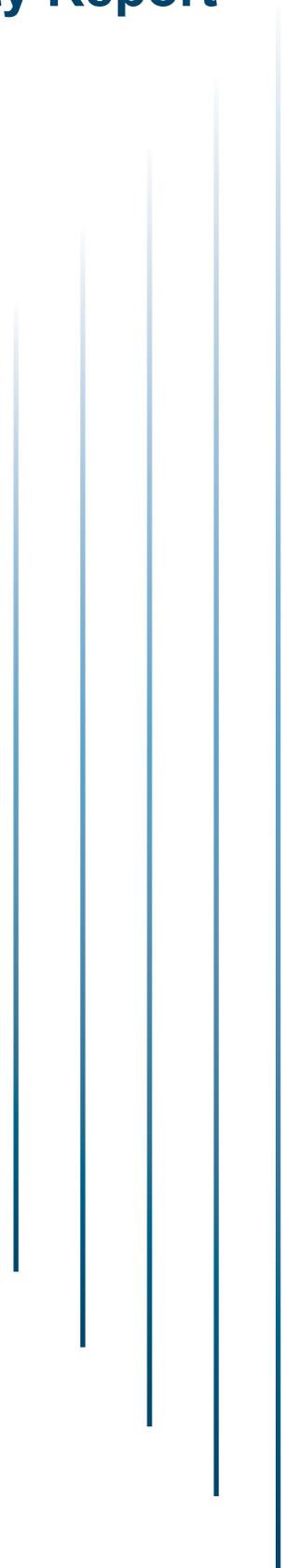


Compliance and Enforcement Activity Report for 2010/2011



About the BC Oil and Gas Commission

The BC Oil and Gas Commission (Commission) is an independent, single-window regulatory agency with responsibilities for permitting and overseeing oil and gas operations in British Columbia, including exploration, development, pipeline transportation and reclamation.

The Commission's core roles include reviewing and assessing applications for industry activity, consulting with First Nations, ensuring industry complies with provincial legislation and cooperating with partner agencies. The public interest is protected through the objectives of ensuring public safety, protecting the environment, conserving petroleum resources and ensuring equitable participation in production.

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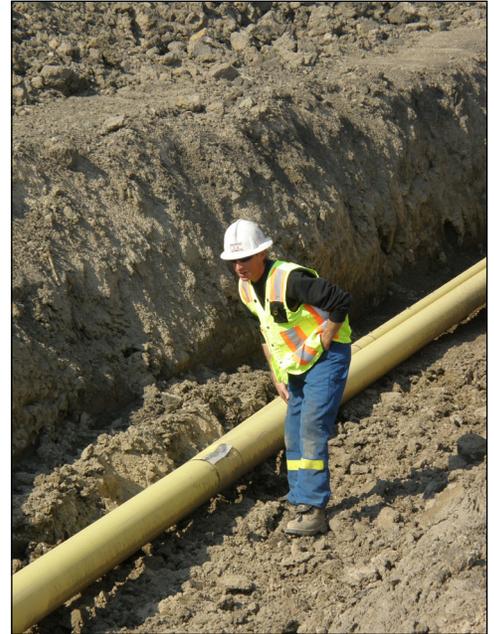
1. About the Compliance and Enforcement Activity Report

The Compliance and Enforcement Activity Report¹ is an annual report that provides insight into industry compliance within the scope of oil and gas activity in British Columbia, including a summary of inspections performed and compliance and enforcement actions undertaken by BC Oil and Gas Commission (Commission) staff in the 2010/11 fiscal year.

Regulations and requirements related to public safety, protection of the environment, accurate product measurement and responsible reservoir management are established by the Oil and Gas Activities Act (OGAA) and associated regulations. The OGAA framework, implemented in October 2010, strengthened provisions related to the Commission's compliance and enforcement model in areas including administrative penalties and permit administration.

Commission inspectors undertake reviews generated by risk modelling, complaints, incidents, and government agency or public requests to ensure operators are in compliance with all applicable legislation, standards and permit approval conditions. The Commission's inspection process and records are discussed in Section 3 of this report.

