



EHS Data Newsletter Q4 2009

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WELCOME TO THIS ISSUE OF OUR NEWSLETTER FROM MANAGING DIRECTOR PHIL ELY

Well we're almost at Christmas and I have that familiar feeling of not being sure where the year has gone. We continue to be very busy working with our clients to help them make the best use of their EHS data. More broadly with the Copenhagen climate change summit earlier this month environmental and sustainability concerns have never been higher.

In this newsletter we have focussed on two new sites that have adopted MP-5; one a mine site in Turkey and the second at a low level radioactive waste repository in the North East of England—which is a less usual application but we believe shows the flexibility of our product and the common needs in the



market.

We also talk a little about some work we have been doing on incident management, and the evolution of a new product area for us, with Viridor, one of our major UK clients. Whilst this application has been built for a waste management company we believe it has

far reaching applications in other industries. Feel free to contact me if you'd like more information on this or anything else.

I'd also like to take this opportunity to wish you all and your families a very Merry Christmas and a prosperous 2010.

ELDORADO GOLD ADOPT MP5 AT THEIR KİŞLADAĞ MINE SITE

Eldorado Gold Corporation (<http://www.eldoradogold.com/s/Home.asp>) is a gold producer active in exploration and development. The company is headquartered in Vancouver, Canada but with operations in USA, Brazil, China, Greece, Turkey and surrounding regions. The Kışladağ gold mine, the largest gold mine in Turkey, requires a software system to manage their environmental data. After a comprehensive search, and being impressed by the wide application of our Monitor Pro software at mines across the world, Kışladağ decided that MP-5 is the ideal tool to manage their compliance issues and to handle their environ-

mental reporting requirements. Gulden Yuksel, Environment Manager at the site explains 'EHS Data Ltd allowed us to use their system on a trial basis in order for us to understand the system and how it works, they really made an effort on to explain the system to us during this time.'

The site has been developed as low grade bulk tonnage open pit operation using heap leaching for gold recovery.

The team need to manage a range of data including noise, dust surface water, ground-water and weather.

The process of importing historical data is underway and the system represents a

holistic environment in which to manage and report on the data.

One of the key issues for Eldorado Gold for this implementation has been driven by their international footprint. Most obviously this has meant a need to produce reports in different languages (Turkish and English). This has been a simple operation in the software since Kışladağ have been able to define Turkish words and their English translation with the Turkish being used in Turkish reports and vice versa. (see page 4)

THE UK'S ONLY LOW LEVEL RADIOACTIVE WASTE REPOSITORY CHOOSES MP5

The Low Level Waste Repository (LLWR) is the principal national disposal facility for low level radioactive waste in the UK. The Repository plays a key role in delivering the UK's nuclear decommissioning strategy for site owners - the Nuclear Decommissioning Authority NDA.

Originally disposal of waste was based on landfill practices, with waste being tipped into clay-based trenches (7 in total) and covered with layers of stone and soil. This practice stopped in the 1990's and the trenches were covered with a water resistant cap. Following a major upgrade of disposal operations in 1995, the waste is now placed in engineered concrete vaults.

Low level waste mainly arises from the nuclear industry during power generation and decommissioning activities but it is also generated by research, healthcare, defence and oil and gas industries.

The waste typically comprises paper, packing materials, plastic sheeting, protective clothing and redundant equipment. Other types of waste include bulky and heavy items resulting from the decommissioning of nuclear facilities and old industrial sites. Where possible, waste is compacted and placed in metal containers before being transferred to the LLWR for grouting and emplacement in the vaults.

LLW Repository Ltd (LLWR) is the management and operations contractor on site and manages the day to day activity on behalf of the NDA. LLWR has always taken a proactive view in managing the environmental impact from the repository. Since its inception a vast amount of data has been collected in and around the site, in order to manage and minimise impacts.

