2016/17

Liability Management Rating Summary

BC Oil & Gas COMMISSION

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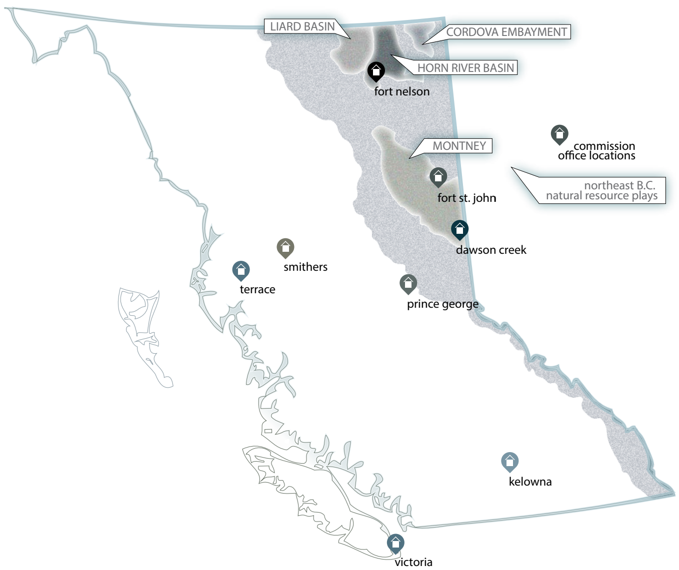
About the

BC Oil and Gas Commission

The BC Oil and Gas Commission (Commission) is the provincial regulatory agency with responsibilities for regulating oil and gas activities in British Columbia, including exploration, development, pipeline transportation and reclamation.

The Commission's core services include reviewing and assessing applications for industry activity, consulting with First Nations, cooperating with partner agencies, and ensuring industry complies with provincial legislation and all regulatory requirements. The public interest is protected by ensuring public safety, respecting those affected by oil and gas activities, conserving the environment, and ensuring equitable participation in production.

For general information about the Commission, please visit www.bcogc.ca or phone 250-794-5200.



Mission

We regulate oil and gas activities for the benefit of British Columbians.

We achieve this by:

- Protecting public safety,
- Respecting those affected by oil and gas activities,
- Conserving the environment, and
- Supporting resource development.

Through the active engagement of our stakeholders and partners, we provide fair and timely decisions within our regulatory framework.

We support opportunities for employee growth, recognize individual and group contributions, demonstrate accountability at all levels, and instill pride and confidence in our organization.

We serve with a passion for excellence.

Vision

To provide oil and gas regulatory excellence for British Columbia's changing energy future.

Values

Respectful

Accountable

Effective

Efficient

Responsive

Transparent

2016/17 Liability Management Rating Summary

About this Summary

Decommissioning and restoration of oil and gas sites in British Columbia is regulated by the Commission. Permit holders are required to properly deactivate and decommission wells, facilities and pipelines, and restore disturbances to meet regulatory closure.

The purpose of the Liability Management Rating (LMR) program is to ensure permit holders carry the financial risk of their operations through to regulatory closure. It does this by identifying those companies whose deemed liabilities exceed their deemed assets (a LMR below 1.0) and requires security for the risk inherent to the calculation.

This report outlines the measurement of key indicators used to determine the amount of permit holder liability the Commission is exposed to, and how the risk exposure changes over time. The metrics are used to evaluate whether the goal of reducing liability exposure to the Orphan Site Reclamation Fund (OSRF) is being accomplished.

The **Orphan Site Reclamation Fund** is an industry-funded program that addresses the costs of environmental reclamation for wells, pipelines and facilities for which an owner cannot be identified or is insolvent. The OSRF ensures taxpayers, and in some cases land owners, are not liable for environmental reclamation costs.

Background

The authority to collect security falls under Section 30 of the Oil and Gas Activities Act. A permit holder's LMR is used to determine the amount of required security. Following the release of the LMR program, a deemed asset calculation was developed to determine the estimated value of a permit holder's production, processing and disposal infrastructure, and a liability model was developed to estimate decommissioning and restoration costs.

