

Industry Sector:
Extractive Industries
March 2000

Compliance Performance Report



ENVIRONMENT PROTECTION AUTHORITY

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SUMMARY

As part of the EPA industry sector based Compliance Audit Program, compliance audits were undertaken on 29 licensed extractive industry premises across New South Wales. The main objectives of the audits were to assess each enterprise's compliance with the current statutory instruments issued to the premises and to outline a program for follow up action to address non-compliances and improve environmental performance. This extractive industry sector compliance performance report is based on a collation of these audit findings and provides an insight into the industry sector's overall compliance performance.

The procedures and protocols for conducting each of the audits within the sector are detailed in the EPA Compliance Audit Handbook. Officers of the EPA carried out the audits between July 1998 and May 1999. Assessment of compliance at each premises was undertaken by a detailed site inspection and review of records and documentation relating to the premises. The findings detailed in the Compliance Audit Reports for each of the 29 premises audited are summarised under the following headings: Operational (Water), Operational (Air), Administrative, Monitoring, Limit and Legislation.

The findings from auditing 29 licensed extractive industry premises out of a total of 310 State wide do not provide sufficient information to draw detailed conclusions about all aspects of the environmental performance of the extractive industry. However, having selected a representative sample from within this industry, the EPA has confidence that issues identified in the report are generally typical of the whole sector.

The EPA will use the findings of the sector report to review how best its resources could be channelled to guide industry to address the issues identified in the report, including considering the use of regulatory tools such as licence conditions as well as enforcement and additional/alternative tools such as policy documents, education and consultation/negotiation. It is also hoped that the sector review findings will inform the EPA licence reviews.

The main issue identified with regard to water management was the likelihood of pollution of waters due to the inadequate separation of uncontaminated stormwater and water that is likely to be contaminated. With regard to dust control the main issues were the emission and likely emission of dust from stockpile areas and unsealed areas.

The following compliance issues were identified at some of the premises audited:

Operational (Water)

- The capacity of bunds was found to be inadequate to contain spills. The capacity of the bunds was reduced due to the storage of rainwater and wastewater within the bunds. The concern is that any spillage of material increases the likelihood of contaminated runoff being generated at the site.
- Stockpiles of processed materials were found in locations where stormwater runoff could become contaminated.
- Storage of dry chemicals (cement, gypsum and salt) was undertaken on locations where uncontaminated stormwater runoff could become contaminated.
- Spillage during fuel storage, transfer and handling was evident, increasing the likelihood of stormwater and ground water contamination.
- Inadequate capacity of sedimentation dams to ensure that wastewater is treated to the required standard prior to discharge.
- Lack of maintenance on outfall structures, stormwater drains and liquid storage bunds increasing the likelihood of contaminated stormwater runoff occurring.

Operational (Air)

- Inadequate dust controls resulting in dust generation on haul roads, material stockpiles, at processing plants, on unsealed areas of the sites and from vehicle loading and unloading activities.

Administrative

Failure to keep required records at the sites.

- Records being kept not containing all the required details.
- Not providing formal advice to the EPA on the responsible employees who are authorised by the licensee to speak on behalf of the licensee or to provide information required by the licence.
- Documentation provided to the EPA not being provided within the required time frame. This documentation includes Certificates of Compliance, analysis results, analysis reports and monthly summary reports.

Monitoring

- Using test methods to monitor discharges that have not been approved in writing by the EPA.
- Inadequate monitoring carried out to determine if the specified discharge limits are being adhered to.

Limits

- Discharge limits relating to discharge volumes and flow rates having been exceeded.

Legislation

- Payment of incorrect EPA licence fees based on the scale of operation.
- Failure to obtain EPA approval for modifications carried out to pollution control equipment (sedimentation ponds).

INTRODUCTION

Purpose of this report

This report has been prepared to present the key findings of the compliance audits carried out on a representative sample of premises within the Extractive Industry Sector. The audits were carried out on premises across the State of New South Wales that are regulated by way of statutory instruments issued under Environmental Legislation administered by the EPA.

At the time the audits were carried out the statutory instruments issued to the premises were issued under the Pollution Control Act 1970. The Protection of the Environment Operations (Savings and Transitional) Regulation 1998 deems all existing licences issued under the Pollution Control Act to be licences under the Protection of the Environment Operations Act 1997. A transitional process has been put in place whereby those premises that no longer require a licence can apply to surrender it. As such the number of premises the EPA licenses may vary once this transitional process is complete

The EPA will appoint a Sector Review Manager to consider, with input from relevant EPA stakeholders, the issues identified by the audit of the sector and select suitable approaches for addressing them. Further, the EPA has in place robust procedures to monitor the progress of implementation of the findings of the compliance audits carried out.

