

GRAN TIERRA ENERGY INC.

Form 10-K/A

April 16, 2019

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K/A

AMENDMENT NO. 1

(Mark One)

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

For the fiscal year ended December 31, 2018

or

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

For the transition period from _____ to _____

Commission file number 001-34018

GRAN TIERRA ENERGY INC.

(Exact name of registrant as specified in its charter)

Delaware

98-0479924

(State or other jurisdiction of incorporation or organization) (I.R.S. Employer Identification No.)

900, 520 - 3 Avenue SW

Calgary, Alberta Canada T2P 0R3

(Address of principal executive offices, including zip code)

(403) 265-3221

(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Name of each exchange on which registered
Common Stock, par value \$0.001 per share	NYSE American Toronto Stock Exchange London Stock Exchange

Securities Registered Pursuant to Section 12(g) of the Act: **None**

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 Section 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 of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes No

Indicate by check mark whether the registrant submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).

Yes No

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

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

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

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

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

The aggregate market value of the voting and non-voting common equity held by non-affiliates as of June 30, 2018, the last business day of the registrant's most recently completed second fiscal quarter, was approximately \$0.9 billion.

On February 22, 2019, the 387,079,027 shares of the registrant's Common Stock with \$0.001 par value were outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

The information required by Part III of this report, to the extent not set forth herein, is incorporated by reference from the registrant's definitive proxy statement relating to the 2019 annual meeting of stockholders, which definitive proxy statement was filed with the Securities and Exchange Commission within 120 days after December 31, 2018.

EXPLANATORY NOTE

The sole purpose of this Amendment No. 1 (this "Amendment") to the Annual Report on Form 10-K for the year ended December 31, 2018 of Gran Tierra Energy Inc. (the "Company") filed with the Securities and Exchange Commission (the "SEC") on February 27, 2019 (the "Original Form 10-K") is to amend the date of the Report of Independent Registered Public Accounting Firm of Deloitte LLP in Part II, Item 8 of the Original Form 10-K. Due to a technical error, the date of the Deloitte LLP report was inadvertently stated incorrectly in the Original Form 10-K.

Pursuant to Rule 12b-15 promulgated under the Securities Exchange Act of 1934, as amended, the Company has included the entire text of Part II, Item 8 in this Amendment. In addition, the exhibit listing in Part IV, Item 15 has been included in this Amendment to reflect a currently-dated consent of Deloitte LLP, as well as, currently-dated certifications from the Chief Executive Officer and the Chief Financial Officer as required by Sections 302 and 906 of the Sarbanes-Oxley Act of 2002, as amended, which are attached as exhibits to this Amendment.

Except as described above, no other changes have been made to the Original Form 10-K. There have been no changes to any of the financial or other information contained in the Original Form 10-K. The Amendment does not reflect any subsequent information or events, and no other information included in the Original Form 10-K has been modified or updated in any way.

Item 8. *Financial Statements and Supplementary Data*

Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors of Gran Tierra Energy Inc.

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheet of Gran Tierra Energy Inc. (the Company) as of December 31, 2018, the related consolidated statements of operations, shareholders' equity, and cash flows for the year then ended, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2018, and the results of its operations and its cash flows for the year then ended, in conformity with U.S generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated February 27, 2019 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of

material misstatement, whether due to error or fraud. Our audit included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audit also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audit provides a reasonable basis for our opinion.

We have served as the Company's auditor since 2018.

/s/ KPMG LLP

Chartered Professional Accountants

Calgary, Canada

February 27, 2019

Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of Gran Tierra Energy Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheet of Gran Tierra Energy Inc. and subsidiaries (the "Company") as at December 31, 2017, the related consolidated statements of operations, shareholders' equity, and cash flows, for each of the two years in the period ended December 31, 2017, and the related notes (collectively referred to as the "financial statements"). In our opinion, the 2017 and 2016 financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2017, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2017, in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB. Further, we are required to be independent of the Company in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada and to fulfill our other ethical responsibilities in accordance with these requirements.

We conducted our audits in accordance with the standards of the PCAOB and Canadian generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Deloitte LLP

Chartered Professional Accountants

Calgary, Canada

February 27, 2018

We began serving as the Company's auditor in 2005. In 2018 we became the predecessor auditor.

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Gran Tierra Energy Inc.**Consolidated Statements of Operations****(Thousands of U.S. Dollars, Except Share and Per Share Amounts)**

	Year Ended December 31,		
	2018	2017	2016
OIL AND NATURAL GAS SALES (NOTE 9)	\$613,431	\$421,734	\$289,269
EXPENSES			
Operating	111,272	87,855	64,173
Workover	34,437	22,014	22,752
Transportation	28,993	25,107	31,776
Depletion, depreciation and accretion (Note 5)	197,867	131,335	139,535
Asset impairment (Notes 5)	—	1,514	616,649
General and administrative	39,483	39,014	33,218
Severance	2,361	1,287	1,319
Transaction	—	—	7,325
Equity tax	—	1,224	3,098
Foreign exchange loss (gain)	9,957	2,067	(1,469)
Financial instruments loss (Note 13)	12,296	15,929	10,279
Interest expense (Note 6)	27,364	13,882	14,145
	464,030	341,228	942,800
(LOSS) ON SALE AND GAIN ON ACQUISITION (NOTE 5)	—	(44,385)	929
INTEREST INCOME	2,086	1,209	2,368
INCOME (LOSS) BEFORE INCOME TAXES	151,487	37,330	(650,234)
INCOME TAX EXPENSE (RECOVERY)			
Current (Note 10)	43,903	24,322	20,122
Deferred (Note 10)	4,968	44,716	(204,791)
	48,871	69,038	(184,669)
NET AND COMPREHENSIVE INCOME (LOSS)	\$102,616	\$(31,708)	\$(465,565)
NET INCOME (LOSS) PER SHARE			
– BASIC	\$0.26	\$(0.08)	\$(1.45)
– DILUTED	\$0.26	\$(0.08)	\$(1.45)
WEIGHTED AVERAGE SHARES OUTSTANDING - BASIC (Note 7)	390,930,453	396,683,593	320,851,538
WEIGHTED AVERAGE SHARES OUTSTANDING - DILUTED (Note 7)	427,119,872	396,683,593	320,851,538

(See notes to the consolidated financial statements)

Gran Tierra Energy Inc.**Consolidated Balance Sheets****(Thousands of U.S. Dollars, Except Share and Per Share Amounts)**

	As at December 31,	
	2018	2017
ASSETS		
Current Assets		
Cash and cash equivalents (Note 14)	\$51,040	\$12,326
Restricted cash and cash equivalents (Notes 8 and 14)	1,269	11,787
Accounts receivable (Note 4)	26,177	45,353
Investment (Note 13)	32,724	25,055
Taxes receivable	78,259	40,831
Other current assets	13,056	9,893
Total Current Assets	202,525	145,245
Oil and Gas Properties (using the full cost method of accounting)		
Proved	853,428	629,081
Unproved	456,598	464,948
Total Oil and Gas Properties	1,310,026	1,094,029
Other capital assets	2,751	5,195
Total Property, Plant and Equipment (Notes 5)	1,312,777	1,099,224
Other Long-Term Assets		
Deferred tax assets (Note 10)	45,437	57,310
Investment (Note 13)	8,711	19,147
Other long-term assets (Note 14)	4,553	6,112
Goodwill	102,581	102,581
Total Other Long-Term Assets	161,282	185,150
Total Assets	\$1,676,584	\$1,429,619
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current Liabilities		
Accounts payable and accrued liabilities (Note 11)	\$154,670	\$126,199
Derivatives (Note 13)	1,017	21,151
Taxes payable (Note 10)	4,149	9,324
Equity compensation award liability (Note 7)	9,544	295
Total Current Liabilities	169,380	156,969
Long-Term Liabilities		
Long-term debt (Notes 6 and 13)	399,415	256,542
Deferred tax liabilities (Note 10)	23,419	28,417
Asset retirement obligation (Note 8)	43,676	31,241

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Equity compensation award liability (Note 7)	8,139	11,135
Other long-term liabilities	2,805	8,980
Total Long-Term Liabilities	477,454	336,315
Commitments and Contingencies (Note 12)		
Subsequent Event (Note 15)		
Shareholders' Equity		
Common Stock (Note 7) (387,079,027 and 385,191,042 shares of Common Stock and nil and 6,111,665 exchangeable shares, par value \$0.001 per share, issued and outstanding as at December 31, 2018 and December 31, 2017, respectively)	10,290	10,295
Additional paid in capital	1,318,048	1,327,244
Deficit	(298,588)	(401,204)
Total Shareholders' Equity	1,029,750	936,335
Total Liabilities and Shareholders' Equity	\$1,676,584	\$1,429,619

(See notes to the consolidated financial statements)

Gran Tierra Energy Inc.**Consolidated Statements of Cash Flows****(Thousands of U.S. Dollars)**

	Year Ended December 31,		
	2018	2017	2016
Operating Activities			
Net income (loss)	\$ 102,616	\$(31,708)	\$(465,565)
Adjustments to reconcile net income (loss) to net cash provided by operating activities:			
Depletion, depreciation and accretion (Note 5)	197,867	131,335	139,535
Asset impairment (Notes 5)	—	1,514	616,649
Deferred tax expense (recovery) (Note 10)	4,968	44,716	(204,791)
Stock-based compensation (Note 7)	8,299	9,775	6,339
Amortization of debt issuance costs (Note 6)	3,183	2,415	5,691
Cash settlement of restricted share units	(360)	(564)	(1,234)
Unrealized foreign exchange loss (gain)	11,511	837	(1,428)
Financial instruments loss (Note 13)	12,296	15,929	10,279
Cash settlement of financial instruments	(33,931)	1,563	438
Cash settlement of asset retirement obligation (Note 8)	(519)	(1,336)	(605)
Loss on sale and (gain) on acquisition (Note 5)	—	44,385	(929)
Net change in assets and liabilities from operating activities (Note 14)	(21,421)	(29,217)	(11,337)
Net cash provided by operating activities	284,509	189,644	93,042
Investing Activities			
Additions to property, plant and equipment (Note 5)	(347,093)	(251,041)	(127,789)
Property acquisitions (Note 5)	(53,200)	(34,410)	(19,388)
Net proceeds from sale of business units (Note 5)	—	32,968	—
Cash paid for investments (Note 5)	—	(11,000)	—
Cash paid for business combinations, net of cash acquired	—	—	(488,196)
Proceeds from the sale of oil and gas properties	—	—	6,000
Proceeds from sale of marketable securities (Note 13)	—	—	2,325
Changes in non-cash investing working capital	17,704	19,680	21,116
Net cash used in investing activities	(382,589)	(243,803)	(605,932)
Financing Activities			
Proceeds from issuance of Senior Notes, net of issuance costs (Note 6)	288,131	—	—
Proceeds from bank debt, net of issuance costs	4,560	167,043	256,065
Repayment of bank debt	(153,000)	(110,000)	(252,181)
Proceeds from exercise of stock options	1,429	—	—
Repurchase of shares of Common Stock (Note 7)	(12,742)	(17,916)	—
Proceeds from issuance of shares of Common Stock, net of issuance costs	—	—	128,273
Proceeds from issuance of subscription receipts, net of issuance costs	—	—	165,805

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Proceeds from issuance of Convertible Notes, net of issuance costs	—	—	109,090
Net cash provided by financing activities	128,378	39,127	407,052
Foreign exchange (loss) gain on cash, cash equivalents and restricted cash and cash equivalents	(2,668)	(1,557)	354
Net increase (decrease) in cash, cash equivalents and restricted cash and cash equivalents	27,630	(16,589)	(105,484)
Cash and cash equivalents and restricted cash and cash equivalents, beginning of year (Note 14)	26,678	43,267	148,751
Cash and cash equivalents and restricted cash and cash equivalents, end of year (Note 14)	\$54,308	\$26,678	\$43,267

Supplemental cash flow disclosures (Note 14)

(See notes to the consolidated financial statements)

Gran Tierra Energy Inc.**Consolidated Statements of Shareholders' Equity****(Thousands of U.S. Dollars)**

	Year Ended December 31,		
	2018	2017	2016
Share Capital			
Balance, beginning of year	\$10,295	\$10,303	\$10,186
Issuance of Common Stock (Note 7)	—	—	117
Repurchase of Common Stock (Note 7)	(5)	(8)	—
Balance, end of year	10,290	10,295	10,303
Additional Paid in Capital			
Balance, beginning of year	1,327,244	1,342,656	1,019,863
Issuance of Common Stock, net of share issuance costs (Note 7)	—	—	314,425
Exercise of stock options (Note 7)	1,429	—	5,347
Stock-based compensation (Note 7)	2,112	2,496	3,021
Repurchase of Common Stock (Note 7)	(12,737)	(17,908)	—
Balance, end of year	1,318,048	1,327,244	1,342,656
Deficit			
Balance, beginning of year	(401,204)	(493,972)	(28,407)
Net income (loss)	102,616	(31,708)	(465,565)
Cumulative adjustment for accounting changes related to tax reorganizations	—	124,476	—
Balance, end of year	(298,588)	(401,204)	(493,972)
Total Shareholders' Equity	\$1,029,750	\$936,335	\$858,987

(See notes to the consolidated financial statements)

Gran Tierra Energy Inc.

Notes to the Consolidated Financial Statements

For the Years Ended December 31, 2018, 2017 and 2016

(Expressed in U.S. Dollars, unless otherwise indicated)

1. Description of Business

Gran Tierra Energy Inc., a Delaware corporation (the “Company” or “Gran Tierra”), is a publicly traded company focused on oil and natural gas exploration and production in Colombia.

2. Significant Accounting Policies

The consolidated financial statements have been prepared in accordance with generally accepted accounting principles in the United States of America (“GAAP”).

Significant accounting policies are:

Basis of consolidation

These consolidated financial statements include the accounts of the Company and its controlled subsidiaries. All intercompany accounts and transactions have been eliminated.