If at the time of review a permit holder's deemed asset is not sufficient to cover their deemed liability (a LMR below 1.0), or if their deemed asset is projected to be insufficient, security may be required. LMR reviews are conducted monthly and during asset transfer processes for all permit holders. This allows the Commission to increase security deposits should a permit holder's LMR decrease as a result of a divestment, or a drop in production, disposal, or throughput. Deposits can be returned to permit holders who no longer have assets in B.C., or if, in the opinion of the Commission, the security deposit is no longer required to secure the permit holder's obligations.

Objectives for the LMR Program

1. To protect the OSRF, and ultimately the Crown, from bearing the costs associated with abandonment and reclamation of oil and gas activities.
2. To ensure adequate security is provided by permit holders to address the risk that oil and gas sites will not be adequately abandoned and/or reclaimed.
3. To provide incentive for industry to actively manage liability obligations.

LMR Calculation

The LMR is the calculated ratio of estimated operational assets and security deposit to estimated decommissioning liabilities for permit holders.

The LMR equation is as follows:

$$\text{LMR} = \frac{\text{Deemed Assets + Security Deposit}}{\text{Deemed Liabilities}}$$

Additional information can be found at: http://www.bcogc.ca/industry-zone/liability-management-rating-program.

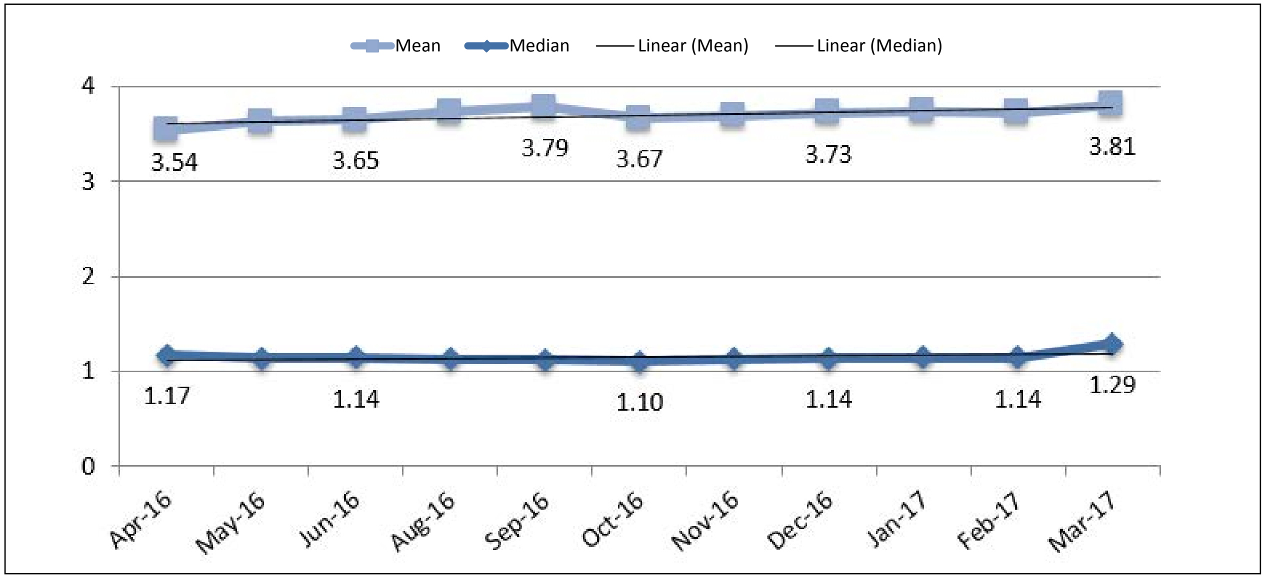
Permit Holder LMRs

The Commission measures the mean (average) and median (central point) LMR of all B.C. producers, disposers, and processors to spot trends in the overall ability of the industry to meet its closure obligations. Identifying trends that may be indicative of lower industry financial health can inform the Commission of when program changes may be necessary.

The following figures illustrate the mean and median LMR for permit holders with time in each business category.

As evidenced in Figure 1[1], the mean and median LMRs for producers were largely flat through the year. Compared to previous years, the LMR values were down significantly. The average LMR reached a low of 1.10 in October 2016, indicating that many producers were operating either under or very near to a LMR of 1.0.