It is also expected that the Extractive Industry Sector Compliance Performance Report will be used by the extractive industry to identify areas where further efforts need to be directed to improve the industry's overall level of compliance, as well as to improve the overall environmental performance of the sector and of individual premises within the sector. To assist with this the EPA will be conducting presentations to peak bodies on the findings of the Sector Audit Program.

Selection of industry sector

Industry sectors targeted in the EPA's Industry Sector Compliance Audit Program are selected based on an assessment of major community and environmental concerns and EPA Corporate objectives and strategies.

Individual premises within the industry sector are selected for audit in consultation with EPA regional offices. Selection of premises for auditing is based on environmental and community concerns in relation to issues on the sites including operational activities, water management and management of air issues.

Audit methodology

EPA compliance audits were performed on the selected premises in accordance with the procedures and protocols in the EPA Compliance Audit Handbook (copies of the Handbook are available from the EPA's Pollution Line: 131 555). The audits were limited to a review of each enterprise's compliance with legislation administered by, and statutory instruments issued by the EPA.

On completion of individual audits the findings of these audits are presented to the enterprise as individual compliance audit reports. These reports are based on information from the EPA's files, information supplied by representatives of the enterprise and observations made during the site inspections, which were carried out between July 1998 and May 1999. The reports contain a plan of action with recommendations on what must be done by each enterprise to comply with the licence conditions within an agreed time period. These recommendations relate to non-compliances and areas where enterprises can improve their environmental performance.

EPA Regional Offices follow up to ensure that the enterprise is implementing the actions required of it in the report. The EPA has a systematic and rigorous monitoring program that tracks these follow-ups to ensure that all actions are completed by the facility. Individual compliance audit reports are publicly available in the EPA Library at Level 15, 59 Goulburn St Sydney 1232. The findings presented in this report are a collation of the findings presented in the individual compliance audit reports.

This report has been prepared for the purpose described and no responsibility is accepted for its use in any other context or for any other purpose.

Scope of the report

The scope of this report is to:

Summarise the findings presented in the 29 individual Compliance Audit Reports prepared for the premises that formed the Extractive Industry Sector Compliance Audit Program.

Description of the industry sector

Extractive Industries are defined under Schedule 1 of the Protection of the Environment Operations Act 1997 as:

- (1) *“Industries that obtain extractive materials by methods including excavating, dredging, blasting, tunnelling or quarrying or that store, stockpile or process extractive materials, and*
- (2) *that obtain, process or store for sale or re-use an intended quantity of more than 30,000 cubic metres per year of extractive material.”*

The premises that were the subject of this Sector Based Audit Program fell under the category of **Grinding and Milling Works** as Scheduled under the Clean Air Act 1961 (now replaced by the Protection of the Environment Operations Act 1997). Grinding and Milling Works were defined in this schedule as:

“Works in which more than 50 tonnes per annum of agricultural crop products, uncured rubber, rocks, ores, minerals or chemicals are processed by grinding, milling or separating into different sizes by sieving, air elutriation or in any other manner except by wet screening or wet sieving.”

The premises audited consisted of quarries used for the extraction of shale, sand, gravel, basalt, kaolin and other ores and rocks used primarily in the construction industry. Various techniques such as blasting, dredging and excavating are used to win material at the sites. Excavated material is transported for processing in on site crushing and screening plants with the processed materials stockpiled for subsequent sale and transport off site.

The scale of operation of the premises audited are detailed in Table 1

Table 1

Scale of Operation	No of Premises Audited
2 to 10 kilotons per annum	4
10 to 50 kilotons per annum	7
50 to 200 kilotons per annum	9
200 to 500 kilotons per annum	5
More than 500 kilotons per annum	4

The EPA licensed a total of 310 extractive industry premises in NSW under the Pollution Control Act 1970. The Protection of the Environment Operations (Savings and Transitional) Regulation 1998 deems all existing licences issued under the Pollution Control Act to be licences under the Protection of the Environment Operations Act 1997. A transitional process has been put in place whereby those premises that no longer require a licence can apply to surrender it. The actual number of premises the EPA licenses may vary once this transitional process is complete. Details of the number of audits carried out in each of the EPA Regions and the number of extractive industries licensed in each EPA Region as at October 1999, are presented in Table 2. The details of the individual premises audited are listed in Appendix A.

Table 2

Region	No of Premises Licensed	No of Premises Audited
Sydney	64	4
South Coast	31	2
Hunter	71	3
North Coast	20	5
Central West	47	2
Northern Tablelands	17	0
Southern Tablelands	27	6
Murray	17	2
South West	16	5
Total	310 (as at October 1999)	29

Statutory instruments issued to the enterprises

All of the premises audited were scheduled premises under the Clean Air Act 1961. A number of quarries also held licences under the Clean Waters Act 1970 for discharge to waters.

