President and Chief Financial Officer

**Exhibit 32.1**

**Certification Pursuant to 18 U.S.C. § 1350**

The undersigned, Jonathan Gregory, Chief Executive Officer of Royale Energy, Inc., a California corporation (the "Company"), pursuant to 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes Oxley Act of 2002, hereby certifies that:

- (1) the Company's Annual Report on Form 10-K for the year ended December 31, 2016 (the "Report") fully complies with the requirements of Section 13(a) of the Securities Exchange Act of 1934; and
- (2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: March 31, 2017

By: /s/ Jonathan Gregory  
Jonathan Gregory, Chief Executive Officer

**Exhibit 32.2**

**Certification Pursuant to 18 U.S.C. § 1350**

The undersigned, Donald H. Hosmer, Co-President and Co-Chief Executive Officer of Royale Energy, Inc., a California corporation (the "Company"), pursuant to 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes Oxley Act of 2002, hereby certifies that:

- (1) the Company's Annual Report on Form 10-K for the year ended December 31, 2016 (the "Report") fully complies with the requirements of Section 13(a) of the Securities Exchange Act of 1934; and
- (2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: March 31, 2017

By: /s/ Donald H. Hosmer  
Donald H. Hosmer, President of Business Development

**Exhibit 32.3**

**Certification Pursuant to 18 U.S.C. § 1350**

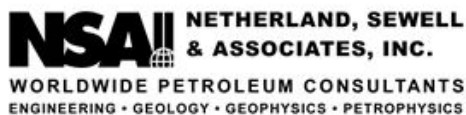
The undersigned, Stephen M. Hosmer, Co-President, Co-Chief Executive Officer and Chief Financial Officer of Royale Energy, Inc., a California corporation (the "Company"), pursuant to 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes Oxley Act of 2002, hereby certifies that:

- (1) the Company's Annual Report on Form 10-K for the year ended December 31, 2016 (the "Report") fully complies with the requirements of Section 13(a) of the Securities Exchange Act of 1934; and
- (2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: March 31, 2017

By: /s/ Stephen M. Hosmer  
Stephen M. Hosmer, President and Chief Financial Officer





<b>EXECUTIVE COMMITTEE</b>		<b>CHAIRMAN &amp; CEO</b>
ROBERT C. BARG	MIKE K. NORTON	C.H. (SCOTT) REES III
P. SCOTT FROST	DAN PAUL SMITH	<b>PRESIDENT &amp; COO</b>
JOHN G. HATTNER	JOSEPH J. SPELLMAN	DANNY D. SIMMONS
J. CARTER HENSON, JR.	DANIEL T. WALKER	<b>EXECUTIVE VP</b>
		G. LANCE BINDER

February 22, 2017

Mr. Stephen M. Hosmer  
 Royale Energy, Inc.  
 1870 Cordell Court Suite 210  
 El Cajon, California 92020

Dear Mr. Hosmer:

In accordance with your request, we have estimated the proved reserves and future revenue, as of December 31, 2016, to the Royale Energy, Inc. (Royale) interest in certain oil and gas properties located in California, Louisiana, Oklahoma, Texas, and Utah. We completed our evaluation on or about the date of this letter. It is our understanding that the proved reserves estimated in this report constitute all of the proved reserves owned by Royale. The estimates in this report have been prepared in accordance with the definitions and regulations of the U.S. Securities and Exchange Commission (SEC) and, with the exception of the exclusion of future income taxes, conform to the FASB Accounting Standards Codification Topic 932, Extractive Activities—Oil and Gas. Definitions are presented immediately following this letter. This report has been prepared for Royale's use in filing with the SEC; in our opinion the assumptions, data, methods, and procedures used in the preparation of this report are appropriate for such purpose.

We estimate the net reserves and future net revenue to the Royale interest in these properties, as of December 31, 2016, to be:

Category	Net Reserves		Future Net Revenue (M\$)	
	Oil (MBBL)	Gas (MMCF)	Total	Present Worth at 10%
Proved Developed Producing	5.9	209.5	406.6	350.3
Proved Developed Non-Producing	0.0	1,490.5	2,354.3	1,572.0
Proved Undeveloped	0.0	314.9	208.8	124.8
<b>Total Proved</b>	<b>5.9</b>	<b>2,014.9</b>	<b>2,969.7</b>	<b>2,047.1</b>

The oil volumes shown include crude oil and condensate. Oil volumes are expressed in thousands of barrels (MBBL); a barrel is equivalent to 42 United States gallons. Gas volumes are expressed in millions of cubic feet (MMCF) at standard temperature and pressure bases.