Use of estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities

at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Significant estimates made by management include: oil and natural gas reserves and related present value of future cash flows; depreciation, depletion, amortization and impairment (“DD&A”); impairment assessments of goodwill; timing of transfers from oil and gas properties not subject to depletion to the depletable base; asset retirement obligations; determining the value of the consideration transferred and the net identifiable assets acquired and liabilities assumed in connection with business combinations and determining goodwill; assessments of the likely outcome of legal and other contingencies; income taxes; stock-based compensation; and determining the fair value of derivatives and investment. Although management believes these estimates are reasonable, changes in facts and circumstances or discovery of new information may result in revised estimates and actual results may differ from these estimates.

Cash and cash equivalents

The Company considers all highly liquid investments with an original maturity of three months or less to be cash equivalents.

Restricted cash and cash equivalents

Restricted cash and cash equivalents comprises cash and cash equivalents pledged to secure letters of credit and to settle asset retirement obligations. Letters of credit currently secured by cash relate to work commitment guarantees contained in exploration contracts. Restrictions will lapse when work obligations are satisfied pursuant to the exploration contract or an asset retirement obligation is settled. Cash and claims to cash that are restricted as to withdrawal or use for other than current operations or are designated for expenditure in the acquisition or construction of long-term assets are excluded from the current asset classification. The long-term portion of restricted cash and cash equivalents is included in other long-term assets on the Company's balance sheet.

Allowance for doubtful accounts

The Company estimates losses on receivables based on known uncollectible accounts, if any, and historical experience of losses incurred and accrues a reserve on a receivable when, based on the judgment of management, it is probable that a receivable will not be collected and the amount of the reserve may be reasonably estimated.

Investment in PetroTal Corp.

During December 2017, the Company acquired an investment in common shares of PetroTal Corp. ("PetroTal" formerly Sterling Resources Ltd.) in connection with the sale of its Peru business unit. At December 31, 2018, this investment represented approximately 46% of PetroTal's issued and outstanding common shares. The Company determined that it did not have a controlling financial interest in PetroTal, but could exert significant influence over PetroTal's operating and financial policies as a result of its ownership interest in PetroTal and the right to nominate two directors to PetroTal's board of directors. Accordingly, Gran Tierra accounted for its investment in the common shares of PetroTal as an equity method investment, but elected the fair value option for this investment to reflect the value that market participants would use to value the investment. The fair value of the investment in PetroTal's common shares is recorded in 'Investments' in the consolidated balance sheet, and the change in fair value is recorded in the consolidated statements of operations as financial instruments gains or losses.

Derivatives

The Company records derivative instruments on its balance sheet at fair value as either an asset or liability with changes in fair value recognized in the consolidated statements of operations as financial instruments gains or losses. While the Company utilizes derivative instruments to manage the price risk attributable to its expected oil production and foreign exchange risk, it has elected not to designate its derivative instruments as accounting hedges under the accounting guidance.

Inventory

Inventory consists of oil in tanks and third party pipelines and supplies and is valued at the lower of cost and net realizable value. The cost of inventory is determined using the weighted average method. Oil inventories include expenditures incurred to produce, upgrade and transport the product to the storage facilities and include operating, depletion and depreciation expenses and cash royalties.

Income taxes

Income taxes are recognized using the liability method, whereby deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the consolidated financial statements carrying amounts of existing assets and liabilities and their respective tax base, and operating loss and tax credit carry forwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences and carryforwards are expected to be recovered or settled. Valuation allowances are provided if, after considering available evidence, it is not more likely than not that some or all of the deferred tax assets will be realized.

The tax benefit from an uncertain tax position is recognized when it is more likely than not, based on the technical merits of the position, that the position will be sustained on examination by the taxing authorities. Additionally, the amount of the tax benefit recognized is the largest amount of benefit that has a greater than 50% likelihood of being realized upon ultimate settlement. In evaluating whether a tax position has met the more-likely-than-not recognition threshold, the Company presumes that the position will be examined by the appropriate taxing authority that has full knowledge of all relevant information. The Company recognizes potential penalties and interest related to unrecognized tax benefits as a component of income tax expense.

In October 2016, the FASB issued ASU 2016-16, "Intra-Entity Transfers of Assets Other than Inventory." This ASU requires companies to recognize the income tax effects of intercompany sales or transfers of assets, other than inventory, in the income statement as income tax expense or benefit in the period the sale or transfer occurs. This ASU is effective for fiscal years beginning after December 15, 2017, and interim periods within those years. Early adoption was permitted as of the beginning of an annual reporting period. The ASU is required to be applied on a modified retrospective basis with a cumulative-effect adjustment directly to retained earnings in the period of adoption. The Company early adopted this ASU on January 1, 2017, and in the three months ending March 31, 2017, wrote off the income tax effects that had been deferred from past intercompany transactions to opening deficit. A total of \$124.5 million, representing deferred tax assets of 178.6 million, net of \$54.1 million of prepaid tax, was recorded directly to opening deficit at January 1, 2017. Deferred tax assets recorded upon adoption were assessed for realizability under Accounting Standards Codification ("ASC") 740 "Income Taxes", and, valuation allowances were recognized on those deferred tax assets as necessary on the date of adoption. The adoption of ASU 2016-16 did not have any effect on the Company's cash flows.

Oil and gas properties

The Company uses the full cost method of accounting for its investment in oil and natural gas properties as defined by the Securities and Exchange Commission ("SEC"). Under this method, the Company capitalizes all acquisition, exploration and development costs incurred for the purpose of finding oil and natural gas reserves, including salaries, benefits and other internal costs directly attributable to these activities. Costs associated with production and general corporate activities; however, are expensed as incurred. Separate cost centers are maintained for each country in which the Company incurs costs.

The Company computes depletion of oil and natural gas properties on a quarterly basis using the unit-of-production method based upon production and estimates of proved reserve quantities. Future development costs related to properties with proved reserves are also included in the amortization base for computation of depletion. The costs of unproved properties are excluded from the amortization base until the properties are evaluated. The cost of exploratory dry wells is transferred to proved properties, and thus is subject to amortization, immediately upon determination that a well is dry in those countries where proved reserves exist.

The Company performs a ceiling test calculation each quarter in accordance with SEC Regulation S-X Rule 4-10. In performing its quarterly ceiling test, the Company limits, on a country-by-country basis, the capitalized costs of proved oil and natural gas properties, net of accumulated depletion and deferred income taxes, to the estimated future net cash flows from proved oil and natural gas reserves discounted at 10%, net of related tax effects, plus the lower of cost or fair value of unproved properties included in the costs being amortized. If such capitalized costs exceed the ceiling, the Company will record a write-down to the extent of such excess as a non-cash charge to net income or loss. Any such write-down will reduce earnings in the period of occurrence and results in a lower DD&A rate in future periods. A write-down may not be reversed in future periods even though higher oil and natural gas prices may subsequently increase the ceiling.

The Company calculates future net cash flows by applying the unweighted average of prices in effect on the first day of the month for the preceding 12-month period, adjusted for location and quality differentials. Such prices are utilized except where different prices are fixed and determinable from applicable contracts for the remaining term of those contracts.

Unproved properties are not depleted pending the determination of the existence of proved reserves. Costs are transferred into the depletable base on an ongoing basis as the properties are evaluated and proved reserves are established or impairment is determined. Unproved properties are evaluated quarterly to ascertain whether impairment has occurred. This evaluation considers, among other factors, seismic data, requirements to relinquish acreage, drilling results and activity, remaining time in the commitment period, remaining capital plans, and political, economic, and market conditions. During any period in which factors indicate an impairment, the cumulative costs incurred to date for such property are transferred to the full cost pool and are then subject to depletion. For countries where a reserve base has not yet been established, the impairment is charged to earnings.

In exploration areas, related seismic costs are capitalized in unproved property and evaluated as part of the total capitalized costs associated with a property. Seismic costs related to development projects are recorded in proved properties and therefore subject to depletion as incurred.

Gains and losses on the sale or other disposition of oil and natural gas properties are not recognized, unless the gain or loss would significantly alter the relationship between capitalized costs and proved reserves of oil and natural gas attributable to a country.

Asset retirement obligation

The Company records an estimated liability for future costs associated with the abandonment of its oil and gas properties including the costs of reclamation of drilling sites. The Company records the fair value of a liability for a legal obligation to retire an asset in the period in which the liability is incurred with an offsetting increase to the related oil and gas properties. The fair value of an asset retirement obligation is measured by reference to the expected future cash outflows required to satisfy the retirement obligation discounted at the Company's credit-adjusted risk-free interest rate. Accretion expense is recognized over time as the discounted liabilities are accreted to their expected settlement value, while the asset retirement cost is amortized over the estimated productive life of the related assets. The accretion of the asset retirement obligation and amortization of the asset retirement cost are included in DD&A. If estimated future costs of an asset retirement obligation change, an adjustment is recorded to both the asset retirement obligation and oil and gas properties. Revisions to the estimated asset retirement obligation can result from changes in retirement cost estimates, revisions to estimated inflation rates and changes in the estimated timing of abandonment.

Other capital assets

Other capital assets, including additions and replacements, are recorded at cost upon acquisition and include furniture, fixtures and leasehold improvement, computer equipment and automobiles. Depreciation for furniture and fixtures, computer equipment and automobiles is provided using the straight-line method over the useful life of the asset. Leasehold improvements are depreciated on a straight-line basis over the shorter of the estimated useful life and the term of the related lease. The cost of repairs and maintenance is charged to expense as incurred.

Goodwill

Goodwill represents the excess of the aggregate of the consideration transferred over the net identifiable assets acquired and liabilities assumed. The Company assesses qualitative factors annually, or more frequently if necessary, to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount and whether it is necessary to perform the goodwill impairment test. The impairment test requires allocating goodwill and certain other assets and liabilities to assigned reporting units. The fair value of each reporting unit is estimated and compared with its net book value. An impairment loss is recognized if the estimated fair value of the reporting unit is less than its carrying amount, not exceeding the carrying amount of goodwill allocated to that reporting unit. Because quoted market prices are not available for the Company's reporting unit, the fair value of the reporting unit is estimated based upon estimated future cash flows of the reporting unit. The goodwill relates entirely to Colombia. The Company performed a qualitative assessment of goodwill at December 31, 2018, and based on this assessment, no impairment of goodwill was identified.

Convertible Notes

The Company accounts for its 5.00% Convertible Senior Notes due 2021 (the "Convertible Notes") as a liability in their entirety. The embedded features of the Convertible Notes were assessed for bifurcation from the Convertible Notes under the applicable provisions, including the basic conversion feature, the fundamental change make-whole provision and the put and call options. Based on an assessment, the Company concluded that these embedded features did not meet the criteria to be accounted for separately.

The Company incurred debt issuance costs in connection with the issuance of the Convertible Notes which have been presented as a direct deduction against the carrying amount of the Convertible Notes and are being amortized to interest expense using the effective interest method over the contractual term of the Convertible Notes.

Revenue from Contracts with Customers

The Company's revenue relates to oil and natural gas sales in Colombia. The Company recognizes revenue when it transfers control of the product to a customer. This generally occurs at the time the customer obtains legal title to the product and when it is physically transferred to the delivery point agreed with the customer. Payment terms are generally within three business days following delivery of an invoice to the customer. Revenue is recognized based on the consideration specified in contracts with customers. Revenue represents the Company's share and is recorded net of royalty payments to governments and other mineral interest owners.

The Company evaluates its arrangement with third parties and partners to determine if the Company acts as a principal or an agent. In making this evaluation, management considers if the Company obtains control of the product delivered, which is indicated by the Company having the primary responsibility for the delivery of the product, having ability to establish prices or having inventory risk. If the Company acts in the capacity of an agent rather than as a principal in transaction, then the revenue is recognized on a net-basis, only reflecting the fee realized by the Company from the transaction.

Tariffs, tolls and fees charged to other entities for use of pipelines owned by the Company are evaluated by management to determine if these originate from contracts with customers or from incidental arrangements. When determining if the Company acted as a principal or as an agent in transactions, management determines if the Company obtains control of the product. As part of this assessment, management considers detailed criteria for revenue recognition set out in ASC 606.

In the comparative period, revenue from the production of oil and natural gas was recognized when the customer took title and assumed the risks and rewards of ownership, prices were fixed or determinable, the sale was evidenced by a contract and collection of the revenue was reasonably assured.

Stock-based compensation

The Company records stock-based compensation expense in its consolidated financial statements measured at the fair value of the awards that are ultimately expected to vest. Fair values are determined using pricing models such as the Black-Scholes-Merton or Monte Carlo simulation stock option-pricing models and/or observable share prices. For equity-settled stock-based compensation awards, fair values are determined at the grant date and the expense, net of estimated forfeitures, is recognized using the accelerated method over the requisite service period. An adjustment is made to compensation expense for any difference between the estimated forfeitures and the actual forfeitures. For cash-settled stock-based compensation awards, fair values are determined at each reporting date and periodic changes are recognized as compensation costs, with a corresponding change to liabilities.

The Company uses historical data to estimate the expected term used in the Black-Scholes option pricing model, option exercises and employee departure behavior. Expected volatilities used in the fair value estimate are based on the historical volatility of the Company's shares. The risk-free rate for periods within the expected term of the stock options is based on the U.S. Treasury yield curve in effect at the time of grant.

Stock-based compensation expense is capitalized as part of oil and natural gas properties or expensed as part of general and administrative ("G&A") or operating expenses, as appropriate.

Foreign currency translation

The functional currency of the Company, including its subsidiaries, is the United States dollar. Monetary items are translated into the reporting currency at the exchange rate in effect at the balance sheet date and non-monetary items are translated at historical exchange rates. Revenue and expense items are translated in a manner that produces substantially the same reporting currency amounts that would have resulted had the underlying transactions been translated on the dates they occurred.

DD&A expense on assets is translated at the historical exchange rates similar to the assets to which they relate. Gains and losses resulting from foreign currency transactions, which are transactions denominated in a currency other than

the entity's functional currency, are recognized in net income or loss.

Earnings (loss) per share

Basic earnings (loss) per share is calculated by dividing net income or loss attributable to common shareholders by the weighted average number of shares of Common Stock and exchangeable shares issued and outstanding during each period. Diluted net income or loss per share is calculated by adjusting the weighted average number of shares of Common Stock and exchangeable shares outstanding for the dilutive effect, if any, of share equivalents. The Company uses the treasury stock method to determine the dilutive effect. This method assumes that all Common Stock equivalents have been exercised at the beginning of the period (or at the time of issuance, if later), and that the funds obtained thereby were used to purchase shares of Common Stock of the Company at the volume weighted average trading price of shares of Common Stock during the period.