Approvals to install, construct or modify pollution control equipment or works and Notices under the Pollution Control Act 1970 were issued to a number of the premises audited.

The Pollution Control Act 1970, the Clean Waters Act 1970 and the Clean Air Act 1961 are now replaced with the Protection of The Environment Operations Act, 1997.

REPORTING COMPLIANCE ISSUES

Compliance against the conditions attached to the statutory instruments issued and with environmental legislation administered by the EPA has been assessed and reported in the individual compliance audit reports prepared for each enterprise (see Appendix A for list of final compliance audit reports). Based on these assessments, this report identifies compliance issues and issues of environmental concern and classifies them under the area of concern.

The compliance issues identified during the audits are presented in Table 3.

Table 3 Compliance Issues

Area of Concern	Compliance Issues	Frequency of Occurrence
Operational (Water)	Liquid Storage	18 of the 29 premises
	Storage of Product and Raw Material	7 of the 29 premises
	Plant Maintenance	15 of the 29 premises
Legislation (Water) Pollution of waters	Discharge occurring at unauthorised discharge point.	3 of the 29 premises
Operational (Air)	Material Storage	2 of the 29 premises
	Operation of Plant	8 of the 29 premises
	Plant Maintenance	9 of the 29 premises
Administrative General	Failure to maintain Complaints Register as required	6 of the 29 premises
	Failure to appoint or inform the EPA of the authorised employees	14 of the 29 premises
	Failure to maintaining a copy of the current licence at the site	6 of the 29 premises
	Other records required to be kept and produced	4 of the 29 premises
	Providing data required by the licence	7 of the 29 premises
Operational (Noise)	0	0
Operational (Waste)	0	0
Monitoring	Failure to carry out the required monitoring.	2 of the 29 premises
	The monitoring carried out is inadequate to determine compliance with specified limits.	1 of the 29 premises
	Failure to obtain EPA approval for the monitoring methods used.	1 of the 29 premises
Limit	Failure to comply with specified flow rate for discharging waters.	1 of the 29 premises

Area of Concern	Compliance Issues	Frequency of Occurrence
Limit (continued)	Failure to comply with specified volume for discharging waters.	1 of the 29 premises
Legislation	Failure to obtain Pollution Control Approval for pollution control equipment.	5 of the 29 premises
	Failure to pay the correct licence fee based on the scale of operation.	3 of the 29 premises

Compliance issues

Operational (Water)

The following operational activities relating to water management were identified as compliance issues and contributed to non-compliances on 19 of the 29 premises audited.

Observations made that resulted in non-compliances include the following.

Liquid Storage (contributing to non-compliance on 18 of the 29 premises audited)

- Liquids were being stored with no spill containment or inadequate containment provided to contain leaks or spillages. The liquids were stored in tanks and drums and consisted of fuel, oils, waste oils, and lubricants (contributing to non-compliance on 16 of the 29 premises audited).
- The capacity of the spill containment structure (bund) was reduced as it contained rainwater or other stored material (contributing to non-compliance on 3 of the 29 premises audited).
- Underground tanks were found to have openings allowing the infiltration of rainwater (contributing to non-compliance on 1 of the 29 premises audited).

It is important that the occupier of a site is aware of the environmental harm that can occur should any liquids that are stored on site escape into the environment. It is also important to assess the risk of those liquids escaping into the environment. Stored liquids such as fuel, engine oil and hydraulic oil if allowed to escape into the environment have the potential to cause pollution of stormwater and ground water, and cause soil contamination.

Therefore all operators should ensure that liquid storage vessels are suitable for the liquids being stored and that the risk of damage to the storage vessels and the escape of material is minimised. Operators should also ensure that adequate containment is provided in the event of a leak or spill and that there are appropriate procedures in place to for the transfer of liquids to and from the storage vessel.

Storage of Product and Raw Materials (contributing to non-compliance on 7 of the 29 premises audited).

- Stockpiles of processed materials and dry chemicals such as cement, gypsum and salt were stored on areas adjacent to stormwater drains. The lack of covering or containment increased the likelihood of the generation of contaminated stormwater runoff (contributing to non-compliance on 5 of the 29 premises audited).
- The pit used to collect washwaters and runoff from fine material stockpiles was full and there was evidence that overflows had occurred as the area around the collection pit was contaminated with fine material (contributing to non-compliance on 3 of the 29 premises audited).

It is important that the occupier of a site is aware of the environmental harm that could result due to the improper storage of solid materials at the site. Stockpiled materials such as quarry products, gypsum, cement and salt can be washed off the site causing stormwater pollution, ground water pollution and this also has the

potential to cause soil contamination. Further, contaminants within the stockpiled materials can be leached out causing environmental harm.