The estimates shown in this report are for proved reserves. No study was made to determine whether probable or possible reserves might be established for these properties. This report does not include any value that could be attributed to interests in undeveloped acreage beyond those tracts for which undeveloped reserves have been estimated. Reserves categorization conveys the relative degree of certainty; reserves subcategorization is based on development and production status. The estimates of reserves and future revenue included herein have not been adjusted for risk.

Gross revenue is Royale's share of the gross (100 percent) revenue from the properties prior to any deductions. Future net revenue is after deductions for Royale's share of production taxes, ad valorem taxes, capital costs, and operating expenses but before consideration of any income taxes. The future net revenue has been discounted at an annual rate of 10 percent to determine its present worth, which is shown to indicate the effect of time on the value of money. Future net revenue presented in this report, whether discounted or undiscounted, should not be construed as being the fair market value of the properties.

Prices used in this report are based on the 12-month unweighted arithmetic average of the first-day-of-the-month price for each month in the period January through December 2016. For oil volumes, the average West Texas Intermediate posted price of \$39.25 per barrel is adjusted by lease for quality, transportation fees, and market differentials. For gas volumes, the average PG&E city-gate spot price of \$2.760 per MMBTU is adjusted by lease for energy content, transportation fees, and market differentials. All prices are held constant throughout the lives of the properties. The average adjusted product prices weighted by production over the remaining lives of the properties are \$32.90 per barrel of oil and \$2.520 per MCF of gas.

Operating costs used in this report are based on operating expense records of Royale. These costs include the per-well overhead expenses allowed under joint operating agreements along with estimates of costs to be incurred at and below the district and field levels. Headquarters general and administrative overhead expenses of Royale are included to the extent that they are covered under joint operating agreements for the operated properties. Operating costs are not escalated for inflation.

Capital costs used in this report were provided by Royale and are based on authorizations for expenditure and actual costs from recent activity. Capital costs are included as required for workovers, new development wells, and production equipment. Based on our understanding of future development plans, a review of the records provided to us, and our knowledge of similar properties, we regard these estimated capital costs to be reasonable. Capital costs are not escalated for inflation. Our estimates do not include any salvage value for the lease and well equipment or the cost of abandoning the properties. It is our understanding that Royale has fully prefunded accounts that meet or exceed its estimates of abandonment costs for the properties, net of any salvage value.

For the purposes of this report, we did not perform any field inspection of the properties, nor did we examine the mechanical operation or condition of the wells and facilities. We have not investigated possible environmental liability related to the properties; therefore, our estimates do not include any costs due to such possible liability.

We have made no investigation of potential volume and value imbalances resulting from overdelivery or underdelivery to the Royale interest. Therefore, our estimates of reserves and future revenue do not include adjustments for the settlement of any such imbalances; our projections are based on Royale receiving its net revenue interest share of estimated future gross production. Additionally, we have made no investigation of any firm transportation contracts that may be in place for these properties; no adjustments have been made to our estimates of future revenue to account for such contracts.

The reserves shown in this report are estimates only and should not be construed as exact quantities. Proved reserves are those quantities of oil and gas which, by analysis of engineering and geoscience data, can be estimated with reasonable certainty to be economically producible; probable and possible reserves are those additional reserves which are sequentially less certain to be recovered than proved reserves. Estimates of reserves may increase or decrease as a result of market conditions, future operations, changes in regulations, or actual reservoir performance. In addition to the primary economic assumptions discussed herein, our estimates are based on certain assumptions including, but not limited to, that the properties will be developed consistent with current development plans as provided to us by Royale, that the properties will be operated in a prudent manner, that no governmental regulations or controls will be put in place that would impact the ability of the interest owner to recover the reserves, and that our projections of future production will prove consistent with actual performance. If the reserves are recovered, the revenues therefrom and the costs related thereto could be more or less than the estimated amounts. Because of governmental policies and uncertainties of supply and demand, the sales rates, prices received for the reserves, and costs incurred in recovering such reserves may vary from assumptions made while preparing this report.