If an operator fails to meet requirements or follow Commission direction, the operator may be subject to measures imposed by Commission enforcement officers or their counterparts within other authorities and arms of government. The Commission's enforcement process and a summary of enforcement actions are discussed in Section 6 of this report.



A Commission inspector on a pipeline inspection.

¹ In previous years this report was titled the Field Inspection Annual Report. This adjusted title more accurately reflects regulatory requirements not limited to field inspections, such as data reporting requirements.

2. Industry Snapshot

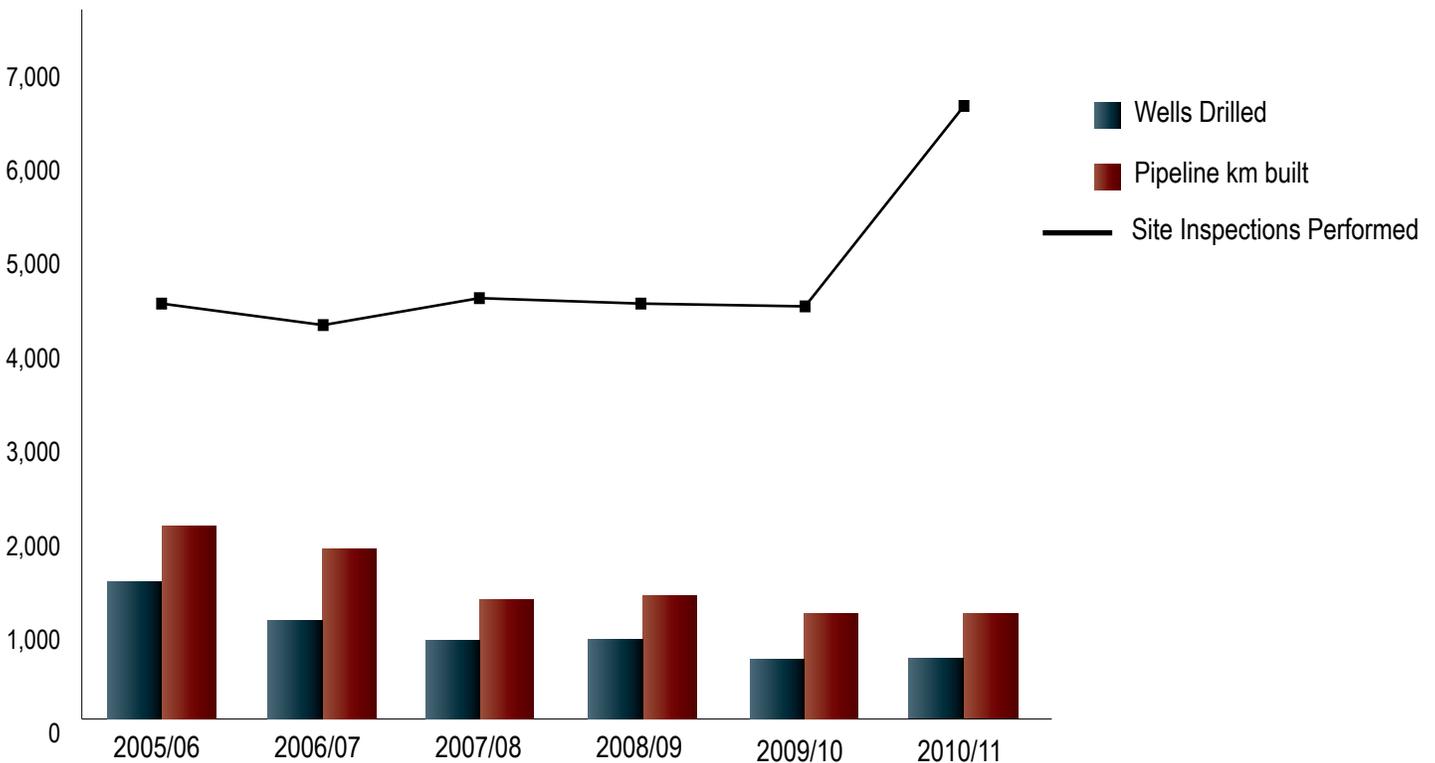
Oil and gas activity levels for 2010/11 were comparable to activity levels experienced in the previous fiscal year. As shown in Table 1 and Figure 1, activity has declined since the peak activity experienced in 2005/06; however, the total inventory of oil and gas installations that must be regulated by the Commission continues to increase.

