

Audit



“We value our quality of service to clients and have developed strong relationships with regulators and research organisations to ensure best practices are delivered”



Executive Summary

Audits provide an independent, expert view of a particular situation which provides insight and adds value to a company. OTEK perform many such audits including:

- Contaminated Sites
- Due Diligence
- Environmental Management Systems (EMS)
- Engineering Dangerous Goods
- Risk and Performance
- Specialist Audits

OTEK Auditors have performed audits on a wide variety of agricultural, residential, commercial and industrial sites both inland and coastal including: market gardens, landfills, manufacturing plants, steel recycling plants and foundries, sports stadiums, waste treatment facilities, concrete batching plants, service stations and fuel depots in many states.

OTEK Auditors are accredited in all States and Territories, have completed statutory and non-statutory audits and have been serving the Australia environmental industry for 20 years – please contact your local office to allow us to assist you with your site.

Case Studies

Industrial Facility

An OTEK auditor recently completed a statutory site audit at a former industrial facility.

The property is proposed to be redeveloped into a high density residential facility, but formerly had potential contaminants associated with fuel storage and widespread imported fill. Subsequent to a series of environmental site assessments and specific remediation of impacted areas, the statutory site audit report and associated statement was issued.

Having met the local council's requirements, the site is now in the process of redevelopment.

Building Materials Plant

An OTEK auditor was retained by an international building materials company to assist with an independent review (TPR) to meet the satisfaction of the Queensland EPA. The assessment and remedial works were undertaken by a local consultancy with international coverage. The facility was a former concrete and bitumen batching plant with multiple sources of potential contamination. The facility is proposed to be redeveloped as a low-density residential setting (the most sensitive development) and is adjacent to a major river (a sensitive receptor). The project is nearly complete after several assessment and remedial stages.

Former Landfill

An OTEK auditor recently completed a statutory site audit at a former landfill site in New South Wales. The local city council set a condition in the Development Application for the site indicating that prior to development of the site a NSW DECC accredited Site Auditor provide a Site Audit Statement to the effect that an appropriate remedial action plan has been prepared for implementation. The landfill had been closed for approximately 30 years and redeveloped into a sport and recreational facility. The audit required review of a Remedial Action Plan to ensure that landfill capping was adequate and impacts to groundwater were monitored and managed. Having met the local council's requirements, the site is now in the process of redevelopment.

Contaminated sites audits can be required by legislation (statutory audits) for redevelopment or rectification and/or management of spills. Contaminated sites audits has become the most reliable method of ensuring compliance in developing contaminated sites in all of Australia. With South Australia in 2009 becoming the most recent addition to states accrediting or appointing site auditors, all states and territories now recognize the role and position.

The collective aims of the contaminated sites auditing rationale is to provide a means for providing confidence in ensuring protection of human health and the environment from pollutants. The various audit systems adopted by the states and territories provide a somewhat even basis for development of contaminated sites, using consultants, auditors, planning departments, local and state government to ensure assessment and remediation methods are appropriate for the situation. Prospective property owners, current property owners, businesses, financial institutions and government all can benefit from use of the various states audit systems.

Common land uses which can cause contamination requiring investigations and audits include service stations, cattle dips, tanneries, wood treatment sites, landfills, fuel storage, industrial facilities and refuse tips.

Contaminated site audits are performed for many reasons, including:

- Change of land use (development opportunities);
- Response to a regulator notice (leaks, spills, license violations);
- In compliance with an voluntary assessment or remediation agreement (with the government);

- Migration of contaminants off the subject site; and
- Due diligence.

The auditor plays an important role in ensuring appropriate guidelines are followed. Done properly, audited sites can be the most effective and protective means for site development projects.

Each state has its own system of contaminated sites auditing, with Victoria leading the way in 1990 being the first to develop an audit system.

OTEK auditors work to the highest standards, with statutory approved Audits to legislative recognised levels. OTEK contaminated site/land auditors are recognised in all states and territories.

They are able to provide the definitive technical review, with Certificates or Statements of Audits required for a property 'change of use' in the various jurisdictions.