For the purposes of this report, we used technical and economic data including, but not limited to, well logs, geologic maps, seismic data, well test data, production data, historical price and cost information, and property ownership interests. The reserves in this report have been estimated using deterministic methods; these estimates have been prepared in accordance with the Standards Pertaining to the Estimating and Auditing of Oil

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and Gas Reserves Information promulgated by the Society of Petroleum Engineers (SPE Standards). We used standard engineering and geoscience methods, or a combination of methods, including performance analysis, volumetric analysis, and analogy, that we considered to be appropriate and necessary to categorize and estimate reserves in accordance with SEC definitions and regulations. A substantial portion of these reserves are for behind-pipe zones and undeveloped locations; such reserves are based on estimates of reservoir volumes and recovery efficiencies along with analogy to properties with similar geologic and reservoir characteristics. As in all aspects of oil and gas evaluation, there are uncertainties inherent in the interpretation of engineering and geoscience data; therefore, our conclusions necessarily represent only informed professional judgment.

The data used in our estimates were obtained from Royale, public data sources, and the nonconfidential files of Netherland, Sewell & Associates, Inc. (NSAI) and were accepted as accurate. Supporting work data are on file in our office. We have not examined the titles to the properties or independently confirmed the actual degree or type of interest owned. The technical persons primarily responsible for preparing the estimates presented herein meet the requirements regarding qualifications, independence, objectivity, and confidentiality set forth in the SPE Standards. C. Ashley Smith, a Licensed Professional Engineer in the State of Texas, has been practicing consulting petroleum engineering at NSAI since 2006 and has over 5 years of prior industry experience. Shane M. Howell, a Licensed Professional Geoscientist in the State of Texas, has been practicing consulting petroleum geoscience at NSAI since 2005 and has over 7 years of prior industry experience. We are independent petroleum engineers, geologists, geophysicists, and petrophysicists; we do not own an interest in these properties nor are we employed on a contingent basis.

Sincerely,

**NETHERLAND, SEWELL & ASSOCIATES, INC.**  
Texas Registered Engineering Firm F-2699

/s/ C.H. (Scott) Rees III

By:

C.H. (Scott) Rees III, P.E.  
Chairman and Chief Executive Officer

/s/ C. Ashley Smith

By:

C. Ashley Smith, P.E. 100560  
Vice President

/s/ Shane M. Howell

By:

Shane M. Howell, P.G. 11276  
Vice President

Date Signed: February 22, 2017

Date Signed: February 22, 2017

CAS:RQH

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## DEFINITIONS OF OIL AND GAS RESERVES

Adapted from U.S. Securities and Exchange Commission Regulation S-X Section 210.4-10(a)

The following definitions are set forth in U.S. Securities and Exchange Commission (SEC) Regulation S-X Section 210.4-10(a). Also included is supplemental information from (1) the 2007 Petroleum Resources Management System approved by the Society of Petroleum Engineers, (2) the FASB Accounting Standards Codification Topic 932, Extractive Activities—Oil and Gas, and (3) the SEC's Compliance and Disclosure Interpretations.

(1) *Acquisition of properties.* Costs incurred to purchase, lease or otherwise acquire a property, including costs of lease bonuses and options to purchase or lease properties, the portion of costs applicable to minerals when land including mineral rights is purchased in fee, brokers' fees, recording fees, legal costs, and other costs incurred in acquiring properties.

(2) *Analogous reservoir.* Analogous reservoirs, as used in resources assessments, have similar rock and fluid properties, reservoir conditions (depth, temperature, and pressure) and drive mechanisms, but are typically at a more advanced stage of development than the reservoir of interest and thus may provide concepts to assist in the interpretation of more limited data and estimation of recovery. When used to support proved reserves, an "analogous reservoir" refers to a reservoir that shares the following characteristics with the reservoir of interest:

- (i) Same geological formation (but not necessarily in pressure communication with the reservoir of interest);
- (ii) Same environment of deposition;
- (iii) Similar geological structure; and
- (iv) Same drive mechanism.

*Instruction to paragraph (a)(2):* Reservoir properties must, in the aggregate, be no more favorable in the analog than in the reservoir of interest.

(3) *Bitumen.* Bitumen, sometimes referred to as natural bitumen, is petroleum in a solid or semi-solid state in natural deposits with a viscosity greater than 10,000 centipoise measured at original temperature in the deposit and atmospheric pressure, on a gas free basis. In its natural state it usually contains sulfur, metals, and other non-hydrocarbons.

(4) *Condensate.* Condensate is a mixture of hydrocarbons that exists in the gaseous phase at original reservoir temperature and pressure, but that, when produced, is in the liquid phase at surface pressure and temperature.