In 2010/11, oil and gas operators drilled a total of 640 wells, resulting in a total inventory in British Columbia of over 22,000 wells. Also constructed were 1,113 kilometres (km) of pipeline, increasing the network regulated by the Commission to over 37,000 km. There were also 20 geophysical programs active. The increase in inspections between 2009/10 and 2010/11 is largely attributed to the increase in multi-well pads, where an increased number of inspections can be performed due to collective wellpad activity.

Table 1: Oil and Gas Activity and Site Inspection Overview

Activity Type	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
Wells Drilled	1,465	1,049	842	845	634	640
Pipeline km Built	2,054	1,810	1,268	1,315	1,127	1,113
Geophysical Exploration Programs	275	186	89	45	34	20
Site Inspections Performed	4,361	4,124	4,426	4,359	4,337	6,474

Figure 1: Oil and Gas Activity Levels and Site Inspections Performed



3. Inspection Process Overview

The Commission's inspection process ensures oil and gas operators are meeting regulatory requirements and actively managing apparent and potential risks. The Commission has also established a Memorandum of Understanding with the Ministry of Finance ensuring efficient and effective product measurement practices are utilized. Proficient product measurement ensures the provincial government receives the required revenues and royalties from petroleum and natural gas resource extraction.

Regulatory compliance commences as soon as an application is submitted to the Commission. Prior to any industrial activity taking place, applications are reviewed to ensure consistency with legislative requirements and to ensure stakeholders' concerns have been appropriately considered. During project reviews, modifications to an application may be requested by the Commission based on First Nation consultation, landowner concerns or technical assessment results.

Once an application is approved and construction activity commences, the Commission's inspection staff monitors regulatory compliance. The Commission utilizes a risk-based inspection model as its primary method of prioritizing and allocating site inspection resources. To ensure the highest risk sites are inspected, annual computer modelling iterations rank sites based upon:

- History of operator compliance – the record of unsatisfactory inspections, incidents and received complaints.
- Site sensitivity – the proximity of the site to residents and sensitive environments.
- Inherent risk – considers the likelihood of an incident occurring along with the probable consequences if one were to occur.

Site inspections are also triggered through public requests and complaints, as a result of reported incidents, and during the application approval process. An overview of the inspection process is outlined in Figure 2.

Figure 2: Commission Inspection Process



Commission inspectors conduct site inspections and enter their findings into the Commission database. Depending on the severity and situation, deficiencies are communicated to the operator during the inspection or upon the inspector's return to the office. Operators are required to correct any identified deficiencies based upon the correction timeframes outlined in Section 3.1 (Table 2) of this report. If the operator meets correction timeframes, the site is deemed to be in compliance.

Deficiencies identified through field inspections are not subject to formal investigation and due process; therefore, operators are not immediately confirmed to be in non-compliance. The Commission's field inspection process provides the operator an opportunity to work toward compliance. Where the Commission deems the operator is not achieving or not likely to achieve acceptable compliance, the operator is then subject to the more formal enforcement process. In situations where deficiencies are not corrected in the allotted timeframe, Commission inspectors distribute a second inspection report to the operator. If this escalated communication does not correct the deficiency, the inspection file is forwarded to Commission enforcement officers to investigate and potentially employ enforcement actions. The Commission's enforcement process is discussed in Section 4 of this report.

Site inspection results are incorporated into evolving iterations of the Commission's risk-based inspection model. Therefore, sites associated with higher deficiency rates are assigned higher risk values; these sites have a higher probability of being selected for inspection in the subsequent iteration of the risk-based inspection model.

3.1 Deficiency Rankings

The Commission uses the terms Low 30, Low 14, and High² to describe deficiencies identified during site inspections and employs deficiency timelines dependent on severity. Once an item is recorded as deficient during a site inspection, it factors into the behavioural risk assessment of the Commission's risk-based inspection model. If an operator corrects all deficiencies identified at a site within the allotted timeframe, the site is determined to be satisfactory from a compliance perspective. Table 2 provides examples of deficiency rankings and their definitions.