OTEK auditors have specialised and proven auditing capabilities. Their decisions have a significant potential impact on public health and/or the environment. To this end, site auditors are considered to be the top level of contaminated land practitioners in the country.

There exist specific requirements and guidelines for statutory site audits (and other non-statutory site audits) by which the site auditor must abide, including notification, adherence to applicable laws and guidelines and independence. Failure to comply with the legal requirements as a site auditor can result in significant monetary fines to the site auditor.

OTEK has site auditors capable of performing statutory site audits.



Case Studies

Former Landfill

An OTEK auditor was retained by a sports club developer to assist with an independent review (TPR) to meet the satisfaction of the Queensland EPA. The assessment and remedial works were undertaken by a local consultancy with international coverage. The facility is proposed to be redeveloped as an extension of the sporting club facilities, including a swimming pool. The project is nearly complete after several assessment and remedial stages, including installation of passive venting systems to prevent the buildup of land fill gas and instigation of an environmental management plan.

Railway Siding

An OTEK auditor recently completed a review of a Remediation Action Plan (RAP) for the clean up of a railway siding in New South Wales. The siding had been impacted by spillage from fuel storage facilities, heavy metals and asbestos. The RAP was developed and endorsed after a series of site investigations and included partial soil remediation, removal of asbestos (both as fragments and in soil), capping of impacted areas adjacent to active railway lines and groundwater monitoring.



Foundry Facility

An OTEK auditor recently completed a statutory site audit at a former foundry facility in Western Australia. The property is proposed to be redeveloped into high density residential blocks, but formerly had potential contaminants associated with foundry activities and widespread imported fill. Subsequent to a series of environmental site assessments and specific remediation of impacted areas including the application of a geofabric marker layer underlying clean fill, the statutory site audit report and associated site classification was issued by the Department of Environment and Conservation. The site is now in the process of redevelopment and a long-term groundwater monitoring plan has been instituted.

Former Market Garden

An OTEK auditor recently completed a statutory site audit at a former market garden and chicken farm site in Western Australia. The property is proposed to be redeveloped into an Over 40's lifestyle facility, including long-term lease sites for caravans and other associated amenities, but formerly had potential contaminants associated with the application of fertilisers and fuel storage. Subsequent to a series of environmental site assessments and specific remediation of impacted areas, the statutory site audit report and associated site classification was issued by the Department of Environment and Conservation. Having also met the local council's requirements, the site is now in the process of redevelopment.

Former Service Station Site

An OTEK auditor recently completed a statutory site audit at a former service station site in Western Australia. The property is proposed to be redeveloped into another service station, but formerly had potential contaminants relating to fuel storage impacting groundwater both on- and off-site. The Department of Environment and Conservation required a detailed review of Monitored Natural Attenuation of the hydrocarbon impacts in groundwater. Subsequent to a series of environmental site assessments, specific remediation of impacted areas and groundwater monitoring events, the statutory site audit report was completed and associated site classification issued by the Department of Environment and Conservation. Having also met the local council's requirements, the site is now due for redevelopment.

EPA Victoria Audit System

The Site Auditor system commenced in 1990 in Victoria under the Environment Protection Act 1970 and led a national movement for auditing environmental performance and the condition of the environment.

Environmental Auditors are appointed to carry out statutory duties pursuant to the Act that are commonly referred to as and include:

- 53X audits – these are the more common audits with regards to property development. The 53X audit ideally will result in a Certificate of Environmental Audit or a Statement of Environmental Audit;
- 53V audits - Conducting environmental audits of risk of harm to a segment of the environment caused by industrial processes or activities; and
- Audits identifying contaminated land above criteria for the relevant beneficial use(s) often lead to CUTEP (Clean Up to the Extent Practicable). This is typically a long process of remediation, monitoring and management of residual contamination.

Under the Environment Protection Act 1970, the requirements in environmental regulations, including works approvals and licenses, must be consistent with State Environment Protection Policies. These SEPPs include:

- SEPP (Ambient Air Quality);
- SEPP (Air Quality Management);

- SEPP (Prevention and Management of Contamination of Land);
- SEPP (Groundwaters of Victoria);
- SEPP (Control of Noise from Commerce, Industry and Trade); and
- SEPP (Waters of Victoria).