Recently Adopted Accounting Pronouncements

Revenue from Contracts with Customers

The Company adopted Accounting Standard Codification ("ASC") 606 *Revenue from Contracts with Customers* with a date of initial application of January 1, 2018 in accordance with the modified retrospective approach without using the practical expedients. Except for providing enhanced disclosures about the Company's revenue transactions, the application of ASC 606 did not have an impact on the Company's consolidated financial position, results of operations or cash flows.

Recognition and Measurement of Financial Assets and Financial Liabilities

In February 2018, the FASB issued ASU 2018-03, "Recognition and Measurement of Financial Assets and Financial Liabilities". ASU 2018-03 clarified certain aspects of the guidance in ASU 2016-01. ASU 2018-03 is effective for annual reporting periods beginning after December 15, 2017 and interim reporting periods within those annual reporting periods beginning after June 15, 2018. Early adoption is permitted upon adoption of ASU 2016-01. The amendments should be applied retrospectively with a cumulative-effect adjustment to the effective date of ASU 2016-01. The Company early adopted this update on January 1, 2018. The implementation of this update did not impact the Company's consolidated financial position, results of operations or cash flows or disclosure.

In January 2016, the FASB issued ASU 2016-01, "Recognition and Measurement of Financial Assets and Financial Liabilities". ASU 2016-01 addressed certain aspects of recognition, measurement, presentation and disclosure of financial instruments. ASU 2016-01 was effective for annual reporting periods and interim reporting periods within those annual reporting periods, beginning after December 15, 2017. The implementation of this update did not impact on the Company's consolidated financial position, results of operations or cash flows or disclosure.

Simplifying the Test for Goodwill Impairment

In January 2017, the FASB issued ASU 2017-04, "Simplifying the Test for Goodwill Impairment". ASU 2017-04 eliminates step 2 of the goodwill impairment test. An entity no longer will determine goodwill impairment by calculating the implied fair value of goodwill by assigning the fair value of a reporting unit to all of its assets and liabilities as if that reporting unit had been acquired in a business combination. Goodwill impairment will now be the amount by which a reporting unit's carrying value exceeds its fair value, not to exceed the carrying amount of

goodwill. ASU 2017-04 is effective for annual reporting periods and interim reporting periods within those annual reporting periods, beginning after December 15, 2019. Early adoption is permitted. At December 31, 2018, the Company performed a qualitative assessment of goodwill and, based on this assessment, no impairment of goodwill was identified.

Recently Issued Accounting Pronouncements

Leases

In February 2016, the FASB issued ASU 2016-02, "Leases". This ASU will require most lease assets and lease liabilities to be recognized on the balance sheet and the disclosure of key information about lease arrangements. The ASU will be effective for fiscal years, and interim periods within those years, beginning after December 15, 2018.

In January 2018, the FASB issued ASU 2018-01, "Land Easement Practical Expedient for Transition to Topic 842". ASU 2018-01 provides an optional transition practical expedient that, if elected, would not require an organization to reconsider their accounting for existing or expired land easements that were not previously accounted for as leases under Topic 840. The effective date and transition requirements for the amendment are the same as the effective date and transition requirements in ASU 2016-02. The Company is planning to adopt ASU 2018-01 upon transition to ASU 2016-02 "Leases".

The Company has completed an assessment of its contract inventory, identified contracts which meet the definition of a lease and is currently finalizing the value of right-of-use lease assets and lease liabilities and transition adjustments. The Company expects to use practical expedients available for land easements and short-term leases and will apply the guidance of ASU 2016-02 using a modified retrospective transition approach. The Company's preliminary estimates of a right of use asset is between \$5 to \$10 million with the main assets being attributed to office space leases. Actual amounts recorded will depend on the Company's final conclusions with respect to the appropriate discount rates and lease terms to be applied on the date of transition.

Fair Value Measurements

In August 2018, the FASB issued ASU 2018-13, "Changes to the Disclosure Requirements for Fair Value Measurement". ASU 2018-13 will modify certain fair value measurements disclosure requirements. ASU 2018-13 will be effective for fiscal years, and interim periods within those years, beginning after December 15, 2019. The disclosure amendments on changes in unrealized gains and losses, and disclosure requirements for significant unobservable inputs used to develop Level 3 fair value measurements, should be applied prospectively. All other amendments in ASU 2018-13 should be applied retrospectively. Early adoption is permitted. The Company is currently assessing this impact of this update on its consolidated financial position, results of operations or cash flows.

Financial Instruments - Credit Losses

In June 2016, the FASB issued ASU 2016-13, "Financial Instruments - Credit Losses". This ASU replaces the current incurred loss impairment methodology with a methodology that reflects expected credit losses and requires a broader range of reasonable and supportable information to support credit loss estimates. The ASU will be effective for fiscal years, and interim periods within those years, beginning after December 15, 2019. The Company is currently assessing this impact of this update on its consolidated financial position, results of operations or cash flows.

3. Segment and Geographic Reporting

The Company is primarily engaged in the exploration and production of oil and natural gas. The Company has one reportable segment based on geographic organization, Colombia. Prior to the sale of the Company's Brazil business unit effective June 30, 2017 and its Peru business unit effective December 18, 2017, Brazil and Peru were reportable segments. The "All Other" category represents the Company's corporate, Brazil and Peru activities until the date of sale. The Company evaluates reportable segment performance based on income or loss before income taxes.

The following tables present comparative information on the Company's reportable segment and other activities for the years ended December 31, 2017 and 2016:

(Thousands of U.S. Dollars)	Year Ended December 31, 2017		
	Colombia	All Other	Total
Oil and natural gas sales	\$413,316	\$8,418	\$421,734
DD&A expenses	126,453	4,882	131,335
Asset impairment	—	1,514	1,514
General and administrative expenses	23,500	15,514	39,014
Interest expense	486	13,396	13,882
Loss on sale	—	(44,385)	(44,385)
Income (loss) before income taxes	111,829	(74,499)	37,330
Segment capital expenditures	242,636	8,405	251,041

(Thousands of U.S. Dollars)	Year Ended December 31, 2016		
	Colombia	All Other	Total
Oil and natural gas sales	\$280,872	\$8,397	\$289,269
DD&A expenses	132,569	6,966	139,535
Asset impairment	514,314	102,335	616,649
General and administrative expenses	17,187	16,031	33,218
Interest expense	—	14,145	14,145
Gain on acquisition	—	929	929
Loss before income taxes	(505,447)	(144,787)	(650,234)
Segment capital expenditures	105,963	21,826	127,789

(Thousands of U.S. Dollars)	Year Ended December 31, 2017		
	Colombia	All Other	Total
Property, plant and equipment	\$1,096,833	\$2,391	\$1,099,224
Goodwill	102,581	—	\$102,581
All other assets	176,980	50,834	\$227,814
Total Assets	\$1,376,394	\$53,225	\$1,429,619

4. Accounts Receivable

(Thousands of U.S. Dollars)	As at December 31,	
	2018	2017
Trade	\$16,332	\$37,794
Other	9,845	7,559
	\$26,177	\$45,353

5. Property, Plant and Equipment

(Thousands of U.S. Dollars)	As at December 31,	
	2018	2017
Oil and natural gas properties		
Proved	\$3,226,811	\$2,810,796
Unproved	456,598	464,948
	3,683,409	3,275,744
Other	19,549	26,401
	3,702,958	3,302,145
Accumulated depletion and depreciation	(2,390,181)	(2,202,921)
	\$1,312,777	\$1,099,224

Depletion and depreciation expense on property, plant and equipment for the year ended December 31, 2018, was \$197.0 million (year ended December 31, 2017 - \$126.8 million; year ended December 31, 2016 - \$130.2 million). A portion of depletion and depreciation expense was recorded as inventory in each year.

Asset impairment for the three years ended December 31, 2018, was as follows:

(Thousands of U.S. Dollars)	Year Ended December 31,	
	2018	2017
Impairment of oil and gas properties	\$ —	\$ 1,514
Impairment of inventory	—	—
	\$ —	\$ 1,514

The Company follows the full cost method of accounting for its oil and gas properties. Under this method, the net book value of properties on a country-by-country basis, less related deferred income taxes, may not exceed a calculated “ceiling”. The ceiling is the estimated after tax future net revenues from proved oil and gas properties, discounted at 10% per year. In calculating discounted future net revenues, oil and natural gas prices are determined using the average price during the 12 months period prior to the ending date of the period covered by the balance sheet, calculated as an unweighted arithmetic average of the first-day-of-the month price for each month within such period for that oil and natural gas. That average price is then held constant, except for changes which are fixed and determinable by existing contracts. Therefore, ceiling test estimates are based on historical prices discounted at 10% per year and it should not be assumed that estimates of future net revenues represent the fair market value of the Company's reserves. In accordance with GAAP, Gran Tierra used an average Brent price of \$72.08 per bbl for the purposes of the December 31, 2018 ceiling test calculations (December 31, 2017 - \$54.19; December 31, 2016 - \$42.92).

In the year ended December 31, 2016, the Company recorded ceiling test impairment losses of \$513.65 million in its Colombia cost center, \$71.14 million in its Brazil cost center and \$31.2 million in its Peru cost center. The Colombia ceiling test impairment loss related to lower oil prices and the fact that the acquisitions of PetroLatina and PetroAmerica were initially added into the cost base at estimated fair value. However, these acquired assets were subjected to a prescribed GAAP ceiling test, which is not a fair value test, and which, as noted below, uses constant commodity pricing that averages prices during the preceding 12 months. The Brazil ceiling test impairment loss related to continued low oil prices and increased costs in the depletable base as a result of a \$45.0 million impairment of unproved properties.

2018 Acquisitions

On October 1, 2018, the Company acquired the remaining 45% working interest ("WI") in the PUT-1 Block in the Putumayo Basin for cash consideration of \$28.1 million, of which \$15.2 million was allocated to proved properties.

On August 6, 2018, the Company acquired a WI in the VMM-2 Block in the Middle Magdalena Valley Basin for cash consideration of \$17.0 million, of which \$6.2 million was allocated to proved properties. On December 1, 2018, the Company acquired a further WI in the VMM-2 Block for cash consideration of \$5.0 million, of which \$1.6 million was allocated to proved properties. In total, the Company has acquired an 80% WI in the VMM-2 Block.

On June 20, 2018, the Company acquired the remaining WI in the Alea 1848-A and 1947-C Blocks in the Putumayo Basin for cash consideration of \$3.1 million and was entirely recorded to unproved properties.

2017 Acquisition

On April 27, 2017, the Company acquired the Santana and Nancy-Burdine-Maxine Blocks in the Putumayo Basin for cash consideration of \$30.4 million, of which \$24.4 million was allocated to proved properties.

2017 Dispositions

On December 18, 2017, Gran Tierra completed the sale of its Peru business unit. Pursuant to the divestiture, PetroTal acquired all of the issued and outstanding shares in Gran Tierra's indirect, wholly owned subsidiary that indirectly held all of its Peruvian assets for aggregate consideration of \$33.5 million, comprised of approximately 187.3 million common shares of PetroTal and an estimated cash-settled working capital adjustment of \$0.4 million. Escrow conditions are applicable to 90% of the share consideration, which will be released from escrow at 15% every 6 months for 36 months following December 18, 2017. Additionally, in connection with the divestiture, Gran Tierra purchased \$11.0 million of subscription receipts which were exchangeable for common shares of PetroTal and subsequently exchanged them for approximately 58.9 million common shares of PetroTal. After giving effect to the divestiture, Gran Tierra directly and indirectly holds approximately 246.2 million common shares representing approximately 46% of PetroTal's issued and outstanding common shares. PetroTal is a junior oil and gas company focused on development of oil and gas assets in Peru.

In connection with the divestiture, Gran Tierra, through two of its indirect, wholly owned subsidiaries, entered into an investor rights agreement with PetroTal, pursuant to which, Gran Tierra has the right to nominate two directors to the board of PetroTal, as well as certain demand and piggy-back registration rights and certain pre-emptive rights, subject to the terms and conditions set forth in the investor rights agreement. Gran Tierra is prohibited from exercising voting rights over more than 30% of the issued and outstanding PetroTal Common Shares. In addition, Gran Tierra, through its indirect, wholly-owned subsidiary, entered into a carried interest and option agreement with PetroTal and a Peruvian subsidiary, pursuant to which Gran Tierra has a 20% carried working interest in Block 107, located in the Ucayali basin in Peru, which interest may, at the option of Gran Tierra, either be converted to a non-carried working interest or be forfeited following the drilling of an exploration well in Block 107.

At December 18, 2017, the net book value of the Peru business unit was greater than proceeds received resulting in a \$34.1 million loss on sale.

On June 30, 2017, the Company completed the disposition of its assets in Brazil. Gran Tierra completed the disposition of its Brazil business unit for a purchase price of \$35.0 million, which, after certain final closing adjustments, resulted in cash consideration of approximately \$36.8 million.

At June 30, 2017, the net book value of the Brazil business unit was greater than proceeds received resulting in a \$10.2 million loss on sale.

Unproved Oil and Natural Gas Properties

At December 31, 2018, unproved oil and natural gas properties consist of exploration lands held in Colombia. Unproved oil and natural gas properties are being held for their exploration value and are not being depleted pending determination of the existence of proved reserves. Gran Tierra will continue to assess the unproved properties over the next several years as proved reserves are established and as exploration warrants whether or not future areas will be developed. The Company expects that approximately 80% of costs not subject to depletion at December 31, 2018, will be transferred to the depletable base within the next five years and the remainder in the next five to ten years.