Figure 1 - Mean and Median of Producers



[1] In July 2016, there were significant delays in production reporting that prevented a monthly LMR review from occurring. The missing data affects all figures included in this report except for Security Deposits.

Glossary available on Commission website.

LMR PERMIT HOLDER CATEGORIES

Producer - Permit holder whose operations and deemed assets are primarily in the form of gas and/or oil production.

Disposer - Permit holder whose operations and deemed assets are primarily in the form of downhole oil and gas waste disposal.

Processor - Permit holder whose operations and deemed assets are primarily in the form of processing raw gas into marketable gas.

With a small data set like disposers (Figure 2), the variation of a single permit holder's LMR can result in a notable dip or peak in the mean and median. Year-over-year the mean and median LMR values for disposers have been increasing. The addition of a new disposal company with a LMR of 1.0 towards the end of the year led to a small drop in the median LMR. This drop is likely to reverse once the company commences disposal operations.

As is the case with disposers, processors (Figure 3) are a very small data set where minimal changes in the data significantly affect the mean and median. Seven of nine processors were significantly above a LMR of 1.0, and the overall trend reflected this as the LMR of processors remained strong throughout the year. A substantial drop in the mean LMR in March 2017 is the result of the construction operations for a large gas plant that raised the total liability associated with processors by 10 per cent. While the mean and median are unlikely to fall close to a LMR of 1.0, the LMR program may continue to observe fluctuating measures due to the small number of processors.

Figure 2 - Mean and Median of Disposers

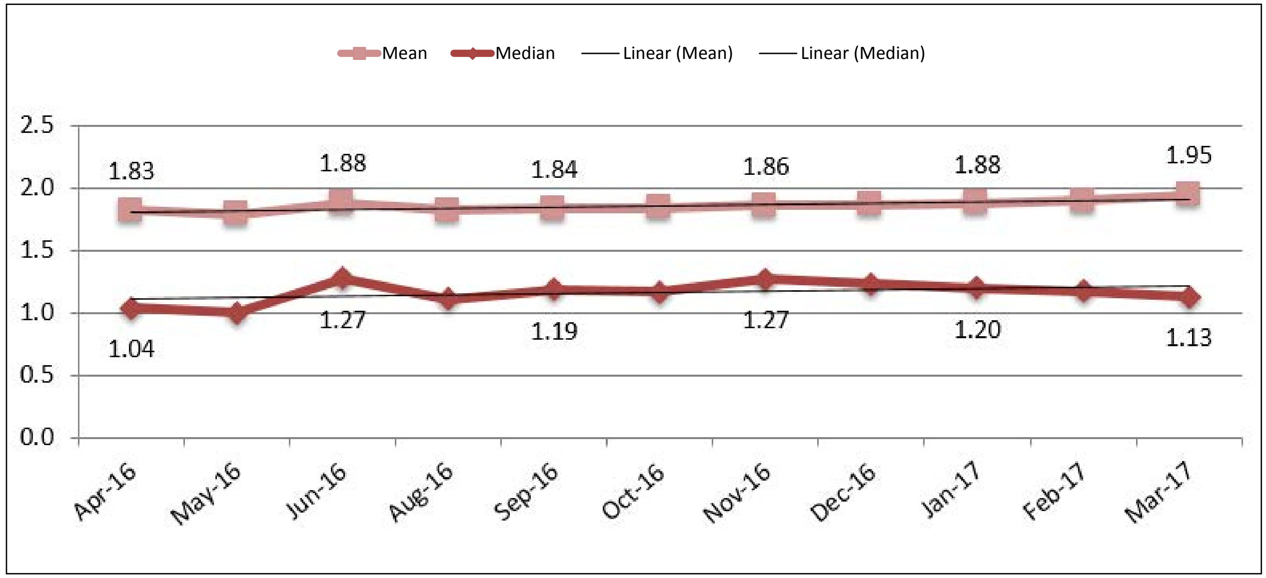
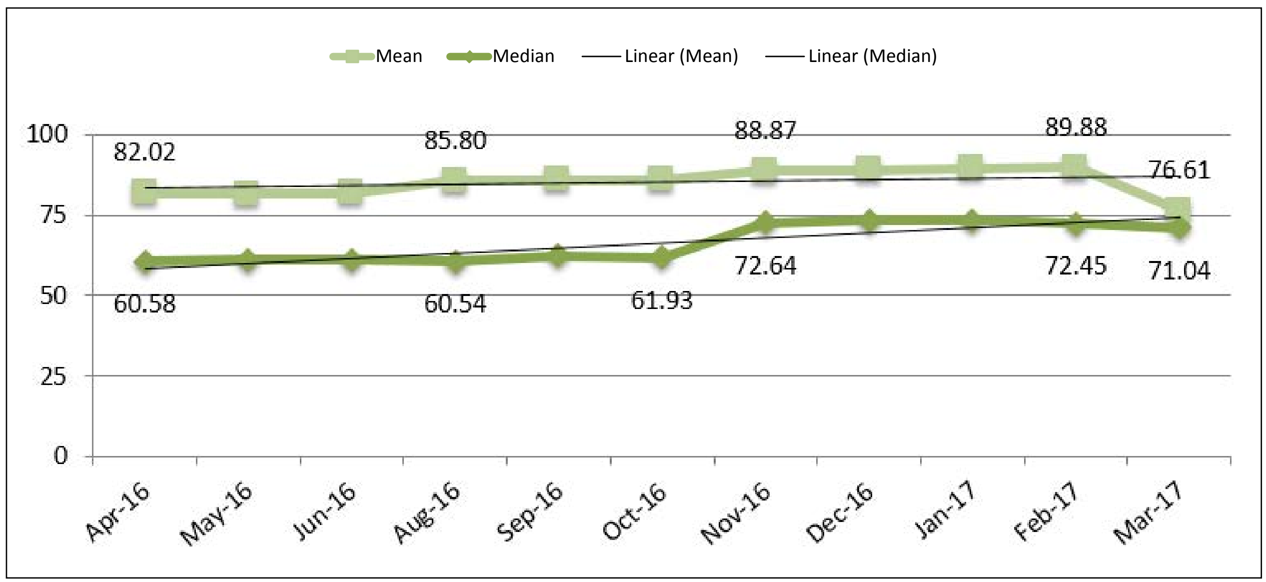