EPA maintains the Priority Sites Register (<http://www.epa.vic.gov.au/land/PSRAccess.asp>) as a listing of all sites where EPA has issued a clean-up notice or a pollution abatement notice (relevant to land and groundwater). A notice is a means by which EPA formalises requirements to manage pollution.

The Auditor also has a responsibility under the Act to notify the Authority of any imminent environmental hazard as soon as is practicable after becoming aware of the hazard in the course of conducting an environmental audit.

Useful publications (amongst others) relating to the Victorian audit system can be found on the EPA Victoria website (www.epa.vic.gov.au/envaudit/default.asp) and include:

- 759 – Guidelines for the issue of Certificates and Statements of Environmental Audit;
- 860 – Environmental Auditing of Contaminated Land; and
- 953 – Environmental Auditor Guidelines for Conducting Environmental Audits.



New South Wales DECCW Audit System

The NSW Site Auditor Scheme aims to ensure proper management of contaminated land by providing a pool of accredited 'site auditors' who can be engaged to review investigation, remediation and validation work conducted by contaminated land consultants.

Site auditors are highly experienced contaminated land consultants accredited by DECCW under the Contaminated Land Management Act 1997, in order to improve access to competent technical advice and increase certainty in the 'sign-off' of contaminated site assessments and remediation. You can engage a site auditor to independently review a consultant's reports on assessment, remediation and validation work to ensure that the consultant's methodology and interpretation of data are consistent with current DECCW-endorsed regulations and guidelines.

In very broad terms, the management framework for contaminated land in NSW consists of two tiers:

- DECCW, which uses its powers under the Contaminated Land Management Act 1997 (CLM Act) to deal with site contamination that is significant enough to warrant regulation under the CLM Act given the site's current or approved use; and
- Local councils deal with other contamination under the planning and development framework, including State Environmental Planning Policy No. 55 - Remediation of Land and the Managing Land Contamination - Planning Guidelines. This type of site, although contaminated, does not pose an unacceptable risk under its current or approved use. The planning and development process will determine what remediation is needed to make the land suitable for a different use.

The outcomes of a site audit are:

- a Site Audit Statement which outlines the conclusions of a site audit;
- an accompanying Site Audit Report that summarises the information reviewed by the auditor and provides the basis for the conclusions contained in the site audit statement; and
- Record under section 58 of the Contaminated Land Management Act 1997. This record is maintained by DECCW in accordance with Part 5 of the Contaminated Land Management Act 1997 (CLM Act).

The record provides:

- ✓ a record of written notices issued by DECCW under the CLM Act, including preliminary investigation orders.
- ✓ the names of the sites, owners or occupiers at the time of DECCW action in relation to the site

- ✓ copies of site audit statements (SAS) provided to DECCW under section 52 of the CLM Act and relating to significantly contaminated land.

The site auditor scheme also has an important role in supporting decision making by planning authorities. State Environmental Planning Policy 55 (SEPP55) requires planning authorities to consider the potential for contamination at a site (and adjacent sites) prior to planning decisions being made.

There is a **Duty to Report** under section 60 of the CLM Act. A person whose activities have contaminated land or a landowner whose land has been contaminated is required to notify DECCW when they become aware of the contamination. Such a person is required to notify DECCW of contamination in any of the following circumstances:

- The level of the contaminant in, or on, soil exceeds a level of contamination set out in these guidelines with respect to a current or approved use of the land, and people have been, or foreseeably will be, exposed to the contaminant, OR
- The contamination meets a criterion prescribed by the regulations, OR
- The contaminant has entered, or will foreseeably enter, neighbouring land, the atmosphere, groundwater or surface water, and the contamination exceeds, or will foreseeably exceed, a level of contamination set out in these guidelines and will foreseeably continue to remain above that level.

Useful publications (amongst others) relating to the NSW audit system can be found on their website (<http://www.environment.nsw.gov.au/clm/auditorscheme.htm>) and include:

- Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997, June 2009 – (09438gldutycontclma.pdf, 1 Mb);
- Brochure for landholders and small businesses on their responsibilities regarding land contamination (09811LandContamination.pdf, 355KB).
- The Guidelines for the NSW Site Auditor Scheme (auditorlines06121.pdf, 510kb) which describe the obligations of site auditors in conducting a site audit and the administrative framework supporting the site auditor scheme.