The following is a summary of Gran Tierra's oil and natural gas properties not subject to depletion as at December 31, 2018:

(Thousands of U.S. Dollars)	Costs Incurred in				Total
	2018	2017	2016	Prior to 2016	
Acquisition costs - Colombia	\$29,444	\$11,040	\$287,565	\$26,236	\$354,285
Exploration costs - Colombia	36,729	26,058	6,670	32,856	102,313
	\$66,173	\$37,098	\$294,235	\$59,092	\$456,598

6. Debt and Debt Issuance Costs

The Company's debt at December 31, 2018 and 2017, was as follows:

(Thousands of U.S. Dollars)	As at December 31,	
	2018	2017
Senior notes (a)	\$300,000	\$—
Convertible notes (b)	\$115,000	\$115,000
Revolving credit facility (c)	—	148,000
Unamortized debt issuance costs	(15,585)	(6,458)
Long-term debt	\$399,415	\$256,542

a) Senior Notes

On February 15, 2018, Gran Tierra Energy International Holdings Ltd. ("GTEIH"), an indirect, wholly owned subsidiary of the Company, issued \$300.0 million of 6.25% Senior Notes due 2025 (the "Senior Notes"). The Senior Notes are fully and unconditionally guaranteed by the Company and certain subsidiaries of the Company that guarantee its revolving credit facility. Net proceeds from the sale of the Senior Notes were \$288.1 million, after deducting the initial purchasers' discounts and commission and the offering expenses payable by the Company.

The Senior Notes bear interest at a rate of 6.25% per year, payable semi-annually in arrears on February 15 and August 15 of each year, beginning on August 15, 2018. The Senior Notes will mature on February 15, 2025, unless earlier redeemed or repurchased.

Before February 15, 2022, GTEIH may, at its option, redeem all or a portion of the Senior Notes at 100% of the principal amount plus accrued and unpaid interest and a make-whole premium. Thereafter, the Company may redeem all or a portion of the Senior Notes plus accrued and unpaid interest applicable to the date of the redemption at the following redemption prices: 2022 - 103.125%; 2023 - 101.563%; 2024 and thereafter - 100%.

b) Convertible Notes

At December 31, 2018, the Company had \$115 million of Convertible Notes outstanding. The Convertible Notes bear interest at a rate of 5.00% per year, payable semi-annually in arrears on April 1 and October 1 of each year, beginning on October 1, 2016. The Convertible Notes will mature on April 1, 2021, unless earlier redeemed, repurchased or converted. The Convertible Notes are unsecured and are subordinated to secured debt to the extent of the value of the assets securing such indebtedness.

The Convertible Notes are convertible at the option of the holder at any time prior to the close of business on the business day immediately preceding the maturity date. The conversion rate is initially 311.4295 shares of Common Stock per \$1,000 principal amount of Convertible Notes (equivalent to an initial conversion price of approximately \$3.21 per share of Common Stock). The conversion rate is subject to adjustment in some events but will not be adjusted for any accrued and unpaid interest. In addition, following certain corporate events that occur prior to the maturity date, the Company will increase the conversion rate for a holder who elects to convert its Convertible Notes in connection with such a corporate event in certain circumstances.

The Company may not redeem the Convertible Notes prior to April 5, 2019, except in certain circumstances following a fundamental change (as defined in the indenture governing the Convertible Notes). The Company may redeem for all cash or any portion of the Convertible Notes, at its option, on or after April 5, 2019, if (terms below are as defined in the indenture governing the Convertible Notes):

(i) the last reported sale price of the Company's Common Stock has been at least 150% of the conversion price then in effect for at least 20 trading days (whether or not consecutive) during any 30 consecutive trading day period (including the last trading day of such period) ending on, and including, the trading day immediately preceding the date on which the Company provides notice of redemption; and

(ii) the Company has filed all reports that it is required to file with the SEC pursuant to Section 13 or 15(d) of the Exchange Act, as applicable (other than current reports on Form 8-K), during the twelve months preceding the date on which the Company provides such notice.

The redemption price will be equal to 100% of the principal amount of the Convertible Notes to be redeemed, plus accrued and unpaid interest, if any, to, but excluding, the redemption date. No sinking fund is provided for the Convertible Notes.

If the Company undergoes a fundamental change, holders may require the Company to repurchase for cash all or any portion of their Convertible Notes at a fundamental change repurchase price equal to 100% of the principal amount of the Convertible Notes to be repurchased, plus accrued and unpaid interest to, but excluding, the fundamental change repurchase date.

Net proceeds from the sale of the Convertible Notes were \$109.1 million, after deducting the initial purchasers' discount and the offering expenses payable by the Company.

c) Credit Facility

At December 31, 2018, the Company had a revolving credit facility with a syndicate of lenders with a borrowing base of \$300 million. Availability under the revolving credit facility is determined by the reserves-based borrowing base determined by the lenders. On November 10, 2018, as a result of the Ninth Amendment to the credit agreement, the borrowing base of \$300 million was reaffirmed and, among other things, the maturity date of the borrowing under the revolving credit facility was extended from November 10, 2020 to November 10, 2021. The next re-determination of the borrowing base is due to occur no later than May 2019.

As a result of the Eleventh Amendment to the credit agreement, amounts drawn down under the revolving credit facility bear interest, at the Company's option, at the USD LIBOR rate plus a margin ranging from 1.65% to 3.65% (December 31, 2017 - 2.15% to 3.65%), or an alternate base rate plus a margin ranging from 0.65% to 2.65% (December 31, 2017 - 1.15% to 2.65%), in each case based on the borrowing base utilization percentage. The alternate base rate is currently the U.S. prime rate. Undrawn amounts under the revolving credit facility bear interest from 0.41% to 0.91% (December 31, 2017 - 0.54% to 0.91%) per annum, based on the average daily amount of unused commitments.

The Company's revolving credit facility is guaranteed by and secured against the assets of certain of the Company's subsidiaries (the "Credit Facility Group"). Under the terms of the credit facility, the Company is subject on certain restrictions on its ability to distribute funds to entities outside of the Credit Facility Group, including restrictions on the ability to pay dividends to shareholders of the Company.

d) Interest expense

The following table presents total interest expense recognized in the accompanying consolidated statements of operations:

(Thousands of U.S. Dollars)	Year Ended December 31,		
	2018	2017	2016
Contractual interest and other financing expenses	\$24,181	\$11,467	\$8,454
Amortization of debt issuance costs	3,183	2,415	5,691
	\$27,364	\$13,882	\$14,145

The Company incurred debt issuance costs in connection with the issuance of the Senior Notes, Convertible Notes and its revolving credit facility. As at December 31, 2018, the balance of unamortized debt issuance costs has been presented as a direct deduction against the carrying amount of debt and is being amortized to interest expense using the effective interest method over the term of the debt.

7. Share Capital

	Shares of Common Stock	Exchangeable Shares of Gran Tierra Exchangeco Inc.	Exchangeable Shares of Gran Tierra Goldstrike Inc.
Balance, December 31, 2017	385,191,042	4,422,776	1,688,889
Options exercised	549,189	—	—
Shares repurchased and canceled	(4,772,869)	—	—
Exchange of exchangeable shares	6,111,665	(4,422,776)	(1,688,889)
Balance, December 31, 2018	387,079,027	—	—

The Company's authorized share capital consists of 595,000,000 shares of capital stock, of which 570 million are designated as Common Stock, par value \$0.001 per share and 25 million are designated as Preferred Stock, par value \$0.001 per share.

On May 1, 2018, Gran Tierra Exchangeco Inc., a wholly-owned subsidiary of the Company, announced that it had established a redemption date of July 5, 2018 in respect of all of its outstanding exchangeable shares. Effective July 5, 2018, all remaining outstanding exchangeable shares of record on July 4, 2018 were acquired for purchase consideration of one share of Gran Tierra common stock for each exchangeable share, and on July 9, 2018, the Company retired and canceled one share of Special A Voting Stock and one share of Special B Voting Stock, which held voting rights in connection with those exchangeable shares. As a result, no shares of Special A Voting Stock and Special B Voting Stock remain outstanding.

The holders of shares of Common Stock are entitled to one vote for each share on all matters submitted to a stockholder vote and are entitled to share in all dividends that the Company's Board of Directors, in its discretion, declares from legally available funds. The holders of Common Stock have no pre-emptive rights, no conversion rights, and there are no redemption provisions applicable to the shares.

Share Repurchase Program

On March 7, 2018, the Company announced that it intended to implement a share repurchase program (the "2018 Program") through the facilities of the Toronto Stock Exchange ("TSX") and eligible alternative trading platforms in Canada. Under the 2018 Program, the Company is able to purchase at prevailing market prices up to 19,269,732 shares of Common Stock, representing approximately 5% of the issued and outstanding shares of Common Stock as of March 8, 2018. Shares purchased pursuant to 2018 Program will be canceled. The 2018 Program will expire on March 11, 2019, or earlier if the 5% share maximum is reached.

Equity Compensation Awards

The Company has an equity compensation program in place for its executives and employees. Equity compensation grants vest either based solely on recipient's continued employment or achievement of certain key measures of performance. Equity awards consist 80% of Performance Stock Units ("PSUs") and 20% of stock options. The Company's equity compensation awards outstanding as at December 31, 2018, include PSUs, deferred share units ("DSUs"), and stock options.

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In accordance with the 2007 Equity Incentive Plan, as amended, the Company's Board of Directors is authorized to issue options or other rights to acquire shares of the Company's Common Stock. On June 27, 2012, the shareholders of Gran Tierra approved an amendment to the Company's 2007 Equity Incentive Plan, which increased the Common Stock available for issuance thereunder from 23,306,100 shares to 39,806,100 shares.

The following table provides information about PSU, DSU, RSU and stock option activity for the year ended December 31, 2018:

	PSUs	DSUs	RSUs	Stock Options	Weighted
	Number of	Number of	Number of	Number of	Average
	Outstanding	Outstanding	Outstanding	Outstanding	Exercise
	Share Units	Share Units	Share Units	Stock	Price
				Options	/Stock
					Option (\$)
Balance, December 31, 2017	6,131,951	455,768	122,090	8,960,692	\$ 3.65
Granted	3,879,667	229,125	—	2,114,869	2.55
Exercised	—	—	(120,268)	(549,189)	2.60
Forfeited	(1,006,957)	—	—	(856,772)	4.56
Expired	—	—	(1,822)	(635,188)	6.47
Balance, December 31, 2018	9,004,661	684,893	—	9,034,412	\$ 3.18
Vested and exercisable, at December 31, 2018				5,649,640	\$ 3.55
Vested, or expected to vest, at December 31, 2018, through the life of the options				8,879,351	\$ 3.19

Stock-based compensation expense for the year ended December 31, 2018, was \$8.3 million (December 31, 2017 - \$9.8 million; December 31, 2016 - \$6.3 million) and was primarily recorded in G&A expenses.

At December 31, 2018, there was \$9.2 million (December 31, 2017 - \$13.7 million) of unrecognized compensation cost related to unvested PSUs and stock options which is expected to be recognized over a weighted average period of 1.6 years. The weighted-average remaining contractual term of options vested, or expected to vest, at December 31, 2018 was 2.5 years.

PSUs

PSUs entitle the holder to receive, at the option of the Company, either the underlying number of shares of the Company's Common Stock upon vesting of such units or a cash payment equal to the value of the underlying shares. PSUs will cliff vest after three years, subject to the continued employment of the grantee. Upon vesting, the underlying number of Common Shares or the cash payment equivalent to their value may range from zero to 200% of the number of PSU's vested, based on the Company's performance with respect to the applicable performance targets. As at December 31, 2018, 2.7 million (December 31, 2017 - nil) of PSU's had vested and will be settled in cash. The performance targets for the PSUs outstanding as at December 31, 2018, were as follows:

- (i) 50% of the award is subject to targets relating to the total shareholder return ("TSR") of the Company against a group of peer companies
- (ii) 25% of the award is subject to targets relating to net asset value ("NAV") of the Company per share and NAV is based on before tax net present value discounted at 10% of proved plus probable reserves; and
- (iii) 25% of the award is subject to targets relating to the execution of corporate strategy.

The compensation cost of PSUs is subject to adjustment based upon the attainability of these performance targets. No settlement will occur with respect to the portion of the PSU award subject to each performance target for results below the applicable minimum threshold for that target. PSUs in excess of the target number granted will vest and be settled if performance exceeds the targeted performance goals. The Company currently intends to settle the PSUs in cash.

DSUs

DSUs entitle the holder to receive, either the underlying number of shares of the Company's Common Stock upon vesting of such units or, at the option of the Company, a cash payment equal to the value of the underlying shares. Once a DSU is vested, it is immediately settled. During the year ended December 31, 2018, DSUs were granted to directors and will vest 100% at such time the grantee ceases to be a member of the Board of Directors. The Company currently intends to settle the DSUs in cash.

RSUs

During the year ended December 31, 2018, the Company paid \$0.4 million to cash settle restricted stock units ("RSUs") (2017 - \$0.6 million and 2016 - \$1.2 million). There were no RSU's outstanding as at December 31, 2018.

Stock Options

Each stock option permits the holder to purchase one share of Common Stock at the stated exercise price. The exercise price equals the market price of a share of Common Stock at the time of grant. Stock options generally vest over three years. The term of stock options granted starting in May of 2013 is five years or three months after the grantee's end of service to the Company, whichever occurs first. Stock options granted prior to May of 2013 continue to have a term of ten years or three months after the end of the grantee's service to the Company, whichever occurs first.

For the year ended December 31, 2018, 549,189 stock options were exercised for cash proceeds of \$1.4 million (2017 – nil options exercised and shares issued; 2016 – 2,165,370 options exercised and shares issued).

At December 31, 2018, the weighted average remaining contractual term of outstanding stock options was 2.5 years and of exercisable stock options was 1.9 years.

The fair value of each stock option award is estimated on the date of grant using the Black-Scholes option pricing model based on assumptions noted in the following table:

	Year Ended December 31,		
	2018	2017	2016
Dividend yield (per share)	Nil	Nil	Nil
Volatility	51% to 55%	51% to 53%	50% to 54%
Weighted average volatility	54 %	52 %	52 %
Risk-free interest rate	2.18% to 3.00%	1.75% to 2.10%	0.94% to 1.78%
Expected term	4-5 years	4-5 years	4-5 years

The weighted average grant date fair value for options granted in the year ended December 31, 2018, was \$1.15 (2017 - \$1.11; 2016 - \$1.14). The weighted average grant date fair value for options vested in the year ended December 31, 2018, was \$1.23 (2017 - \$1.31; 2016 - \$1.52). The total fair value of stock options vested during year ended December 31, 2018, was \$2.8 million (2017 - \$2.5 million; 2016 - \$2.8 million).

