

Quick Tea-Break Quiz

Can you find the below words in the table below

Hard Hat	HIViz
Shear Vane	Probe
PID	Borehole
Trial Pit	Log
Soil	Clay

A	B	H	A	R	D	H	A	T	B
Z	M	T	S	O	I	E	V	A	O
T	L	T	P	V	P	A	I	U	R
G	E	R	I	N	L	Y	D	K	E
S	Q	Z	H	P	R	O	B	E	H
I	O	S	L	O	L	I	S	L	O
O	W	I	E	O	V	A	U	Z	L
S	Y	A	L	C	G	J	I	X	E
C	G	E	B	L	Y	I	K	R	F
S	H	E	A	R	V	A	N	E	T

Can you work out the strata's from the list below, answers on page 4

Limestone, Clay, Gravel, Gypsum (rose), Siltstone, Sandstone, Coal and Topsoil

1		2		1.	_____
				2.	_____
3		4		3.	_____
				4.	_____
5		6		5.	_____
				6.	_____
7		8		7.	_____
				8.	_____

Presenting a New Side To GeoDyne



The presentation was given to a packed audience at the first meeting of the East Midlands branch of CIWEM, and was held at the EA Trentside Offices in Nottingham on the 23rd September 2009. GeoDyne would be pleased to provide a complimentary presentation to your company on Contaminated Land or related issues upon request. Please contact Jason Hollands for further details.

Joint Presentation with the EA

Jointly with the Environment Agency, GeoDyne has recently given a presentation to the Chartered Institution of Water and Environmental Management (CIWEM) discussing Contaminated Land and the ways in which to investigate it.

Property Shows 2009

During 2009 we have exhibited at three Business Shows, being our 2nd year exhibiting at the Derby Property Show and the East Midlands Property Show in Nottingham and our first year at the West Midlands Property Show in Birmingham.

All the Shows were busy with Derby being extremely busy and the room had a good positive vibe. We will certainly be at the Derby (11 May) and East Midlands (5 November) Property Show this year so please drop by our stand for a chat and the chance to be entered into our free prize draw.

Answers: 1.Siltstone 2.Topsoil 3.Limestone 4.Gypsum Rose 5.Coal 6.Gravel 7.Clay 8.Sandstone

Contact: Jason Hollands / Richard Spencer

Contact: Paul Kershaw



Recently, we have come across several situations where a remedial capping has been recommended for a proposed garden within a development site (i.e. due to the presence of contaminated Made Ground, for example) but the proposed garden contains a tree that is subject to a Tree Preservation Order (TPO).

From a human health perspective, the remedial capping is required to protect end-users but the presence of the TPO prevents the capping from being placed directly up against the tree trunk.

Unfortunately, there is no definitive published guidance regarding this matter and therefore a common sense approach must be adopted.

Where this situation has occurred, we have undertaken early liaison with the Local Authority and agreed to 'thin-out' the remedial capping as it approaches the tree.

This strategy is based on the unlikely scenario that end-users will use the soils beneath the canopy of the tree to plant home-grown produce.

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We're Here To Stay

The Recession is hopefully drawing to a close but as we are all aware in the Construction Industry, 2009 was a difficult year, with new housing being one of the worst affected areas.

GeoDyne made plans and put precautions in place in early 2009 to weather the storm and are pleased to announce that we are here to stay. We are more than happy to discuss any sites with you no matter how big or small.

Let us hope that 2010 is a better year for the construction industry and wider economy.



Issue 4, Spring 2010

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Colliery Regeneration

GeoDyne has been carrying out specialist geotechnical and environmental consultancy services on a former colliery site in Wrexham on the behalf of the Client, Morston Assets Ltd, since 2006. Part of the site was occupied by former bus depots and a haulage yard with various sources of hydrocarbon contamination identified during the course of the investigation works (the site has a watercourse at the boundary which feeds into a SSSI designated marsh approximately 100m from the site, making the site environmentally sensitive).