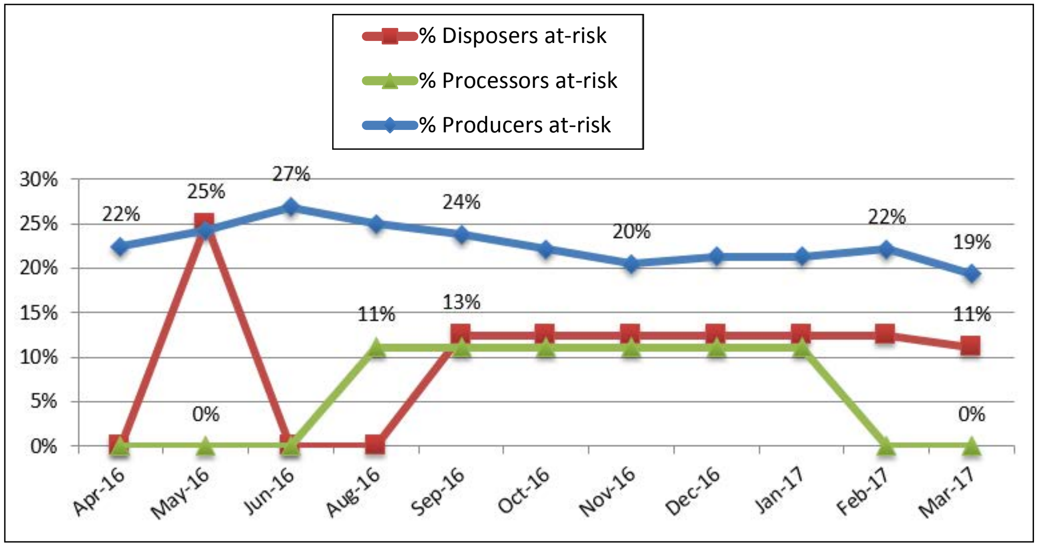
Figure 3 - Mean and Median of Processors



At-Risk Permit Holders

Permit holders are identified as a potential financial risk (at-risk) if the total of their deemed assets and security deposit are less than deemed liabilities. Figure 4 illustrates the proportion of B.C. permit holders found to be at-risk over time[2].