(5) *Deterministic estimate.* The method of estimating reserves or resources is called deterministic when a single value for each parameter (from the geoscience, engineering, or economic data) in the reserves calculation is used in the reserves estimation procedure.

(6) *Developed oil and gas reserves.* Developed oil and gas reserves are reserves of any category that can be expected to be recovered:

- (i) Through existing wells with existing equipment and operating methods or in which the cost of the required equipment is relatively minor compared to the cost of a new well; and
- (ii) Through installed extraction equipment and infrastructure operational at the time of the reserves estimate if the extraction is by means not involving a well.

*Supplemental definitions from the 2007 Petroleum Resources Management System:*

*Developed Producing Reserves – Developed Producing Reserves are expected to be recovered from completion intervals that are open and producing at the time of the estimate. Improved recovery reserves are considered producing only after the improved recovery project is in operation.*

*Developed Non-Producing Reserves – Developed Non-Producing Reserves include shut-in and behind-pipe Reserves. Shut-in Reserves are expected to be recovered from (1) completion intervals which are open at the time of the estimate but which have not yet started producing, (2) wells which were shut-in for market conditions or pipeline connections, or (3) wells not capable of production for mechanical reasons. Behind-pipe Reserves are expected to be recovered from zones in existing wells which will require additional completion work or future recompletion prior to start of production. In all cases, production can be initiated or restored with relatively low expenditure compared to the cost of drilling a new well.*

### DEFINITIONS OF OIL AND GAS RESERVES

Adapted from U.S. Securities and Exchange Commission Regulation S-X Section 210.4-10(a)

(7) *Development costs.* Costs incurred to obtain access to proved reserves and to provide facilities for extracting, treating, gathering and storing the oil and gas. More specifically, development costs, including depreciation and applicable operating costs of support equipment and facilities and other costs of development activities, are costs incurred to:

- (i) Gain access to and prepare well locations for drilling, including surveying well locations for the purpose of determining specific development drilling sites, clearing ground, draining, road building, and relocating public roads, gas lines, and power lines, to the extent necessary in developing the proved reserves.
- (ii) Drill and equip development wells, development-type stratigraphic test wells, and service wells, including the costs of platforms and of well equipment such as casing, tubing, pumping equipment, and the wellhead assembly.
- (iii) Acquire, construct, and install production facilities such as lease flow lines, separators, treaters, heaters, manifolds, measuring devices, and production storage tanks, natural gas cycling and processing plants, and central utility and waste disposal systems.
- (iv) Provide improved recovery systems.

(8) *Development project.* A development project is the means by which petroleum resources are brought to the status of economically producible. As examples, the development of a single reservoir or field, an incremental development in a producing field, or the integrated development of a group of several fields and associated facilities with a common ownership may constitute a development project.

(9) *Development well.* A well drilled within the proved area of an oil or gas reservoir to the depth of a stratigraphic horizon known to be productive.

(10) *Economically producible.* The term economically producible, as it relates to a resource, means a resource which generates revenue that exceeds, or is reasonably expected to exceed, the costs of the operation. The value of the products that generate revenue shall be determined at the terminal point of oil and gas producing activities as defined in paragraph (a)(16) of this section.

(11) *Estimated ultimate recovery (EUR).* Estimated ultimate recovery is the sum of reserves remaining as of a given date and cumulative production as of that date.

(12) *Exploration costs.* Costs incurred in identifying areas that may warrant examination and in examining specific areas that are considered to have prospects of containing oil and gas reserves, including costs of drilling exploratory wells and exploratory-type stratigraphic test wells. Exploration costs may be incurred both before acquiring the related property (sometimes referred to in part as prospecting costs) and after acquiring the property. Principal types of exploration costs, which include depreciation and applicable operating costs of support equipment and facilities and other costs of exploration activities, are:

- (i) Costs of topographical, geographical and geophysical studies, rights of access to properties to conduct those studies, and salaries and other expenses of geologists, geophysical crews, and others conducting those studies. Collectively, these are sometimes referred to as geological and geophysical or "G&G" costs.
- (ii) Costs of carrying and retaining undeveloped properties, such as delay rentals, ad valorem taxes on properties, legal costs for title defense, and the maintenance of land and lease records.
- (iii) Dry hole contributions and bottom hole contributions.
- (iv) Costs of drilling and equipping exploratory wells.
- (v) Costs of drilling exploratory-type stratigraphic test wells.