Therefore all operators should ensure that product and raw materials are being stored in a manner that minimises runoff and leaching. Adequate containment and/or treatment should be provided to ensure that any runoff water is within the limits specified in the Environment Protection Licence.

Plant Maintenance (contributing to non-compliance on 15 of the 29 premises audited).

- Cracks and open valves were found in bund walls causing concern that spillage of material may not be contained within the bund (contributing to non-compliance on 5 of the 29 premises audited).
- The pump used to draw oil from the oil separator was inoperable due to lack of maintenance (contributing to non-compliance on 1 of the 29 premises audited).
- Lack of maintenance around outfall structures, dam walls and on unsealed areas of the site causing scouring and erosion which results in the build-up of sediments in drains and gullies (contributing to non-compliance on 3 of the 29 premises audited).
- Sedimentation ponds not cleaned out frequently enough to ensure that the wastewater is treated to a standard suitable for discharge (contributing to non-compliance on 3 of the 29 premises audited).
- There was inadequate separation of uncontaminated and contaminated water at the site resulting in large quantities of water requiring treatment prior to discharge (contributing to non-compliance on 3 of the 29 premises audited).
- There was inadequate capacity in the sedimentation dams to contain the volume of runoff likely to occur at the site (contributing to non-compliance on 1 of the 29 premises audited).
- Leaking fuel transfer hoses resulting in hydrocarbon contamination of the adjacent unsealed area (contributing to non-compliance on 1 of the 29 premises audited).

It is important that the occupier of a site is aware of all items of plant and equipment used at the site that, if improperly maintained, can result in pollution of waters. Plant and equipment observed during the audits on the premises in the extractive industry sector program consist of sedimentation dams (used to retain sediment laden water on site in order to settle out suspended solids), oil separator pits (used to remove oily material prior to discharge), diversion drains (used to separate clean water and dirty water), flow inhibitors and lined drains (used to slow the flow of runoff waters to reduce scouring).

All operators should identify the items of plant and equipment used at the site that could impact on the quality of discharging waters and the plant and equipment used to treat water prior to discharge.

Plant monitoring and maintenance programs should be prepared and implemented to ensure that the volume of contaminated water requiring treatment is kept to a minimum and that the plant and equipment used to treat wastewater is properly maintained so as to ensure that it remains effective in treating wastewater to a standard suitable for discharge.

Administration

- Failure to provide notification prior to discharging from sedimentation dams (contributing to non-compliance on 1 of the 29 premises audited).

Legislation

Pollution of Waters

The following observations are considered serious as they indicate a breach of Section 16 of the Clean Waters Act 1970.

- Discharge occurring at an unauthorised discharge point (contributing to non-compliance on 1 of the 29 premises audited).

- Discharge waters contained sulphate and chloride (contributing to non-compliance on 1 of the 29 premises audited).
- Discharge waters contained 100mg/l of Non Filterable Residue (NFR) (contributing to non-compliance on 1 of the 29 premises audited).

Operational (Air)

The following operational activities relating to air management were identified as compliance issues and contributed to non-compliances on 15 of the 29 premises audited.

Observations made that resulted in non-compliances include the following.

Material Storage

- Stockpiles are not designed so as to enable the water cart to be used for dust control (contributing to non-compliance on 1 of the 29 premises audited).
- Stockpiles are not kept in a sufficient state of dampness so as to minimise wind blown or traffic generated dust (contributing to non-compliance on 1 of the 29 premises audited).

It is important that the occupier of a site is aware of the environmental harm that can occur should dust be generated at the site and migrate off site into the environment. It is also important to identify the areas of the site that are likely to be a source of dust generation and to assess the adequacy of the controls employed at the site. If allowed to migrate off site, dust can cause pollution of waters and can cause nuisance for local residents.

One of the main sources of dust emissions at the sites audited in the extractive industry sector program are material stockpiles. Materials observed stockpiled on the sites consisted mainly of crushed rock. Stockpiles of materials and in particular stockpiles of fine materials are one of the major sources of dust emissions, especially in dry, windy conditions.

All operators should ensure that the local wind conditions are considered when planning the location of stockpiles and that there are adequate dust controls in place to control dust emissions from stockpiled materials.

Operation of Plant

- Traffic generated dust was observed on roadways and was attributed to the operation of vehicles (contributing to non-compliance on 1 of the 29 premises audited).
- Dust generation on haul roads due to vehicles travelling at excessive speeds (contributing to non-compliance on 17 of the 29 premises audited).
- Trucks found to be leaving the premises with uncovered loads (contributing to non-compliance on 3 of the 29 premises audited).
- Inadequate dust controls employed at the crushing and screening plant, on conveyors and during truck loading and unloading operations (contributing to non-compliance on 3 of the 29 premises audited).
- Dust controls not operated when material is being processed (contributing to non-compliance on 1 of the 29 premises audited).