Queensland Audit System

In Queensland the TPR or Third Party Review process is in operation under the auspices of the Environmental Protection Act 1994 and administered by the Department of Environment and Resource Management (DERM).

Under this system contaminated site assessment and cleanup as conducted by competent practitioners is reviewed and certified by independent experienced professionals accepted by DERM, known as third party reviewers (TPRs).

As with the other states the system is designed to streamline statutory timeframes, and improve the quality control and standard of works performed and has been developed in-line with Schedule B10 of the NEPM 1999.

The TPR system is site specific and may be used voluntarily by any person seeking statutory decisions from DERM relating to contaminated land. The DERM encourages landowners and developers to use the TPR system in line with the voluntary processes in the EP Act for submission of site investigation and validation reports.

When considered relevant and appropriate to manage sites with a medium to high level of human health and/or environmental risk or sites involving a high level of contamination complexity, DERM may require that a TPR be used:

- under its concurrence role for contaminated land in the Sustainable Planning Act 2009; or

- as a condition of a statutory site management plan (SMP); or
- as a requirement of a notice under the EP Act.

The DERM also administers the Environmental Management Register (EMR) and Contaminated Land Register (CLR) where sites that have been subject to activities identified as being likely to cause land contamination are listed as 'notifiable activities' in Schedule 3 of the EP Act. The CLR lists "risk sites".

Sites recorded on the EMR pose a low risk to human health and the environment under the current land use. Entry on the EMR does not mean the land must be cleaned up or that the current land use must stop. Land is recorded on the CLR when scientific investigation shows it is contaminated and action needs to be taken to remediate or manage the land. Actions could include:

- technical measures to prevent migration of contaminants, or
- full removal of contaminants and off-site treatment to prevent serious environmental harm or public health risks.

Useful Publications provided by the DERM that can be found on their website (<http://www.derm.qld.gov.au/>) include:

- *Draft guidelines for the assessment and management of contaminated land in Queensland.*



South Australia Audit System

The legislative framework for the statutory audit system is established in the Environment Protection Act 1993 and the Environment Protection Regulations 2009. The audit system became operational on 1 July 2009.

A site contamination audit (audit) is defined in section 3(1) of the Act as a review carried out by a person that: examines assessments or remediation carried out by another person of known or suspected site contamination on or below the surface of a site; and is for the purpose of determining any one or more of the following matters:

- I. the nature and extent of any site contamination present or remaining on or below the surface of the site;
- II. the suitability of the site for a sensitive use or another use or range of uses;
- III. what remediation is or remains necessary for a specified use or range of uses.

The EPA has developed a risk-based framework for the assessment and remediation of groundwater contamination to ensure the protection of human health and the environment. The assessment component incorporates a two-stage risk assessment process,

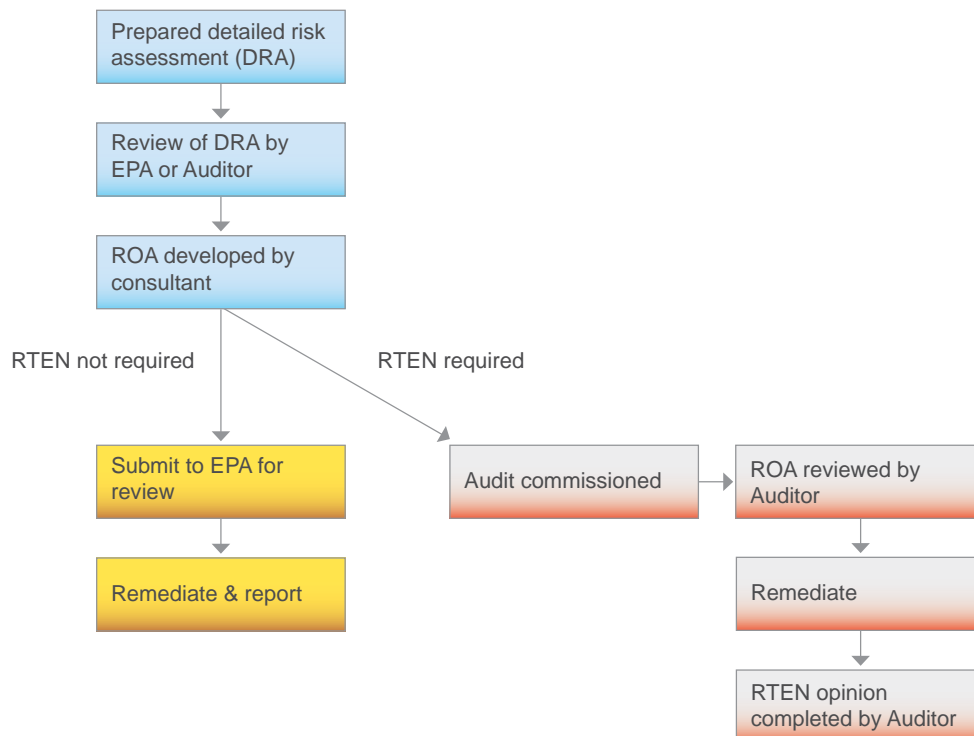
including the development of a conceptual site model and beneficial use assessment.