Data collected includes:

- drilling logs (lithology etc.),
- soil samples and analyses,
- ground water and surface water data which in both cases includes levels, flow rate data, samples and analyses (both on and off-site),
- leachate flow rates, levels, samples and analyses,
- air samples (gas-phase emissions, dust, etc.)
- other environmental samples and analyses (Dose rate monitoring, Meteorological Station data, etc).

The monitoring also includes extensive radiometric monitoring undertaken on-site, at the perimeter and at various off-site locations for air-borne and water-borne radioactivity. Results from this monitoring are routinely provided to the Environment Agency and other bodies. Discharges of radioactivity however to air and water are so low as to not require limitation by the Environment Agency.

Prior to purchasing MP5 to manage this monitoring data, LLW Repository Ltd kept the data in a variety of different systems and datasets. In January 2009 a review was undertaken to identify a system they could use to hold the data as a single dataset. With a forecast of collecting up to 8 million data points annually, LLWR were looking for a secure, auditable system which could contain this ever-increasing volume of data and offer additional benefits of flexibility and ease of use. Monitor Pro's MP5 system was selected from among 5 systems reviewed and was the only system with Environment

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The low Level waste repository showing concrete vaults

Agency MCERTS accreditation. Prior to full installation a data transfer task was undertaken which involved the import of historic data stretching back over 30 years into MP5. The dataset is currently approaching 20GB, still with only approx 70% of the available data imported. All of the historical data which is now being imported is being validated using the MP-5 import processor and files of often 100,000 readings at a time are being imported. The MP-5 Import Processor validates for impossible readings, compliance breaches, misspellings and inconsistencies, invalid dates and also outliers based on auto-generated rules based on mean plus 4 standard deviations from the

THE UK'S ONLY LOW LEVEL RADIOACTIVE WASTE REPOSITORY CHOOSES MP5

mean of historical data.

LLW Repository hold 10 licences for MP5 with the data linked to the LLWR GIS system (ESRI ArcMap). Since installation, the system has been in constant use both acquiring data and in data presentation. The MP-5 reporting tools allow easy dissemination of data within LLWR, to relevant contractors and stakeholders such as the Environment Agency and the Nuclear Installations Inspectorate. To aid this further, several report templates will be prepared in house which mean that reports can be produced with a double mouse click drastically reducing the amount of effort and time required in report preparation.

James Champion (Environmental Advisor) at LLWR said 'Although it has not been fully setup, as yet, the ability to establish and track a monitoring schedule in MP5 will be particularly useful. We are also able to show full auditability and validation of our data which has been key since to date most of our data comes from contractors and other third parties'. Since their purchase of MP5 LLWR have recommended the system to another nuclear company for managing their environmental data – and trials are under way.



Environmental monitoring at LLWR

...of the five systems reviewed MP5 was the only one with Environment Agency MCERTS Accreditation

...files of often 100,000 readings at a time are being imported. The MP-5 Import Processor validates for impossible readings, compliance breaches, misspellings and inconsistencies, invalid dates and also outliers based on auto-generated rules

....

EHS Data the first EHS data management software company to achieve MCERTS accreditation for a complete monitoring data management system....

EHS Data Ltd. have been providing Monitor-Pro software solutions to help clients manage and report on any type of EHS data for 13 years. Our software is now used to manage data at approximately 1,000 sites worldwide. The tools facilitate management of millions of data points across businesses. Automatically, data from different sources is imported and quality checked. Raw data (and produced Key Performance Indicators) are compared to user-defined targets. System tools enable data scrutiny (i.e. tables, graphs, in-built GIS and interpolation tools). A reporting engine further enables predefinition of standard report templates so regular reports can be produced within a few mouse clicks. Back-end software is Microsoft-based for straightforward integration with MS Office.

Users can automate many tasks including monitoring schedules, report production and data export. All of this is supported using e-mail alerts of late monitoring, missing data or target breaches.

Quality control in all our processes has always been crucial. We have felt that the ISO standards (ISO 9001 and TickIT) are insufficient since they focus on processes rather than product quality. MCERTS also includes this but goes far beyond. The auditor wants to see actual software code and the database structure, to confirm for him/herself that the system does what it says, provides audit trails and accepts all claimed data.