A wellpad under construction in the Horn River Basin. The Commission undertakes inspections during all phases of oil and gas activity, including construction and remediation.

² Terminology for deficiency categories prior to Oil and Gas Activities Act (OGAA) was Minor, Major and Serious. With OGAA implementation these categories changed to the current Low 30, Low 14 and High. The definitions of the categories remained the same.

Table 2: Deficiency Rankings

Ranking	Definition	Correction Time Period	Examples
Low 30	A regulation or requirement not addressed that does not result in a direct threat to the public and/or environment and does not adversely affect oil and gas operations.	There is a 30-day action timeline to rectify the situation. A site with a Low 30 deficiency outstanding at the conclusion of this 30-day period is deemed to be in non-compliance.	<ul style="list-style-type: none"> • Pipeline signage missing, defaced or incorrect information displayed. • Garbage and debris not stored in a reasonable manner at an oil and gas facility. • Meter calibrations not completed at an oil and gas facility.
Low 14	A regulation or requirement not addressed that has the potential to cause an adverse impact to the public and/or the environment.	There is a two-week action timeline to rectify the situation. A site with a Low 14 deficiency outstanding at the conclusion of this two-week period is deemed to be in non-compliance.	<ul style="list-style-type: none"> • Fluid leaking or improperly disposed of. • Out-of-date Emergency Response Plan. • Activities not in accordance with approval or licence conditions.
High	A regulation or requirement not addressed that is causing or may cause a significant impact to the public and/or the environment.	There is a 24-hour action timeline to rectify the situation. A site with a High deficiency outstanding at the conclusion of this 24-hour period is deemed to be in non-compliance.	<ul style="list-style-type: none"> • Equipment located an insufficient distance from an operating well. • Conducting an activity without an approval where an approval is required. • Hydrogen sulphide detected on lease and right-of-way.

3.2 Site Inspection Statistics

In 2010/11, Commission inspectors completed a total of 6,474 oil and gas operation site inspections. The distribution of these site inspections are summarized by oil and gas activity categories and deficiency ranking in Table 3. Sites with multiple overdue deficiencies are reported only once in the highest deficiency ranking category.

For the purposes of Table 3, an inspected site is deemed to be in compliance if the inspection finds no deficiencies, or if all identified deficiencies are corrected in the allotted timeframe.

Table 3: Commission Inspection Distribution Statistics

Inspection Category	Inspections Completed	Compliant Inspections	Non-Compliance Summary – Pre-OGAA			Non-Compliance Summary – OGAA		
			Serious	Major	Minor	High	L14	L30
Wellsites Under Construction	272	267	0	3	0	1	0	1
Drilling/Service Rigs	26	23	0	2	0	0	1	0
Active Wells	3,922	3,366	3	270	21	3	224	35
Inactive or Suspended Wells	1,085	962	1	78	2	1	32	9
Post-Production Wells	181	174	0	4	1	0	2	0
Pipelines	368	351	0	11	0	1	4	1
Geophysical	12	12	0	0	0	0	0	0
Facilities	437	318	3	72	2	1	41	0
Measurement	18	18	0	0	0	0	0	0
Roads	8	8	0	0	0	0	0	0
Other	145	130	0	8	3	0	4	0
Total	6,474	5,629	7	448	29	7	308	46

Due to the way deficiency information is collected and summarized in Table 3, the overall rate of industry compliance cannot be directly inferred from the percentage of sites without deficiencies. That percentage will tend to understate actual compliance rates for the following reasons:

- The risk-based process for deploying inspections selects sites with a higher probability of deficiencies (especially higher ranking deficiencies) as compared to a random sample.
- The deficiency data is summarized at the site level, causing sites with deficiencies to be statistically over-weighted and sites without deficiencies to be statistically under-weighted. A site without deficiencies would have to be compliant on multiple items yet it only counts as one compliant site. Conversely, sites with deficiencies will have multiple compliant items that are given no statistical credit.