GeoDyne carried out detailed soil and groundwater risk assessment works and working closely with the Environment Agency and the Local Authority we have designed and completed remediation works at the site involving the removal of underground fuel tanks and the excavation of localised hot-spots of contaminated soils which were subsequently treated on site by ex-situ bioremediation. The remediation works were completed on the site in 2009 together with obtaining regulatory approval for the risk assessment, remediation strategy and completed remedial works. The remediation works were also designed to be sustainable, resulting in the aspiration that treated soils were suitable for re-use on site.



Two shafts were present at the former colliery, each being over 4m in diameter and in excess of 200m deep. The top of one of the shafts was accessed by an inclined adit wide enough for a horse and cart. The contents of both shafts (and the 'Fan Drift') were stabilised with grout, injected under pressure, and 9m square shaft caps constructed over the grouted shafts. All works were carried out in liaison with and under a permit from The Coal Authority.

The works completed by GeoDyne have resulted in a site that is suitable to take forward for residential development with the known contamination risks addressed and the mine shafts identified and treated. Furthermore, this has been achieved ensuring minimum cost to the Client and optimising sustainability, with the remediated soils being treated and retained on site for future use as engineering fill. David Dodge (CEO - Morston Assets) stated "We consistently use GeoDyne to advise Morston in respect of geotechnical matters of this nature. We do so because they have never failed to deliver a timely, commercial and complete service however complex the nature of the project nor its geographic location. We are pleased with the result of the works carried out by GeoDyne at the Gatewen Colliery site, completing the works in a professional manner, on time and under budget and ensuring that a complex site was thoroughly investigated and remediated, protecting the interests of Morston Assets at all stages".



GeoDyne also carried out the design, procurement and supervision of former mine shafts and a 'Fan Drift' at the site.

CASE STUDY – Construction of Supermarket & Retail Units

LOCATION: Former Coach Depot, Lincolnshire
CLIENT: Major Supermarket Chain
PROPOSALS: Construction of Supermarket and Retail Units
INVESTIGATION: Window Sample Boreholes, Trial Pits (post demolition), Geotechnical & Environmental Soil Testing, Environmental Water Testing, Ground Gas and Groundwater Level Monitoring and Validation of the Removal of Contaminated Soils and Underground Tanks

Phase I Desk Study information was used to target potential areas of concern and inform the initial Conceptual Site Model. Initial investigations identified several areas of soil contamination in the area of above ground and underground fuel tanks, a fuel pump and potentially within the workshop buildings. Soil testing confirmed the presence of contamination, particularly in the area of a fuel pump and underground fuel storage tank.

Window sample boreholes were advanced across the site. As the site was active during the investigation health and safety was paramount. The use of a window sample borehole rig was ideal, and allowed access around the majority of the site. Disruption to operations on site was kept to a minimum. Monitoring wells were installed to obtain samples of groundwater for laboratory testing. Localised water contamination was revealed in the area of an underground fuel tank. The site was left in a clean and tidy condition.

Geotechnical recommendations were provided in our report, including proposals for foundation and floor slab design, ground gas protection measures, the use of soakaways and building near trees.



Due to previous access restrictions trial pits were excavated following demolition of the coach depot buildings to confirm if the vehicle inspection pits had resulted in any further contamination.

The Local Authority and Environment Agency confirmed that the site was suitably characterised. A Remediation Method Statement (RMS) was submitted to the Regulators. The RMS was approved. GeoDyne kept the Local Authority and Environment Agency involved throughout our works. This ensured that all works were undertaken in accordance with their requirements.

GeoDyne obtained quotations from Specialist Remediation Contractors to clean up the site on the behalf of the Client.

A Specialist Remediation Contractor was appointed by the Client to address the areas of contamination revealed by our investigations, using our Remediation Method Statement as an on-site guide. GeoDyne worked closely with the Contractor and invited the Regulators to site for regular meetings.



The Contractor removed the underground fuel storage tank and localised areas of contamination. GeoDyne verified the successful remediation and produced a Validation Report for the site. The Validation Report was approved by the Local Authority and Environment Agency, facilitating the discharge of related planning conditions.