Managing Director Phil Ely said, 'The MCERTS accreditation is the only standard like it in the world for monitoring data software and we are proud to be the first software company to have achieved the accolade for a complete data management solution.'



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ELDORADO GOLD ADOPT MP5 AT THEIR KIŞLADAĞ MINE SITE (CONTD.)

The MP-5 user defined fields system was used for this. The reporting engine in the system is Crystal Reports which enables the creation of report formats in different

able to obtain both Turkish and English reports from the system. We are managed by an overseas company and reports in both languages are essential as

complete this work by the end of 2009. After that the system will be effectively used for our daily, weekly, monthly and annual environmental reports.'



Kışladağ Mine site

languages and alphabets. Perhaps less obvious is the need to cope with different formats in data across Europe and North America, particularly since one of Kışladağ's analytical laboratories is ALS in Canada. So for example 'one hundred thousand in Europe' is 100,000 whereas in Canada it is 100.000; 'one and one tenth' in the United Kingdom and most of North America is 1.1 in Europe it is 1,1; the '12th June 2008' in Europe is 12/6/2008 in North America it is 6/12/2008. Also the Kışladağ noise meters report dates with dots (e.g. 12.06.2008). Therefore a key part of this implementation has been to configure MP-5 to automatically recognise different formats, provide an audit trail for the data and report it in the correct format to be understandable to readers in the different geographies. For many clients with sites in different geographies across the world this is a must. Gulden Yuksel again '...it is good that we will be

a consequence. We have also been very happy regarding the technical support we have received and EHS data are always helpful and responsive enabling us to solve problems



Environmental Monitoring at Kışladağ

quickly. We are continuing to import the last five years worth of data and hope to

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'...the technical support we have received and EHS data are always helpful and responsive enabling us to solve problems quickly....'

EHS DATA SOFTWARE MANAGES EHS INCIDENT INFORMATION AT 50 SITES

Our Monitor Pro software tools grew up providing data management solutions for the landfill industry, where we have been the industry standard for many years. Nowadays we provide systems globally to all sorts of facilities from huge mine sites to oil and gas companies, from Papua New Guinea to the foothills of the Andes.

In addition to our standard products we also undertake bespoke development, often building on core database structure and functionality, to meet particular needs of our clients. Examples here include a recent Laboratory Sampling Management System for The Waste Recycling Group and the Incident Management System developed initially for Viridor.

Viridor (www.viridor.co.uk) is one of the UK's leading resource and waste management companies working with more than 80 local authorities and thousands of private customers. Within Viridor there is a requirement to manage incident information for both internal and external purposes. For example in the latter case under Viridor's Environmental Permit to operate they are required (under Schedule 6) to report to the Environment Agency (the UK regulatory body) if there is a breach of a compliance threshold, or if an incident occurs which is likely to lead to a significant breach (e.g. a failure of environmental control equipment).

In the past Viridor have used their own desk based MS Access database, and have been reliant on paper copies of reports which have then been entered manually into the Access system. This process was both laborious and error prone.

It also did not assist the overall incident management process and incidents and their follow-up actions could not be effectively tracked

We have now developed an application, Monitor-Pro IMS, which exists as a browser-based incident management and reporting system to help

choose the category of incident. Details of the incident and surrounding circumstances are recorded in the system. The type and extent of data depends on the incident and is entered as both free text and as items from pick lists. In the case of injuries lost time is also recorded and the incident can then be flagged as a 'reportable

changes are made to the incident details post submission then e-mails are sent to specified individuals to inform them and an audit trail of changes maintained.