Weighted Average Shares Outstanding

	Year Ended December 31,		
	2018	2017	2016
Weighted Average number of common and exchangeable shares outstanding	390,930,453	396,683,593	320,851,538
Shares issuable pursuant to stock options	4,207,542	—	—
Shares assumed to be purchased from proceeds of stock options	(3,832,516)	—	—
Shares issuable on conversion of Convertible Notes	35,814,393	—	—
Weighted average number of diluted common and exchange shares outstanding	427,119,872	396,683,593	320,851,538

For the year ended December 31, 2018, 5,354,545 options, on a weighted average basis, (2017 - 9,681,304 options; 2016 - 10,662,034 options) were excluded from the diluted loss per share calculation as the options were anti-dilutive.

8. Asset Retirement Obligation

Changes in the carrying amounts of the asset retirement obligation associated with the Company's oil and natural gas properties were as follows:

(Thousands of U.S. Dollars)	Year Ended December 31,	
	2018	2017
Balance, beginning of year	\$31,564	\$43,357
Liability incurred	6,985	3,403
Settlements	(600)	(1,507)
Accretion	2,772	3,825
Revisions in estimated liability	2,351	(4,095)
Liabilities associated with assets sold	—	(16,932)
Liabilities assumed in acquisitions	727	3,513
Balance, end of year	\$43,799	\$31,564
Asset retirement obligation - current	\$123	\$323
Asset retirement obligation - long-term	43,676	31,241
Balance, end of year	\$43,799	\$31,564

Revisions in estimated liabilities relate primarily to changes in estimates of asset retirement costs and include, but are not limited to, revisions of estimated inflation rates, changes in property lives and the expected timing of settling asset retirement obligations. At December 31, 2018, the fair value of assets that were legally restricted for purposes of settling asset retirement obligations was \$2.7 million (December 31, 2017 - \$12.7 million). These assets were accounted for as restricted cash and cash equivalents on the Company's balance sheet.

9. Revenue

Most of the Company's revenue is generated from oil sales at prices which reflect the blended prices received upon shipment by the purchaser at defined sales points or are defined by contract relative to ICE Brent and adjusted for Vasconia crude, quality and transportation discounts each month. For the year ended December 31, 2018, 100% (year ended December 31, 2017 - 99%, year-end December 31, 2016 - 99%) of the Company's revenue resulted from oil sales and quality and transportation discounts were 18% (year ended December 31, 2017 - 21%, year-end December 31, 2016 - 26%) of the ICE Brent price. During the year ended December 31, 2018, the Company's production was sold primarily to two major customers in Colombia (year ended December 31, 2017 - three, year-end December 31, 2016 - three).

As at December 31, 2018, accounts receivable included \$4.2 million of accrued sales revenue related to December 2018 production (December 31, 2017 - \$11.1 million related to December 31, 2017 production).

10. Taxes

The income tax expense reported differs from the amount computed by applying the U.S. statutory rate to loss before income taxes for the following reasons:

(Thousands of U.S. Dollars)	Year Ended December 31,					
	2018		2017		2016	
Income (Loss) before income taxes						
United States	\$	(14,610)	\$	(51,215)	\$	(23,986)
Foreign		166,097		88,545		(626,248)
		151,487		37,330		(650,234)
		21	%	35	%	35
						%
Income tax expense (recovery) expected		31,812		13,066		(227,582)
Impact of foreign taxes		34,629		12,310		(9,799)
Other local taxes		297		1,056		1,998
Stock-based compensation		184		2,001		1,955
Change in valuation allowance		(21,953)		52,269		47,675
Non-deductible third party royalty in Colombia		1,813		3,194		2,550
Other permanent differences		2,089		(14,858)		(1,466)
Total income tax expense (recovery)		\$48,871		\$69,038		\$(184,669)
Effective Tax Rate		32	%	185	%	28
						%

Current income tax expense			
United States	\$—	\$3,457	\$1,818
Foreign	43,903	20,865	18,304
	43,903	24,322	20,122
Deferred income tax expense (recovery)			
Foreign ⁽¹⁾	4,968	44,716	(204,791)
Total income tax expense (recovery)	\$48,871	\$69,038	\$(184,669)

⁽¹⁾ The deferred tax recovery for the year ended December 31, 2016, included \$201.3 million associated with the ceiling test impairment loss in Colombia.

In general, it is the Company's practice and intention to reinvest the earnings of our non-U.S. subsidiaries in such subsidiaries' operations. As of December 31, 2018, the Company has not made a provision for U.S. or additional foreign withholding taxes on the investments in foreign subsidiaries that are indefinitely reinvested. Generally, such amounts become subject to taxation upon the remittance of dividends and under certain other circumstances.

In the fourth quarter of 2018, the Colombia government approved a number of changes to the tax legislation (the "Tax Reform") including reducing the corporate income tax rate from 37% in 2018 (including a 4% surtax) to 33% for 2019, 32% for 2020, 31% for 2021 and 30% for 2022 and onwards. The tax rates applied to the calculation of deferred income taxes, before valuation allowances, have been adjusted to reflect these changes resulting in a tax expense of \$8.3 million. This adjustment is included in the Impact of foreign taxes line above.

As a result of the Tax Reform, the Colombian government increased the dividend tax on distributions to foreign non-resident entities from 5% to 7.5% if they relate to previously taxed earnings from 2017 and onwards. The Tax Reform reduced the corporate minimum presumptive income tax from 3.5% to 1.5% in 2019 and 2020, and 0% for 2021 and onwards. The tax is imposed on the taxpayer's net equity at the prior year-end when the presumptive income tax exceeds actual taxable profits. Additionally, the Tax Reform subjects indirect transfers of Colombian assets or shares to tax in Colombia, among other, if the Colombian assets/shares account for 20% or more of the book or fair market value of the foreign entity that is being transferred.

At December 31, 2017, the Company considered amounts recorded related to U.S. tax reform to be reasonable estimates, however certain amounts were provisional as the Company's interpretation, assessment and presentation of the impact of the tax law change, were further clarified with additional guidance from tax and accounting authorities received in 2018. With additional guidance provided during the one-year measurement period and upon finalizing its 2017 annual tax return for its U.S. business, the Company recorded no material changes to its deferred income tax balances.

(Thousands of U.S. Dollars)	As at December 31,	
	2018	2017
Deferred Tax Assets		
Tax benefit of operating loss carryforwards	\$51,042	\$60,460
Tax basis in excess of book basis	8,854	62,768
Foreign tax credits and other accruals	79,820	70,157
Tax benefit of capital loss carryforwards	32,737	52,575
Deferred tax assets before valuation allowance	172,453	245,960
Valuation allowance	(127,016)	(188,650)
	45,437	57,310
Deferred Tax Liabilities	23,419	28,417
Net Deferred Tax Assets	\$22,018	\$28,893

At December 31, 2018, the Company has not recognized the benefit of unused non-capital loss carryforwards of \$22.7 million (2017 - \$8.6 million) for federal purposes in the United States, which expire from 2029 to 2038.

At December 31, 2018, the Company has not recognized the benefit of unused non-capital loss carryforwards of \$27.1 million (2017 - \$29.6 million) for federal and provincial purposes in Canada, which expire from 2029 to 2037. The Company has not recognized the benefit of capital loss carry forwards of \$242.4 million (2017 - \$243.4 million) for federal and provincial purposes in Canada which can be carried forward indefinitely.

At December 31, 2018, the Company has recognized the benefit of unused non-capital loss carryforwards of \$98.9 million and tax credits of \$2.2 million (2017 - \$1.1 million) for federal purposes in Colombia. As a result of the 2016 Colombian Tax Reform, Colombian losses can be carryforward for a period of 12 years, and not indefinitely as under the previous tax regime. There is a grandfathering rule for losses incurred prior to 2017, which may continue to be carried forward indefinitely. \$75.4 million of the Colombian losses can be carried forward indefinitely and \$23.5 million are entitled to a carryforward period of 12 years.

Due to an increase in reserves and expected oil prices, the Company has revised its estimate of future taxable profits upwards in the future. As a result, the Company recognized the tax effect of \$122.3 million of previously unrecognized tax losses and other tax deductions (tax impact \$40.3 million) because the Company considers it more likely than not that future taxable profits will be available against which such tax losses and other tax deductions can be used.

As at December 31, 2018 and 2017, Gran Tierra had no unrecognized tax benefits and related interest and penalties included in its deferred and current tax liabilities in the consolidated balance sheet. The Company does not anticipate any material changes with respect to unrecognized tax benefit within the next twelve months. The Company had no other significant interest or penalties related to taxes included in the consolidated statement of operations for the quarter ended December 31, 2018. The Company and its subsidiaries file income tax returns in the U.S. and certain other foreign jurisdictions. The Company is subject to income tax examinations for the tax years ended 2010 through 2018 in certain jurisdictions.

11. Accounts Payable and Accrued Liabilities

(Thousands of U.S. Dollars)	Year Ended December 31,	
	2018	2017
Trade	\$ 123,905	\$ 95,386
Royalties	3,550	6,867
Employee compensation	8,195	8,908
Other	19,020	15,038
	\$ 154,670	\$ 126,199

12. Commitments and Contingencies

Purchase Obligations, Firm Agreements and Leases

As at December 31, 2018, future minimum payments under non-cancelable agreements with remaining terms in excess of one year were as follows:

(Thousands of U.S. Dollars)	Year ending December 31						
	Total	2019	2020	2021	2022	2023	Thereafter
Oil transportation services	\$7,053	\$3,842	\$3,211	\$—	\$—	\$ —	—
Power generation facility	15,084	3,810	3,821	3,810	3,643	—	—
Operating leases	7,528	2,409	2,499	1,575	1,045	—	—
	\$29,665	\$10,061	\$9,531	\$5,385	\$4,688	\$ —	—

Gran Tierra leases certain office space, compressors, vehicles, equipment and housing. Total rent expense for the year ended December 31, 2018, was \$2.3 million (December 31, 2017 – \$3.2 million; December 31, 2016 - \$4.0 million).

Indemnities

Corporate indemnities have been provided by the Company to directors and officers for various items including, but not limited to, all costs to settle suits or actions due to their association with the Company and its subsidiaries and/or affiliates, subject to certain restrictions. The Company has purchased directors' and officers' liability insurance to mitigate the cost of any potential future suits or actions. The maximum amount of any potential future payment cannot be reasonably estimated. The Company may provide indemnifications in the normal course of business that are often standard contractual terms to counterparties in certain transactions such as purchase and sale agreements. The terms of these indemnifications will vary based upon the contract, the nature of which prevents the Company from making a reasonable estimate of the maximum potential amounts that may be required to be paid.

Letters of Credit

At December 31, 2018, the Company had provided letters of credit and other credit support totaling \$76.7 million (December 31, 2017 - \$76.0 million) as security relating to work commitment guarantees contained in exploration contracts and other capital or operating requirements.

Contingencies

The ANH and Gran Tierra are engaged in ongoing discussions regarding the interpretation of whether certain transportation and related costs are eligible to be deducted in the calculation of the HPR royalty. Based on the Company's understanding of the ANH's position, the estimated compensation, which would be payable if the ANH's interpretation is correct, could be up to \$56.3 million as at December 31, 2018. At this time, no amount has been accrued in the consolidated financial statements as Gran Tierra does not consider it probable that a loss will be incurred.

In addition to the above, Gran Tierra has a number of lawsuits and claims pending. Although the outcome of these other lawsuits and disputes cannot be predicted with certainty, Gran Tierra believes the resolution of these matters would not have a material adverse effect on the Company's consolidated financial position, results of operations or cash flows. Gran Tierra records costs as they are incurred or become probable and determinable.

13. Financial Instruments, Fair Value Measurement, Credit Risk and Foreign Exchange Risk

Financial Instruments

At December 31, 2018, the Company's financial instruments recognized in the balance sheet consist of; cash and cash equivalents; restricted cash and cash equivalents; accounts receivable; investments; derivatives; accounts payable and accrued liabilities; long-term debt; current and long-term equity compensation reward liability and other long-term liabilities.

Fair Value Measurement

The fair value of investment, derivatives and PSU liabilities are being remeasured at the estimated fair value at the end of each reporting period.

The fair value of the short-term portion of the investment which was received as consideration on the sale of the Company's Peru business unit was estimated using quoted prices at December 31, 2018, and the market exchange rate at that time. The fair value of the long-term portion of the investment restricted by escrow conditions was estimated using observable and unobservable inputs; factors that were evaluated included quoted market prices, precedent comparable transactions, risk free rate, measures of market risk volatility, estimates of the Company's and PetroTal's cost of capital and quotes from third parties.

The fair value of commodity price and foreign currency derivatives is estimated based on various factors, including quoted market prices in active markets and quotes from third parties. The Company also performs an internal valuation to ensure the reasonableness of third party quotes. In consideration of counterparty credit risk, the Company assessed the possibility of whether the counterparty to the derivative would default by failing to make any contractually required payments. Additionally, the Company considers that it is of substantial credit quality and has the financial resources and willingness to meet its potential repayment obligations associated with the derivative transactions.

The fair value of the PSU liability was estimated based on option pricing model using the inputs, such as quoted market prices in an active market, and PSU performance factor.

The fair value of investments, derivatives, RSU, PSU and DSU liabilities at December 31, 2018, and December 31, 2017 were as follows:

	As at December 31,	
(Thousands of U.S. Dollars)	2018	2017
Investment - current and long-term assets	\$ 41,435	\$ 44,202
Derivative asset	—	302
	\$ 41,435	\$ 44,504
Derivative liability	\$ 1,017	\$ 21,151
RSU, PSU and DSU liability	17,683	11,430
	\$ 18,700	\$ 32,581

The following table presents losses or gains on financial instruments recognized in the accompanying consolidated statements of operations:

(Thousands of U.S. Dollars)	Year Ended December 31,		
	2018	2017	2016
Commodity price derivative loss	\$13,972	\$17,327	\$7,370
Foreign currency derivative gain	(890)	(1,287)	(1,016)
Investment gain	(786)	(111)	—
Trading securities loss	—	—	3,925
	\$12,296	\$15,929	\$10,279

These gains or losses are presented as financial instruments loss in the consolidated statements of operations and cash flows.

Investment gain related to fair value gains on the PetroTal shares Gran Tierra received in connection with the sale of its Peru business unit in December 2017 (Note 5). For the year ended December 31, 2018, these investment gains were unrealized.