It is important that the occupier of a site is aware of all items of plant and equipment used at the site that can result in dust emissions from the site. Dust emissions if not minimised and properly controlled can cause nuisance to local residents and can also cause pollution of waters.

Plant and equipment observed during the audits included processing plant (screens and crushers) and plant used in the removal and transportation of material (excavators, scrapers, front-end loaders, conveyors and trucks transporting material on the sites).

All operators should identify the items of plant and equipment used at the site that can result in the generation of dust emissions from the site. Plant operational procedures should be prepared and implemented to ensure that dust emissions are minimised. Adequate controls should be in place to ensure that any dust generated

during the operation of plant is controlled. The effectiveness of dust controls used should also be monitored.

Plant Maintenance

- Lack of maintenance on material loading pads, under conveyors, on unsealed trafficable areas and on areas in and around the processing plant resulting in the build-up of spilled material, thus increasing the likelihood of dust emissions from the site during strong winds and high volume traffic (contributing to non-compliance on 6 of the 29 premises audited).
- Lack of maintenance at the processing plant leading to excessive dust emissions from the feed chute at the pug mill serving the stabilisation plant and the skirt on the conveyor (contributing to non-compliance on 1 of the 29 premises audited).
- Dust control equipment found to be inoperable due to lack of maintenance (contributing to non-compliance on 1 of the 29 premises audited).

It is important that the occupier of a site is aware of all items of plant and equipment used at the site that if improperly maintained can result in dust emissions from the site. Plant and equipment observed during the audits on the premises in the extractive industry sector program consist of processing equipment (pug mills, conveyors, crushers, screens), material loading pads and roadways both sealed and unsealed that are used for the transport of material at the site.

Plant monitoring and maintenance programs should be prepared and implemented to ensure that dust emissions are kept to a minimum.

Administration/Management

Complaints Register

Inadequacy of records compiled by the enterprise in relation to complaints received contributed to non-compliances on a total of 6 of the 29 premises audited.

Observations made that resulted in non-compliances include the following.

- Pollution complaint records did not contain details of the method by which the complaint was received or the time received (contributing to non-compliance on 3 of the 29 premises audited).
- Pollution complaint records were not kept at the site (contributing to non-compliance on 2 of the 29 premises audited).
- Pollution complaint records were not kept for the required 2 years (contributing to non-compliance on 1 of the 29 premises audited).
- Pollution complaint records could not be produced during the audit (contributing to non-compliance on 1 of the 29 premises audited).

It is important that the operator of a site keep the required records in relation to the pollution complaints received. Complaints received can be a valuable tool to monitor the environmental impacts on the local community. Also, by keeping the required information in relation to pollution complaints the operator will be in a position to clearly demonstrate that pollution complaints are being satisfactorily addressed.

Providing details of the responsible employees who are authorised to speak on behalf of the licensee.

Failure to provide the names and telephone numbers of the responsible employees or agents of the licensee to the EPA contributed to non-compliance on a total of 14 of the 29 of the premises audited.

Observations made that resulted in non-compliances consist of the following.

- No formal advice has been provided by the enterprise to indicate who is authorised by the licensee to speak on behalf of the licensee or to provide information required by the licence (contributed to non-compliance

on a total of 14 of the 29 of the premises audited).

It is important that the operator of a site formally advise the EPA of the nominated employees who are authorised by the licensee to speak on behalf of the licensee or to provide information required by the licence. The EPA can become aware of events occurring at a premises that are causing or have the potential to cause environmental harm. If the EPA has the contact names and contact numbers of employees with delegated authority environmental harm can be prevented or minimised.

Maintaining a copy of the current licence on the site.

Failure to produce a copy of the current Licence when required at the site contributed to non-compliance on a total of 6 of the 29 the premises audited.

Observations made that resulted in non-compliances include the following.

- A copy of the licence is not kept or could not be produced at the premises (contributed to non-compliance on a total of 6 of the 29 of the premises audited).

It is important that the operator keep a copy of the current licence at the premises. By having access to the current licence all staff can be familiar with the requirements of the licence thus reducing the potential for non-compliance with licence requirements.

Other records and documentation required to be kept and produced at the site.

Failure to produce other records and documentation required to be kept by conditions of the licence issued contributed to non-compliance on a total of 4 of the 29 premises audited.

Observations made that resulted in non-compliances include the following.

- The volume of wastewater discharged from sedimentation dams was not recorded (contributing to non-compliance on 3 of the 29 premises audited).
- Results of inspections on pollution control equipment such as erosion controls and sedimentation dams were not recorded (contributing to non-compliance on 3 of the 29 premises audited).