Figure 4 - Percentage of Permit Holders Below Threshold



The number of at-risk permit holders in the LMR program was consistently high through 2016/17 as the downturn in oil and gas pricing persisted, forcing some operations to shut-in. The number of at-risk producers peaked at 27 per cent in June 2016, the highest level since 2012. By March 2017, this number had fallen to 19 per cent. In the second half of 2016, one disposer and one processor saw their LMR fall under 1.0; however, in both cases they returned to a LMR of 1.0 by May 2017.

As permit holders enter B.C., build new infrastructure, or experience production declines, the LMR program often sees temporary peaks in the percentage of those at-risk as they work to secure their liability; this is evident for disposers and processors in the figure above.

[2] This target measures the proportion of at-risk permit holders rather than the total number of at-risk permit holders since the total count changes over time (e.g. a reduction in the count will raise the target percentage).

Reclamation process.

Unsecured Liability

The LMR framework focuses requirements for security to at-risk permit holders. Unsecured liability refers to the amount of deemed liability that exceeds the deemed asset in the calculation and is not covered by a security deposit.

Security deposit requirements fluctuate over time as the number of at-risk permit holders changes (e.g. corporate reorganization or production changes). The growth of the total unsecured liability for producers in 2016/17 is, in part, a result of the substantial increase in the unsecured liability associated with the shut-in of the operations of Terra Energy following the commencement of insolvency proceedings. The total amount of unsecured liability from Terra Energy peaked at $20 million in February 2017 prior to the end of the receivership. In March 2017, the asset sales concluded and the Commission designated the remaining sites as orphans, resulting in the drop in total unsecured liability.

Figure 5 illustrates the total amount of estimated liability requiring future security payment by at-risk producers. In the 2016/17 fiscal year, producers saw their total unsecured liability remain at a high level throughout the year. The higher unsecured liability is due to an increase in non-compliant operators combined with monthly security requests that were as high as $9 million per month as more companies dropped below a LMR of 1.0. Slightly under $6.5 million of the March 2017 total unsecured liability was from non-compliant operators, which is roughly the same amount as in March 2016. The significant change in unsecured liability between February and March 2017 was the result of the designation of Terra Energy Corp.'s remaining sites as orphans.

The 2016/17 fiscal year was the third full year non-producers were included in the LMR program. The year saw one processor shut-in operations resulting in an increase to unsecured liability on a month-to-month basis. However, through the payment of security all processors had a LMR of 1.0 or greater by the close of the fiscal year. For disposers, one operator fell under a LMR of 1.0 in the second half of 2016.