All trading securities were sold during the year ended December 31, 2016, and the trading securities loss represented a realized loss. The cash proceeds were included in cash flows from investing activities in the Company's consolidated statements of cash flows because these securities were received in connection with the sale of the Company's Argentina business unit in 2014.

Financial instruments not recorded at fair value include the Senior Notes and Convertible Notes (Note 6). At December 31, 2018, the carrying amounts of the Senior Notes and Convertible Notes were \$289.3 million and \$112.1 million, respectively, which represents the aggregate principal amount less unamortized debt issuance costs, and the fair values were \$280.4 million and \$115.5 million. The fair value of long-term restricted cash and cash equivalents and the revolving credit facility approximated their carrying value because interest rates are variable and reflective of market rates. The fair values of other financial instruments approximate their carrying amounts due to the short-term maturity of these instruments.

GAAP establishes a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. This hierarchy consists of three broad levels. Level 1 inputs consist of quoted prices (unadjusted) in active markets for identical assets and liabilities and have the highest priority. Level 2 and 3 inputs are based on significant other observable inputs and significant unobservable inputs, respectively, and have lower priorities. The Company uses appropriate valuation techniques based on the available inputs to measure the fair values of assets and liabilities.

At December 31, 2018, the fair value of current portion of the investment, DSU liability was determined using Level 1 inputs, the fair value of derivatives and PSUs was determined using Level 2 inputs and the fair value of the long-term portion of the investment restricted by escrow conditions was determined using Level 3 inputs. The table below presents a roll-forward of the long-term portion of the investment:

(Thousands of U.S. Dollars)	Year Ended December 31,	
	2018	2017
Opening balance	\$ 19,147	\$ —
Acquisition	—	19,091
Transfer from long-term (Level 3) to current (Level 1)	(10,522)	—
Unrealized gain on valuation	846	56
Unrealized loss on foreign exchange	(760)	—
Closing balance	\$ 8,711	\$ 19,147

The Company uses available market data and valuation methodologies to estimate the fair value of debt. The fair value of debt is the estimated amount the Company would have to pay a third party to assume the debt, including a credit spread for the difference between the issue rate and the period end market rate. The credit spread is the Company's default or repayment risk. The credit spread (premium or discount) is determined by comparing the Company's Senior Notes, Convertible Notes and revolving credit facility to new issuances (secured and unsecured) and secondary trades of similar size and credit statistics for both public and private debt. The disclosure above regarding the fair value of the Convertible Notes was determined using Level 2 inputs based on the indicative pricing published by certain third-party services or trading levels of the Convertible Notes, which are not listed on any securities exchange or quoted on an inter-dealer automated quotation system. The disclosure in the paragraph above regarding the fair value of cash and restricted cash and cash equivalents, revolving credit facility and Senior Notes was based on Level 1 inputs.

The Company's non-recurring fair value measurements include asset retirement obligations. The fair value of an asset retirement obligation is measured by reference to the expected future cash outflows required to satisfy the retirement obligation discounted at the Company's credit-adjusted risk-free interest rate. The significant level 3 inputs used to calculate such liabilities include estimates of costs to be incurred, the Company's credit-adjusted risk-free interest rate, inflation rates and estimated dates of abandonment. Accretion expense is recognized over time as the discounted liabilities are accreted to their expected settlement value, while the asset retirement cost is amortized over the estimated productive life of the related assets.

Commodity Price Risk

The Company may at time utilize commodity price derivatives to manage the variability in cash flows associated with the forecasted sale of its oil production, reduce commodity price risk and provide a base level of cash flow in order to assure it can execute at least a portion of its capital spending. As at December 31, 2018, the Company did not have any commodity price derivatives outstanding.

Foreign Exchange Risk

The Company is exposed to foreign exchange risk in relation to its Colombian operations predominantly in operating costs, general and administrative costs and transportation costs. To mitigate exposure to fluctuations in foreign exchange, the Company may enter into foreign exchange derivatives. As at December 31, 2018, the Company did not have any foreign exchange derivatives outstanding.

Unrealized foreign exchange gains and losses primarily result from fluctuation of the U.S. dollar to the Colombian peso due to Gran Tierra's current and deferred tax liabilities, which are monetary liabilities mainly denominated in the local currency of the Colombian operations. As a result, foreign exchange gains and losses must be calculated on conversion to the U.S. dollar functional currency. A strengthening in the Colombian peso against the U.S. dollar results in foreign exchange losses, estimated at \$7,209 for each one peso decrease in the exchange rate of the Colombian peso to one U.S. dollar. This effect was calculated based on the Company's December 31, 2018, deferred tax balances.

For the year ended December 31, 2018, 100% (December 31, 2017 - 98%, December 31, 2016 - 97%) of the Company's oil and natural gas sales were generated in Colombia. In Colombia, the Company receives 100% of its revenues in U.S. dollars and the majority of its capital expenditures are in U.S. dollars or are based on U.S. dollar prices.

Credit Risk

Credit risk arises from the potential that the Company may incur a loss if a counterparty to a financial instrument fails to meet its obligation in accordance with agreed terms. The Company's financial instruments that are exposed to concentrations of credit risk consist primarily of cash and cash equivalents, restricted cash and accounts receivable. The carrying value of cash and cash equivalents, restricted cash and accounts receivable reflects management's assessment of credit risk.

At December 31, 2018, cash and cash equivalents and restricted cash included balances in bank accounts, term deposits and certificates of deposit, placed with financial institutions with investment grade credit ratings.

Most of the Company's accounts receivable relate to uncollateralized sales to customers in the oil and natural gas industry and are exposed to typical industry credit risks. The concentration of revenues in a single industry affects the Company's overall exposure to credit risk because customers may be similarly affected by changes in economic and other conditions. The Company manages this credit risk by entering into sales contracts with only credit worthy entities and reviewing its exposure to individual entities on a regular basis. For the year ended December 31, 2018, the Company had two customers which were significant.

To reduce the concentration of exposure to any individual counterparty, the Company utilizes a group of investment-grade rated financial institutions, for its derivative transactions. The Company monitors counterparty creditworthiness on an ongoing basis; however, it cannot predict sudden changes in counterparties' creditworthiness. In addition, even if such changes are not sudden, the Company may be limited in its ability to mitigate an increase in counterparty credit risk. Should one of these counterparties not perform, the Company may not realize the benefit of some of its derivative instruments.

14. Supplemental Cash Flow Information

The following table provides a reconciliation of cash, cash equivalents and restricted cash and cash equivalents with the Company's consolidated balance sheet that sum to the total of the same such amounts shown in the consolidated statements of cash flows:

(Thousands of U.S. Dollars)	Year Ended December 31,		
	2018	2017	2016
Cash and cash equivalents	\$51,040	\$12,326	\$25,175
Restricted cash and cash equivalents - current	1,269	11,787	8,322
Restricted cash and cash equivalents - long-term ⁽¹⁾	1,999	2,565	9,770
	\$54,308	\$26,678	\$43,267

⁽¹⁾ The long-term portion of restricted cash is included in other long-term assets on the Company's balance sheet.

Net changes in assets and liabilities from operating activities were as follows:

	Year Ended December 31,		
	2018	2017	2016
Accounts receivable and other long-term assets	\$17,674	\$(2,494)	\$(29)
Derivatives	1,017	—	(3,546)
Inventory	(2,127)	(78)	5,510
Other prepaids	547	2,674	(615)
Accounts payable and accrued and other long-term liabilities	9,034	15,617	(9,691)
Prepaid tax and taxes receivable and payable	(47,566)	(44,936)	(2,966)
Net changes in assets and liabilities from operating activities	\$(21,421)	\$(29,217)	\$(11,337)

The following table provides additional supplemental cash flow disclosures:

	Year Ended December 31,		
	2018	2017	2016
Cash paid for income taxes	\$46,277	\$54,505	\$64,067
Cash paid for interest	\$16,038	\$9,684	\$5,624
Non-cash investing activities:			
Net liabilities related to property, plant and equipment, end of year	\$85,204	\$76,352	\$55,181

Year ended December 31, 2017 included non-cash share consideration received in connection with the Company's disposition of its Peru Business unit (see Note 4).

In the year ended December 31, 2016, the purchase price paid for acquisition of Petroamerica Oil Corp. included \$25.8 million of Gran Tierra's Common Stock.

15. Subsequent Event

Subsequent to year-end, the Company announced that it had entered into an agreement to acquire working interest and operatorship of the Suroriente Block, which would increase Gran Tierra's WI from 16% to 52%. In addition, the Company would acquire 50% WI in and operatorship of the Putumayo-8 Block, and 100% WI in the Llanos-5 Block. The purchase price for the acquisition is \$104.2 million and is subject to certain adjustments and the satisfaction of certain customary conditions.

Supplementary Data (Unaudited)

1) Oil and Gas Producing Activities

In accordance with Financial Accounting Standards Board (FASB) Accounting Standards Codification Topic 932, "Extractive Activities—Oil and Gas," and regulations of the U.S. Securities and Exchange Commission (SEC), the Company is making certain supplemental disclosures about its oil and gas exploration and production operations.

A. Estimated Proved NAR Reserves

The following table sets forth Gran Tierra's estimated proved NAR reserves and total net proved developed and undeveloped reserves as of December 31, 2015, 2016, 2017 and 2018, and the changes in total net proved reserves during the three-year period ended December 31, 2018.

The net proved reserves represent management's best estimate of proved oil and natural gas reserves after royalties. Reserve estimates for each property are prepared internally each year and 100% of the reserves at December 31, 2018, have been evaluated by independent qualified reserves consultants, McDaniel & Associates Consultants Ltd.

The reserve estimation process requires us to use significant decisions and assumptions in the evaluation of available geological, geophysical, engineering and economic data for each property, and demonstrate reasonable certainty that they are recoverable from known reservoirs under economic and operating conditions that existed at year end. The determination of oil and natural gas reserves is complex and requires significant judgment. Assumptions used to estimate reserve information may significantly increase or decrease such reserves in future periods. The estimates of reserves are subject to continuing changes and, therefore, an accurate determination of reserves may not be possible for many years because of the time needed for development, drilling, testing, and studies of reservoirs. The process of estimating oil and gas reserves is complex and requires significant judgment, as discussed in Item 1A. "Risk Factors". See "Critical Accounting Estimates" in Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operation" for a description of Gran Tierra's reserves estimation process.

	Colombia	
	Liquids (1)	Gas
	(Mbbbl)	(MMcf)
Proved NAR Reserves, December 31, 2015	33,386	1,823
Purchases of reserves in place	20,568	—
Extensions and discoveries	1,142	435
Production	(8,125)	(592)
Revisions of previous estimates	(1,093)	(71)
Proved NAR Reserves, December 31, 2016	45,878	1,595
Purchases of reserves in place	2,041	—
Extensions and discoveries	9,543	—
Improved recoveries	2,461	—
Technical revisions	7,627	1,077
Discoveries	873	—
Production	(9,469)	(588)
Proved NAR Reserves, December 31, 2017	58,954	2,084
Purchases of reserves in place	1,871	—
Extensions	6,357	—
Technical revisions	(3,502)	307
Discoveries	811	—
Production	(10,569)	(209)
Proved NAR Reserves, December 31, 2018	53,922	2,182
Proved Developed Reserves NAR, December 31, 2017	39,487	1,431
Proved Developed Reserves NAR, December 31, 2018	36,805	1,253
Proved Undeveloped Reserves NAR, December 31, 2016	10,349	127
Proved Undeveloped Reserves NAR, December 31, 2017	19,467	653
Proved Undeveloped Reserves NAR, December 31, 2018	17,117	929

(1) At December 31, 2018, 2017, 2016 and 2015 , liquids reserves are 100% oil.

B. Capitalized Costs

Capitalized costs for Gran Tierra's oil and gas producing activities consisted of the following at the end of each of the years in the two-year period ended December 31, 2018:

(Thousands of U.S. Dollars)	Proved Properties	Unproved Properties	Accumulated Depletion, Depreciation and Impairment	Net Capitalized Costs
Balance, December 31, 2018	\$3,226,811	\$456,598	\$(2,373,383)	\$1,310,026
Balance, December 31, 2017	\$2,810,796	\$464,948	\$(2,181,715)	\$1,094,029

C. Costs Incurred

The following tables present costs incurred for Gran Tierra's oil and gas property acquisitions, exploration and development for the respective years:

(Thousands of U.S. Dollars)	Colombia	Brazil	Peru	Total
Balance, December 31, 2015	\$1,882,954	\$220,344	\$444,878	\$2,548,176
Property acquisition costs				
Proved	408,793	—	—	408,793
Unproved	500,081	—	—	500,081
Exploration costs	33,362	6,086	4,985	44,433
Development costs	72,601	9,060	—	81,661
Balance, December 31, 2016	2,897,791	235,490	449,863	3,583,144
Property acquisition costs				
Proved	28,405	1,565	—	29,970
Unproved	8,649	—	4,314	12,963
Exploration costs	64,003	—	—	64,003
Development costs	171,498	—	—	171,498
Balance, December 31, 2017	3,170,346	237,055	454,177	3,861,578
Property acquisition costs				
Proved	22,213	—	—	22,213
Unproved	29,999	—	—	29,999
Exploration costs	77,989	—	—	77,989

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Development costs	245,974	—	—	245,974
Balance, December 31, 2018	\$3,546,521	\$237,055	\$454,177	\$4,237,753

D. Results of Operations for Oil and Gas Producing Activities

(Thousands of U.S. Dollars) Colombia	
December 31, 2018	
Oil and natural gas sales	\$613,431
Production costs	(174,702)
Exploration expenses	—
DD&A expenses	(195,958)
Asset Impairment	—
Income tax expense	(45,293)
Results of Operations	\$197,478

December 31, 2017	
Oil and natural gas sales	\$413,316
Production costs	(132,829)
Exploration expenses	—
DD&A expenses	(126,453)
Asset Impairment	—
Income tax expense	(64,000)
Results of Operations	\$90,034

December 31, 2016	
Oil and natural gas sales	\$280,872
Production costs	(116,141)
Exploration expenses	—
DD&A expenses	(132,569)
Asset Impairment	(514,314)
Income tax expense	187,168
Results of Operations	\$(294,984)

E. Standardized Measure of Discounted Future Net Cash Flows and Changes

The following disclosure is based on estimates of net proved reserves and the period during which they are expected to be produced. Future cash inflows are computed by applying the twelve month period unweighted arithmetic average of the price as of the first day of each month within that twelve month period, unless prices are defined by contractual arrangements, excluding escalations based on future conditions to Gran Tierra's after royalty share of estimated annual future production from proved oil and gas reserves.