3.3 Proactively Managing Towards Compliance

Through regular communication with industry, the Commission is able to maintain dialogue on compliance performance with oil and gas operators. This feedback provides both the Commission and industry with an overview of site inspection activity, awareness of performance, and a comprehension of oil and gas operator success in managing towards compliance.

Maintaining continued dialogue with operators assists in proactively managing compliance levels moving forward. Performance levels may be communicated on sites where:

- The site was inspected and no deficiencies were identified.
- The site was inspected and deficiencies identified were scheduled for correction in the allotted time period.
- The site was inspected and deficiencies identified were corrected.

Compliance rates with respect to deficiencies and annual target levels are reported in the Commission's [2010/11 Annual Service Plan Report](#).

4. Enforcement Process Overview

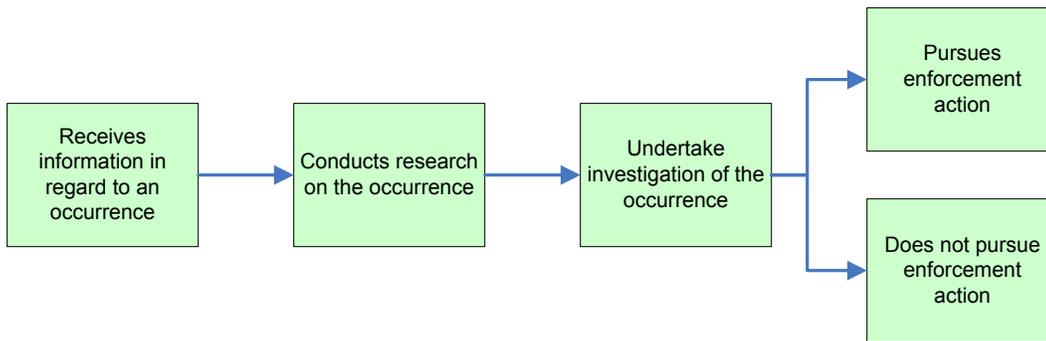
The Commission's inspection results show the vast majority of oil and gas industry operators in British Columbia strive to comply with regulations. However, if an operator fails to meet regulatory requirements, fails to follow Commission direction, or if an occurrence is deemed to be serious enough to warrant immediate enforcement action, the operator may be subject to enforcement measures. All enforcement is administered by Commission enforcement officers. In addition, enforcement files are occasionally referred to other enforcement counterparts in government.

Enforcement staff works closely with other government agencies including the Ministry of Environment, Ministry of Forests, Lands and Natural Resource Operations, Ministry of Energy and Mines, Ministry of Agriculture, Ministry of Finance, the National Energy Board and the Department of Fisheries and Oceans. The Commission has a Memorandum of Understanding with each of these agencies. These agreements address aspects of compliance and enforcement including information and data exchange, and sharing of expertise and collaboration on audits, inspections and investigations.

Enforcement measures deal with a wide range of activities over the entire oil and gas industry and may escalate in consequence. For example, an enforcement action may range from imposing a deadline for remediating a problem to prosecution or shut-in by way of a ticket, charge or order. During the 2010/11 fiscal year, the Commission shut in a total of nine wells and one pipeline. A complete list of enforcement actions and type can be found in Appendix A.

Commission enforcement officers are designated as Special Conservation Officers under the Environmental Management Act. This designation provides the authority to enforce both the Environmental Management Act and the Water Act, and also provides Peace Officer status to the designated officer. An overview of the enforcement process is outlined in Figure 3.