It is important that proper records are kept regarding the quality and quantity of wastewater discharged from the site. It is also important that records be kept of the results of any site inspections including inspections of pollution control equipment. Such records can be used to assess the environmental effects of activities carried out at a site and can also be used to assess the effectiveness of pollution control equipment.

Providing data and information to the EPA as required by conditions of the licence.

Failure to produce data to the EPA as required by conditions attached to the licence issued by the EPA contributed to non-compliance on a total of 7 of the 29 premises audited.

Observations made that resulted in non-compliances include the following.

- Analysis results on discharge water were not submitted within the required timeframe (contributing to non-compliance on 3 of the 29 premises audited).
- Certificates of Compliance were provided late (contributing to non-compliance on 2 of the 29 premises audited).
- Exceedances of licence limits were not reported to the EPA (contributing to non-compliance on 1 of the 29 premises audited).
- Draft Environment Management Plans and Site Rehabilitation Plans did not contain all the required information (contributing to non-compliance on 1 of the 29 premises audited).
- Reports on noise tests were not provided within the required time frame (contributing to non-compliance

on 1 of the 29 premises audited).

- Monthly summary reports although compiled were not provided to the EPA (contributing to non-compliance on 1 of the 29 premises audited).

It is important that all information required to be provided to the EPA as a condition of a licence is within the required times and contains all the data requested. The EPA uses this data to monitor the environmental impacts from the site.

Monitoring

Failure by the enterprise to carry out the required monitoring contributed to non-compliances on a total of 3 of the 29 premises audited.

Observations made that resulted in non-compliances include the following.

- Monitoring was not carried out as required by the licence (contributing to non-compliance on 2 of the 29 premises audited).
- The methods used to monitor discharges for aluminium and conductivity have not been approved in writing by the EPA (contributing to non-compliance on 1 of the 29 premises audited).
- Inadequate monitoring is carried out to determine if the specified discharge limits are being adhered to (contributing to non-compliance on 1 of the 29 premises audited).

It is important that all the required monitoring is carried out and that the monitoring is undertaken using the appropriate methods. The use of approved methods will ensure that the analysis results are accurate, which in turn gives a greater level of confidence that the environmental impacts due to discharges are being properly assessed and managed.

Limit Requirements

Failure by the enterprise to comply with limit requirements set out in the licence has contributed to non-compliances on a total of 1 of the 29 premises audited.

Observations made that resulted in non-compliances include the following.

- The specified limit on volumes that may be discharged was exceeded on the day of the audit (contributing to non-compliance on 1 of the 29 premises audited).
- The specified limit on the flow rate for discharging waste was exceeded (contributing to non-compliance on 1 of the 29 premises audited).

It is important that all limits set by a licence condition be complied with. Discharge limits set by Environment Protection Licences generally relate to limits on the contaminants that may be discharged, limits on the volume that may be discharged, limits on the rate of flow of discharges and limits on the times that discharges may occur. When specifying limits on discharges the EPA considers the environmental effects of the discharges on the receiving environment. Any exceedance of a limit specified in an Environment Protection Licence would be considered an offence against the Protection of the Environment Operations Act 1997 and could also be causing significant environmental harm.

Legislation

Failure by the enterprise to comply with legislative requirements other than licence requirements contributed to non-compliances on a total of 8 out of the 29 premises audited.

Observations made which indicate this include the following:

- Failure to obtain EPA approval for modifications carried out to pollution control equipment. (contributing to non-compliance on 5 of the 29 premises audited).

- Incorrect licence fee paid based on the scale of operation. The actual scale of operation was larger than the scale of operation on which the licence fee paid was based. (contributing to non-compliance on 3 of the 29 premises audited).

It is important that occupiers of sites comply with all the requirements of the current Environment Protection Legislation in relation to the scale of the operation and the payment of the appropriate licence fee, as any failure to comply is an offence and is considered to be a serious matter.

REPORTING ISSUES OF ENVIRONMENTAL CONCERN

Issues of environmental concern are reported as “Further Observations” in the individual final compliance audit reports prepared for each enterprise audited (see Appendix A for list of individual compliance audit reports). Further observations are considered to be areas where there are likely to be environmental impacts or when it has been identified that non-compliances are likely to occur.

The areas of concern reported as further observations in the individual Compliance Audit Reports and the number of observations made within each area of concern are presented in Table 4.

Table 4

Area of Concern	Number of Issues of Environmental Concern
Operational (Water)	7
Operational (Air)	2
Administrative General	4
Operational (Noise)	3
Operational (Waste)	3
Monitoring	4
Limit (exceedance of discharge limits set by licence conditions)	3

Issues of environmental concern

Operational (Water)

The following observations relating to water management were identified as issues of environmental concern on 19 of the 29 premises audited.