Colombia Brazil

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Twelve month period unweighted arithmetic average of the wellhead price as of the first day of each month within the twelve month period

2018	\$ 61.16	\$—
2017	\$ 43.00	\$—
2016	\$ 31.67	\$31.42
Weighted average production costs		
2018	\$ 18.18	\$—
2017	\$ 15.73	\$—
2016	\$ 15.42	\$12.19

Future development and production costs to be incurred in producing and further developing the proved reserves are based on year end cost indicators. Future income taxes are computed by applying year end statutory tax rates. These rates reflect allowable deductions and tax credits, and are applied to the estimated pre-tax future net cash flows. Discounted future net cash flows are calculated using 10% mid-year discount factors. The calculations assume the continuation of existing economic, operating and contractual conditions. However, such arbitrary assumptions have not proved to be the case in the past. Other assumptions could give rise to substantially different results.

The Company believes this information does not in any way reflect the current economic value of its oil and gas producing properties or the present value of their estimated future cash flows as:

- no economic value is attributed to probable and possible reserves;
- use of a 10% discount rate is arbitrary; and
- prices change constantly from the twelve-month period unweighted arithmetic average of the price as of the first day of each month within that twelve-month period.

The standardized measure of discounted future net cash flows from Gran Tierra's estimated proved oil and gas reserves is as follows:

(Thousands of U.S. Dollars)	Colombia	Brazil	Total
December 31, 2018			
Future cash inflows	\$3,351,768	\$—	\$3,351,768
Future production costs	(1,225,259)	—	(1,225,259)
Future development costs	(261,563)	—	(261,563)
Future asset retirement obligations	(45,045)	—	(45,045)
Future income tax expense	(326,856)	—	(326,856)
Future net cash flows	1,493,045	—	1,493,045
10% discount	(298,585)	—	(298,585)
Standardized Measure of Discounted Future Net Cash Flows	\$1,194,460	\$—	\$1,194,460
December 31, 2017			
Future cash inflows	\$2,570,551	\$—	\$2,570,551
Future production costs	(1,082,651)	—	(1,082,651)
Future development costs	(212,712)	—	(212,712)
Future asset retirement obligations	(33,796)	—	(33,796)
Future income tax expense	(146,652)	—	(146,652)
Future net cash flows	1,094,740	—	1,094,740
10% discount	(246,692)	—	(246,692)
Standardized Measure of Discounted Future Net Cash Flows	\$848,048	\$—	\$848,048
December 31, 2016			
Future cash inflows	\$1,487,553	\$195,476	\$1,683,029
Future production costs	(803,208)	(85,262)	(888,470)
Future development costs	(94,131)	(23,975)	(118,106)
Future asset retirement obligations	(24,647)	(1,200)	(25,847)
Future income tax expense	(28,446)	(8,957)	(37,403)
Future net cash flows	537,121	76,082	613,203
10% discount	(117,263)	(43,235)	(160,498)
Standardized Measure of Discounted Future Net Cash Flows	\$419,858	\$32,847	\$452,705

Changes in the Standardized Measure of Discounted Future Net Cash Flows

The following table summarizes changes in the standardized measure of discounted future net cash flows for Gran Tierra's proved oil and gas reserves during three years ended December 31, 2018:

(Thousands of U.S. Dollars)	2018	2017	2016
Balance, beginning of year	\$848,048	\$452,705	\$464,757
Sales and transfers of oil and gas produced, net of production costs	(368,097)	(193,197)	(207,776)
Net changes in prices and production costs related to future production	858,889	(372,138)	13,425
Extensions, discoveries and improved recovery, less related costs	159,529	193,672	111
Previously estimated development costs incurred during the year	110,221	71,816	34,917
Revisions of previous quantity estimates	(248,735)	1,128,440	(263,713)
Accretion of discount	84,804	(120,231)	73,076
Purchases of reserves in place	18,814	7,416	186,393
Sales of reserves in place	—	(32,847)	—
Net change in income taxes	(170,854)	(112,838)	178,273
Changes in future development costs	(98,159)	(174,750)	(26,758)
Net increase (decrease)	346,412	395,343	(12,052)
Balance, end of year	\$1,194,460	\$848,048	\$452,705

2) Summarized Quarterly Financial Information

(Thousands of U.S. Dollars, Except Per Share Amounts)	Three Months Ended				Year Ended
	March 31, 2018	June 30, 2018	September 30, 2018	December 31, 2018	December 31, 2018
Oil and natural gas sales	\$138,228	\$163,446	\$175,118	\$136,639	\$613,431
Asset impairment	\$—	\$—	\$—	\$—	\$—
Income (loss) from continuing operations	\$17,861	\$20,300	\$75,295	\$(10,840)	\$102,616
Loss from discontinued operations, net of income taxes	—	—	—	—	—
Net income (loss)	\$17,861	\$20,300	\$75,295	\$(10,840)	\$102,616
Loss per share					
Income (loss) from continuing operations	0.05	0.05	0.19	(0.03)	0.26
Loss from discontinued operations, net of income taxes	—	—	—	—	—
Net income (loss) per share - Basic	\$0.05	\$0.05	\$0.19	\$(0.03)	\$0.26

Net income (loss) per share - Diluted	\$0.05	\$0.05	\$ 0.18	\$ (0.03) \$ 0.26
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(Thousands of U.S. Dollars, Except Per Share Amounts)	Three Months Ended				Year Ended
	March 31, 2017	June 30, 2017	September 30, 2017	December 31, 2017	December 31, 2017
Oil and natural gas sales	\$94,659	\$96,128	\$ 103,768	\$ 127,179	\$ 421,734
Asset impairment	\$283	\$ 169	\$ 787	\$ 275	\$ 1,514
Net loss	\$12,771	\$(6,807)	\$ 3,130	\$(40,802)	\$(31,708)
Loss per share - Basic and Diluted	\$0.03	\$(0.02)	\$0.01	\$(0.10)	\$(0.08)

PART IV

Item 15. Exhibits, Financial Statement Schedules

(a) The following documents are filed as part of this Annual Report on Form 10-K/A:

(1) Financial Statements

	Page
<u>Report of Independent Registered Public Accounting Firm</u>	<u>1</u>
<u>Consolidated Statements of Operations</u>	<u>3</u>
<u>Consolidated Balance Sheets</u>	<u>4</u>
<u>Consolidated Statements of Cash Flow</u>	<u>5</u>
<u>Consolidated Statements of Shareholders' Equity</u>	<u>6</u>
<u>Notes to the Consolidated Financial Statements</u>	<u>7</u>
<u>Supplementary Data (Unaudited)</u>	<u>33</u>

(2) Financial Statement Schedules

None.

(3) Exhibits

Exhibit No.	Description	Reference
<u>2.2</u>	<u>Plan of Conversion, dated October 31, 2016.</u>	<u>Incorporated by reference to Exhibit 2.1 to the Current Report on Form 8-K, filed with the SEC on November 4, 2016 (SEC File No. 001-34018).</u>
3.1	<u>Certificate of Incorporation.</u>	<u>Incorporated by reference to Exhibit 3.3 to the Current Report on Form 8-K, filed with the SEC on November 4, 2016 (SEC File No. 001-34018).</u>
<u>3.2</u>	<u>Bylaws of Gran Tierra Energy Inc.</u>	<u>Incorporated by reference to Exhibit 3.4 to the Current Report on Form 8-K, filed with the SEC on November 4, 2016 (SEC File No. 001-34018).</u>

3.3 Certificate of Retirement of Special A Voting Stock and Special B Voting Stock of Gran Tierra Energy Inc.

Incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K, filed with the SEC on July 9, 2018 (SEC File No. 001-34018).

4.1 Details of the Goldstrike Special Voting Share.

Incorporated by reference to Exhibit 10.14 to the Annual Report on Form 10-KSB/A for the period ended December 31, 2005, and filed with the SEC on April 21, 2006 (SEC File No. 333-111656).

4.2 Goldstrike Exchangeable Share Provisions.

Incorporated by reference to Exhibit 10.15 to the Annual Report on Form 10-KSB/A for the period ended December 31, 2005 and filed with the SEC on April 21, 2006 (SEC File No. 333-111656).

4.3 Provisions Attaching to the GTE-Solana Exchangeable Shares.

Incorporated by reference to Annex E to the Proxy Statement on Schedule 14A filed with the SEC on October 14, 2008 (SEC File No. 001-34018).

4.4 Indenture related to the 5.00% Convertible Senior Notes due 2021, dated as of April 6, 2016, between Gran Tierra Energy Inc. and U.S. Bank National Association.

Incorporated by reference to Exhibit 4.1 to the Current Report on Form 8-K, filed with the SEC on April 6, 2016 (SEC File No. 001-34018).

4.5 Form of 5.00% Convertible Senior Notes due 2021.

Incorporated by reference in Exhibit A to Exhibit 4.1 to the Current Report on Form 8-K, filed with the SEC on April 6, 2016 (SEC File No. 001-34018).

4.6 Subscription Receipt Agreement, dated July 8, 2016, by and between Gran Tierra Energy Inc. and Computershare Trust Company of Canada.

Incorporated by reference to Exhibit 4.1 to the Current Report on Form 8-K, filed with the SEC on July 14, 2016 (SEC File No. 001-34018).

4.7 Form of Registration Rights Agreement.

Incorporated by reference to Exhibit 4.2 to the Current Report on Form 8-K, filed with the SEC on July 14, 2016 (SEC File No. 001-34018).

4.8 Indenture related to the 6.25% Senior Notes due 2025, dated as of February 15, 2018, between Gran Tierra Energy International Holdings Ltd., the Guarantors named therein and U.S. Bank National Association.

Incorporated by reference to Exhibit 4.1 to the Current Report on Form 8-K filed with the SEC on February 16, 2018 (SEC File No. 001-34018).

- 4.9 Form of 6.25% Senior Notes due 2025. Incorporated by reference to Exhibit 4.2 to the Current Report on Form 8-K filed with the SEC on February 16, 2018 (SEC File No. 001-34018).
- 10.1 Voting Exchange and Support Agreement by and between Goldstrike, Inc., 1203647 Alberta Inc., Gran Tierra Goldstrike Inc. and Olympia Trust Company dated as of November 10, 2005. Incorporated by reference to Exhibit 10.3 to the Current Report on Form 8-K filed with the SEC on November 10, 2005 (SEC File No. 333-111656).
- 10.2 Voting and Exchange Trust Agreement, dated as of November 14, 2008, between Gran Tierra Energy Inc., Gran Tierra Exchangeco Inc. and Computershare Trust Company of Canada. Incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed with the SEC on November 17, 2008 (SEC File No. 001-34018).
- 10.3 Support Agreement, dated as of November 14, 2008, between Gran Tierra Energy Inc., Gran Tierra Callco ULC and Gran Tierra Exchangeco Inc. Incorporated by reference to Exhibit 10.2 to the Current Report on Form 8-K, filed with the SEC on November 17, 2008 (SEC File No. 001-34018).
- 10.4 Share Purchase Agreement dated as of June 30, 2016, among Gran Tierra Energy International Holdings Ltd., Tribeca Oil & Gas Inc., Macquarie Bank Limited, Rorick Ventures Group Inc., as vendors, and PetroLatina Energy Limited. Incorporated by reference to Exhibit 2.1 to the Current Report on Form 8-K, filed with the SEC on July 7, 2016 (SEC File No. 001-34018).
- 10.5 Share and Loan Purchase Agreement, dated February 5, 2017, by Gran Tierra Energy International Holdings Ltd., Gran Tierra Luxembourg Holdings S. Á. R.L. and Maha Energy AB Incorporated by reference to Exhibit 2.1 to the Current Report on Form 8-K filed with the SEC on July 6, 2017 (SEC File No. 001-34018).
- 10.6 Amendment #1, dated May 30, 2017, to the Share and Loan Purchase Agreement dated February 5, 2017 between Gran Tierra Energy International Holdings Ltd., Gran Tierra Luxembourg Holdings S.Á.R.L. and Maha Energy AB. Incorporated by reference to Exhibit 2.2 to the Current Report on Form 8-K filed with the SEC on July 6, 2017 (SEC File No. 001-34018).
- 10.7 Amendment #2, dated June 22, 2017, to the Share and Loan Purchase Agreement dated February 5, 2017 between Gran Tierra Energy International Holdings Ltd., Gran Tierra Luxembourg Holdings S.Á.R.L. and Maha Energy AB. Incorporated by reference to Exhibit 2.3 to the Current Report on Form 8-K filed with the SEC on July 6, 2017 (SEC File No. 001-34018).
- 10.8 Amendment #3, dated June 26, 2017, to the Share and Loan Purchase Agreement dated February 5, 2017 between Gran Tierra Energy International Holdings Ltd., Gran Tierra Luxembourg Holdings S.Á.R.L. and Maha Energy AB. Incorporated by reference to Exhibit 2.4 to the Current Report on Form 8-K filed with the SEC on July 6, 2017 (SEC File No. 001-34018).