Figure 3: Commission Enforcement Process



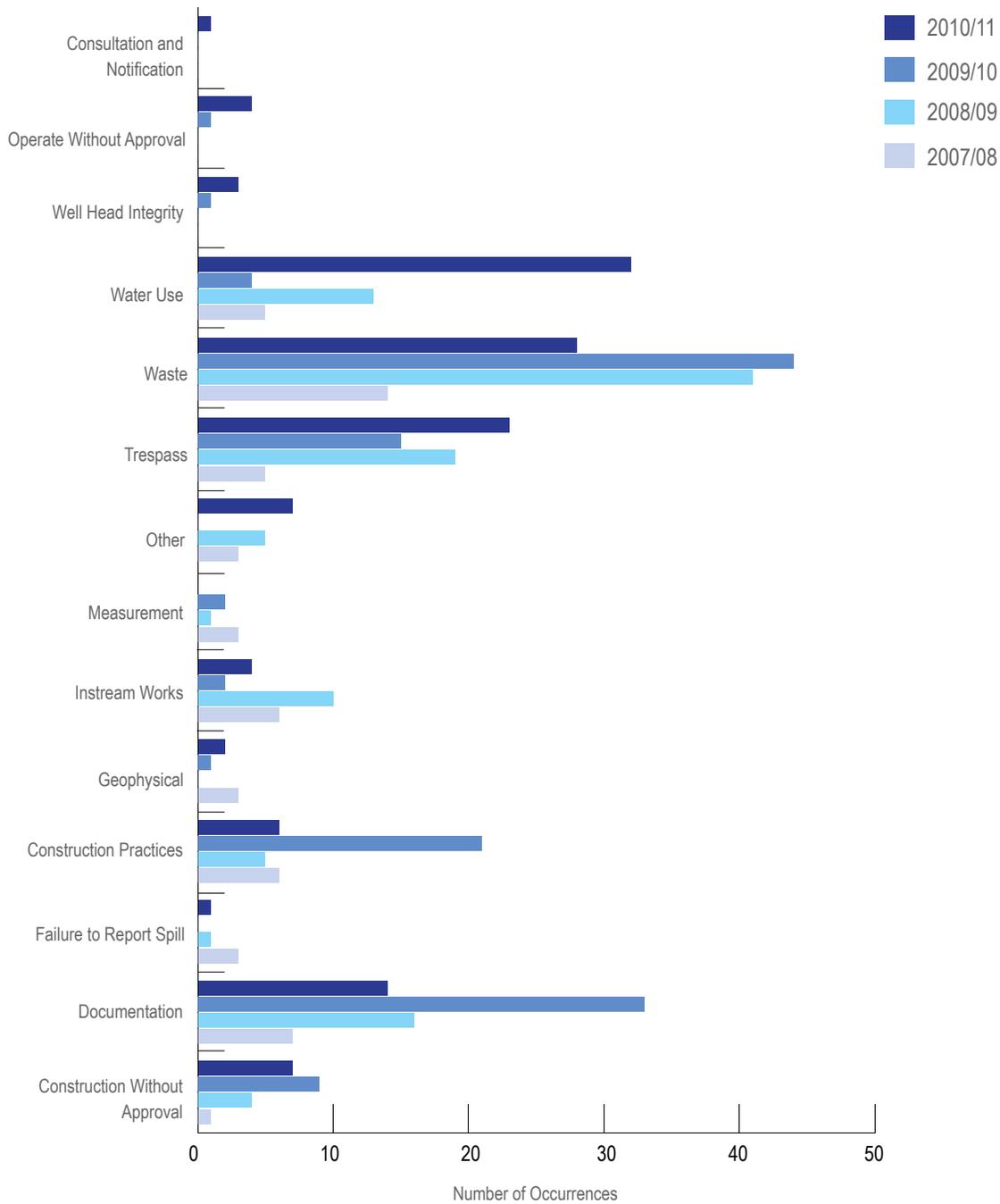
Commission enforcement officers are notified of occurrences that may require investigation from a number of sources, including the public, oil and gas operators, Commission staff and other government agencies. Sources of occurrences for the past three fiscal years are summarized in Table 4. The number of occurrences and the number of enforcement case files handled in 2010/11 (110) decreased marginally over the previous year (123) .

Table 4: Sources of Occurrences

Source	Fiscal Year			
	2007/08	2008/09	2009/10	2010/11
Public Complaints	11	19	16	24
Industry Complaints	0	5	3	0
Operator Self Reports	2	16	11	12
Commission Staff	40	64	80	62
Other Government Agencies	3	11	12	3
Incidents	0	0	11	0
Total Occurrences	56	115	133	101
Total Case Files	55	110	123	110

When occurrences are received they are categorized by enforcement staff. Figure 4 displays the sources of occurrences for the past three fiscal years. Resulting enforcement actions are summarized in Section 4.1 of this report. Multiple occurrences can be investigated as part of an individual case file.