Observations made that give rise to these concerns include the following.

- Concern that the method of storage and handling material can contribute to contaminated discharges from the site. In particular stockpiled product (crushed material, topsoil, overburden) and liquid storage areas (fuel, oil and waste oil tanks) if not properly managed can result in spillages which can contribute to contaminated runoff from the site (identified as an issue of environmental concern on 10 of the 29 premises audited).
- Concern that there may be lack of treatment applied to discharging waters to ensure that discharging waters are within the limits specified in the licence. The distance between the outlet and inlet structures and the build-up of sediments gives rise to concerns that the retention time may be insufficient to adequately treat the wastewater (identified as an issue of environmental concern on 4 of the 29 premises audited).
- Concern that runoff from workshops and maintenance areas that are likely to be contaminated with oil and grease is directed to sedimentation dams. Sedimentation dams may not be adequate to remove the oil and grease from the water prior to discharge (identified as an issue of environmental concern on 4 of the 29 premises audited).
- Only one discharge point was licensed yet there is more than one location where discharges to waters could occur (identified as an issue of environmental concern on 1 of the 29 premises audited).
- Concern that there was a lack of maintenance at discharge points resulting in scouring, increasing the likelihood of water discharges occurring with high levels of Non-Filterable Residue (identified as an issue

of environmental concern on 1 of the 29 premises audited).

- Concern that there was no investigation carried out by the licensee into the cause of low pH levels in discharge waters (identified as an issue of environmental concern on 1 of the 29 premises audited).
- Concern that underground storage tanks used for the storage of waste oil are not monitored to determine if there is any escape of waste oil. Any escape of waste oil from the underground tanks has the potential to cause groundwater contamination (identified as an issue of environmental concern on 2 of the 29 premises audited).

Operational (Air)

The following observations relating to air management were identified as issues of environmental concern on 4 of the 29 premises audited.

Observations made that give rise to these concerns include the following.

- Concern that the build-up of dust around the site including the processing plant can result in excessive dust emissions during strong winds (identified as an issue of environmental concern on 3 of the 29 premises audited).
- Concern that there could be dust emissions due to spoil from the drill holes being deposited in heaps and used to cover the detonating cords (identified as an issue of environmental concern on 1 of the 29 premises audited).

Operational (Noise)

The following observations relating to noise management were identified as issues of environmental concern on 2 of the 29 premises audited.

Observations made that give rise to these concerns include the following.

- Concern about the likely impact of noise on residential properties from a water pump serving a sedimentation dam (identified as an issue of environmental concern on 1 of the 29 premises audited).
- Concern that a temporary haul road is used when the enterprise is aware that noise limits are exceeded when that haul road is used (identified as an issue of environmental concern on 1 of the 29 premises audited).
- Records indicate that noise limits are occasionally exceeded during blasting operations (identified as an issue of environmental concern on 1 of the 29 premises audited).

Operational (Waste)

The following observations relating to waste management were identified as issues of environmental concern on 3 of the 29 premises audited.

Observations made that give rise to these concerns include the following.

- Small quantities of waste consisting of concrete residue from a recycling unit were deposited at the premises. The concern was that the enterprise was unaware that these materials had been deposited at the premises (identified as an issue of environmental concern on 1 of the 29 premises audited).
- Large amounts of waste tyres generated from plant maintenance were stockpiled at the site. There was concern relating to the potential for tyres to catch fire (identified as an issue of environmental concern on 1 of the 29 premises audited).
- Concerns over the accumulation of waste on site destined for recycling. The wastes stored at the site consisted of scrap metal, timber, tyres and 205 litre drums (identified as an issue of environmental concern on 3 of the 29 premises audited).

on 1 of the 29 premises audited).

Administration

The following observations relating to administration were identified as issues of environmental concern on 8 of the 29 premises audited.

Observations made that give rise to these concerns include the following.

- Concerns that incorrect information may be reported to the EPA in relation to blast monitoring and in relation to the accuracy of the information provided in the Certificates of Compliance (identified as an issue of environmental concern on 5 of the 29 premises audited).
- Discussions with site personnel indicate that they were unaware of their licence requirements (identified as an issue of environmental concern on 2 of the 29 premises audited).
- Concerns that record keeping is inadequate which could result in exceedances not being detected or reported to the EPA (identified as an issue of environmental concern on 1 of the 29 premises audited).
- There was evidence to suggest that that Certificates of Compliance for previously issued Pollution Control Approvals had not been provided to the EPA as required (identified as an issue of environmental concern on 1 of the 29 premises audited).