Banks Long & Co (Client's Agent) stated **'GeoDyne were instructed by Banks Long & Co. to carry out phased geotechnical and environmental investigations at a former bus depot site in Lincolnshire, before and after demolition. Several above ground and underground tanks were revealed, together with associated areas of fuel and oil contamination. The reports were well presented and provided clear proposals for the cleanup of the site, and geotechnical information to assist with the design of buildings. As part of their works GeoDyne obtained quotations for the remediation of the site from Specialist Contractors, remediation was undertaken within budget and ahead of schedule.'**

'We were very pleased with the service GeoDyne provided from the initial investigation through to final validation. We were kept well informed throughout the works, as were the Local Authority and Environment Agency, this helped to secure the rapid approval of the validation works.'

'On the basis of our previous experience we would be pleased to work with GeoDyne on new projects, and look forward to a continuing positive working relationship with GeoDyne in the future.'



What Lies Beneath

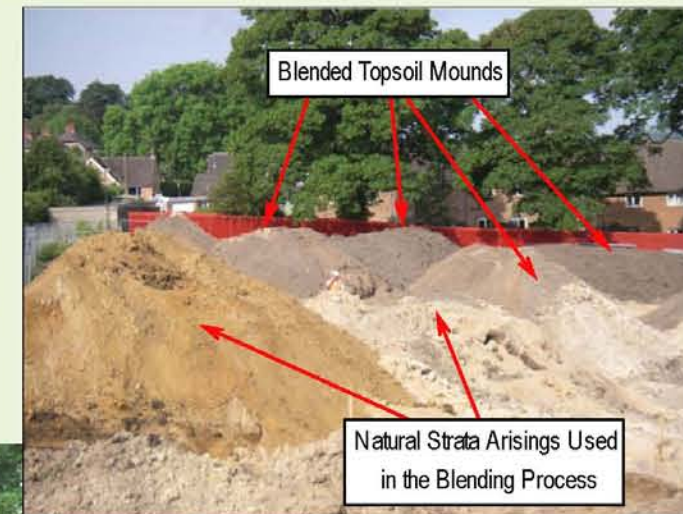
GeoDyne were instructed to investigate a greenfield site located at the edge of a residential area to the west of Ashbourne. The Client intended to develop the site for a residential end use.



The Phase I Desk Study enquiries did not reveal any historical or contemporary sources of potential contamination. However, the results of chemical testing revealed elevated concentrations of arsenic, cadmium and zinc, primarily within the topsoil. The source of the contamination was considered to be primarily a result of Natural Metal Enrichment (NME), and potentially anthropogenic airborne particles as the area has a historical mining legacy.

Topsoil removal and replacement costs were prohibitive and environmentally unsustainable (an estimated 400 vehicle movements would be required for each phase of works). Therefore, an alternate solution was considered; comprising stripping, screening, mounding and blending the contaminated topsoil with the underlying uncontaminated near surface Natural Strata.

The proposed process was discussed with Derbyshire Dales District Council who gave approval of the scheme and attended site to witness the works. The screening and blending was achieved with standard site plant equipment i.e. excavators, screening and mixing plant.



On completion of works the blended mounds were validated by GeoDyne prior to the mounds re-use at the site.

Scheme Advantages

- Local Authority Approved.
- Cost Effective.
- Environmentally Sustainable.
- Large Reduction in Vehicle Movements in a Residential Area.
- Simple Method of Addressing a Common Source of Contamination.

Best Practice Saves Money

October 2009 saw the publication of V1.06 of the CLEA model (Contaminated Land Exposure Assessment).

This model supersedes all previous models (CLEA 2002, CLEA UK, CLEA V1.03, V1.04 and V1.05).

The new model can provide immediate benefits for developers of Greenfield and Brownfield sites. For example, the new Soil Guideline Value (SGV) for the 'residential with plant uptake' end use for inorganic Arsenic has increased from 20mg/kg to 32mg/kg, thereby removing some sites from the need for any remediation.

GeoDyne Ltd remains at the cutting edge of best practice in respect of implementation of the CLEA model, and in utilising the model to deliver cost effective, technically robust, value engineered, remediation strategy's for Clients.

For further information and to find out if we can save you money please contact Jason Hollands at our Nottingham Office.

How much can GeoDyne Save You?