Users are then able to interrogate the data in the system. Summary screens can be viewed to provide a

Viridor Incident Reporting Database

-  **Submit a new Incident (H&S and Environmental)**
-  **Submit a new Complaint / Feedback**
-  **Log a Non-compliance (audit, EA/SEPA, BSI)**

-  **Search**
-  **View your incidents**
-  **View your Complaint Log**

-  **Admin Screens**
-  **Help**

with this requirement and which is now used across the organisation. It provides a holistic environment in which all incidents are now managed and creates ownership of incidents and action plans including follow-ups.

The categories of incident managed in the system include:

- Accidents or injuries
- Complaints / feedback
- Dangerous occurrences
- Environmental incidents or breaches
- Near misses
- Audit non-conformances
- Operators Licence (O Licence) for operating good vehicles
- Road Traffic accidents
- Security breaches (theft, vandalism etc)

The first stage in any incident is the user enters basic data about the incident and

incident' under the UK Reporting of Injuries, Diseases and dangerous Occurrences Regulations 1995 (RIDDOR). This would be the case if lost time is greater than 3 days for example. For each incident, causes are identified and specified and an action plan is put in place which can then be tracked. Ancillary information e.g. photographs can be uploaded.

Once the data is in the system, e-mails are then sent with incident details to other relevant individuals based on the category of incident. If the incident is an accident or injury e-mails would automatically be sent to the Health and Safety Group asking them to contribute, and if the incident is of sufficient severity then regional or area managers may also be required to take action. In any case senior managers can receive details of incidents if required. Recipients of e-mails are defined by the administrator of the system and are completely flexible. If

summary of incident for example by type, date, region or site. Searches can also be made to identify for example types of environmental incidents, types of injuries, particular injured body parts and Riddor incidents. Such searches then return a list of relevant incidents which users can use to drill down on particular examples. Bespoke reports can also be prepared for example to share particular predefined summaries and other information either for internal or external purposes.

MP IMS has been installed at Viridor since the autumn of 2008 and is now used to manage incident information at 50 sites. Whilst Viridor are a waste management company we believe the system addresses cross sector issues and therefore we could have a wide application.



LATEST NEWS:

New website in the pipeline

We have been working hard to refresh our outward appearance and to this end we will launch a new website in the new year. The site will have a fresh new look and also a more helpful users area for downloads and support.

Re-build of the Monitor-Pro WebServer, to be called MP5.Web

We have had a web enabled viewer for MP-5 since 2001. However it is now time for a redevelopment using the very latest tools. The project is well underway, with release expected Q2 2010. The new interface will link to MP-5 databases and provide data tables, reports, graphs, data entry and viewing of monitoring schedules.

EHS Data working with Maxxam Canada

EHS data have been working with Maxxam Canada to provide easily importable files as Electronic Data deliverables (EDD's). This will provide another route for our overseas clients to import data directly into our software tools.

Inmet Mining go for MP5

We are pleased to announce that after a procurement process over the summer months Inmet Mining have purchased MP5 to manage environmental data at their closed mine sites. The install for this new client will take place in Canada early in the new year. More on this application will be included in subsequent newsletters.

Veolia Hampshire using MP5

The use of our software within waste management and landfill company Veolia has grown again this month with Veolia Hampshire using the system to manage data from twenty sites. Veolia are now one of our larger customers with users both in the UK and Australia.

EHS Data join MICCS consortium

In January 2009 we started the MICCS project (part of the 7th framework programme of the European Union), together with a number of other European partners (amongst them Sonic Sample Drill from the Netherlands, DGE from Denmark and the University of Trieste from Italy). The aim of this project is to use novel techniques and software which aims to make soil contamination surveys faster and better.

WRG develop MP5 to manage laboratory samples

We have been undertaking some bespoke development work for one of our major clients in the UK (Waste Recycling Group) to help manage their sampling and analysis programmes. Analysis is undertaken in their own laboratories and we have build a web based management interface for their clients to pre-register their samples. The system then manages the job workflow through to reporting of the results. It also links into MP5 post analysis. The overall workflow makes a continuous process from sample taking through analysis, validation, interpretation and reporting.

See www.ehsdata.com/news.aspx for all of our news items

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