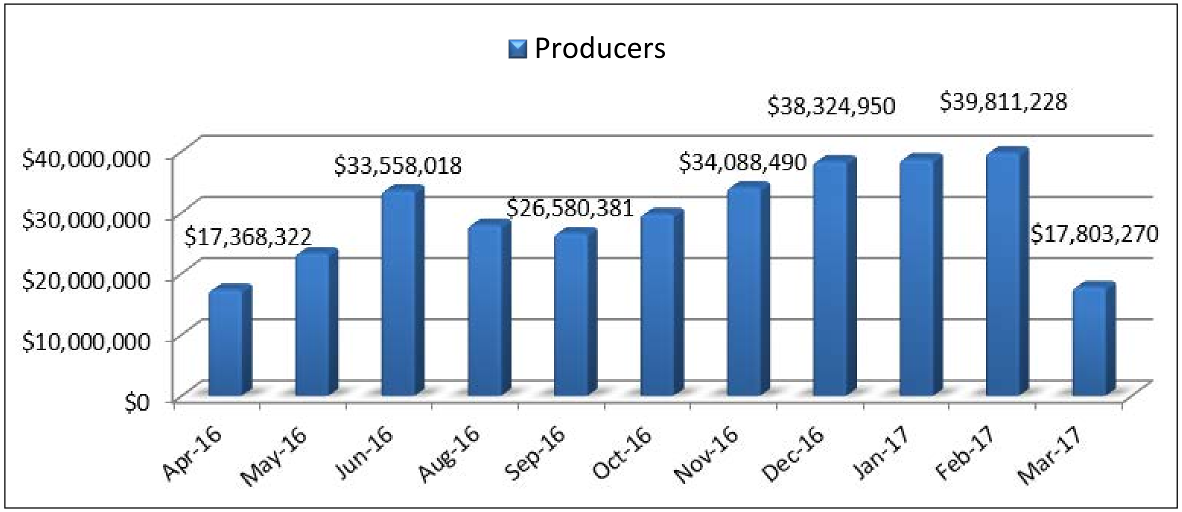


Figure 5 - Total Unsecured Liability by Month (Producers)

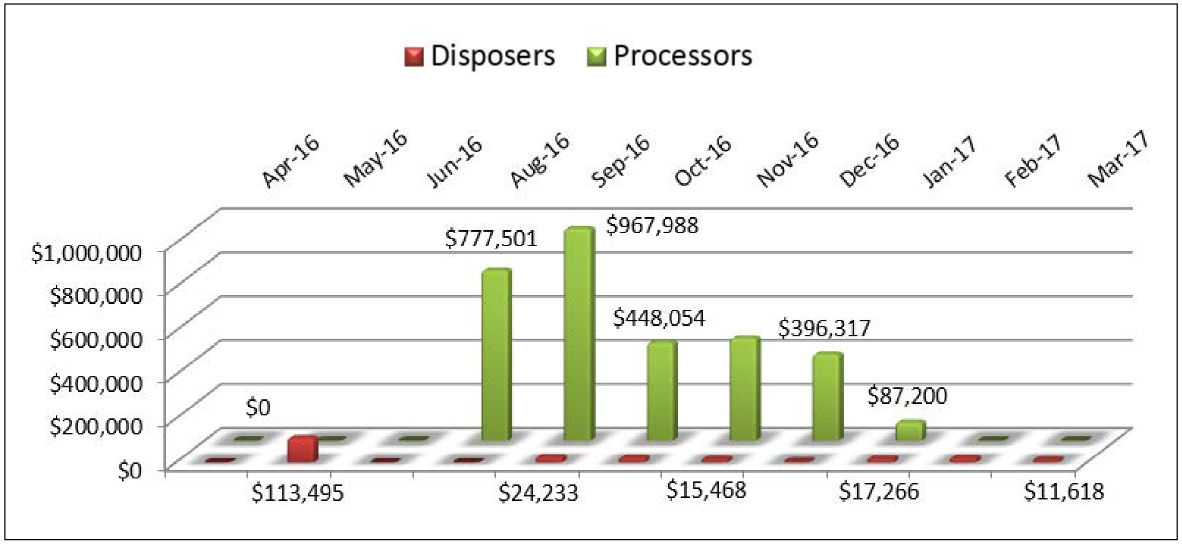


Figure 6 - Total Unsecured Liability by Month (Disposers and Processors)

High Risk Permit Holders

The LMR program works with all willing permit holders to reduce their unsecured liability through the submission of security deposits, divestment guidance, or liability reduction through asset retirement. Permit holders that have not complied with security deposit requirements are deemed non-compliant under Section 30 and enter a compliance and enforcement framework.

As of the end of the 2016/17 fiscal year, 10 permit holders were deemed non-compliant. The Commission designated the assets of one permit holder as orphans during the fiscal year. The Asset Integrity & Retirement branch monitors non-compliant permit holders and actively seeks solutions to retire the asset. Requests for specific details related to non-compliance can be directed to the Commission.

Security Deposits

During the 2016/17 fiscal year the Commission received an additional $48 million in security deposits, nearly doubling the total amount of security held to over $100 million. Significant amounts of security were required as an increasing number of operators shut-in or reduced their production due to low prices.

The preference between cash and letters of credit for security submission varies depending on the amount of security required. For operators with security requirements exceeding $1 million, 51 per cent submit letters of credit. For operators with smaller security requirements, the preference remains firmly with cash. As a result, letters of credit account for 66 per cent of the total value of security deposits held despite 75 per cent of operators submitting security deposits as cash.

