

Selling or Developing Property?



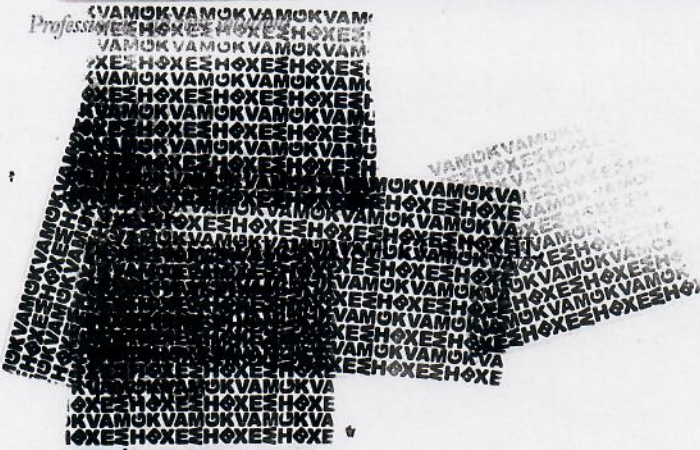
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APPROVED SITE INVESTIGATION
DUTY BUSINESS CENTRE
WILSON WAY
Plymouth
RE: 100
CORNWALL
TR15 3RT

15th February 2010

Our Ref: A417/S/JW

Dear Mrs. Oates,

I am writing to you in relationship to 3 soil samples collected from the former WAAF site, New Portreath Road, Redruth. The samples were taken randomly across the site area, in order to provide a representation of the heavy metal content within the topsoil horizon.

The collected samples was subsequently stored in sealed polythene sample collection bag and dispatched to ACS Environmental Testing Ltd (UCAS accredited) for analysis.

The samples were analysed for the following elements and pH levels:

Arsenic	Cadmium	Chromium	Copper	Mercury
Nickel	Lead	Selenium	Zinc	pH

Screening Criteria

In assessing the levels of compounds in the soil at the site, we have used the Soil Guideline Values (SGV) published by DEFRA and the EA. Soil Guideline Values are based on research undertaken for DEFRA and the Environment Agency and derived by the Contaminated Land Exposure Assessment model (CLEA).*

Soil Guideline Values (SGV) are scientifically based generic assessment criteria to help evaluate long-term risks to human health from chemical contamination in soil. SGV's are utilized as "trigger values". Where soil concentrations exceed SGV, there may be a cause for concern to human health. Such levels may pose a significant risk to human health, although you will usually need to conduct further investigation and evaluation of risk. (Environment Agency)



Unfortunately the returned values from the laboratory have shown that the submitted soil samples were determined to be unsuitable for use within an allotment application, this being due to the level of arsenic and cadmium exceeding government set guideline values (please refer to the sample analysis data sheet provided and information below for details).

The failing elements have been listed below.

<u>Elements</u>	<u>Sample No.</u> (1)	<u>Sample No.</u> (2)	<u>Sample No.</u> (3)
Arsenic	91 mg/kg	196 mg/kg	130 mg/kg
Cadmium	8.2 mg/kg	9.2 mg/kg	9.2 mg/kg

All other tested elements were determined to be below the threshold levels.

Government Set CLEA Soil Guideline Values (SGV) - Limits

Element	Land usage scenario	Land usage scenario	Land usage scenario
	Commercial (mg/kg dry weight soil)	Allotment (mg/kg dry weight soil)	Residential with plant uptake (mg/kg dry weight soil)
Arsenic	640	43	32
Cadmium	230	1.8	10
Chromium	5000	130	130
Lead	750	750	450
Mercury (inorganic)	3600	80	170
Nickel	1800	230	130
Selenium	13000	120	350
Heavy Metals Affecting Plants (phytotoxic)		Residential without plant uptake	
Copper	45700	2080	111
Zinc	188000	8250	330

Copper/ zinc values derived from LQM/CIEH Generic Assessment Criteria (GAC)

Under current statutory requirements, the soil would not be deemed suitable for the growing of fruit and vegetables and could potentially pose a long term human health risk. It is feasible that further sampling may result in lower heavy metal levels being determined, although I would consider this an unlikely event, with the three retrieved samples providing a fair representation of the overall site levels.

I would recommend that if the site were to be utilized for allotment purposes, that 'certified clean' soil be imported within the site area. I would be happy to advise you of the correct remediation procedures if so required.

Please do not hesitate to contact me if you have any questions regarding the above.

Yours Sincerely,



Jeremy R Williamson

Dip CSM, HND (Industrial Mining Geology)
(Managing Director)

Client: Approved Site Investigations
 Site Location: A417 / POR
 Report Fac: Mr. J. Williamson

Laboratory Test Report

Reference: A417 / POR Page 1 of 1



ACSE Sample Reference	ACSE/2570/1	ACSE/2570/2	ACSE/2570/3
Client Reference	1	2	3
Location	A417 / POR	A417 / POR	A417 / POR
Sample Number	1	2	3
Depth	DNS	DNS	DNS
Date of Sampling	04.02.10	04.02.10	04.02.10
Material Description	brown CLAY	brown CLAY	brown CLAY
Determinand	Result	AS Result	AS Result
ENV Metals Suite			
Arsenic (As)	91 mg/kg	196 *	130 *
Cadmium (Cd)	8.2 mg/kg	9.2 *	9.2 *
Chromium (Cr)	28 mg/kg	30 *	35 *
Copper (Cu)	103 mg/kg	157 *	129 *
Mercury (Hg)	0.07 mg/kg	0.18 *	0.08 *
Nickel (Ni)	27 mg/kg	34 *	30 *
Lead (Pb)	68 mg/kg	161 *	76 *
Selenium (Se)	0.7 mg/kg	1.4 *	1.9 *
Zinc (Zn)	497 mg/kg	540 *	260 *
pH	AD BS 1377.3 1990	6.2	6.6

Remarks: None

AS - Accreditation Status * denotes analysis covered by our UKAS accreditation.
 SC - Sub Contracted \$ denotes analysis covered by sub-contractors MCERTS accreditation.
 D = sample tested in dry condition. AD = sample tested in air dried condition. AR = sample tested in as received condition.
 † denotes analysis covered by our VCERTS accreditation.
 # denotes analysis covered by sub-contractors MCERTS accreditation.
 All test values reported on a dry weight basis.
 IHP = n House Procedure / Calculation

Approved: [Signature] Analysis Completed: 10/02/2010
 Approved Signatories [J S White Managing Director [J M Rowley Laboratory Manager [J D Faulkner Quality Manager
 Report Date: 10/02/2010

UKAS
 15150