Figure 4: Occurrence Categories and Number of Occurrences



4.1 Enforcement Statistics

The 101 occurrences received by the Commission in 2010/11 resulted in a total of 181 enforcement actions. An overview of these enforcement actions is provided in Table 5. Of the 110 case files undertaken by the Commission, 20 resulted in no action (a determination that an alleged non-compliance was unfounded, or an unsolved occurrence).

Table 5: Commission Enforcement Actions

Enforcement Action	Fiscal Year			
	2007/08	2008/09	2009/10	2010/11
Unfounded/Unsolved Occurrences or Occurrences Resulting in No Action	18	30	13	20
Referrals to other Enforcement Agencies	11	11	2	10
Referral – Charge	2	0	1	0
Remedial Work Required	1	9	9	19
Administrative Actions	10	43	77	78
Alternative Enforcement Actions	4	10	9	8
Official Warnings Issued	18	22	21	14
Prosecution/Tickets Issued	9	26	30	16
Compliance Orders Issued	7	20	18	12
Charges Pending	0	3	0	9
Total	78	165	172	181

Ten occurrences were forwarded to other enforcement agencies for investigation, in accordance with established Memorandum of Understanding agreements; 78 occurrences resulted in administrative actions such as:

- The submission of a corporate management plan or a root cause analysis that deals with a noncompliance issue.
- The submission of outstanding documents, notifications or reports.
- Required donations to academic or environmental organizations.

Official warnings were issued to oil and gas operator in 14 occurrences, and 16 occurrences led to prosecutions in the form of tickets and convictions. The vast majority of these tickets were issued for violations under the Water Act and the Environmental Management Act.

As outlined in Figure 4, water use was the most frequently investigated occurrence in 2010/11; due to the increased water demand resulting from shale and tight gas development technologies, the Commission closely monitors industry water use and most non-compliance instances are handled

by enforcement staff. The second most frequently investigated occurrence was waste and contamination issues, which include solid, liquid and gaseous waste related investigations. Trespass investigations include various types of trespass, such as those resulting from lease access and pipeline construction. Documentary non-compliance includes occurrences such as failing to submit any required regulatory documents related to the oil and gas industry.

In addition to those other enforcement items listed in Table 5, Commission enforcement officers issued 12 compliance orders resulting in 62 enforcement actions during the 2010/11 fiscal year. A complete list of the enforcement actions resulting from these compliance orders is provided in Appendix A.

5. Regulatory Framework

Under OGAA, the Commission's compliance and enforcement model has transitioned from the deficiency rankings of Minor, Major, and Serious to the Low 30, Low 14 and High non-compliance categories. OGAA has also expanded enforcement provisions and ensures transparency in Commission decision making processes, as permit holders can request a review or appeal of a determination made by the Commission.

The Commission's Compliance Management System (CMS) was designed with the expectation that permit holders use formal systems in their day-to-day operations to ensure compliance with legislation and OGAA at all times. From time to time, the Commission may audit industry compliance management practices. The CMS is intended to ensure compliance through the proactive administration of inspections and audits of permit holder activities, correction of deficiencies, and management of investigations and alleged non-compliances.

The Commission's compliance and enforcement function provides assurance to the Commission, government and stakeholders that oil and gas permit holders, operators and related persons are complying with OGAA, the Commission's specified enactments and all related regulations.

6. Conclusion

This report details the performance results of both industry and the Commission in regard to compliance achievements within the scope of oil and gas regulations in British Columbia.

Using a proactive risk-based inspection model, the Commission continues to target sites with higher probabilities of possible deficiencies, rather than relying on a random model of performing inspections. As this report shows, the majority of operators consistently meet and exceed regulatory requirements.

Field inspections are an extension of the approach to safety throughout the lifecycle of applications, permits and oil and gas developments. Concerns are addressed as soon as possible, with findings incorporated into the continually refined iterations of regulations and standards.