(13) *Exploratory well.* An exploratory well is a well drilled to find a new field or to find a new reservoir in a field previously found to be productive of oil or gas in another reservoir. Generally, an exploratory well is any well that is not a development well, an extension well, a service well, or a stratigraphic test well as those items are defined in this section.

(14) *Extension well.* An extension well is a well drilled to extend the limits of a known reservoir.

**DEFINITIONS OF OIL AND GAS RESERVES**

Adapted from U.S. Securities and Exchange Commission Regulation S-X Section 210.4-10(a)

(15) *Field*. An area consisting of a single reservoir or multiple reservoirs all grouped on or related to the same individual geological structural feature and/or stratigraphic condition. There may be two or more reservoirs in a field which are separated vertically by intervening impervious strata, or laterally by local geologic barriers, or by both. Reservoirs that are associated by being in overlapping or adjacent fields may be treated as a single or common operational field. The geological terms "structural feature" and "stratigraphic condition" are intended to identify localized geological features as opposed to the broader terms of basins, trends, provinces, plays, areas-of-interest, etc.

(16) *Oil and gas producing activities*.

(i) Oil and gas producing activities include:

- (A) The search for crude oil, including condensate and natural gas liquids, or natural gas ("oil and gas") in their natural states and original locations;
- (B) The acquisition of property rights or properties for the purpose of further exploration or for the purpose of removing the oil or gas from such properties;
- (C) The construction, drilling, and production activities necessary to retrieve oil and gas from their natural reservoirs, including the acquisition, construction, installation, and maintenance of field gathering and storage systems, such as:
  - (1) Lifting the oil and gas to the surface; and
  - (2) Gathering, treating, and field processing (as in the case of processing gas to extract liquid hydrocarbons); and
- (D) Extraction of saleable hydrocarbons, in the solid, liquid, or gaseous state, from oil sands, shale, coalbeds, or other nonrenewable natural resources which are intended to be upgraded into synthetic oil or gas, and activities undertaken with a view to such extraction.

*Instruction 1 to paragraph (a)(16)(i)*: The oil and gas production function shall be regarded as ending at a "terminal point", which is the outlet valve on the lease or field storage tank. If unusual physical or operational circumstances exist, it may be appropriate to regard the terminal point for the production function as:

- a. The first point at which oil, gas, or gas liquids, natural or synthetic, are delivered to a main pipeline, a common carrier, a refinery, or a marine terminal; and
- b. In the case of natural resources that are intended to be upgraded into synthetic oil or gas, if those natural resources are delivered to a purchaser prior to upgrading, the first point at which the natural resources are delivered to a main pipeline, a common carrier, a refinery, a marine terminal, or a facility which upgrades such natural resources into synthetic oil or gas.

*Instruction 2 to paragraph (a)(16)(i)*: For purposes of this paragraph (a)(16), the term *saleable hydrocarbons* means hydrocarbons that are saleable in the state in which the hydrocarbons are delivered.

(ii) Oil and gas producing activities do not include:

- (A) Transporting, refining, or marketing oil and gas;
- (B) Processing of produced oil, gas, or natural resources that can be upgraded into synthetic oil or gas by a registrant that does not have the legal right to produce or a revenue interest in such production;
- (C) Activities relating to the production of natural resources other than oil, gas, or natural resources from which synthetic oil and gas can be extracted; or
- (D) Production of geothermal steam.

(17) *Possible reserves*. Possible reserves are those additional reserves that are less certain to be recovered than probable reserves.

- (i) When deterministic methods are used, the total quantities ultimately recovered from a project have a low probability of exceeding proved plus probable plus possible reserves. When probabilistic methods are used, there should be at least a 10% probability that the total quantities ultimately recovered will equal or exceed the proved plus probable plus possible reserves estimates.

**DEFINITIONS OF OIL AND GAS RESERVES**

Adapted from U.S. Securities and Exchange Commission Regulation S-X Section 210.4-10(a)