Monitoring

The following observations relating to environmental monitoring were identified as issues of environmental concern on 8 of the 29 premises audited.

Observations made that give rise to these concerns includes the following.

- There is inadequate monitoring carried out to enable the enterprise to determine compliance with limit conditions (identified as an issue of environmental concern on 5 of the 29 premises audited).
- Concern that the analysis reports may not be accurate due to the sampling procedures used and due to the location of the sampling points (identified as an issue of environmental concern on 2 of the 29 premises audited).
- The methods used to analyse wastewater for oil and grease do not provide the level of accuracy that is being reported (identified as an issue of environmental concern on 1 of the 29 premises audited).
- Anomalies in the levels of pH that were reported for the same sedimentation dam gave rise to concerns that the pH levels are not accurately reported (identified as an issue of environmental concern on 1 of the 29 premises audited).

Limits

The following observations relating to environmental limits were identified as issues of environmental concern on 2 of the 29 premises audited.

Observations made that give rise to these concerns include the following.

- Blast monitoring records indicate that blasting operations have in the past been undertaken outside the times specified in the licence (identified as an issue of environmental concern on 1 of the 29 premises audited).
- Records indicate that water discharge limits are occasionally exceeded (identified as an issue of environmental concern on 1 of the 29 premises audited).

WHERE TO FROM HERE?

The findings from auditing 29 licensed facilities out of a total of 310 State wide do not provide sufficient information to draw detailed conclusions about all aspects of the environmental performance of the extractive industry. However, having selected a representative sample from within this industry, the EPA has confidence that issues identified in the report are generally typical of the whole sector.

Recognising that reporting on the state of the extractive industry sector's environmental performance would be a valuable management tool to inform decision-making, the extractive industry sector compliance performance report will be communicated to relevant stakeholders.

The EPA will also use the findings of the sector report to review how best resources could be channelled to guide industry to address the issues identified in the report, including considering the use of regulatory instruments such as the model extractive industry licence conditions and enforcement, as well as additional/alternative tools such as policy documents, education and consultation/negotiation. It is also hoped that the sector review findings will inform the POEO licence reviews.

The EPA will appoint a Sector Review Manager to consider, with input from relevant EPA stakeholders, the issues identified in the sector and select suitable approaches for addressing them.

APPENDIX A

The findings of this report are based on the results of compliance audits on the following selected premises:

- **Bald Hill Quarry Pty Limited – Benangaroo Quarry.**
- **Bellingen Shire Council – Whites Quarry.**
- **BHP Steel (AIS) Pty Ltd - Appin Colliery.**
- **Boral Resources (Country) Resources Pty Limited – Hall.**
- **Boral Resources (Country) Resources Pty Limited - Johns River.**
- **Boral Resources (NSW) Pty Limited - Prospect Quarry.**
- **Boral Resources (Country) Resources Pty Limited – Seaham.**
- **Boral Resources (Country) Resources Pty Limited – Tevan.**
- **CSR Ltd T/A CSR Construction Materials – Gap Hill Cootamundra.**
- **CSR Ltd T/A CSR Construction Materials – Narrandera Sand.**
- **CSR Ltd T/A CSR Construction Materials – North Boambee.**
- **CSR Ltd T/A CSR Constructions Materials - Prospect.**
- **CSR Ltd T/A CSR Construction Materials - Cooma Road, Queanbeyan.**
- **CSR Ltd T/A CSR Construction Materials - Terranorra.**
- **Garry Radford and Sons Pty Limited - Broken Hill.**
- **GC Schmitt Pty Limited - Monaro Basalt Quarries.**
- **Griffith City Council Quarry – Tharbogang.**
- **Mac’Scon Pty Limited (Wia-Ora Sand and Gravel) – Bowraville.**
- **Menangle Sand and Soil Pty Limited - Kangaloon Quarry.**
- **P. A. Woods & Co. Pty Limited – Milbrae Farm Leeton.**
- **Pioneer Concrete (NSW) Pty Ltd – Bathurst Quarry.**
- **PG & JM Easdown and Kaolin Mining & Development Australia Pty Limited – Oaklands.**
- **Quality Earths Pty Limited – Oaklands Kaolin Quarry.**
- **Rail Services Australia - Bombo Quarry.**
- **Shoalhaven City Council - Comberton Grange Quarry.**
- **Tiocliff Pty Limited – Barina Quarry.**
- **Ulan Coal Mines Limited.**
- **Woodbury’s Haulage & Earthmoving Pty Limited - Blackhill Quarry.**
- **Yass Quarry Products Pty Limited - Bogo Quarry.**

Individual compliance audit reports for all of these facilities are publicly available in the EPA Library at Level 15, 59 Goulburn Street, Sydney.