With the introduction of OGAA, more cohesive, transparent working relationships will be continued and enhanced. In working with industry, the Commission will keep on its course of action in targeting higher compliance rates to ensure the safety of British Columbians and protection of the environment.



A wellpad under construction.

Appendix A. Compliance Order Enforcement Actions

Enforcement Action	2007/08	2008/09	2009/10	2010/11
Apply for Section 9 Water Act approval	0	0	1	0
Change measurement operations	0	1	1	0
Complete / submit well assessment	1	0	0	0
Complete Archaeological Assessments	0	0	0	2
Complete ultrasonic testing	0	0	1	0
Comply with contaminated sites regulation	0	0	1	0
Conduct sediment and water sampling (measurement)	1	0	0	0
Contact OGC	0	0	0	3
Declare intent for wells	0	0	1	0
Dismantle well head	0	0	1	0
Initiate a meeting	0	0	1	0
Install bridge	0	0	1	0
Install erosion controls	0	0	1	0
Install ESDs	0	2	0	0
Install fencing	1	4	1	2
Install fuel gas metering	0	1	0	0
Install H ₂ O meter	0	0	0	1
Install measurement equipment	0	2	1	0
Install piping support	0	2	0	0
Install signage	0	2	2	0
Locate lease boundaries	0	0	2	0
Measure ground water and soil contamination & submit report	0	7	9	0
Monitor gas leaks	0	0	1	0
Obtain approval for equipment (measurement)	1	0	1	0
Obtain approval for facilities	0	0	2	0
Obtain fluid samples	0	0	1	1
Provide safe access	0	2	0	0
Provide transportation for regulator	1	0	0	0
Provide well and facility list	0	0	1	0
Re-contour and submit report	1	2	4	0
Register as an operator in B.C.	0	0	1	0
Remain on measurement reporting frequency	0	1	1	0
Remediate / remove soil contamination	0	7	7	1
Remediate stream crossing	0	1	1	1
Remove active equipment	0	0	0	1
Remove business waste	0	1	4	2

Remove contaminated fluid	0	4	3	1
Remove defective equipment	0	0	1	0
Remove invasive plants	0	0	1	0
Remove temporary bridge	0	1	0	0
Repair leaks	0	1	4	0
Secure well head	0	0	1	0
Set up a representative in KERMIT	0	0	1	0
Shut in facility	1	1	0	1
Shut in pipeline	1	0	1	1
Shut in well	0	4	11	9
Stop construction	0	0	1	1
Stop flow of untested H ₂ O from lease	0	0	0	1
Submit abandonment reclamation cost estimate	0	0	1	0
Submit analytical sample results	0	0	0	1
Submit application for temporary occupation of Crown Land	0	0	1	0
Submit aquifer tests	0	0	0	1
Submit as-builts	1	8	0	5
Submit BC20	0	0	1	1
Submit calibration reports (Measurement)	1	1	1	0
Submit construction plans	0	0	0	4
Submit construction start date	1	7	0	0
Submit cross-border contributing well locations	0	1	0	0
Submit dismantling well head procedure	0	0	1	0
Submit disposal documentation	0	1	0	0
Submit disposal well application	0	1	0	0
Submit drilling deposit	0	0	2	0
Submit engineering plan	0	0	1	0
Submit equipment list	0	0	1	0
Submit ERP	1	2	1	0
Submit gas analysis	0	2	3	0
Submit H ₂ O records	0	0	0	4
Submit in-line testing records	0	0	0	1
Submit leave to open	0	7	1	2
Submit management strategy	2	1	5	7
Submit manifests	0	3	0	0
Submit measurement management plan	0	1	0	0
Submit notice of intent	1	2	0	0
Submit photographs	0	0	0	1

Submit pipeline application	1	0	1	0
Submit plan to investigate and remediate contamination	0	7	3	0
Submit pressure test notice	0	7	0	1
Submit production & measurement volumes	0	0	2	1
Submit root cause analysis	0	0	8	4
Submit well amendment	0	0	0	1
Submit well transfer	0	0	1	0
TOTALS	16	97	106	62

A complete list of deficiencies can be found [here](#).