Where the risk assessment process identifies a risk to human health and/or the environment, remediation may need to be carried out.

The EPA framework for remediation of groundwater contamination involves the development of a remediation proposal (in the form of a remediation options assessment) or an RTEN (remediation to the extent necessary) opinion (see flow chart below), to be provided by a site contamination auditor. The approach selected will be determined by the level of risk identified.

There is a Duty to Report contamination in SA:

- the duty applies to owner or occupier or auditor or consultant
- the above persons have a duty to notify the EPA of becoming aware of site contamination that effects or threatens underground water
- knowledge includes review of reports
- a penalty applies \$120k (corporation) or \$60k (individual) where the report is not made in writing to the EPA as soon as reasonably practicable after becoming aware of its existence.



Western Australia Audit System

The Western Australia Department of Environment whilst initially recognising auditors from Victoria and New South Wales did not implement their own audit scheme until 2006 under Contaminated Sites Act 2003.

Duty to Report - Land owners, occupiers and polluters are required to report known or suspected contaminated sites to the Department of Environment and Conservation (DEC). Reported sites are then classified, in consultation with the Department of Health, based on the risks posed to the community and the environment.

A site classification is a description assigned to an area of



land that has been reported to the Department of Environment and Conservation (DEC) under the Contaminated Sites Act 2003 (Act), as a site that is known or suspected to be contaminated. DEC can allocate any one of seven possible classifications to a site:

- *Report not substantiated* – There is not enough information to indicate the presence of contamination at the site.
- *Possibly contaminated* – investigation required – There are grounds to indicate the presence of contamination at the site, however more information is required to confirm or dismiss the possibility of contamination.
- *Not contaminated* – unrestricted use – After investigation, the site was found not to be contaminated.
- *Contaminated* – restricted use – The site is contaminated but suitable for restricted uses (e.g. the site may be suitable for commercial use, but not residential use or the site may be suitable for any land use, but restrictions on groundwater use may apply).
- *Remediated for restricted use* – The site is contaminated but has been remediated so that it is suitable for restricted use (e.g. the site may be suitable for an apartment block, but not for a kindergarten).
- *Contaminated* – remediation required – The site is contaminated and remediation is required to ensure it does not present a risk to human health, the environment or any environmental value. This

classification will remain until remediation is complete.

- *Decontaminated* – The site has been remediated and is suitable for all uses and does not pose a risk to the environment or any environmental value.

The Contaminated Sites Database which can be accessed for free via the internet (<http://www.dec.wa.gov.au>) holds information on sites classified as:

- contaminated - remediation required;
- contaminated - restricted use; or
- remediated for restricted use.

The work performed by your chosen consultant will need to be reviewed by a DEC Accredited Contaminated Site Auditor if your investigation requires assessment by DEC. To remain time and cost effective, it is recommended that you involve the Auditor at the outset of your project. Auditor's fees are likely to be charged at an hourly rate.