- (ii) Possible reserves may be assigned to areas of a reservoir adjacent to probable reserves where data control and interpretations of available data are progressively less certain. Frequently, this will be in areas where geoscience and engineering data are unable to define clearly the area and vertical limits of commercial production from the reservoir by a defined project.
- (iii) Possible reserves also include incremental quantities associated with a greater percentage recovery of the hydrocarbons in place than the recovery quantities assumed for probable reserves.
- (iv) The proved plus probable and proved plus probable plus possible reserves estimates must be based on reasonable alternative technical and commercial interpretations within the reservoir or subject project that are clearly documented, including comparisons to results in successful similar projects.
- (v) Possible reserves may be assigned where geoscience and engineering data identify directly adjacent portions of a reservoir within the same accumulation that may be separated from proved areas by faults with displacement less than formation thickness or other geological discontinuities and that have not been penetrated by a wellbore, and the registrant believes that such adjacent portions are in communication with the known (proved) reservoir. Possible reserves may be assigned to areas that are structurally higher or lower than the proved area if these areas are in communication with the proved reservoir.
- (vi) Pursuant to paragraph (a)(22)(iii) of this section, where direct observation has defined a highest known oil (HKO) elevation and the potential exists for an associated gas cap, proved oil reserves should be assigned in the structurally higher portions of the reservoir above the HKO only if the higher contact can be established with reasonable certainty through reliable technology. Portions of the reservoir that do not meet this reasonable certainty criterion may be assigned as probable and possible oil or gas based on reservoir fluid properties and pressure gradient interpretations.

(18) *Probable reserves.* Probable reserves are those additional reserves that are less certain to be recovered than proved reserves but which, together with proved reserves, are as likely as not to be recovered.

- (i) When deterministic methods are used, it is as likely as not that actual remaining quantities recovered will exceed the sum of estimated proved plus probable reserves. When probabilistic methods are used, there should be at least a 50% probability that the actual quantities recovered will equal or exceed the proved plus probable reserves estimates.
- (ii) Probable reserves may be assigned to areas of a reservoir adjacent to proved reserves where data control or interpretations of available data are less certain, even if the interpreted reservoir continuity of structure or productivity does not meet the reasonable certainty criterion. Probable reserves may be assigned to areas that are structurally higher than the proved area if these areas are in communication with the proved reservoir.
- (iii) Probable reserves estimates also include potential incremental quantities associated with a greater percentage recovery of the hydrocarbons in place than assumed for proved reserves.
- (iv) See also guidelines in paragraphs (a)(17)(iv) and (a)(17)(vi) of this section.

(19) *Probabilistic estimate.* The method of estimation of reserves or resources is called probabilistic when the full range of values that could reasonably occur for each unknown parameter (from the geoscience and engineering data) is used to generate a full range of possible outcomes and their associated probabilities of occurrence.

(20) *Production costs.*

- (i) Costs incurred to operate and maintain wells and related equipment and facilities, including depreciation and applicable operating costs of support equipment and facilities and other costs of operating and maintaining those wells and related equipment and facilities. They become part of the cost of oil and gas produced. Examples of production costs (sometimes called lifting costs) are:
  - (A) Costs of labor to operate the wells and related equipment and facilities.
  - (B) Repairs and maintenance.
  - (C) Materials, supplies, and fuel consumed and supplies utilized in operating the wells and related equipment and facilities.

**DEFINITIONS OF OIL AND GAS RESERVES**

Adapted from U.S. Securities and Exchange Commission Regulation S-X Section 210.4-10(a)

- (D) Property taxes and insurance applicable to proved properties and wells and related equipment and facilities.
- (E) Severance taxes.

- (ii) Some support equipment or facilities may serve two or more oil and gas producing activities and may also serve transportation, refining, and marketing activities. To the extent that the support equipment and facilities are used in oil and gas producing activities, their depreciation and applicable operating costs become exploration, development or production costs, as appropriate. Depreciation, depletion, and amortization of capitalized acquisition, exploration, and development costs are not production costs but also become part of the cost of oil and gas produced along with production (lifting) costs identified above.

(21) *Proved area.* The part of a property to which proved reserves have been specifically attributed.

(22) *Proved oil and gas reserves.* Proved oil and gas reserves are those quantities of oil and gas, which, by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be economically producible—from a given date forward, from known reservoirs, and under existing economic conditions, operating methods, and government regulations—prior to the time at which contracts providing the right to operate expire, unless evidence indicates that renewal is reasonably certain, regardless of whether deterministic or probabilistic methods are used for the estimation. The project to extract the hydrocarbons must have commenced or the operator must be reasonably certain that it will commence the project within a reasonable time.

- (i) The area of the reservoir considered as proved includes:

- (A) The area identified by drilling and limited by fluid contacts, if any, and
- (B) Adjacent undrilled portions of the reservoir that can, with reasonable certainty, be judged to be continuous with it and to contain economically producible oil or gas on the basis of available geoscience and engineering data.

