

ENVIRONMENTAL INVESTIGATIONS SURROUNDING THE FORMER GAS WORKS SITE IN BRIDGE ROAD, NOWRA

FACT SHEET 2

SAMPLING & TESTING

BACKGROUND

Information on the Nowra Gas Works and the investigation of potentially contaminated land within what is described as the environs of the gas works site was provided in [Fact Sheet 1](#)

Shoalhaven City Council owned and operated a gasworks in Bridge Road from the early 1900s to the late 1960s.

Gas was produced by the coal carbonisation method and it is now known that the process also delivered by-products which are regarded as contaminants.

In 2007, Council remediated the gas works site in accordance with guidelines set by the NSW Environment Protection Authority (EPA) and that site is now being used as a car park.

In 2009, remediation work was also undertaken in Harry Sawkins Park after off-site contamination consistent with the gas works operations was detected.

Although there is little evidence that the type of contaminants that may be present generates an

unacceptable risk to site users and neighbours, Council is adopting a precautionary approach (as endorsed by the EPA) by undertaking investigations in accordance with the recommendations of Council's consultant GHD Pty Limited ie to carry out sampling, testing and analysis of soils, soil vapour, surface water and groundwater.

The investigation results will then be used to assess any environmental risks associated with the past operation of the gas works.

Council has engaged WSP Environmental to conduct the sampling, testing, assessment and reporting on potential contamination of land near the former gasworks site.

All costs associated with this work are being met by Shoalhaven City Council.

WSP ENVIRONMENTAL

WSP Environmental is part of the WSP Group, a 10,000 strong organisation that is one of the world's fastest growing design, engineering and management consultancies.

WSP Environmental is vastly experienced as a sustainability and environmental practice with a proven track record of providing a comprehensive range of consulting and contracting services to assess contaminated land manage associated risks and protect asset values.

WHAT DO THE INVESTIGATIONS INVOLVE?

There are a number of different techniques and processes to sample groundwater, soil vapour and soil. One common way to test for contaminants is to install monitoring devices including small bores and wells in the ground.

These may be installed either by a hand-held boring device (slide hammer) or by a small drill rig (see attachment) which may take between half a day and one day to install. The monitoring devices are commonly about 100mm in diameter and are often covered by a steel cap level with the ground. The techniques and processes to be used during these investigations are explained in general terms as follows:

Groundwater Sampling- following the installation of wells, water is collected from the tubing and placed directly into a sample bottle which is then labelled and stored for transportation to the laboratory in accordance with Chain of Custody documentation.

Surface Water Sampling – collected as grab samples being placed directly into laboratory supplied sample bottles. Sample handling would then be as detailed for groundwater samples.

Soil Sampling – procedures include surface soil grab samples, stockpile sampling, hand auger, drill rig excavator. Two samples are taken and placed in sampling bottles, labelled and stored for transportation to the laboratory.

Soil Vapour Sampling – soil vapour wells are first installed and then a sampling pump is used to extract a sample volume of one (1) litre. Samples are labelled and stored for transportation to a laboratory.

Depending on the results, these monitoring devices may be left in place so that additional readings can be taken in the future.

The investigations will be looking for potential contaminants which can be found in ash, coke and tar impacted soils and are mainly organic compounds known as total petroleum hydrocarbons (TPHs), poly aromatic hydrocarbons (PAHs), phenols and BTEX (benzene, toluene, ethylbenzene, and xylenes).

Upon completion of the field work and laboratory analysis, WSP Environmental will prepare a draft report for peer review by GHD Pty Limited prior to finalisation and submission of the formal report to Council.

The locations of the sampling points are shown on the attached plans.

NEXT STEPS

Should elevated levels of contaminants be found then Council will seek advice from a health risk expert, again in consultation with landowners, tenants and the community.