Mandatory Auditor's Reports are required in the following circumstances:

- When a regulatory notice is issued under the Act;
- When a certificate of contamination audit is requested;
- When contamination has moved away from the property on which it originated, to affect other properties (i.e. the site is a 'source site'); and
- When a report is submitted in order to comply with a planning or Ministerial condition or similar statutory requirement.



Useful information and publications relating to the WA DEC Contaminated Sites Audit System can be found on their website (<http://www.dec.wa.gov.au/content/category/32/755/1579/>) and include:

- Contaminated Sites Management Series – Contaminated Sites Auditors: Guidelines for Accreditation, Conduct and Reporting;
- Contaminated Sites Management Series – Reporting of Known or Suspected Contaminated Sites; and
- Contaminated Sites Management Series – Site Classification Scheme.

ACT/TAS/NT

The ACT Environment Protection Authority administers auditing under the Environment Protection Act 1997 and the Environment Protection Regulation 2005.

Under the Environment Protection Act 1997, the requirements of the environmental regulations, including works approvals and licences, must be consistent with Environment Protection Policies (EPPs) of which there are nine:

- General;
- Water Quality;
- Air;
- Noise;
- Contaminated Sites;
- Hazardous Materials;
- Waste Water Reuse;
- Motor Sport Noise, and
- Outdoor Concert Noise.

Environmental audits are defined under section 74 of the Act as an assessment of an activity to:

- Identify sources, cause or extent of environmental harm or breaches of the Act resulting from the activity;
- Determine the need for any change in management practices to reduce environmental impact; and
- Identify the extent and nature of any contravention or likely contravention.

The ACT EPA encourages voluntary audits under section 78 of the Act where person proposing to undertake this type of audit may apply to the EPA for legal protection for the audit findings.

Under section 76 of the Act, the EPA may require an environmental audit when activity managers do not voluntarily take advantage of the voluntary audit provisions. Further to this the EPA may also require an audit under section 51 of the Act as a condition of an environmental authorization. Audits may be required when:

- The person has contravened, is contravening or is likely to contravene an environmental authorization, an environment protection order or provision of the Act; or has breached, is breaching or is likely to breach and environmental protection agreement; and
- Serious or material environmental harm has or may result.

Under the Act, and environmental auditor can only be conducted by a qualified auditor who is approved by the



EPA under section 75 of the Act. The EPA holds a list of qualified auditors. Auditors who are recognised under the NSW Site Auditor Scheme also qualify for this.

Useful publications and policies that apply in the ACT can be found on their website:

http://www.environment.act.gov.au/environment/environment_protection_authority_legislation_and_policies

Tasmania and Northern Territory

The Tasmanian and Northern Territory Governments do not have contaminated land audit schemes, at present. However Contaminated Land Auditors from Victoria and New South Wales are recognised to perform third party review functions on sites, where called upon.

In Tasmania the Tasmanian EPA Contaminated Sites Unit administers environmental regulations relating to contaminated sites. Their website can be found at: <http://www.environment.tas.gov.au/index.aspx?base=400>

In the Northern Territory, no formal Audit system exists, however where necessary investigations may be audited utilizing either of the NSW or Victorian audit schemes.

Environmental Management Systems (EMS) Auditing



OTEK specialists have developed, advised and audited numerous Environmental Management Systems (EMS) across a wide range of organisations and industries in all Australian States and overseas.

The level of experience and expertise within our company enables OTEK to:

- Rapidly identify where elements of a company's EMS do not fully meet the requirements of the international standard ISO 14001 (GAP Analysis)
- Focus on high risk areas that represent real and substantive exposures;
- Readily advise on system implementation and

maintenance problems within a company's EMS; and

- Evaluate the likely success of integration of the EMS with the company's existing business management systems (e.g. existing quality and/or safety systems)

Auditing of our diverse range of clients has required selected OTEK staff to perform ISO 14001 and ISO 9001 based audits on literally dozens of clients ranging from maritime construction industries, trucking and transport factories and general aviation fire fighting establishments.

Whilst audits can be structured to be traditional third party audits, they can also be arranged so that they can be recognised as on the job training audits (second party audits).