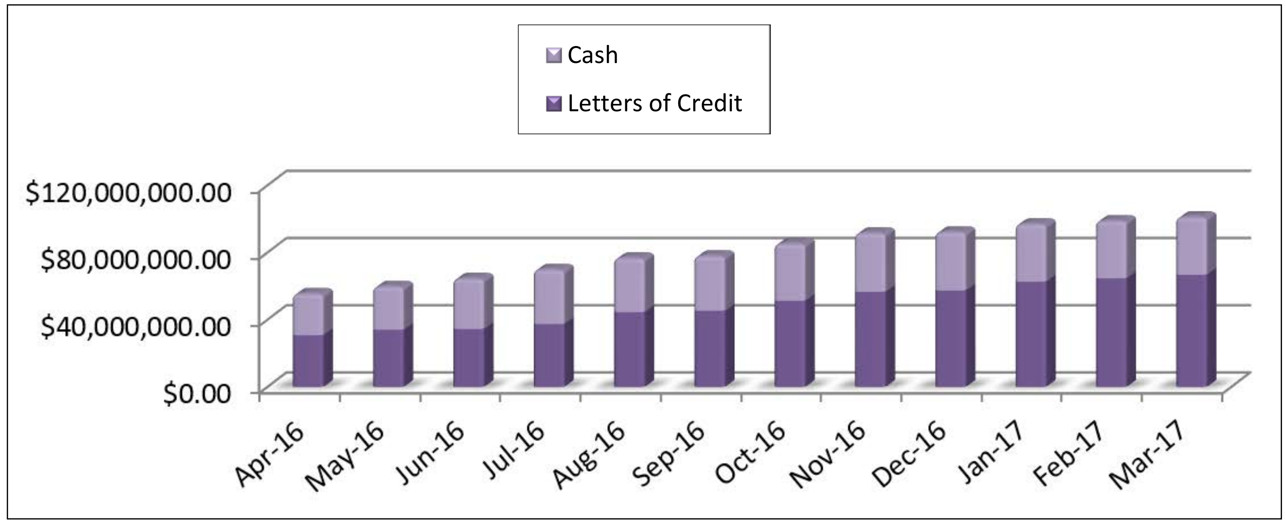
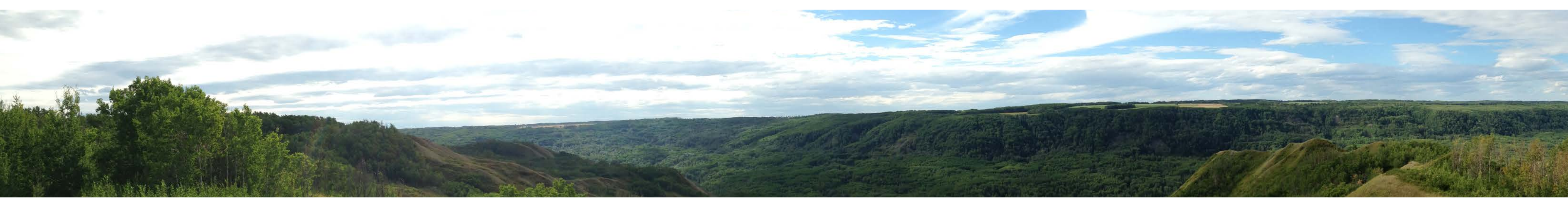


Figure 7 - Total Security Deposits Held



Closure

The last fiscal year was highly challenging for the British Columbia oil and gas industry and the impact of the industry's financial challenges was illustrated in the LMR program. Over the course of the year, total unsecured liability climbed to just under $40 million before dropping by over 50 per cent. Despite the significant increase in security held, there is still financial risk evident in the LMR program.

The operational impact resulting from the downturn in prices has stabilized in recent months resulting in reduced security requests. However, continued depressed prices will pose a challenge to some operators over the coming year. The Commission remains committed to working directly with permit holders to establish individual plans to manage financial risk and reduce exposure to the OSRF.

For more information on the Commission's LMR program, OSRF or enquiries regarding this document please contact Mike Janzen at Mike.Janzen@bcogc.ca.