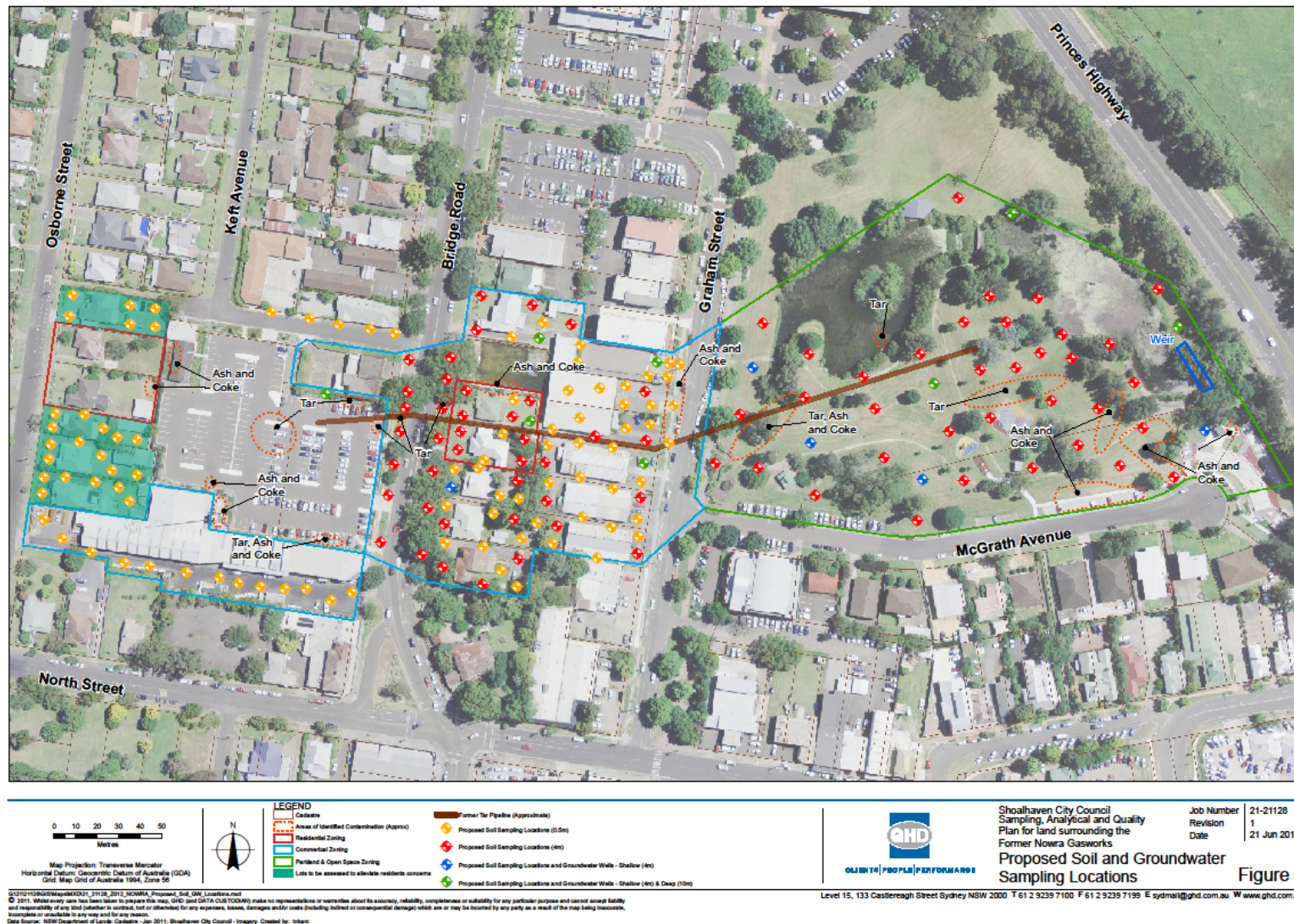
Further investigations and monitoring may also need to be completed and options for remediation assessed if elevated levels of contaminants are found.

Council is committed to keeping the community informed of the results of these investigations and will provide further details about any potential remediation works as required.

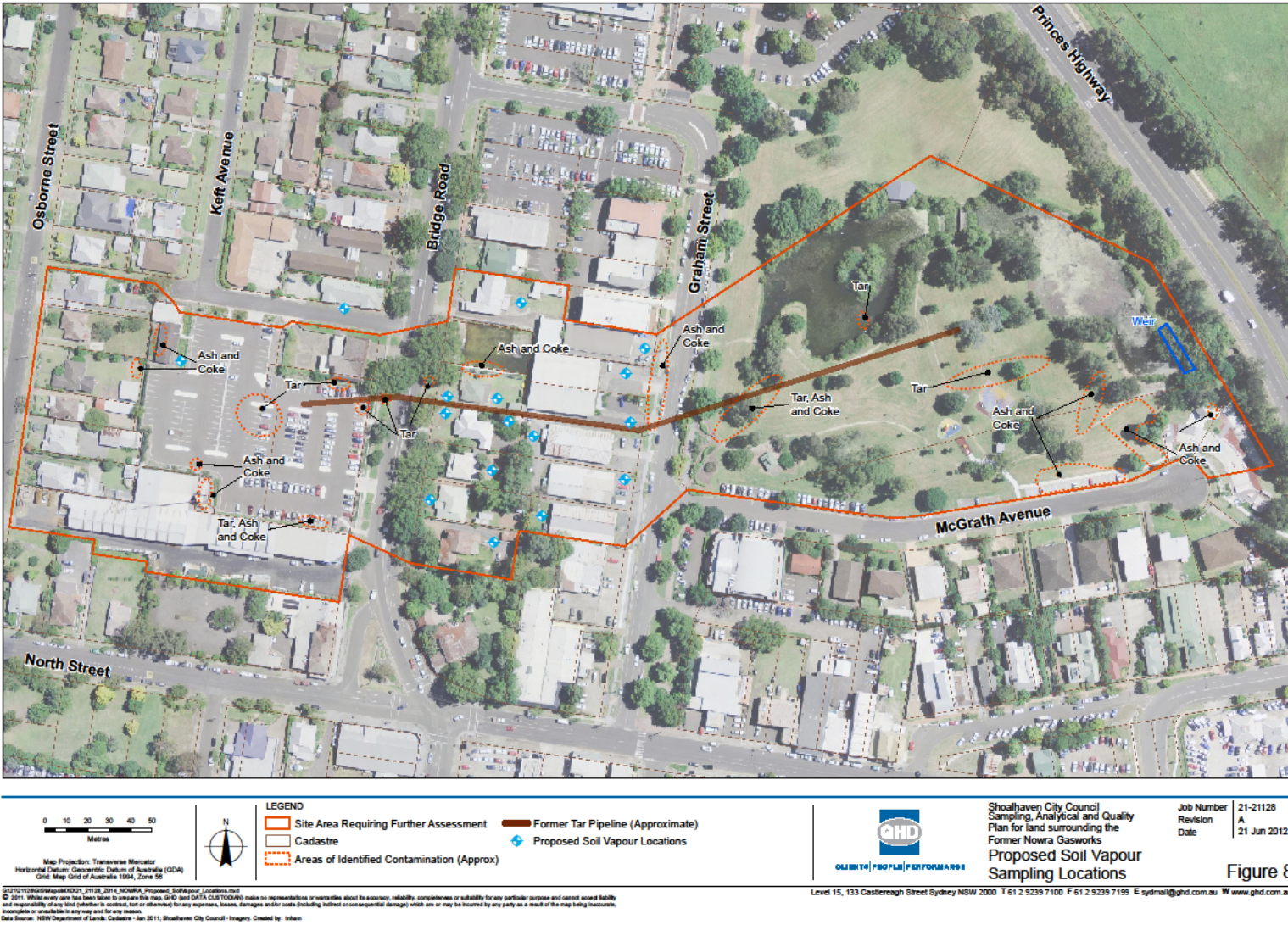
HOW DO I FIND OUT MORE?