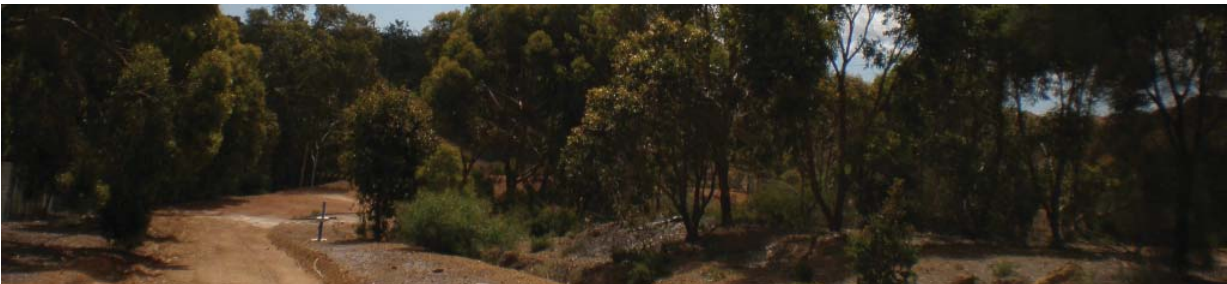
Risk and Performance Auditing



Risk based audits can incorporate environmental, safety and quality related risks using the methodology of AS 4360 (2004) standard with special emphasis placed on residual risk and contemporary alternatives for limiting corporate and future liabilities.

Performance audits provide independent verification that pollution control equipment and/or discharge streams of solid, liquid or gaseous waste to the environment or to sewer comply with licence limits and other regulatory conditions.

The audits can also be used to confirm that conditions in the neighbouring environs comply with air quality and other standards.



Engineering Management & Dangerous Goods Audit



Risk based audits can incorporate environmental, safety and quality related risks using the methodology of AS 4360 (2004) standard with special emphasis placed on residual risk and contemporary alternatives for limiting corporate and future liabilities.

Performance audits provide independent verification that pollution control equipment and/or discharge streams of solid, liquid or gaseous waste to the environment or to sewer comply with licence limits and other regulatory conditions.

The audits can also be used to confirm that conditions in the neighbouring environs comply with air quality and other standards.



International Cyanide Code – Auditing

In mid 2004 the International Cyanide Management Institute released a voluntary Code of Practice for the transport, storage, use and management of cyanide and cyanide solutions in the gold mining industry.

The Code aims to facilitate improvement in the global management of cyanide in the industry, to enhance the protection of communities and the natural environment near gold mining operations. Signatories to the Code are required to undertake periodic independent audits of cyanide use at their operations.

OTEK has engineering, chemical and environmental experts experienced in the gold mining industry, whom are qualified to both advise clients as they work towards compliance with the Code, and whom can undertake independent audits against the Cyanide Code.



Laboratory Audits

Decisions on the need for contamination assessments and remediation can cost many hundreds of thousands of dollars and are based on data generated by analytical laboratories.

Whilst OTEK performs periodic audits of laboratories used, we also offer a targeted lab auditing service to major lab users who require confidence that their laboratory expenditures are yielding the desired data quality.

A laboratory audit consists of a site visit to assess or follow the trail of sample handling, analysis and reporting procedures from arrival at the laboratory to the final issued report.

OTEK can conduct a laboratory audit specific to client or laboratory requests to determine whether:

- Laboratory method procedures and/or NATA accredited testing is being undertaken as stated.
- Laboratory methods used are appropriate for the analysis requested (this includes checks of internal laboratory quality);

Quality issues resulting from the audit are forwarded to both the laboratory and to the audit requestor allowing the requestor to understand the degree of confidence that can be placed on data received from the laboratory.

It also provides a mechanism to improve laboratory performance.



Issue 2

Date 15 July 2011



For more information about OTEK's capabilities and services, please contact your local OTEK office or visit our website at www.otek.com.au.

OTEK National Office

Level 1, 222 St Kilda Road, St Kilda, VIC 3182 Australia **T:** +61 3 9525 5155 **F:** +61 3 9593 8555

Melbourne, Sydney, Brisbane, Perth, Adelaide, Beijing and Shanghai OTEK office contact details can be found on the OTEK website.

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