- (ii) In the absence of data on fluid contacts, proved quantities in a reservoir are limited by the lowest known hydrocarbons (LKH) as seen in a well penetration unless geoscience, engineering, or performance data and reliable technology establishes a lower contact with reasonable certainty.

- (iii) Where direct observation from well penetrations has defined a highest known oil (HKO) elevation and the potential exists for an associated gas cap, proved oil reserves may be assigned in the structurally higher portions of the reservoir only if geoscience, engineering, or performance data and reliable technology establish the higher contact with reasonable certainty.

- (iv) Reserves which can be produced economically through application of improved recovery techniques (including, but not limited to, fluid injection) are included in the proved classification when:

- (A) Successful testing by a pilot project in an area of the reservoir with properties no more favorable than in the reservoir as a whole, the operation of an installed program in the reservoir or an analogous reservoir, or other evidence using reliable technology establishes the reasonable certainty of the engineering analysis on which the project or program was based; and
- (B) The project has been approved for development by all necessary parties and entities, including governmental entities.

- (v) Existing economic conditions include prices and costs at which economic producibility from a reservoir is to be determined. The price shall be the average price during the 12-month period prior to the ending date of the period covered by the report, determined as an unweighted arithmetic average of the first-day-of-the-month price for each month within such period, unless prices are defined by contractual arrangements, excluding escalations based upon future conditions.

(23) *Proved properties.* Properties with proved reserves.

(24) *Reasonable certainty.* If deterministic methods are used, reasonable certainty means a high degree of confidence that the quantities will be recovered. If probabilistic methods are used, there should be at least a 90%



**DEFINITIONS OF OIL AND GAS RESERVES**

Adapted from U.S. Securities and Exchange Commission Regulation S-X Section 210.4-10(a)

probability that the quantities actually recovered will equal or exceed the estimate. A high degree of confidence exists if the quantity is much more likely to be achieved than not, and, as changes due to increased availability of geoscience (geological, geophysical, and geochemical), engineering, and economic data are made to estimated ultimate recovery (EUR) with time, reasonably certain EUR is much more likely to increase or remain constant than to decrease.

(25) *Reliable technology*. Reliable technology is a grouping of one or more technologies (including computational methods) that has been field tested and has been demonstrated to provide reasonably certain results with consistency and repeatability in the formation being evaluated or in an analogous formation.

(26) *Reserves*. Reserves are estimated remaining quantities of oil and gas and related substances anticipated to be economically producible, as of a given date, by application of development projects to known accumulations. In addition, there must exist, or there must be a reasonable expectation that there will exist, the legal right to produce or a revenue interest in the production, installed means of delivering oil and gas or related substances to market, and all permits and financing required to implement the project.

*Note to paragraph (a)(26)*: Reserves should not be assigned to adjacent reservoirs isolated by major, potentially sealing, faults until those reservoirs are penetrated and evaluated as economically producible. Reserves should not be assigned to areas that are clearly separated from a known accumulation by a non-productive reservoir (i.e., absence of reservoir, structurally low reservoir, or negative test results). Such areas may contain prospective resources (i.e., potentially recoverable resources from undiscovered accumulations).

*Excerpted from the FASB Accounting Standards Codification Topic 932, Extractive Activities—Oil and Gas:*

*932-235-50-30 A standardized measure of discounted future net cash flows relating to an entity's interests in both of the following shall be disclosed as of the end of the year:*

- a. Proved oil and gas reserves (see paragraphs 932-235-50-3 through 50-11B)*
- b. Oil and gas subject to purchase under long-term supply, purchase, or similar agreements and contracts in which the entity participates in the operation of the properties on which the oil or gas is located or otherwise serves as the producer of those reserves (see paragraph 932-235-50-7).*

*The standardized measure of discounted future net cash flows relating to those two types of interests in reserves may be combined for reporting purposes.*

*932-235-50-31 All of the following information shall be disclosed in the aggregate and for each geographic area for which reserve quantities are disclosed in accordance with paragraphs 932-235-50-3 through 50-11B:*