If you have any further queries relating to these investigations please contact Council's Project Manager, Mike Harben on 02 4429 3416 or email michael.harben@shoalhaven.nsw.gov.au.

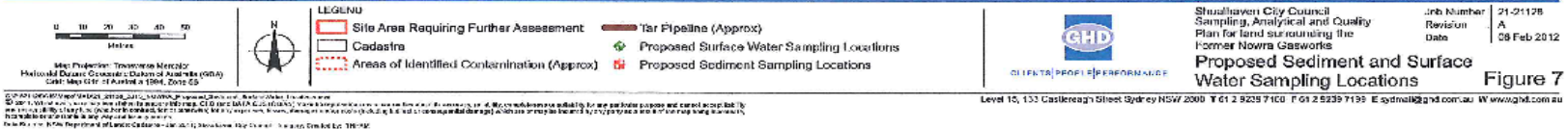
PROPOSED SOIL AND GROUNDWATER SAMPLING LOCATIONS



PROPOSED SOIL VAPOUR SAMPLING LOCATIONS



PROPOSED SEDIMENT AND SURFACE WATER SAMPLING LOCATIONS



TYPICAL DRILLING RIGS



Geoprobe 7822DT

Rig Identification

Rig Type: Geoprobe 7822DT
Rig ID: MD10
Rig Year: 2011
Carrier: MD 09 - Hino 14 Plt Tautliner
Rego: YFN 412

Capabilities

Solid Auger: 30m (100 - 150mm)
Hollow Auger: 20m (100 - 200mm)
Probe: 15m DT325 (50mm core)
SPT: Yes
Down Hole Hammer: 50m (100 -150 m)
Levelling System: Rear Stabilising Blade
Power Pack: Kubota Diesel V2403-M-T-E3
58HP
Winch: Yes

OHS & Environment

Emergency Stop Buttons: Yes (x2)
First Aid Kit: Yes
Fire Suppression: Yes (1 x 9kg)
Safety Cage: Yes
Warning Reverse Beeper: Yes
Flashing Lights: Yes

Specifications & Dimensions

Length: 3.4m
Width: 1.5m
Height(folded): 2.3m
Height(unfolded): 4.7m
Weight: 3427kg
Hammer System: GH64
Drop Hammer: DH100
Augerhead: GA4000
Pullback Power: 21ton



Red 1700 SS Series

Rig Identification

Rig Type: Eziprobe 1700 SS Series
Rig ID: MD 01
Rig Year: 2009
Carrier: 2008 Toyota Landcruiser V8 4x4
Rego: WTT 899

Capabilities

Solid Auger: 20m (100 - 150mm)
Hollow Auger: 20m (100 - 200mm)
Probe: 10m DT325 (50mm core)
SPT: Yes
Down Hole Hammer: 30m (100 -150 m)
Levelling System: Rear Stabilising Legs
Power Pack: 3 Cylinder Perkins Diesel
Winch: Yes

OHS & Environment

Emergency Stop Buttons: Yes (x2)
First Aid Kit: Yes
Fire Suppression: Yes (1 x 9kg)
Safety Cage: Yes
Warning Reverse Beeper: Yes
Flashing Lights: Yes

Specifications & Dimensions

Length: 5.5m
Width: 1.9m
Height(Mast Down): 3.0m
Height(Mast Up): 4.6m
Weight: 3505kg