<u>10.9</u>	<u>Amendment #4, dated August 31, 2017, to the Share and Loan Purchase Agreement dated February 5, 2017 between Gran Tierra Energy International Holdings Ltd., Gran Tierra Luxembourg Holdings S.Á.R.L. and Maha Energy AB.</u>	<u>Incorporated by reference to Exhibit 10.2 to the Quarterly Report on Form 10-Q filed with the SEC on November 2, 2017 (SEC File No. 001-34018).</u>
<u>10.10</u>	<u>Amendment #5, dated October 26, 2017, to the Share and Loan Purchase Agreement dated February 5, 2017 between Gran Tierra Energy International Holdings Ltd., Gran Tierra Luxembourg Holdings S.Á.R.L. and Maha Energy AB.</u>	<u>Incorporated by reference to Exhibit 10.10 to the Annual Report on Form 10-K filed with the SEC on February 27, 2018 (SEC File No. 001-34018).</u>
<u>10.11</u>	<u>Amendment #6, dated November 8, 2017, to the Share and Loan Purchase Agreement dated February 5, 2017 between Gran Tierra Energy International Holdings Ltd., Gran Tierra Luxembourg Holdings S.Á.R.L. and Maha Energy AB.</u>	<u>Incorporated by reference to Exhibit 10.11 to the Annual Report on Form 10-K filed with the SEC on February 27, 2018 (SEC File No. 001-34018).</u>
<u>10.12</u>	<u>Amendment #7, dated November 17, 2017, to the Share and Loan Purchase Agreement dated February 5, 2017 between Gran Tierra Energy International Holdings Ltd., Gran Tierra Luxembourg Holdings S.Á.R.L. and Maha Energy AB.</u>	<u>Incorporated by reference to Exhibit 10.12 to the Annual Report on Form 10-K filed with the SEC on February 27, 2018 (SEC File No. 001-34018).</u>
<u>10.13</u>	<u>Amended and Restated 2007 Equity Incentive Plan.*</u>	<u>Incorporated by reference to Exhibit 10.6 to the Quarterly Report on Form 10-Q filed with the SEC on August 7, 2012 (SEC File No. 001-34018).</u>
<u>10.14</u>	<u>Form of Restricted Stock Unit Award Agreement Under the 2007 Equity Incentive Plan.*</u>	<u>Incorporated by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q filed with the SEC on August 7, 2013 (SEC File No. 001-34018).</u>
<u>10.15</u>	<u>Form of Option Agreement Under the 2007 Equity Incentive Plan.*</u>	<u>Incorporated by reference to Exhibit 10.2 to the Quarterly Report on Form 10-Q filed with the SEC on August 7, 2013 (SEC File No. 001-34018).</u>
<u>10.16</u>	<u>Form of Indemnity Agreement.*</u>	<u>Incorporated by reference to Exhibit 3.5 to the Current Report on Form 8-K filed with the SEC on November 4, 2016 (SEC File No. 001-34018).</u>

10.17

Employment Agreement dated July 31, 2014, between Gran Tierra Energy Colombia Ltd. and Adrián Santiago Coral Pantoja. *

Incorporated by reference to Exhibit 10.4 to the Quarterly Report on Form 10-Q, filed with the SEC on August 7, 2014 (SEC File No. 001-34018).

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- 10.18 Transaction Agreement, dated July 18, 2018, between Adrian Coral Pantoja and James Evans, as legal representative of Gran Tierra Energy Colombia Ltd.* Incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K, filed with the SEC on July 23, 2018 (SEC File No. 001-34018).
- 10.19 Form of Deferred Stock Unit Award Agreement Under the 2007 Equity Incentive Plan.* Incorporated by reference to Exhibit 10.29 to the Annual Report on Form 10-K, filed with the SEC on February 29, 2016 (SEC File No. 001-34018).
- 10.20 Form of Deferred Stock Unit Grant Notice.* Incorporated by reference to Exhibit 10.30 to the Annual Report on Form 10-K, filed with the SEC on February 29, 2016 (SEC File No. 001-34018).
- 10.21 Executive Employment Agreement effective May 7, 2015, between Gran Tierra Energy Canada ULC, Gran Tierra Energy Inc. and Gary Guidry.* Incorporated by reference to Exhibit 10.2 to the Quarterly Report on Form 10-Q, filed with the SEC on November 4, 2015 (SEC File No. 001-34018).
- 10.22 Executive Employment Agreement effective May 11 2015, between Gran Tierra Energy Canada ULC, Gran Tierra Energy Inc. and Lawrence West.* Incorporated by reference to Exhibit 10.5 to the Quarterly Report on Form 10-Q, filed with the SEC on November 4, 2015 (SEC File No. 001-34018).
- 10.23 Executive Employment Agreement effective May 11, 2015, between Gran Tierra Energy Canada ULC, Gran Tierra Energy Inc. and James Evans.* Incorporated by reference to Exhibit 10.6 to the Quarterly Report on Form 10-Q, filed with the SEC on November 4, 2015 (SEC File No. 001-34018).
- 10.24 Form of Performance Stock Unit Award Agreement Under the 2007 Equity Incentive Plan.* Incorporated by reference to Exhibit 10.3 to the Quarterly Report on Form 10-Q, filed with the SEC on May 4, 2016 (SEC File No. 001-34018).
- 10.25 Form of Performance Stock Unit Grant Notice.* Incorporated by reference to Exhibit 10.4 to the Quarterly Report on Form 10-Q, filed with the SEC on May 4, 2016 (SEC File No. 001-34018).
- 10.26 Executive Employment Agreement effective May 11 2015, between Gran Tierra Energy Canada ULC, Gran Tierra Energy Inc. and Ryan Ellson.* Incorporated by reference to Exhibit 10.5 to the Quarterly Report on Form 10-Q, filed with the SEC on May 4, 2016 (SEC File No. 001-34018).
- 10.27 Credit Agreement, dated as of September 18, 2015, by and among Gran Tierra Energy Inc., Gran Tierra Energy Incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K, filed with the

International Holdings Ltd., the Bank of Nova Scotia, Societe Generale and the lenders party thereto. SEC on September 21, 2015 (SEC File No. 001-34018).

10.28 First Amendment to Credit Agreement, dated as of March 31, 2016, by and among Gran Tierra Energy International Holdings Ltd., Gran Tierra Energy Inc., The Bank of Nova Scotia, and the lenders party thereto. Incorporated by reference to Exhibit 10.2 to the Current Report on Form 8-K, filed with the SEC on April 6, 2016 (SEC File No. 001-34018).

- 10.29 Second Amendment to Credit Agreement, dated as of June 2, 2016, by and among Gran Tierra Energy International Holdings Ltd., Gran Tierra Energy Inc., The Bank of Nova Scotia, and the lenders party thereto. Incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K, filed with the SEC on June 3, 2016 (SEC File No. 001-34018).
- 10.30 Third Amendment to Credit Agreement, dated as of August 23, 2016, by and among Gran Tierra Energy International Holdings Ltd., Gran Tierra Energy Inc., The Bank of Nova Scotia, and the lenders party thereto. Incorporated by reference to Exhibit 10.42 to the Annual Report on Form 10-K, filed with the SEC on March 1, 2017 (SEC File No. 001-34018).
- 10.31 Fourth Amendment to Credit Agreement, dated as of November 16, 2016, by and among Gran Tierra Energy Inc., Gran Tierra Energy International Holdings Ltd., the Bank of Nova Scotia, Societe Generale and the lenders party thereto. Incorporated by reference to Exhibit 10.43 to the Annual Report on Form 10-K, filed with the SEC on March 1, 2017 (SEC File No. 001-34018).
- 10.32 Fifth Amendment to Credit Agreement, dated as of February 13, 2017, by and among Gran Tierra Energy Inc., Gran Tierra Energy International Holdings Ltd., the Bank of Nova Scotia, Societe Generale and the lenders party thereto. Incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K, filed with the SEC on February 15, 2017 (SEC File No. 001-34018).
- 10.33 Sixth Amendment to Credit Agreement, dated May 17, 2017 and effective as of June 1, 2017, by and among Gran Tierra Energy Inc., Gran Tierra Energy International Holdings Ltd., the Bank of Nova Scotia, Societe Generale and the lenders party thereto. Incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K, filed with the SEC on May 19, 2017 (SEC File No. 001-34018).
- 10.34 Seventh Amendment to Credit Agreement, dated as of June 15, 2017, by and among Gran Tierra Energy Inc., Gran Tierra Energy International Holdings Ltd., the Bank of Nova Scotia, Societe Generale and the lenders party thereto. Incorporated by reference to Exhibit 10.2 to the Quarterly Report on Form 10-Q, filed with the SEC on August 4, 2017 (SEC File No. 001-34018).
- 10.35 Eighth Amendment to Credit Agreement, dated as of September 18, 2017, by and among Gran Tierra Energy Inc., Gran Tierra Energy International Holdings Ltd., the Bank of Nova Scotia, Societe Generale and the lenders party thereto. Incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K, filed with the SEC on September 21, 2017 (SEC File No. 001-34018).

- 10.36 Ninth Amendment to Credit Agreement, dated as of November 10, 2017, by and among Gran Tierra Energy Inc., Gran Tierra Energy International Holdings Ltd., the Bank of Nova Scotia, Societe Generale and the lenders party thereto. Incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K, filed with the SEC on November 14, 2017 (SEC File No. 001-34018).
- 10.37 Tenth Amendment to Credit Agreement, dated as of May 25, 2018, by and among Gran Tierra Energy Inc., Gran Tierra Energy International Holdings Ltd., the Bank of Nova Scotia and the lenders party thereto. Incorporated by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q, filed with the SEC on August 2, 2018 (SEC File No. 001-34018)
- 10.38 Eleventh Amendment to Credit Agreement, dated as of December 20, 2018, by and among Gran Tierra Energy Inc., Gran Tierra Energy International Holdings Ltd., the Bank of Nova Scotia and the lenders party thereto. Incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K, filed with the SEC on December 21, 2018 (SEC File No. 001-34018)
- 10.39 Colombian Participation Agreement, dated as of June 22, 2006, by and among Argosy Energy International, Gran Tierra Energy Inc., and Crosby Capital, LLC. Incorporated by reference to Exhibit 10.55 to the Quarterly Report on Form 10-Q, filed with the SEC on August 11, 2008 (SEC File No. 001-34018).
- 10.40 Amendment No. 1 to Colombian Participation Agreement, dated as of November 1, 2006, by and among Argosy Energy International, Gran Tierra Energy Inc., and Crosby Capital, LLC. Incorporated by reference to Exhibit 10.56 to the Quarterly Report on Form 10-Q, filed with the SEC on August 11, 2008 (SEC File No. 001-34018).
- 10.41 Amendment No. 2 to Colombian Participation Agreement, dated as of July 3, 2008, between Gran Tierra Energy Inc. and Crosby Capital, LLC. Incorporated by reference to Exhibit 10.3 to the Quarterly Report on Form 10-Q/A, filed with the SEC on November 19, 2008 (SEC File No. 001-34018).
- 10.42 Amendment No. 3 to Participation Agreement, dated as of December 31, 2008, by and among Gran Tierra Energy Colombia, Ltd., Gran Tierra Energy Inc. and Crosby Capital, LLC. Incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K, filed with the SEC on January 7, 2009 (SEC File No. 001-34018).
- 10.43 Amendment No. 4 dated June 13, 2011, to the Colombian Participation Agreement dated June 22, 2006, between Gran Tierra Colombia Ltd and Crosby Capital, LLC. Incorporated by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q filed with the SEC on May 7, 2012 (SEC File No. 001-34018).
- 10.44 Amendment No. 5 dated February 10, 2011, to the Colombian Participation Agreement dated June 22, 2006, between Gran Tierra Colombia Ltd and Crosby Capital, LLC. Incorporated by reference to Exhibit 10.2 to the Quarterly Report on Form 10-Q filed with the SEC on May 7, 2012 (SEC File No. 001-34018).
- 10.45 Amendment No. 6 dated March 1, 2012, to the Colombian Participation Agreement dated June 22, 2006, between Gran Incorporated by reference to Exhibit 10.9 to the Quarterly Report on Form 10-Q filed with the

Tierra Colombia Ltd and Crosby Capital, LLC.

SEC on May 7, 2012 (SEC File No. 001-34018).

21.1 List of subsidiaries.

Incorporated by reference to Exhibit 21.1 to the Annual Report on Form 10-K filed with the SEC on February 27, 2019 (SEC File No. 001-34018).

23.1 Consent of KPMG LLP.

Filed herewith.

23.2 Consent of McDaniel & Associates Consultants Ltd.

Incorporated by reference to Exhibit 23.2 to the Annual Report on Form 10-K filed with the SEC on February 27, 2019 (SEC File No. 001-34018).

23.3 Consent of Deloitte LLP.

Filed herewith.

24.1 Power of Attorney.

Included on signature page of the Annual Report on Form 10-K filed with the SEC on February 27, 2019 (SEC File No. 001-34018).

31.1 Certification of Principal Executive Officer Pursuant to Rule 13a-14(a)/15d-14(a), as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. Filed herewith.

31.2 Certification of Principal Financial Officer Pursuant to Rule 13a-14(a)/15d-14(a), as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. Filed herewith.

32.1 Certification of Principal Executive Officer and Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. Furnished herewith.

99.1 Gran Tierra Energy Inc. Reserves Assessment and Evaluation of Oil and Gas Properties Corporate Summary, effective December 31, 2018. Incorporated by reference to Exhibit 99.1 to the Current Report on Form 8-K, filed with the SEC on January 30, 2019 (SEC File No. 001-34018).

101.INS XBRL Instance Document

101.SCH XBRL Taxonomy Extension Schema Document

101.CAL XBRL Taxonomy Extension Calculation Linkbase Document

101.DEF XBRL Taxonomy Extension Definition Linkbase Document

101.LAB XBRL Taxonomy Extension Label Linkbase Document

101.PRE XBRL Taxonomy Extension Presentation Linkbase Document

* Management contract or compensatory plan or arrangement.

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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.

GRAN TIERRA ENERGY INC.

Date: April 15, 2019 /s/ Gary S. Guidry

By: Gary S. Guidry
President and Chief Executive Officer, Director
(Principal Executive Officer)

Date: April 15, 2019 /s/ Ryan Ellson

By: Ryan Ellson
Chief Financial Officer
(Principal Financial and Accounting Officer)

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

Name	Title	Date
/s/ Gary S. Guidry Gary S. Guidry	President and Chief Executive Officer, Director (Principal Executive Officer)	April 15, 2019
/s/ Ryan Ellson Ryan Ellson	Chief Financial Officer (Principal Financial and Accounting Officer)	April 15, 2019
* Peter Dey	Director	April 15, 2019
* Evan Hazell	Director	April 15, 2019
* Robert B. Hodgins	Director	April 15, 2019
* Ronald Royal	Director	April 15, 2019
* Sondra Scott	Director	April 15, 2019
* David P. Smith	Director	April 15, 2019
* Brooke Wade	Director	April 15, 2019
By: /s/ Gary S. Guidry Gary S. Guidry		April 15, 2019
*(Attorney-in-Fact)		