- a. Future cash inflows. These shall be computed by applying prices used in estimating the entity's proved oil and gas reserves to the year-end quantities of those reserves. Future price changes shall be considered only to the extent provided by contractual arrangements in existence at year-end.*
- b. Future development and production costs. These costs shall be computed by estimating the expenditures to be incurred in developing and producing the proved oil and gas reserves at the end of the year, based on year-end costs and assuming continuation of existing economic conditions. If estimated development expenditures are significant, they shall be presented separately from estimated production costs.*
- c. Future income tax expenses. These expenses shall be computed by applying the appropriate year-end statutory tax rates, with consideration of future tax rates already legislated, to the future pretax net cash flows relating to the entity's proved oil and gas reserves, less the tax basis of the properties involved. The future income tax expenses shall give effect to tax deductions and tax credits and allowances relating to the entity's proved oil and gas reserves.*
- d. Future net cash flows. These amounts are the result of subtracting future development and production costs and future income tax expenses from future cash inflows.*
- e. Discount. This amount shall be derived from using a discount rate of 10 percent a year to reflect the timing of the future net cash flows relating to proved oil and gas reserves.*
- f. Standardized measure of discounted future net cash flows. This amount is the future net cash flows less the computed discount.*

(27) *Reservoir*. A porous and permeable underground formation containing a natural accumulation of producible oil and/or gas that is confined by impermeable rock or water barriers and is individual and separate from other reservoirs.

**DEFINITIONS OF OIL AND GAS RESERVES**

Adapted from U.S. Securities and Exchange Commission Regulation S-X Section 210.4-10(a)

- (28) *Resources*. Resources are quantities of oil and gas estimated to exist in naturally occurring accumulations. A portion of the resources may be estimated to be recoverable, and another portion may be considered to be unrecoverable. Resources include both discovered and undiscovered accumulations.
- (29) *Service well*. A well drilled or completed for the purpose of supporting production in an existing field. Specific purposes of service wells include gas injection, water injection, steam injection, air injection, salt-water disposal, water supply for injection, observation, or injection for in-situ combustion.
- (30) *Stratigraphic test well*. A stratigraphic test well is a drilling effort, geologically directed, to obtain information pertaining to a specific geologic condition. Such wells customarily are drilled without the intent of being completed for hydrocarbon production. The classification also includes tests identified as core tests and all types of expendable holes related to hydrocarbon exploration. Stratigraphic tests are classified as "exploratory type" if not drilled in a known area or "development type" if drilled in a known area.
- (31) *Undeveloped oil and gas reserves*. Undeveloped oil and gas reserves are reserves of any category that are expected to be recovered from new wells on undrilled acreage, or from existing wells where a relatively major expenditure is required for recompletion.
- (i) Reserves on undrilled acreage shall be limited to those directly offsetting development spacing areas that are reasonably certain of production when drilled, unless evidence using reliable technology exists that establishes reasonable certainty of economic producibility at greater distances.
  - (ii) Undrilled locations can be classified as having undeveloped reserves only if a development plan has been adopted indicating that they are scheduled to be drilled within five years, unless the specific circumstances, justify a longer time.

*From the SEC's Compliance and Disclosure Interpretations (October 26, 2009):*

*Although several types of projects — such as constructing offshore platforms and development in urban areas, remote locations or environmentally sensitive locations — by their nature customarily take a longer time to develop and therefore often do justify longer time periods, this determination must always take into consideration all of the facts and circumstances. No particular type of project per se justifies a longer time period, and any extension beyond five years should be the exception, and not the rule.*

*Factors that a company should consider in determining whether or not circumstances justify recognizing reserves even though development may extend past five years include, but are not limited to, the following:*

- Y *The company's level of ongoing significant development activities in the area to be developed (for example, drilling only the minimum number of wells necessary to maintain the lease generally would not constitute significant development activities);*
- Y *The company's historical record at completing development of comparable long-term projects;*
- Y *The amount of time in which the company has maintained the leases, or booked the reserves, without significant development activities;*
- Y *The extent to which the company has followed a previously adopted development plan (for example, if a company has changed its development plan several times without taking significant steps to implement any of those plans, recognizing proved undeveloped reserves typically would not be appropriate); and*
- Y *The extent to which delays in development are caused by external factors related to the physical operating environment (for example, restrictions on development on Federal lands, but not obtaining government permits), rather than by internal factors (for example, shifting resources to develop properties with higher priority).*

- (iii) Under no circumstances shall estimates for undeveloped reserves be attributable to any acreage for which an application of fluid injection or other improved recovery technique is contemplated, unless such techniques have been proved effective by actual projects in the same reservoir or an analogous reservoir, as defined in paragraph (a)(2) of this section, or by other evidence using reliable technology establishing reasonable certainty.

- (32) *Unproved properties*. Properties with no proved reserves.